



# INDIA HEALTH REPORT: NUTRITION

2015



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nutrition



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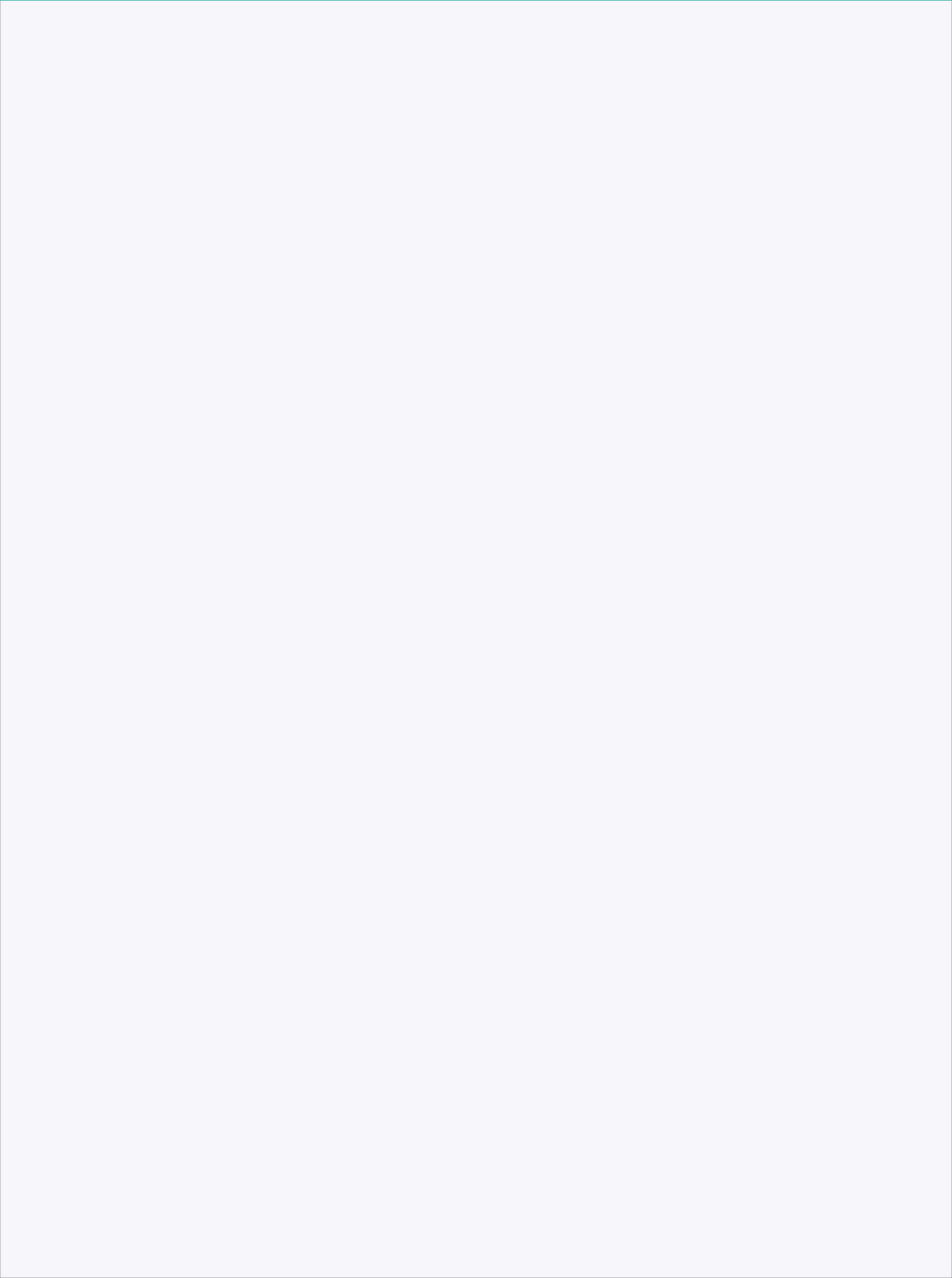
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# **INDIA HEALTH REPORT : NUTRITION 2015**



# CONTENTS

|  |    |
|--|----|
| <b>ABBREVIATIONS</b>   | 1  |
| <b>EXECUTIVE SUMMARY</b>   | 3  |
| <b>KEY MESSAGES</b>  | 7  |
| <b>FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN INDIA</b>   | 29 |
| <b>COMPARING STATES ON NUTRITION AND ITS DETERMINANTS</b>  | 33 |
| 1. <i>Children under 5 years who are stunted</i>   | 35 |
| 2. <i>Children under 5 years who are wasted</i>  | 36 |
| 3. <i>Infants 0-5 months old who are exclusively breastfed</i>   | 37 |
| 4. <i>Children under 3 years who were low birth weight</i>   | 38 |
| 5. <i>Women 15-49 years old with anemia</i>  | 39 |
| 6. <i>Children 6-59 months old with anemia</i>   | 40 |
| 7. <i>Adolescent girls 15-18 years old with low body mass index</i>  | 41 |
| 8. <i>Infants 6-8 months old who receive solid , semi-solid or soft foods</i>                                  | 42 |
| 9. <i>Minimum diet diversity during complementary feeding (for infants and young children 6-23 months old)</i> | 42 |
| 10. <i>Children under 5 years with diarrhea in 15 days prior to survey</i>                                     | 43 |
| 11. <i>Mothers of children under 3 years old who received three or more antenatal checkups</i>                 | 43 |
| 12. <i>Children 12-23 months old who are fully immunized</i>   | 44 |
| 13. <i>Children 6-35 months old who received supplementary food under ICDS</i>                                 | 45 |
| 14. <i>Currently married women with 10 or more years of schooling</i>  | 46 |
| 15. <i>Women aged 20-24 years who were married before the age of 18</i>  | 47 |
| 16. <i>Open defecation</i>   | 47 |
| 17. <i>Population below state-specific poverty line</i>  | 48 |
| 18. <i>States that have a Nutrition Mission</i>  | 49 |

Contd...

# CONTENTS

|                                      |     |
|--------------------------------------|-----|
| <b>ABOUT THE NUTRITION DASHBOARD</b> | 51  |
| <b>INDIA DASHBOARD</b>               | 55  |
| <b>STATE DASHBOARDS</b>              | 71  |
| <i>Andhra Pradesh</i>                | 73  |
| <i>Arunachal Pradesh</i>             | 89  |
| <i>Assam</i>                         | 105 |
| <i>Bihar</i>                         | 121 |
| <i>Chhattisgarh</i>                  | 137 |
| <i>Delhi</i>                         | 153 |
| <i>Goa</i>                           | 169 |
| <i>Gujarat</i>                       | 185 |
| <i>Haryana</i>                       | 201 |
| <i>Himachal Pradesh</i>              | 217 |
| <i>Jammu &amp; Kashmir</i>           | 233 |
| <i>Jharkhand</i>                     | 249 |
| <i>Karnataka</i>                     | 265 |
| <i>Kerala</i>                        | 281 |
| <i>Madhya Pradesh</i>                | 297 |
| <i>Maharashtra</i>                   | 313 |
| <i>Manipur</i>                       | 329 |
| <i>Meghalaya</i>                     | 345 |
| <i>Mizoram</i>                       | 361 |
| <i>Nagaland</i>                      | 377 |
| <i>Odisha</i>                        | 393 |
| <i>Punjab</i>                        | 409 |
| <i>Rajasthan</i>                     | 425 |
| <i>Sikkim</i>                        | 441 |
| <i>Tamil Nadu</i>                    | 457 |
| <i>Tripura</i>                       | 473 |
| <i>Uttar Pradesh</i>                 | 489 |
| <i>Uttarakhand</i>                   | 505 |
| <i>West Bengal</i>                   | 521 |

# CONTENTS

|  |     |
|--|-----|
| <b>APPENDIX A: SOURCE NOTES AND INDICATOR DEFINITIONS</b><br><i>FAST FACTS ON NUTRITION AND ITS DETERMINANTS</i> | 537 |
| <b>APPENDIX A: SOURCE NOTES AND INDICATOR DEFINITIONS</b><br><i>STATE NUTRITION DASHBOARDS</i>                   | 543 |
| I.    CONTEXT .....  | 545 |
| II.   NUTRITIONAL STATUS AMONG CHILDREN .....  | 548 |
| III.  IMMEDIATE DETERMINANTS .....   | 550 |
| IV.  UNDERLYING DETERMINANTS .....   | 553 |
| V.   STATUS OF NUTRITION-RELEVANT INTERVENTIONS .....  | 556 |
| <b>APPENDIX B: LIST OF PERSPECTIVE PIECES BY EXPERT CONTRIBUTORS</b>   | 563 |



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## ABBREVIATIONS

|         |  |
|---------|--|
| ARI     | Acute Respiratory Infection                            |
| ASHA    | Accredited Social Health Activist                      |
| AWC     | Anganwadi Centre                                       |
| AWW     | Anganwadi Worker                                       |
| BDHS    | Bangladesh Demographic and Health Survey               |
| BCG     | Bacillus Calmette–Guérin                               |
| BMI     | Body Mass Index  |
| DHS     | Demographic and Health Survey                          |
| DLHS    | District Level Household & Facility Survey             |
| DPT     | Diphtheria, Pertussis and Tetanus                      |
| EDHS    | Ethiopia Demographic and Health Survey                 |
| GEM     | Gender Empowerment Measure                             |
| Gol     | Government of India                                    |
| HAZ     | Height-for-Age Z-score                                 |
| ICDS    | Integrated Child Development Services                  |
| IFA     | Iron Folic Acid  |
| IFPRI   | International Food Policy Research Institute           |
| INR     | Indian Rupees  |
| IYCF    | Infant and Young Child Feeding                         |
| MDMS    | Mid Day Meal Scheme                                    |
| MGNREGA | Mahatma Gandhi National Rural Employment Guarantee Act |
| MoSPI   | Ministry of Statistics and Programme Implementation    |
| MoWCD   | Ministry of Women and Child Development                |
| MUAC    | Mid-Upper Arm Circumference                            |
| NA      | Not Available  |
| NCLP    | National Child Labour Policy                           |
| NDHS    | Nepal Demographic and Health Survey                    |
| NFHS    | National Family Health Survey                          |
| NHM     | National Health Mission                                |
| NRHM    | National Rural Health Mission                          |
| NSSO    | National Sample Survey Organisation                    |
| PDS     | Public Distribution System                             |
| PHC     | Primary Health Centre                                  |
| PHFI    | Public Health Foundation of India                      |
| RSoC    | Rapid Survey on Children                               |
| SC      | Scheduled Caste  |
| SD      | Standard Deviation                                     |
| SNP     | Supplementary Nutrition Programme                      |
| SRS     | Sample Registration System                             |
| ST      | Scheduled Tribe  |
| TSC     | Total Sanitation Campaign                              |
| TT      | Tetanus  |
| UNICEF  | United Nations Children's Fund                         |
| USD     | United States Dollar                                   |
| WAZ     | Weight-for-Age Z-score                                 |
| WHA     | World Health Assembly                                  |
| WHO     | World Health Organization                              |
| WHZ     | Weight-for-Height Z-score                              |



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# EXECUTIVE SUMMARY





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## EXECUTIVE SUMMARY

India is on the move. The past two decades have seen significant improvements in household incomes, agricultural productivity and child survival. Between 1990 and 2014, as the income of the average Indian rose by an average annual rate of 4.7 percent (in constant 2005 USD), crop yields (kilograms/hectare) of all food grains rose by an average annual rate of about 2.3 percent, and 2.5 percent fewer children died in the first five years of their life on average annually.

Child undernutrition rates have been declining, first at a slow rate between 1992 and 2006, and at an accelerated pace since 2006. However, these developments are below the rate needed to meet the World Health Assembly's global nutrition targets that India is signatory to. Between 2006 and 2014 in India, stunting rates for children under five declined from 48 to 39 percent. This decline in stunting prevalence in India translated to 14 million fewer stunted children and declines in wasting translated to more than 7 million fewer wasted children [1]. This, in turn, reflects a 23 percent reduction in the number of stunted children and a 35 percent reduction in the number of underweight children. Despite this progress, child undernutrition rates in India are among the highest in the world, with nearly one-half of all children under three years of age being either underweight or stunted. India is still home to over 40 million stunted children and 17 million wasted children under five.

The decline in stunting in India is slowly aligning with the rates of decline in other countries in the region, but the change in the national average masks massive variability across states. Over the same period, stunting rates in Bangladesh declined from 43 to 36 percent [2] while those in Nepal declined from 49 to 41 percent [3]. The change in nutritional status across India's states, however, has been highly variable. In general, states with the lowest levels of stunting in 2006 achieved the highest proportional increase in the eight years that followed. Some states, including Arunachal Pradesh, Mizoram, and Delhi, had relatively large rates of reduction in stunting, but overall levels of undernutrition remain high because of high baseline rates. Meanwhile, in Uttar Pradesh, Bihar, Jammu & Kashmir, Manipur and Jharkhand, the situation has not undergone significant change.

Global evidence shows that child undernutrition is only weakly correlated with income. This is additionally supported by the fact that in India, a 25 percent of the children from the top income quintile were stunted in 2006. The rate of decline in stunting has also not kept pace with the rate at which other indicators of child health including infant and child mortality have declined during the last two decades. This paradox has been referred to in the past as the 'Indian enigma' where, child undernutrition rates in India were much higher than in some countries in Sub-Saharan Africa, even though infant and child mortality in India were lower. The high level of stunting in India, in particular, has invited much commentary. Is it because of culture or culture-specific dietary habits? Is it the poor nutritional status of mothers and consequently, low weight gain during pregnancy that leads to low-birth-weight babies who become undernourished children? Is it rooted in gender-based power asymmetries? Or is it persistent inequity over generations for certain socioeconomic or geographically distinct groups? The answer perhaps lies in a combination of all these factors which results in "a perfect storm" that compromises the nutritional status of children. Our perspective is that action is needed on several of these fronts, which collectively contribute to the high burden of undernutrition in India.

If India is to continue its economic growth trajectory, the problem of nutrition as a developmental imperative has to be tackled with urgency. Child undernutrition is a primary driver of reduced school attendance, compromised cognitive development and a massive loss of human potential with economic consequences for the individual and for the nation. Global evidence suggests that a one standard deviation decrease in conditional height at age 2 relates to 0.5 years of schooling loss, which is associated with a 5 percent annual decrease in income [4]. If the population of stunted children in India were a single country, it would be the ninth largest country in the world. Even with recent improvements, India's stunting problem represents the largest loss of human potential in any country in human history.

The continuing problem of undernutrition in India now coexists with the problem of overweight and obesity and associated non-communicable diseases for a different segment of the population. Recent science suggests that children who are underweight and undernourished are more likely to develop chronic illnesses, such as diabetes, later in

life. India has the largest number of adults with Type 2 diabetes, and their number is growing rapidly, having doubled over the past 10 years. Indeed, India has a higher rate of diabetes than many western countries with much higher economic prosperity.

This India Health Report: Nutrition 2015 surveys the trends in maternal and child undernutrition in India. It looks at trends and disparities in these outcomes across geographical regions, socio-economic classes, and demographic groups. Tackling undernutrition and enabling improvements in the determinants of poor nutrition requires actions from multiple actors and sectors, and at multiple levels. In order to develop a contextually relevant, high impact and pragmatic strategy to tackle undernutrition, decision-makers need to be able to understand the extent of the problem and its determinants, and identify the most important areas for intervention. At present, despite broad agreement that nutrition is fundamentally driven by challenges in multiple sectors, there is no single data dashboard that enables a comprehensive view of nutrition and its determinants to enable strategic choices for policy-making at the state-level.

The India Health Report: Nutrition 2015 aims to provide its readers with a comprehensive state-level overview of the current nutritional status of under-five children in India, its multiple determinants, and the status of the country's key nutrition-relevant interventions. Data from multiple surveys, databases, and official reports in the public domain have been compiled to create informative dashboards that will help benchmark progress against undernutrition and identify key areas for action at the state level. The Report's objectives are to raise awareness about the multisectoral nature of undernutrition and to facilitate evidence-based discussions on future actions by bringing the focus to data, statistics and objective information.

The Report begins with a set of core indicators of nutrition outcomes and their determinants at the national level (called "Fast Facts on Nutrition and Its Determinants"). These 18 core indicators include five global nutrition targets for improving maternal, infant and young child nutrition as declared by the World Health Assembly. India, as a Member State of the World Health Organization has also endorsed these targets. In a subsequent section titled "Comparing States on Nutrition and Its Determinants", we then compare all states in India on these core indicators, highlighting the significant inter-state variability both in outcomes and their determinants. This is intended to help to identify and compare priority areas for actions within and across states. The report then presents, in alphabetical order, a full set of dashboard indicators for India and for all states, in the "Nutrition Dashboards" section. The dashboards lead off with the 18 core indicators to enable benchmarking of progress before going on to provide detailed information on child nutrition and its multiple determinants in the context of demographic and socioeconomic profile of each state. The indicators are aligned with UNICEF's conceptual framework on causes of undernutrition and the actions necessary for optimal fetal and child nutrition and development. Finally, the dashboards provide information on coverage, capacity and financial resources for supporting major centrally funded nutrition-relevant schemes for each state. Detailed source notes and definitions for all the indicators presented in the Report are available in the Appendix A.

The India Health Report: Nutrition 2015 covers 28 states and Delhi for which data on anthropometric outcomes of children below five years of age was available from the Rapid Survey on Children (RSOC) 2013-14 factsheets released by the Ministry of Women and Child Development (MoWCD). The dashboards cover over 120 indicators and draw on multiple sources of nationally representative surveys, databases, and reports with most recent data available.

Our approach to the report and the data dashboards were informed by perspective papers written by leading experts both within and outside the country (see Appendix B for the list of papers). The report's ultimate goal is to deepen and focus the policy dialogue in India, highlight areas for action, especially at the state-level, and lead to actions that can accelerate improvement in the nutritional status and development of India's children.



# KEY MESSAGES





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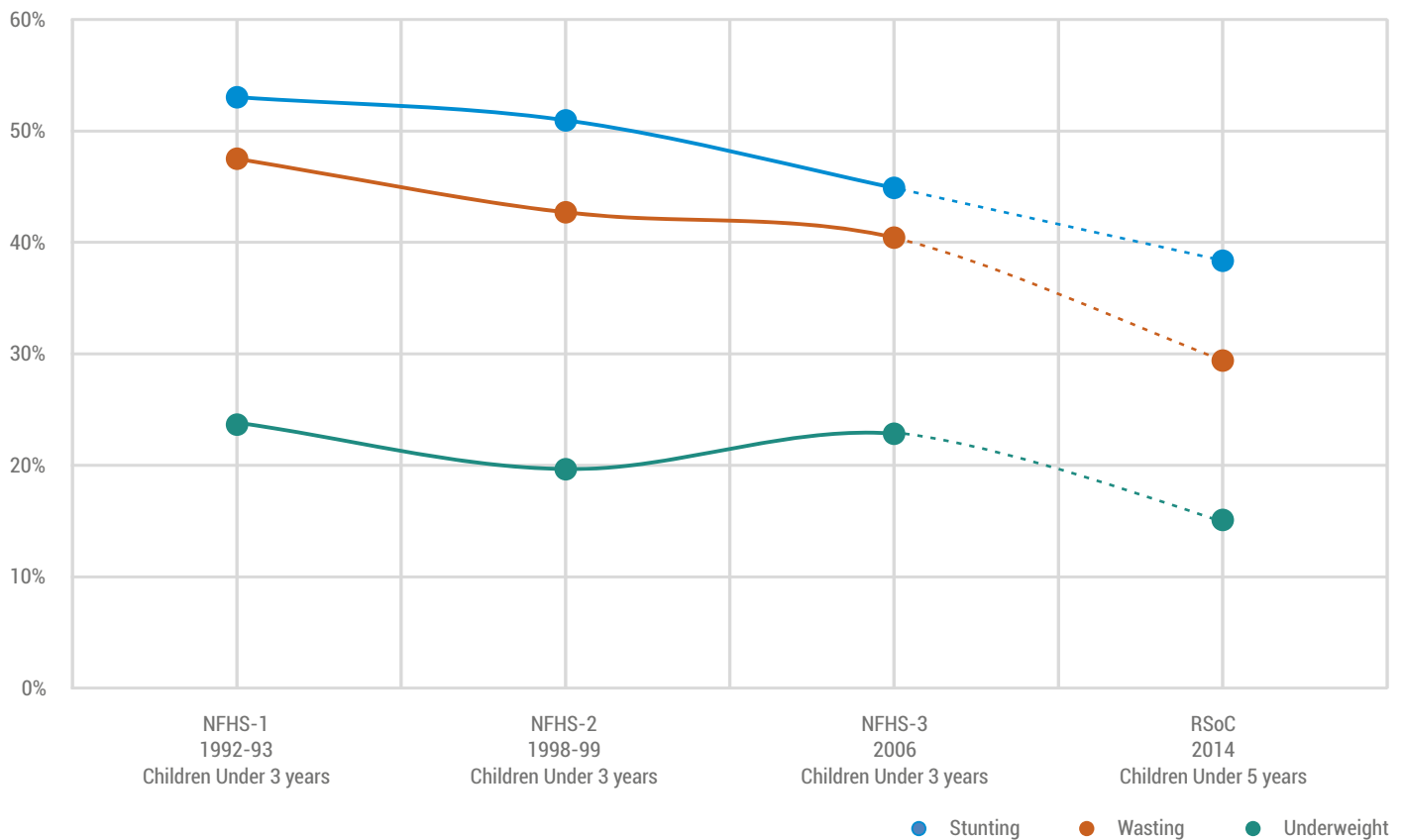


# 1 Stunting, wasting and underweight rates of India's children have declined, especially during the last decade, but still exceed levels observed in countries at similar income levels.

Despite India's commitment to improving the lives of its people and gains made in economic growth, agricultural production and child survival, the country lags behind the world and its neighbors on the nutritional status of its children. According to recent data from the RSoC (2014), 38.7 percent of Indian children under the age of five are stunted, 19.8 percent are wasted, and 42.5 percent are underweight. Stunting is a measure of chronic undernutrition; wasting indicates acute undernutrition; and underweight is a composite of these two conditions.

Nationwide, progress was slow over the first of the past two decades, as reflected in the prevalence rates of stunting, wasting, and underweight among under-three children over time, as measured in the three waves of the National Family Health Survey (NFHS). Stunting rates in under-three children declined by only 8 percentage points in more than a decade in this age group – from 53 percent in 1992–93 to 45 percent in 2006 – reflecting an average annual rate of decline of 1.2 percent. During this period, while wasting declined by 1 percentage point and underweight by 8 percentage points [5](Figure 1). However, the rate of progress accelerated since NFHS-3, and India's average annual rate of under-five stunting decline between 2006 and 2014 has been 2.3 percent per year, compared with a rate of decline of 1.2 percent per year between 1992 and 2006.

**FIGURE 1. TRENDS IN NUTRITIONAL STATUS IN INDIA, 1993 to 2014**



Source: Authors' estimates based on data from NFHS-1, 1992-93, NFHS-2, 1998-99, and NFHS-3, 2006 [5]; RSoC, 2014

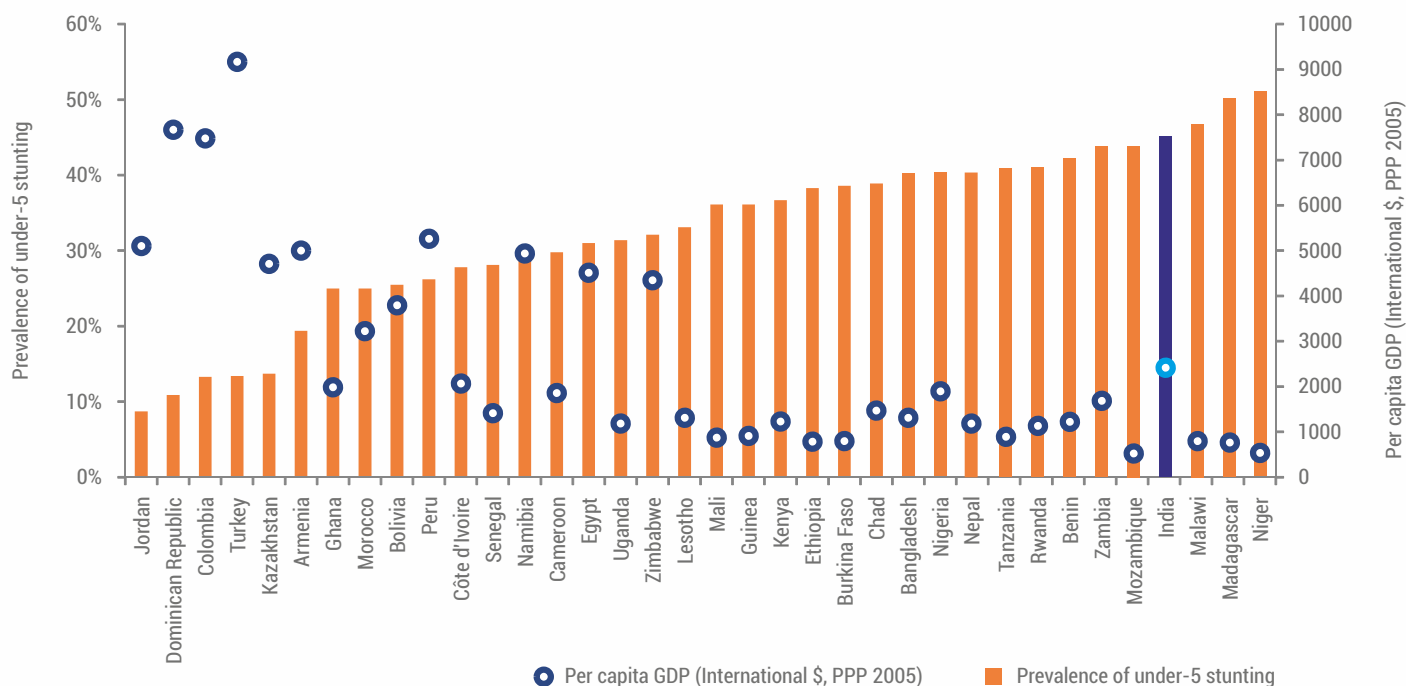
A less visible but equally important measure of nutritional wellbeing is micronutrient status. Unfortunately, deficiencies of essential vitamins and minerals are highly prevalent in India. With little change over time, 75 percent among children under five and over half of women of child-bearing age are anemic. Prevalence of vitamin A deficiency is 57 percent among children under five. Goiter (caused by iodine deficiency) affects 26 percent of the population, overall, and 19 percent in school-aged children. These are significant challenges in the way of ensuring a healthy and productive population.

The problem of undernutrition is now supplemented by the challenge of a growing population of overweight and obese children. Recent national-level data on the burden of overweight and obesity among children and adults are not available, but available estimates range between 4.3 and 15.3 percent in urban areas [6-10].

And India lags behind many countries in Sub-Saharan countries (Figure 2); indeed, some states in India compare unfavorably to the poorest countries in Africa. A comparison with countries in South Asia also causes concern. Despite India's economic dominance in the subcontinent in terms of per capita income, nutritional outcomes remain poor, and indicators for access to improved sanitation and immunizations are the lowest in the region.

Debates about whether the growth of Indian children should be assessed differently have been shown to be without merit [11-14]. Studies have shown that affluent Indian children grow at the same rates as children in developed countries [15], as do children of Indian immigrants living in countries like the United Kingdom [16]. Indeed, studies of adopted children who migrated to industrial countries have shown that children can achieve significant height catch-up.

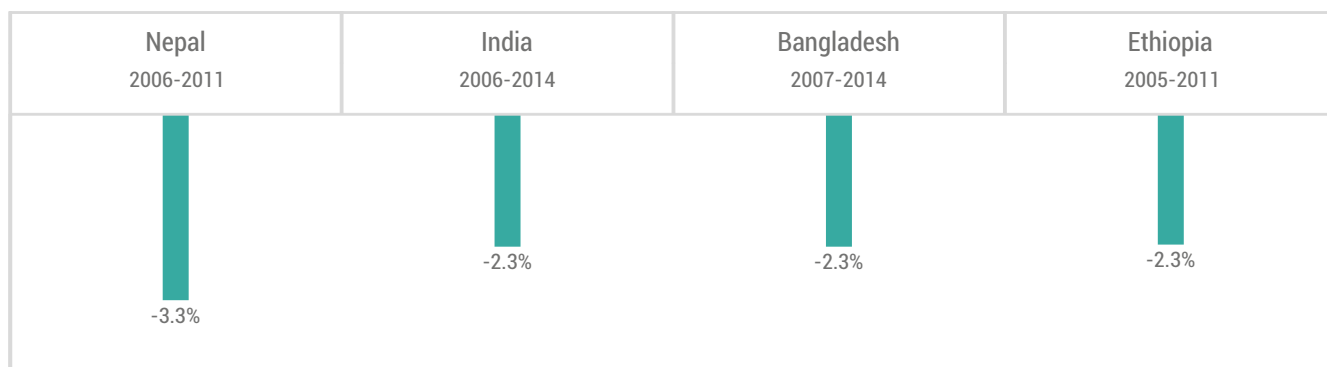
**FIGURE 2. PREVALENCE OF UNDER-5 STUNTING AND LEVEL OF ECONOMIC DEVELOPMENT, BY COUNTRY**



Source: Authors' compilation from most recent Demographic Health Surveys and Penn World Tables 8.0 [17]

The faster annual rate of reduction in stunting since 2006, i.e., 2.3 percent per year, means that the rate of decline in India is finally approaching the rate of decline in other countries with similar levels of stunting, but this is not enough. Between 2011 and 2014, for instance, Nepal had a 3.3 percent average annual rate of reduction in stunting rates compared to 2.3 percent in India (Figure 3). However, the rate of reduction in India is now similar to that of Bangladesh, and Ethiopia (2.3 percent annual rate of decline in both countries). At this rate, India will achieve the current stunting rate of Ghana or Togo only by 2030, and the current stunting rate of China (10 percent) only in 2055.

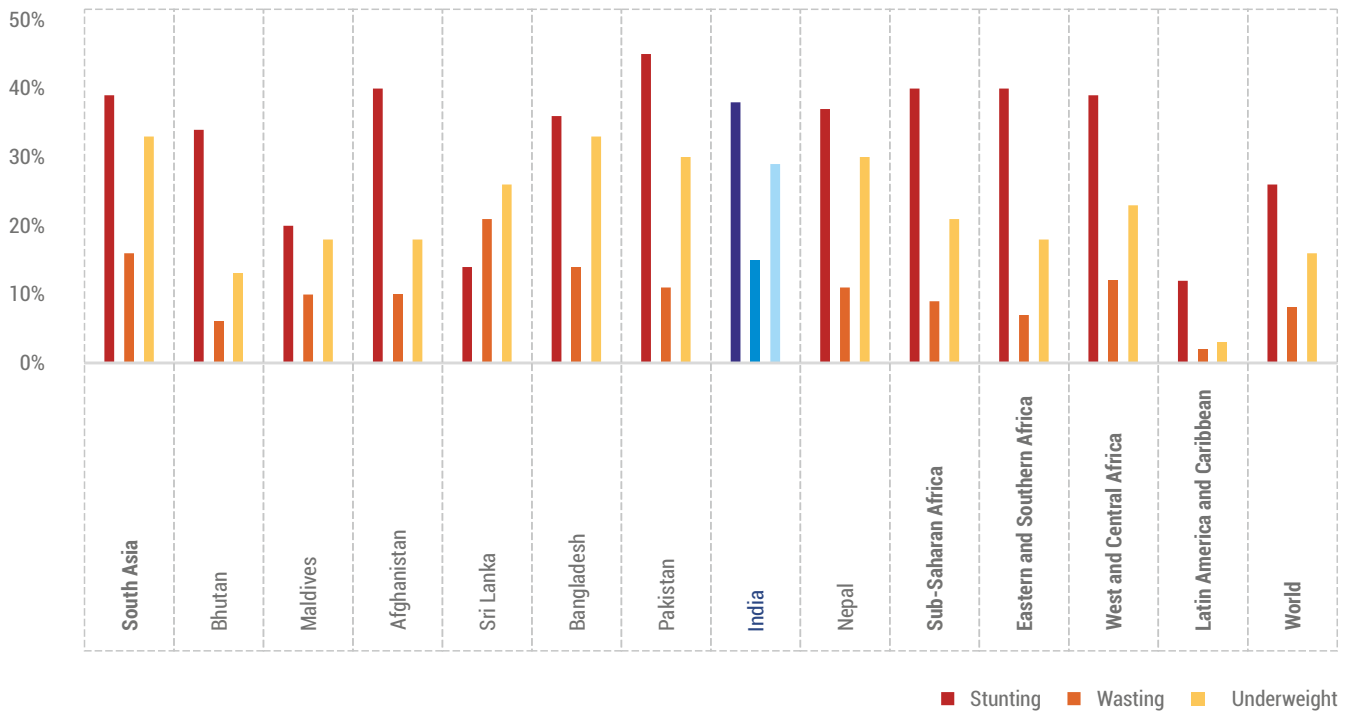
**FIGURE 3. AVERAGE ANNUAL RATE OF REDUCTION IN UNDER-5 STUNTING, 2005 to 2014, BY COUNTRY**



Source: Nepal - DHS, 2011 | India - NFHS-3, 2006; RSoC, 2014 | Bangladesh - DHS, 2014 | Ethiopia - DHS, 2011

Figure 4 shows the proportion of underweight, stunting, and wasting among under-five children by global regions. Figures for India are now the same as for all of sub-Saharan Africa, but children in Latin America and the Caribbean also fare better than children in India, as do many children in other South Asian countries.

**FIGURE 4. STUNTING, WASTING AND UNDERWEIGHT PREVALENCE IN UNDER-5 CHILDREN, BY GLOBAL REGIONS**



Source: Regional figures drawn from: [http://www.unicef.org/gambia/Improving\\_Child\\_Nutrition\\_-\\_the\\_achievable\\_imperative\\_for\\_global\\_progress.pdf](http://www.unicef.org/gambia/Improving_Child_Nutrition_-_the_achievable_imperative_for_global_progress.pdf); India figures drawn from [http://www.unicef.org/media/files/UNICEF\\_Key\\_facts\\_and\\_figures\\_on\\_Nutrition.docx](http://www.unicef.org/media/files/UNICEF_Key_facts_and_figures_on_Nutrition.docx)

*The rate of improvement in nutritional status has not kept pace with India's significant gains in economic prosperity and agricultural productivity during recent decades. Stunting rates are likely to decline with economic progress, but economic growth cannot, by itself, reduce undernutrition and may contribute to overweight and obesity.*

Recent analyses have indicated an association between national economic prosperity and levels of stunting, but this relationship is weak. In a global analysis, it is estimated that in the long run, a 10 percent increase in GDP can lead to a 6 percent decline in stunting [18]. Figure 5 shows the correlation between stunting rates among children under five and per capita net state domestic product (at constant prices) in 2013-14 for 29 states. Overall, even though stunting is lower in higher income states, there is significant variability in this relationship, such that even for the same level of state NSDP, stunting levels varied tremendously. In 2013-14, the average national per capita net state domestic product at constant (2004–2005) prices was INR 48,753. In Punjab, which best represents the national average per capita income at INR 49,529, the prevalence of stunting among children under five is 30.5 percent (lower than the national average of 39 percent). Interestingly, although Tamil Nadu and Gujarat have similar levels of income, Tamil Nadu has a much lower stunting rate of 23.3 percent, while it is 41.8 percent in Gujarat. Similarly, Uttarakhand and Kerala have similar levels of income but very different prevalence rates of stunting. Conversely, Kerala and Goa have the lowest stunting rates in the country, 19.5 and 21.3 percent, respectively, yet Kerala's per capita net state domestic product is less than half of Goa. These disparities indicate that levels of income do not automatically translate to lower stunting, and warrants a closer look at other known developmental drivers of stunting.

**FIGURE 5. PER CAPITA INCOME AND PREVALENCE OF STUNTING IN UNDER-5 CHILDREN, BY STATE**



Source: NSDP : MoSPI, 2014 | Stunting Rate : RSoC, 2014

Most analyses of stunting declines confirm that economic progress alone is not sufficient to achieve significant nutritional gains [18-20]. From 1998–99 to 2005–2006, GDP per capita in India expanded by 40 percent in real terms. Despite the rising levels of prosperity and reduced levels of poverty among millions of Indians, the proportion of stunted children under age three declined by only 6.1 percentage points in that seven-year period, from 51 to 44.9 percent. Since then growth rates have dropped but the rate of progress on nutrition has increased, possibly reflecting lagged effects.

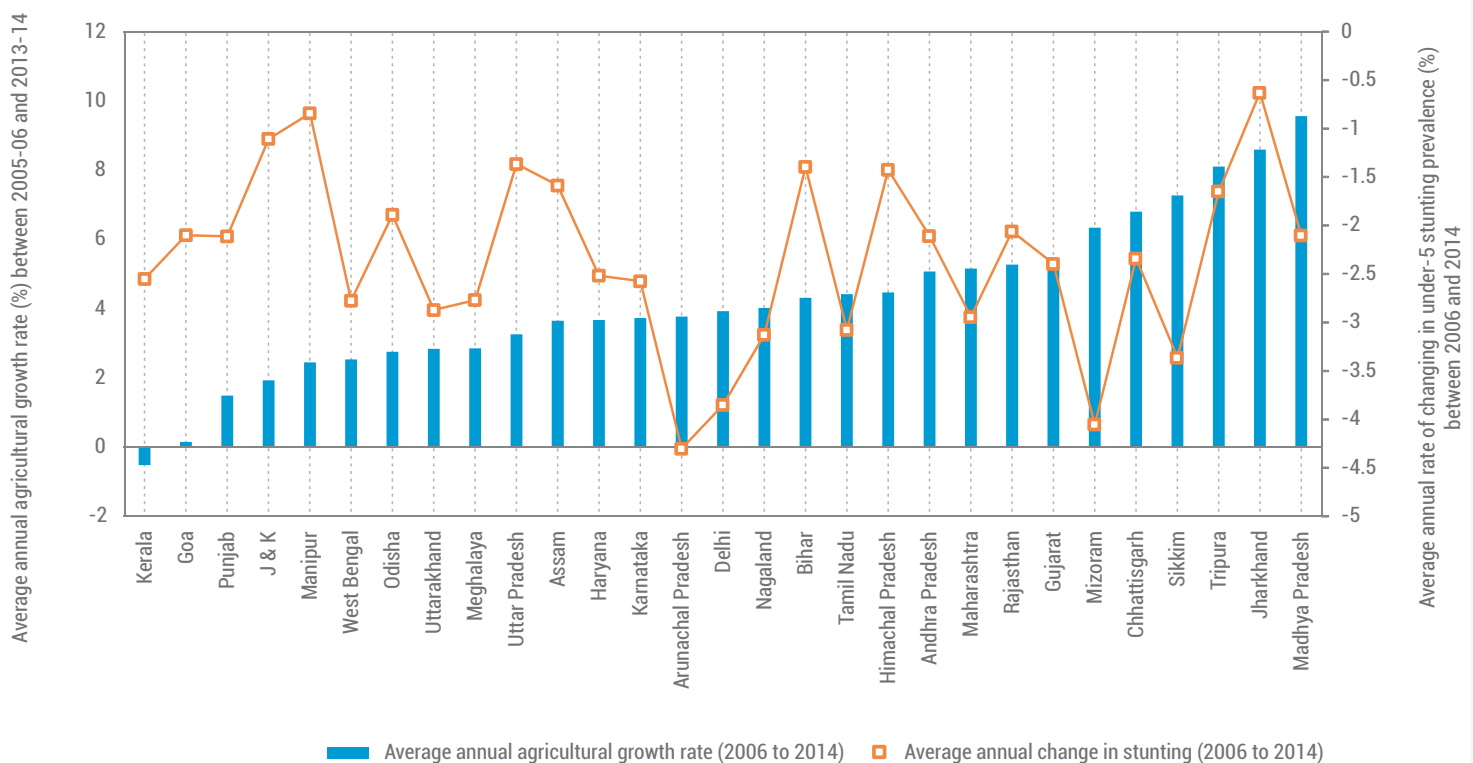
A study of 63 countries, including India, sought to understand the importance of economic growth in reducing undernutrition by analyzing the relationship between child nutrition and variables related to economic growth, food availability, women's education, women's status, and access to safe water [21]. The study found that increases in per capita national income translated into improvements in child nutritional

status only if the economic gains facilitated public and private investments that could improve conditions related to diet and disease. Indeed, there is evidence that the relationship between economic growth and stunting reduction in India is not as strong as in many other countries. It could be stronger, with accompanying commensurate investments in known developmental drivers of nutrition and strengthened health and nutrition programs.

Although the share of agriculture in India's GDP has declined during recent years over half of all Indians still earn their livelihoods from agriculture. Agricultural growth in India has fluctuated over time, with long-term growth at about 2.5 percent per year although it varies considerably across sectors. The output of cereal crops has declined, while maize, cotton, horticulture (fruits and vegetables), and livestock production have expanded in terms of both quantity and value.

Agricultural growth can affect nutritional outcomes through changes in diets and food consumption and through changes in maternal labor and time usage in agricultural production [22]. There is no consistent statistical association between agricultural growth and changes in child undernutrition in India [19]. Given the importance of agriculture as a source of employment and economic growth in rural areas, this is an enormous missed opportunity. The agriculture sector could improve nutrition through multiple pathways: increasing incomes of farming households, diversifying production of crops, empowering women, conducting nutrition education campaigns, strengthening agricultural diversity and productivity, and designing careful price and subsidy policies that do not discourage the production and consumption of nutrient-rich crops.

**FIGURE 6. AGRICULTURAL PRODUCTIVITY AND PREVALENCE OF STUNTING IN UNDER-5 CHILDREN IN INDIA**



Source : Average annual agricultural growth rate : Central Statistical Organisation (CSO) ; Ministry of Agriculture, Govt. of India. (as on 31-10-2014)  
Average annual change in stunting (2006 to 2014) : RSoC, 2014

Improvements in economic and agricultural performance have not directly translated into improved nutrition because of other factors that include inappropriate feeding and care practices, disease burdens, traditions, biases against girl children and cultural norms and preferences. Because nutritional outcomes are determined by food as well as nonfood conditions, improvements in nutrition requires changes on multiple fronts besides better diets. In the Indian context, these could include improvements in healthcare services, women's empowerment, social protection, and water and sanitation infrastructure [23].

**Nutritional status and progress on reducing stunting vary markedly across India's states indicating that state-specific approaches are necessary to achieve further gains in reducing stunting.**

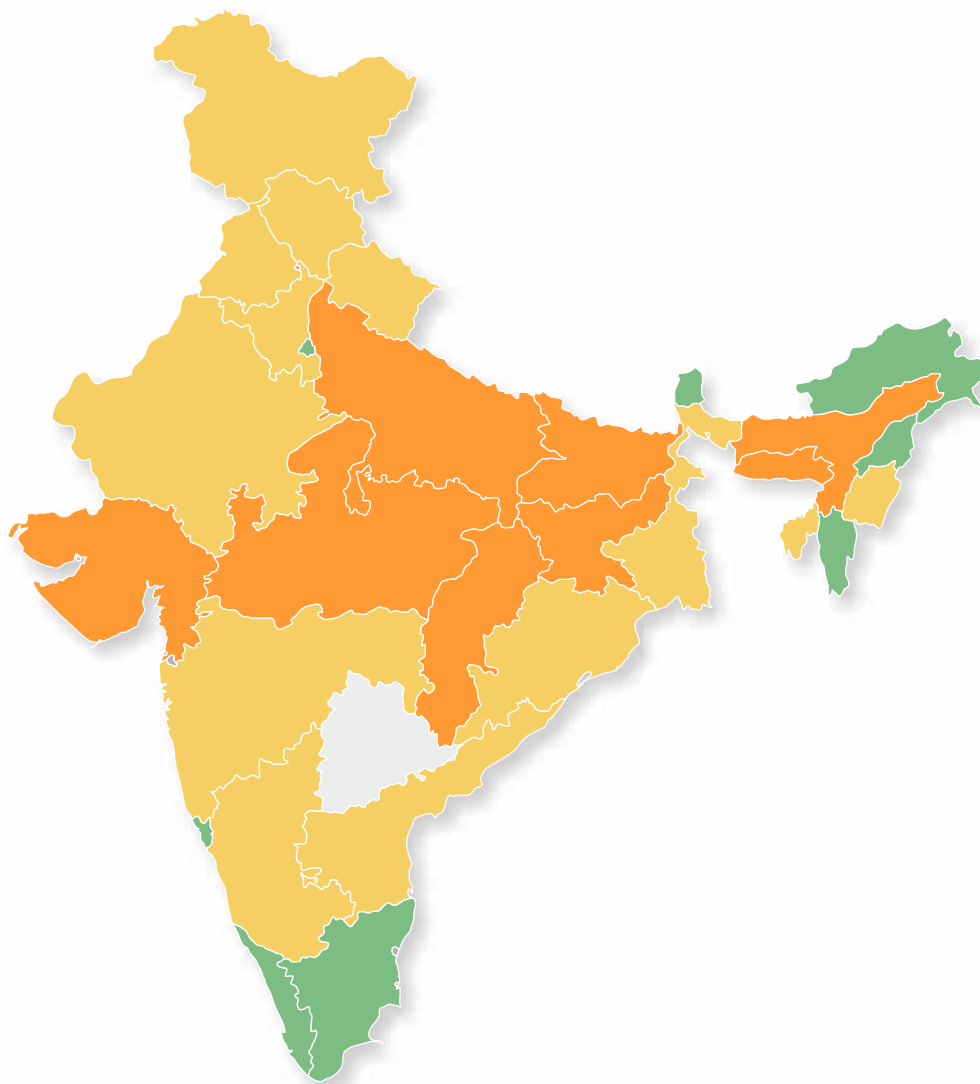
There is significant variation in nutritional status of children across states indicating variation not just in the effectiveness of programs that deliver nutrition-specific interventions but also in the underlying developmental drivers of poor nutrition.

**Stunting**

Eight states in India have under-five stunting rates that exceed the national average: Uttar Pradesh, Bihar, and Jharkhand have stunting rates close to 50 percent, while Chhattisgarh, Meghalaya, Gujarat, Madhya Pradesh and Assam have stunting rates between 40 and 45 percent (Figure 7). Stunting rates in Kerala and Goa, which are 19.4 percent and 21.3 percent, respectively, are among the lowest in the country. All other states range between 20 and 40 percent.

**FIGURE 7. PREVALENCE OF STUNTING IN UNDER-5 CHILDREN, BY STATE**

(RSoC, 2014)



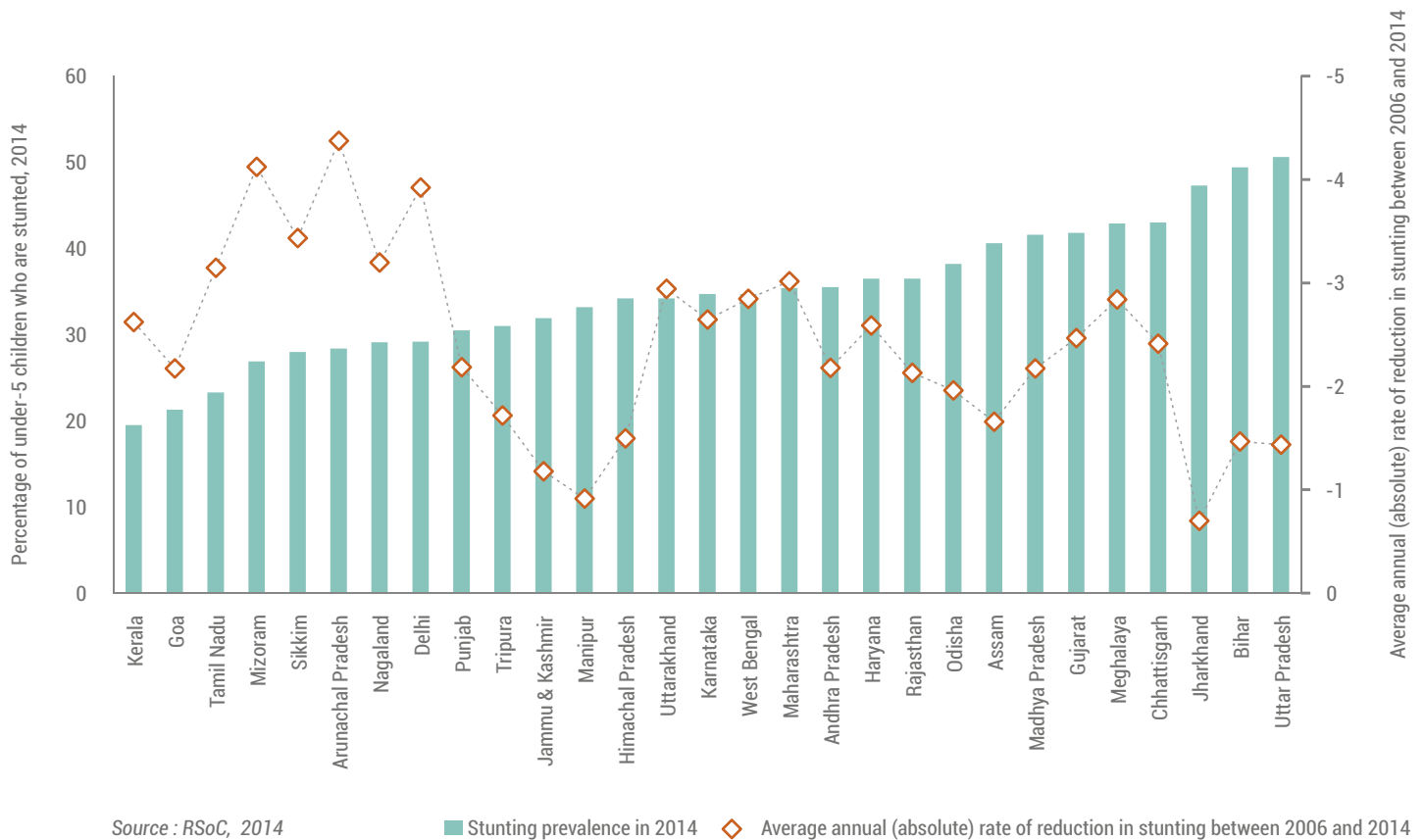
**Stunted Children**

More than 40%    Between 40% - 30%    Less than 30%    Data not available

| States            | Numbers in Percentage |
|-------------------|-----------------------|
| Uttar Pradesh     | 50.4                  |
| Bihar             | 49.4                  |
| Jharkhand         | 47.4                  |
| Chhattisgarh      | 43.0                  |
| Meghalaya         | 42.9                  |
| Gujarat           | 41.6                  |
| Madhya Pradesh    | 41.5                  |
| Assam             | 40.6                  |
| <b>India</b>      | <b>38.7</b>           |
| Odisha            | 38.2                  |
| Haryana           | 36.5                  |
| Rajasthan         | 36.4                  |
| Maharashtra       | 35.4                  |
| Andhra Pradesh    | 35.4                  |
| West Bengal       | 34.7                  |
| Karnataka         | 34.2                  |
| Himachal Pradesh  | 34.2                  |
| Uttarakhand       | 34.0                  |
| Manipur           | 33.2                  |
| Jammu & Kashmir   | 31.7                  |
| Tripura           | 31.0                  |
| Punjab            | 30.5                  |
| Delhi             | 29.1                  |
| Nagaland          | 29.1                  |
| Arunachal Pradesh | 28.4                  |
| Sikkim            | 28.0                  |
| Mizoram           | 26.9                  |
| Tamil Nadu        | 23.3                  |
| Goa               | 21.3                  |
| Kerala            | 19.4                  |

Figure 8 shows the proportion of stunting, by state, in 2014 among under-five children along with the annual rate of decline in stunting between NFHS-3 and RSoC. All 29 states covered by the NFHS-3 and RSoC showed a reduction in stunting between 2006 and 2014. However, rates of progress vary tremendously [24]. Six states, mainly in the northern and northeastern regions of India (Tamil Nadu, Mizoram, Sikkim, Arunachal Pradesh, Nagaland, and Delhi) achieved an average annual rate of reduction of more than 3 percent between 2006 and 2014 while Jharkhand, Manipur, and Jammu & Kashmir, along with Uttar Pradesh and Bihar, showed slow rates of decline during this period.

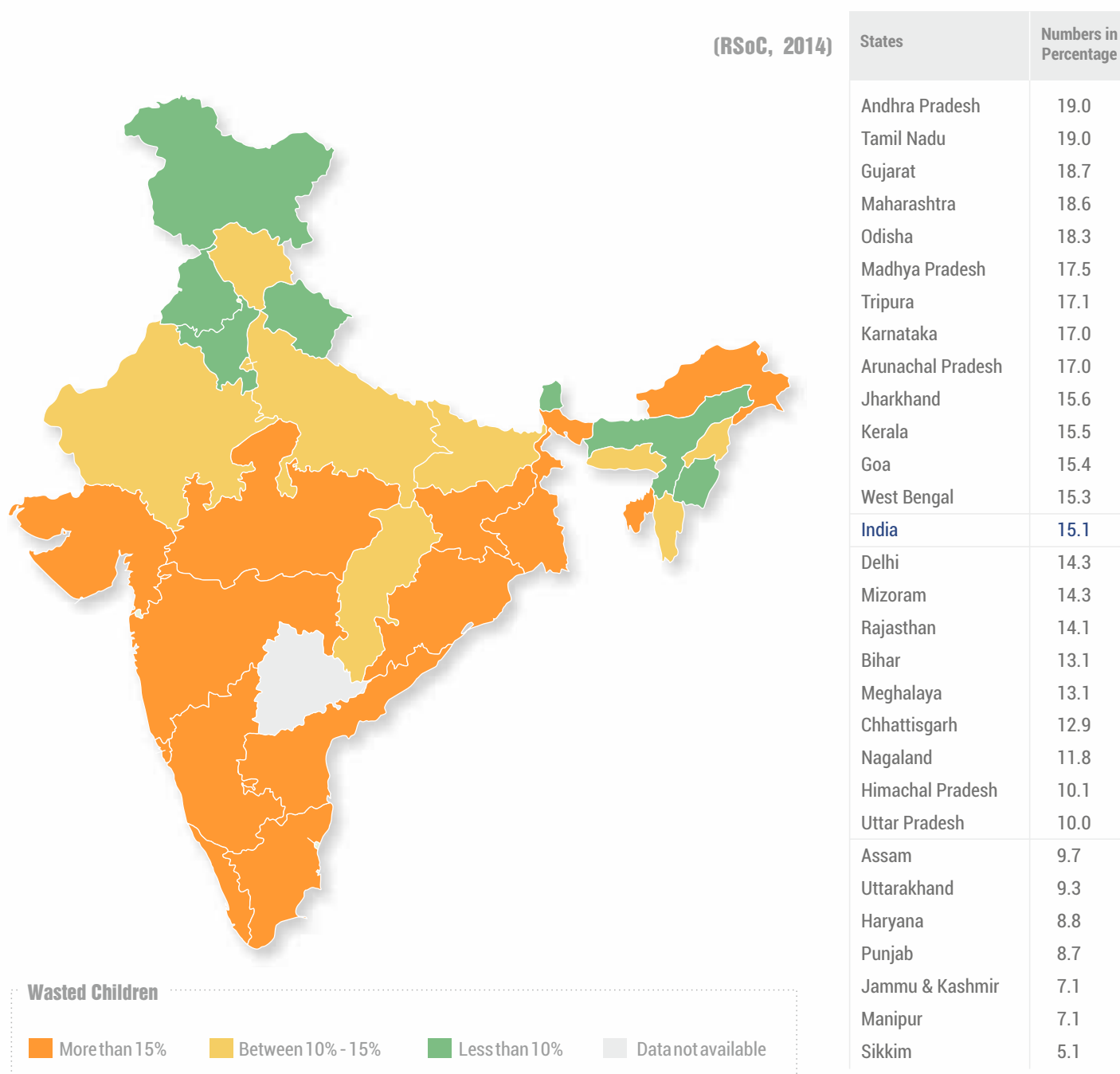
**FIGURE 8. PREVALENCE OF STUNTING IN UNDER-5 CHILDREN IN 2014 AND ANNUAL RATE OF REDUCTION, 2006 TO 2014, BY STATE**



### Wasting

The national prevalence of children under age five who are wasted is 15.1 percent according to RSoC, 2014. As shown in Figure 9, thirteen states have wasting levels higher than the national average: West Bengal, Goa, Kerala, Jharkhand, Arunachal Pradesh, Tripura, Madhya Pradesh, Karnataka, Odisha, Maharashtra, Gujarat, Andhra Pradesh, and Tamil Nadu. Arunachal Pradesh has the highest percentage of severely wasted children, whereas Sikkim has the lowest percentage of wasted as well as severely wasted children.

**FIGURE 9. PREVALENCE OF WASTING IN UNDER-5 CHILDREN, BY STATE**

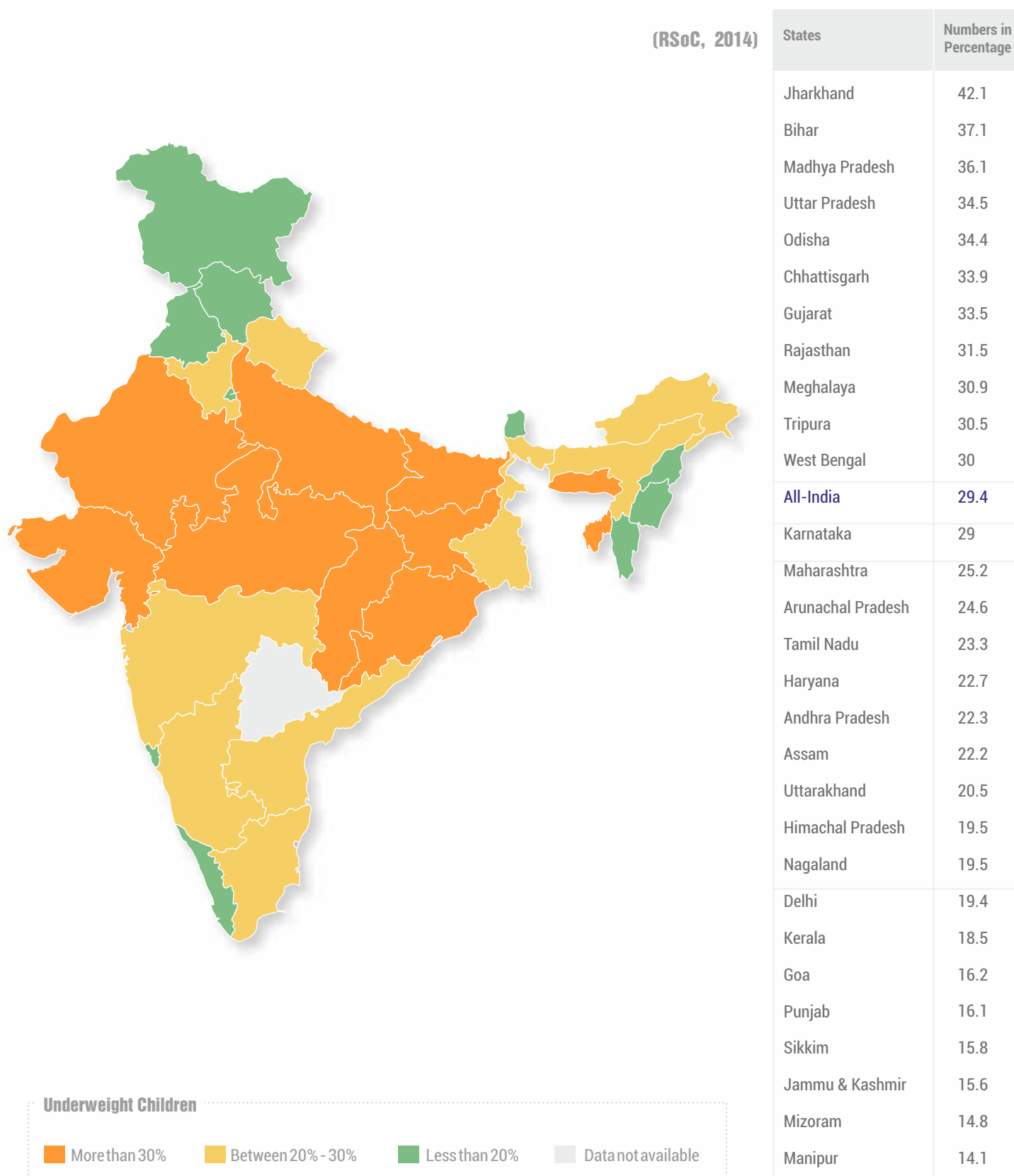




## Underweight

As illustrated in Figure 10, the proportion of underweight children under age five ranges from 14.1 percent in Manipur to 42.1 percent in Jharkhand. Severe underweight prevalence varies between 2 percent in Goa and 16.8 percent in Tripura.

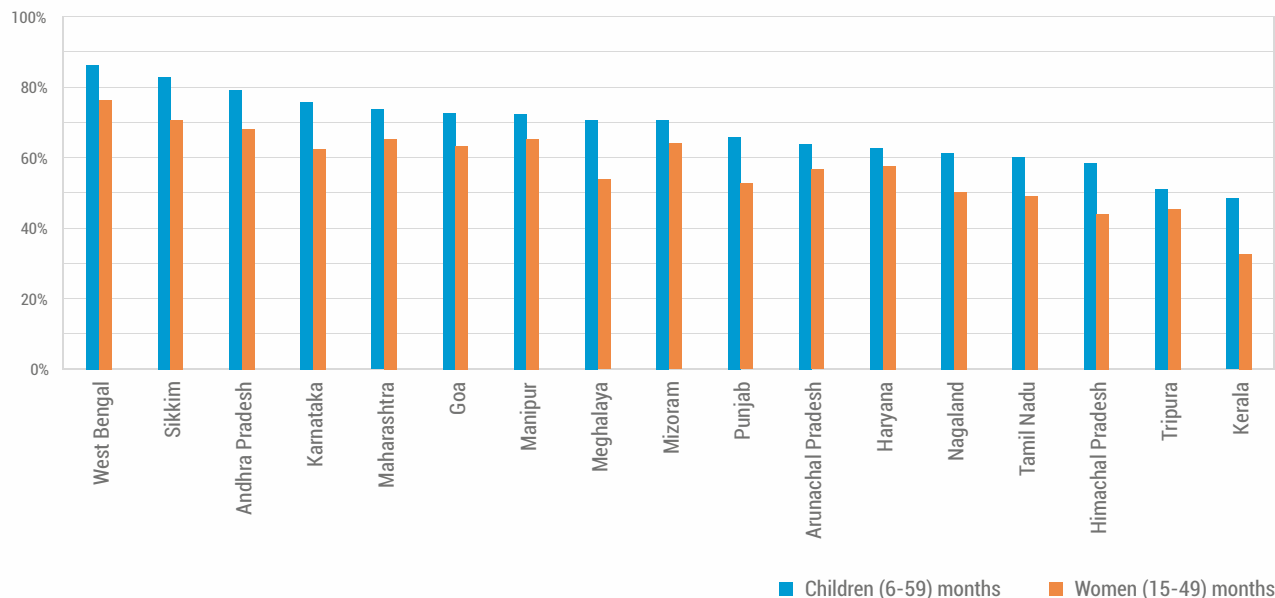
**FIGURE 10. PREVALENCE OF UNDERWEIGHT IN UNDER-5 CHILDREN, BY STATE**



### Anemia

Anemia is an important indicator of micronutrient deficiencies and an important risk factor for poor child development. In eight out of the seventeen states covered by DLHS-4, more than 70 percent of children aged 6-59 months have anemia. Similarly, more than half of Indian women in their child-bearing years, aged 15-49 years, in 13 states have anemia. Anemia prevalence ranges from 76.3 percent in West Bengal to 32.7 percent in Kerala (Figure 11).

**FIGURE 11. PREVALENCE OF ANEMIA IN CHILDREN (6-59 MONTHS) AND WOMEN (15-49 YEARS), BY STATE**

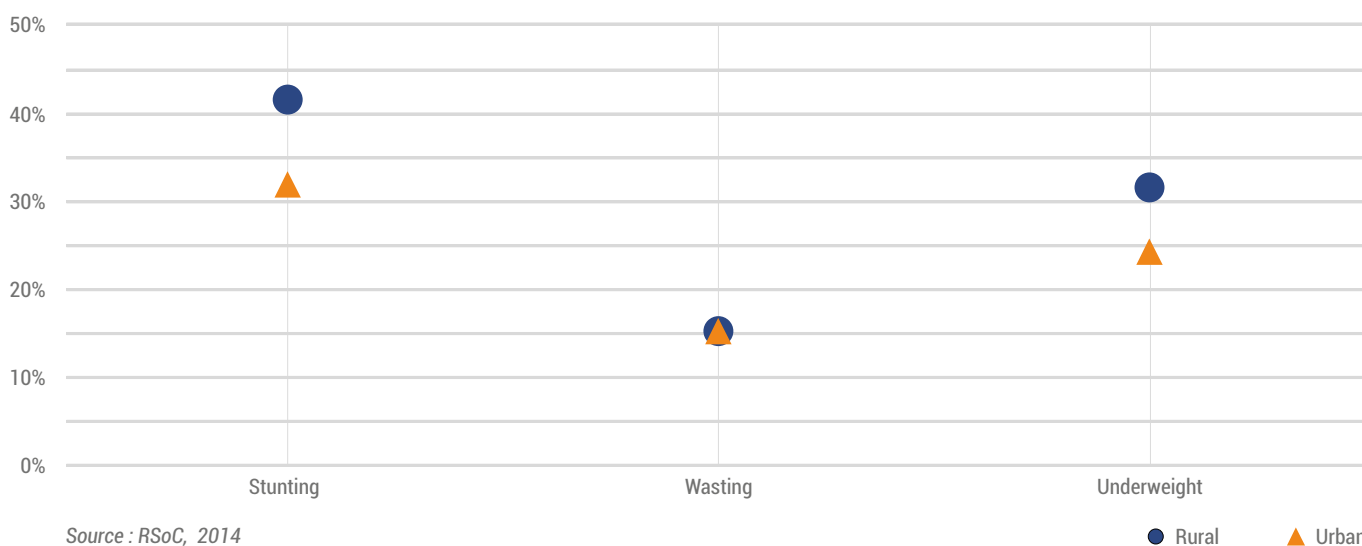


Source : DLHS-4, 2012-13 | Data not available for : Assam, Bihar, Chhattisgarh, Delhi, Gujarat, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttarakhand, Uttar Pradesh

India's urbanization rates are rising faster than the overall population rate. About 28 percent of Indians live in urban areas and by 2030, this number is expected to reach 41 percent or 575 million people. Though the prevalence of undernutrition is lower in urban India than in rural regions, there are wide differences within the urban population. Measured by severe wasting in children under five, the urban poor (urban populations not residing in slums or in areas covered under Municipal Corporation facilities) are in fact nutritionally worse off compared with people in rural India or even those living in urban slums.

Urban living is also associated with higher overweight rates across all age groups for males and females. Sedentary urban lifestyles related to high energy intake and low energy expenditure coupled with easy access to and wide availability of high-calorie low-nutrient quality foods exacerbate the challenge.

**FIGURE 12. PREVALENCE OF STUNTING, WASTING AND UNDERWEIGHT IN UNDER-5 CHILDREN, BY PLACE OF RESIDENCE**



Source : RSoC, 2014

## **4** *The underlying reasons for India's high rates of stunting and variability in progress are complex and intertwined.*

There are multiple reasons for lack of significant progress in reducing stunting and improving child development that also explain the significant variation in levels and trends in stunting between and within states. Several analyses in recent years have pointed to the role of immediate and underlying drivers of poor nutrition [20, 25-28]. We summarize the most important of these below, noting with concern, based on our examination of state-level data, that some of the drivers, such as complementary feeding, women's status and health, sanitation and social/caste inequality, are major challenges in a majority of the states.

### ***Breastfeeding and complementary feeding***

As seen elsewhere, poor infant and young child feeding (IYCF) practices are associated with poor nutrition outcomes in India [29]. The state of IYCF practices across India is poor, although rates of exclusive breastfeeding have improved over time. Recent RSoC data indicate that 45 percent children were breastfed within 24 hours after birth (compared to 25 percent in NFHS-3) and 65 percent of children aged 0-5 months were exclusively breastfed (compared to 47 percent in NFHS-3). Rates of timely initiation of complementary feeding between 6 and 8 months of age appears to have declined slightly between NFHS-3 and RSoC, with only about half of children aged 6-8 months were being fed complementary foods in 2014, compared to 56 percent in 2006. Diet quality, often related to child growth outcomes, also appears to have declined over time; only 20 percent children age 6 – 23 months met minimum dietary diversity compared to 35 percent in NFHS-3. Challenges to appropriate feeding are numerous and range from cultural perceptions to food availability at the household level. As women's participation in the labor force increases and takes different shapes, these challenges become dynamic across India. Improving IYCF practices requires investments in addressing personal, societal, economic, and policy barriers.

The ICDS includes key interventions to improve IYCF practices, however, according to RSoC data, only 49 percent children under three years were provided supplementary nutrition under ICDS compared to 32.5 percent in NFHS-3, indicating limited uptake, especially since close to 95 percent of centers surveyed reported providing supplementary food. The corresponding figures for children in age group of 3-6 years were 44 percent and 33 percent respectively. The RSoC also highlights the limited awareness of families regarding health and nutrition education services available at the Anganwadi centers.

### ***Child health***

Poor child health, especially manifested in infectious diseases, is a significant constraint to improving nutrition. Even as the health system gears up to address the provision of preventive, promotive and curative health, India's weak and underfunded public health system remains a significant challenge to improving nutrition and preventing diseases. A large amount of health spending in India is out-of-pocket and of varying quality, and government spending on the public health system is less than 1 percent of GDP [10]. Although there have been recent investments in improving the quality and coverage of the routine immunization program through Mission Indradhanush, much remains to be done to improve primary care and prevent childhood illnesses. New vaccines, including the rotavirus and pneumococcal vaccines are needed to prevent the large avertable burden of rotavirus-related diarrheal disease and pneumonia.

More can be done to strengthen the health system's role in improving nutrition in India through stronger efforts to ensure delivery of nutrition interventions such as provision of iron-folic acid supplements during pregnancy, counseling for early breastfeeding, vitamin A supplements, and zinc-oral rehydration solution treatments for diarrhea can significantly contribute to better nutrition. The health system also plays a critical role in the management of treatment for children with severe acute malnutrition, and must continue to strengthen these efforts.

### ***Income inequality***

Although rates of undernutrition are higher than expected even among wealthier groups, it is well-established that poverty exacerbates undernutrition, and proportions of stunting, wasting, and underweight are certainly highest in the lowest quintile of wealth across India. The state dashboards in this Report highlight income inequalities within state, while suggesting that, on a state-by-state basis, the issue of income equality will continue to challenge progress on nutrition. At the most fundamental level, if current and future economic progress and a higher GDP do not lead to greater equality in terms of income and wealth, undernutrition will persist.

### ***Food security and diet quality***

Food insecurity and poor diet quality, both widely prevalent in India, are associated with poor nutrition outcomes for women and children. Changes in relative prices, demographic patterns, food habits, and calorie requirements all affect dietary diversity, as shown in the

Household Food Consumption Surveys collected by the National Statistical Office [13]. Although different data sources report different trends related to overall caloric consumption in India, all find that consumption of fats by Indians has increased [5]. Recent evidence suggests that programs like the Public Distribution System, that aim to improve access to food, can also improve the diversity of diets of households [30]. Poor household food security and diet diversity often translates to poor diet diversity for children and for women, indicating that efforts to improve household food security have to be an important component of efforts to improve maternal and child nutrition.

### ***Caste and class***

Undernutrition is worse among children in scheduled castes (SC) and scheduled tribes (STs). The RSoC highlights that stunting is about 9 percentage point higher in these groups, compared to higher caste groups (42 percent versus 33 percent). Underweight is highest among ST groups, with almost a 15 percentage point difference between ST children and children from “other” castes (37 percent versus 23 percent). Similarly, wasting is about five percentage point higher for ST groups (19 percent versus 14 percent). Analyses using the NFHS-3 surveys suggest that nutritional status of SC and ST children is lower than of children in “other” caste groups at similar levels of wealth and mother’s education [31]. Addressing such disparities and ensuring equal access to public services, education, sanitation, markets, and opportunities could help to accelerate improvements in nutrition.

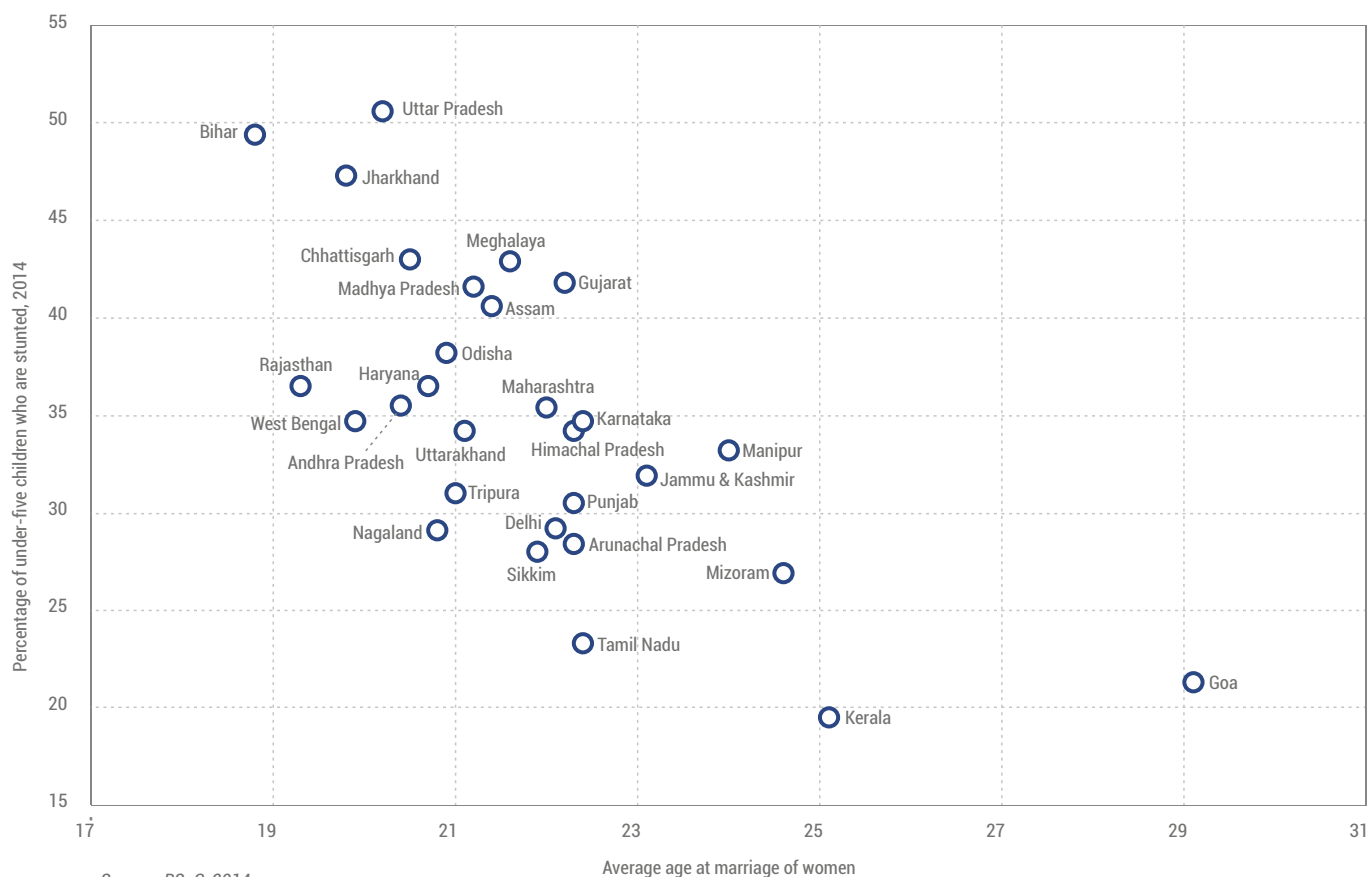
### ***Water, sanitation, and hygiene, including open defecation***

India’s progress in providing clean drinking water is significant, with as many as 522 million people gaining access to improved drinking sources from 1990 to 2010. Improved sanitation has not seen similar progress, and diarrheal and other diseases carried in unsafe water can contribute to undernutrition. Open defecation and inadequate hand-washing have widespread environmental consequences and has implications for poor child growth in lower and middle-income countries, including India [32]. The government’s emphasis on improving sanitation, through the Swachh Bharat Abhiyan could support nutritional progress, but progress will be limited if sanitation-focused action does not translate into change on the ground – in availability and use of toilets - in the most challenging states.

### ***Health and status of women***

Several global and India-specific analyses have honed in the poor status and health of women in India as important drivers of health and nutrition outcomes, both for women and for children [18, 25]. Maternal literacy and education are associated with age at marriage, age at first conception, antenatal care, birth spacing, and utilization of maternal and child health services. In India, the age at marriage is a particularly relevant driver of poor nutrition because of the prevalence of early marriage across several states in India according to RSoC 2014. Figure 13 shows the strong and negative relationship between the age of marriage of girls and stunting rates across states in India (Figure 13). Maternal education, as one component of a set of women’s status indicators, has also been associated with declines in stunting and underweight among children [18]. The state of women’s education varies remarkably across India and needs substantial attention, particularly in states with high prevalence of undernutrition. Finally, women’s nutrition in India is exceptionally poor, translating into a major risk factor for poor child nutrition as well. With high prevalence of low maternal height, low body mass index, and anemia, India’s women are at great peril of having small babies and of remaining malnourished themselves.

**FIGURE 13. STUNTING PREVALENCE IN UNDER-5 CHILDREN AND AVERAGE AGE OF MARRIAGE OF WOMEN**



In summary, several of these known drivers of poor nutrition outcomes, especially stunting, remain major challenges in the Indian context. Although these drivers vary substantially by state, an all-out effort is needed to close the gap in access to health services, to improve implementation of key services within the ICDS, and to improve the social factors that create enabling conditions for better child growth by reducing income inequality, improving the health and social status of women, scaling up water and sanitation services, addressing food insecurity. India's birth cohort of 26 million babies each year deserves better life conditions than those that await them at present.

## *India ignores the problem of undernutrition and its impact on child development at its peril and risks large economic, health and social consequences for future generations.*

Programs in India and elsewhere have historically focused on the measure of underweight. However, research that has followed children over time has revealed a strong association between stunting before age two and long-term health and well-being. More importantly, nutritional improvements produce little catch-up in linear growth if they come later in childhood, rather than during the first 1,000 days.

Longitudinal studies that have tracked children over many years explain this concern. The development of the brain and nervous system begins in early pregnancy and is largely completed by age two. When stunting occurs in the first two years of life, humans cannot catch up from the compromises to their skeletal and neurological development without significant investments in early childhood development programs.

Early childhood represents the peak period for growth velocity, at the same time as infection episodes may be more frequent and severe than later in life. In addition, young children depend on an adult or older child for feeding, unable to procure food on their own or even articulate in words their needs [34].

In keeping with the strong evidence on the impact of a focus in the first 1,000 days, we underscore the importance of targeting stunting-reduction interventions to infants and children in this age range. Keeping in mind the critical role of women's health, nutrition and social status, interventions to improve nutrition in India must start with strengthening the health, wellbeing and social status of girls and women.

### **Health Impacts**

Worldwide, undernutrition is responsible for 45 percent of child deaths, directly or through diseases made more severe because of it [35]. Even mildly underweight children face nearly twice the risk of death as compared to well-nourished children, including deaths from treatable diseases such as diarrhea, malaria, and acute respiratory infections. Low birth weight infants (less than 2.5 kilograms) are faced with 2 to 10 times the risk of death compared with normal birth weight infants, and are also at higher risk of non-communicable diseases in adulthood. There is increasing evidence that low birth weight and early-life undernutrition increases the risk of chronic diseases, such as diabetes and heart disease.

Among micronutrients, vitamin A deficiency comprises the immune system and leads to deaths of approximately 1 million children worldwide each year. Globally, severe iron deficiency is the cause of more than 60,000 deaths per year of women during pregnancy. Similarly, maternal folate deficiency leads to 250,000 severe birth defects and iodine deficiency in pregnancy causes mental impairment of almost 18 million infants per year and a lowering of 10 to 15 IQ points in school children.

Child undernutrition not only has adverse short-term and long-term consequences for affected children and the economy in which they live and work as adults, but also for future generations of individuals who are born to undernourished adults, especially women. Growth failure in the first two years of life of females is strongly associated with reduced offspring birth weight decades later [34, 36]. Every 1 kg of maternal birth weight has been found to be associated with a 208g increase in offspring birth weight [4]. Interventions targeted at the current generation of undernourished children can permanently break this intergenerational cycle of undernutrition, bringing massive gains in terms of reduced morbidity, reduced health-care costs, and increased productivity.

The health impacts of poor nutrition are not restricted to impacts of stunting or anemia. The Global Burden of Disease Study 2010 found overweight or obesity is the fifth leading cause of adult deaths globally [37]. Overweight is defined as weight-for-height +2 standard deviations from the median weight-for-height of the WHO Child Growth Standards. Obesity is defined as weight-for-height +3 standard deviations from the standards. The "overweight/obesity epidemic" may have begun in high-income countries a few decades ago, but the rest of the world, including India, is catching up as urbanization and affluence change dietary patterns and reduce physical activity. A by-product of economic growth in developed and developing countries has been higher intake of fats and sugars, often in the form of processed food, and less physical activity. These changes create conditions of overnutrition and lead to overweight or obesity and subsequently, non-communicable diseases including heart disease and cancer.

Poor nutrition contributes to serious, non-communicable diseases (NCDs), including coronary vascular disease, diabetes, and some cancers. But it is not just a condition of the urban or of higher income households. Paradoxically, even low birth weight may lead to NCDs in adulthood [38]. Fetal programming may even endow risk of overweight in later years. In other words, nutrient deficiencies in early childhood

<sup>1</sup>Although the main analysis in this study includes a prospective cohort of children from five countries of Brazil, Guatemala, India, Philippines, and South Africa, data for birth weight of firstborn children was missing for South Africa and hence had to be omitted from the analysis of intergenerational outcomes.

make the body respond to nutrient constraints through permanent metabolic and physiological adaptations. Consequently, this leads to obesity in adulthood despite sufficient energy availability later [39]. There is also evidence that impaired linear growth or stunting in early childhood generally leads to short adult stature, which in turn is associated with increased risk of chronic diseases such as hypertension and diabetes [4]. India's more than 65 million diabetics account for 17 percent of all diabetics in the world, and diabetes in India continues to rise [40].

### ***Economic and Social Impacts***

Undernutrition hinders the economy through direct losses to adult productivity, either through fewer years of schooling or less learning per year in school due to poor cognitive development. Numerous studies have documented the consequences of stunting (low height for age at age 2). Conditional height at 2 years strongly predicts an increase in adult height (3.2cms per SD increase in conditional height at 2) [4]. A one SD increase in conditional height (how much is this in cm) at 2 years relates to 0.5 year increase in schooling, which is associated with a 5 percent annual return of income [4]. Conditional height at 2 is positively associated with fat-free mass and systolic blood pressure, and unrelated to adult plasma glucose concentration and dysglycemia. Estimates combining both pathways of stunting deficits through losses in schooling and cognitive development, suggest that the loss in adult income from being stunted is 22.2 percent, assuming that every additional year of schooling increases adult annual income by 9 percent [41, 42].

A recent long term study that relied on randomization in ICDS implementation in the 1980s found that children exposed to the ICDS program were 7.8 percent more likely to be enrolled in school and completed 0.84 more grades of schooling at time of adolescence than children born in control villages [43]. Applying the estimates from the recent ICDS analysis to the roughly 50 million stunted children under the age of five in India would indicate roughly 40 million years of lost schooling. This would translate to an average annual income loss of INR 14,400 per stunted child and INR 313 billion (roughly \$4.8 billion or roughly 2 percent of GDP) lost in future earnings each year.

Undernutrition also leads to greater needs for health care and thereby higher health care costs. According to the Micronutrient Initiative and UNICEF (2004), micronutrient deficiencies are estimated to cost India about \$2.5 billion each year [44]. In contrast, nutrition investments, particularly related to micronutrient interventions, are some of the most cost-effective health interventions in developing countries, costing less than \$25 per Disability Adjusted Life Year saved. A recent incidence study for iron fortification estimates a median benefit-to-cost ratio of 6:1 for effects of fortification on physical productivity, which rises to 36:1 if cognitive benefits of fortification are included [45]. The effective provision of micronutrients had the highest rate of return of any social intervention according to the Copenhagen Consensus Project [46].

Policies that promote income redistribution and reduce inequality can have a positive impact on undernutrition [47]. While inequality and instability exacerbate undernutrition, the converse is also true since a well-nourished, healthy workforce is a pre-condition for sustainable development. Investments in nutrition and child development are central to achieving better health and better economic and social wellbeing for any nation. India is no exception.

*India's undernutrition problem is a serious threat to child development. Accelerating action at the state-level is essential to change the course of the future for India's children.*

India is undergoing one of the most significant demographic transitions that have ever taken place. Nearly thirty percent of its total population of 1.23 billion people is under the age of fifteen and nearly half is under the age of 24. Roughly 40 percent of the children under 15, a total of 149 million individuals are stunted and will not reach their full growth potential. If the population of stunted children in India were a single country, they would be the ninth largest country in the world. Anemia rates, also a critical driver of poor child development, are shockingly high and need urgent attention. India's undernutrition problem, thus, represents the largest loss of human potential in any country in human history. More worryingly, it represents a squandering of the demographic dividend that is needed to power India to sustained economic growth.

India has done exceptionally well on the child survival agenda. Although the Millennium Development Goals have not been met, India's under-five mortality declined over forty percent since 1992-93. However India has done much worse on nutrition, a primary driver of child development. The rate of stunting has decreased only by 24 percent over the same period since 1992-93 and anemia has not budged.

The India Health Report: Nutrition 2015 identifies state-level action, with leadership, financial and policy support from the national and state government, as the key step in improving the development of children in India. The basic policy framework for nutrition action is already in place and does not need to be reinvented dramatically [48]. What is needed is political commitment, adequate financing, national- and state-level accountability for action to deliver health and nutrition interventions via existing large-scale programs and to improve the underlying social conditions that enable better nutrition. Our comparative analysis of the RSoC data, using fact sheets released by the government, highlights tremendous variability across states on key indicators that reflect program and policy actions. Preventive health services like antenatal care and immunization, use of ICDS services, sanitation, age at marriage and levels of education of girls, all vary tremendously across states, and closing these gaps is crucial for progress. Similarly, economic growth rates also vary significantly by state, as do within-state inequities.

As India, and the states, look ahead to transforming and accelerating economic growth, attention must also turn to translating growth into more income for the poorest, and to delivering better public services. Large states, specifically Uttar Pradesh, Bihar and Jharkhand have to act urgently, both to accelerate national gains in child development and to power their own states' aspirations of a better living standard for their people. Smaller states, with lower undernutrition, will still need to pay attention to the problem, and identify specific areas where undernutrition persists.

Action at the state level will have to focus not just on implementation of direct programs like ICDS, and efforts to promote exclusive breastfeeding and complementary feeding, and improved immunization and health, but will also have to pay closer attention to social drivers of nutrition and work towards increasing girl's education and the age of marriage of girls, improving access to, and utilization of, toilets, and improving vaccination coverage and overall public health.

Nutrition can no longer be a stand-alone agenda and separated from health and social progress. As an economic imperative, nutrition and child development deserve a central place of recognition as a key investment in the nation's most valuable asset, its future citizens, and as a driver of India's economy in coming decades. As a moral imperative, the 26 million Indian babies born each year deserve better.



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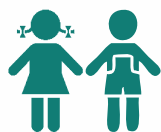
**FAST FACTS ON NUTRITION  
AND ITS DETERMINANTS  
IN INDIA**



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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN INDIA

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**38.7%**  
Stunted<sup>1</sup>

**15.1%**  
Wasted<sup>1</sup>



**64.9%**

Infants 0-5 months old who are exclusively breastfed<sup>1</sup>



**18.6%**

Children under 3 years who have low birth weight (<2.5 kgs)<sup>1</sup>



**55.3%**

Women 15-49 years old with anemia<sup>2 \*1</sup>

World Health Assembly Nutrition Targets

Immediate Determinants



**50.5%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>1</sup>

**19.9%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>1</sup>



**69.5%** Children 6-59 months old with anemia<sup>2 \*1</sup>



**6.5%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>1</sup>

Immediate Determinants

Underlying Determinants



**21.3%**

Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>1</sup>



**65.3%**

Children 12-23 months old who are fully immunized<sup>1</sup>



**63.4%**

Mothers of children under 36 months old who received three or more antenatal checkups<sup>1</sup>



**21.4%**

Currently married women with 10 or more years of schooling<sup>3</sup>



**30.3%**

Women aged 20-24 years who were married before the age of 18<sup>1</sup>



**44.7%**

Adolescent girls 15-18 years old with low BMI (<18.5)<sup>1</sup>



**45.5%**

Households practicing open defecation<sup>1</sup>



**21.9%**

Population below state-specific poverty line<sup>4</sup>

Underlying Determinants

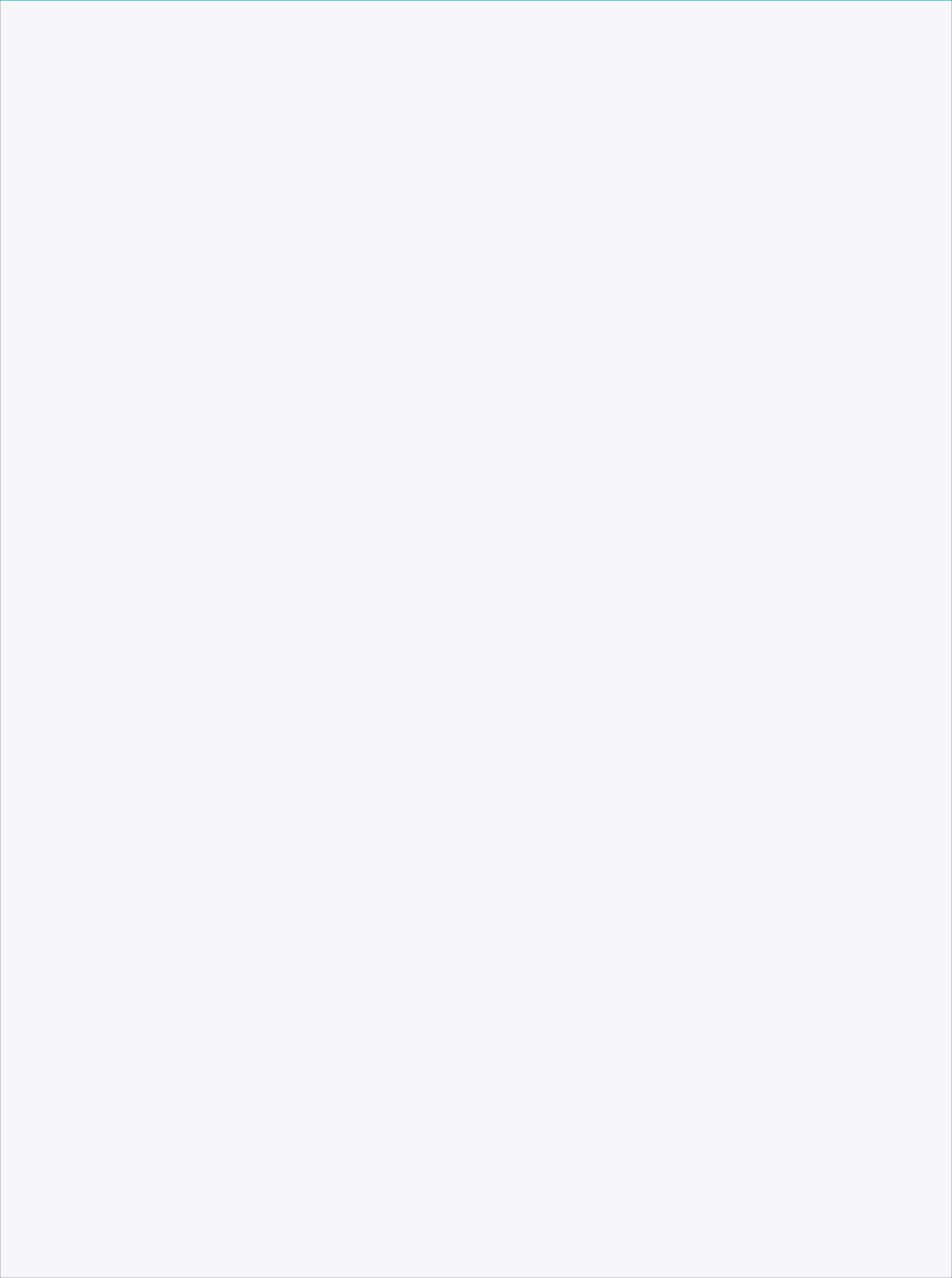
<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : NFHS-3, 2006

<sup>3</sup> Source : DLHS-3, 2007-08

<sup>4</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

\* excludes Nagaland







**COMPARING STATES ON  
NUTRITION AND ITS  
DETERMINANTS**



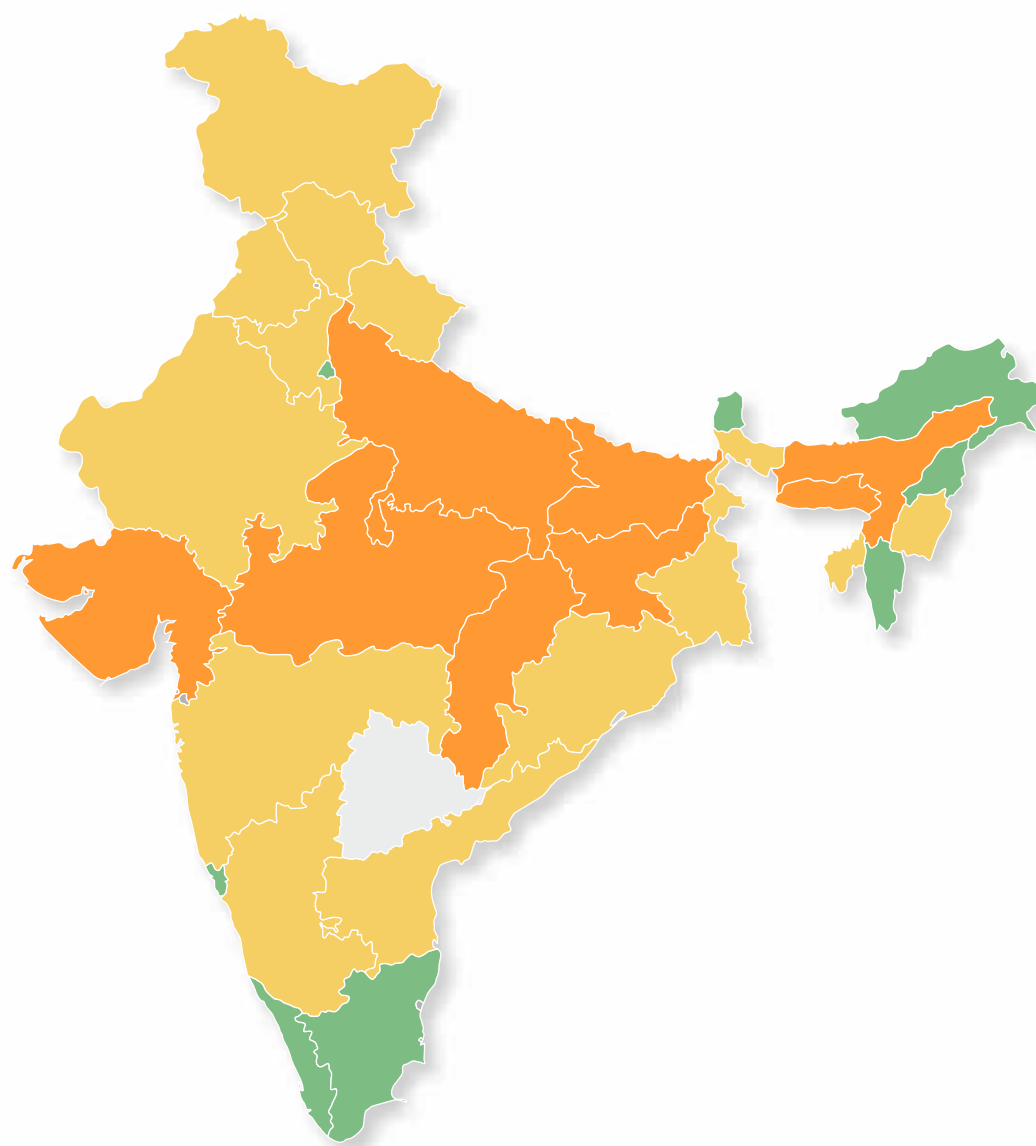


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# 1. CHILDREN UNDER 5 YEARS WHO ARE STUNTED



(RSOC, 2014)



## Stunted Children

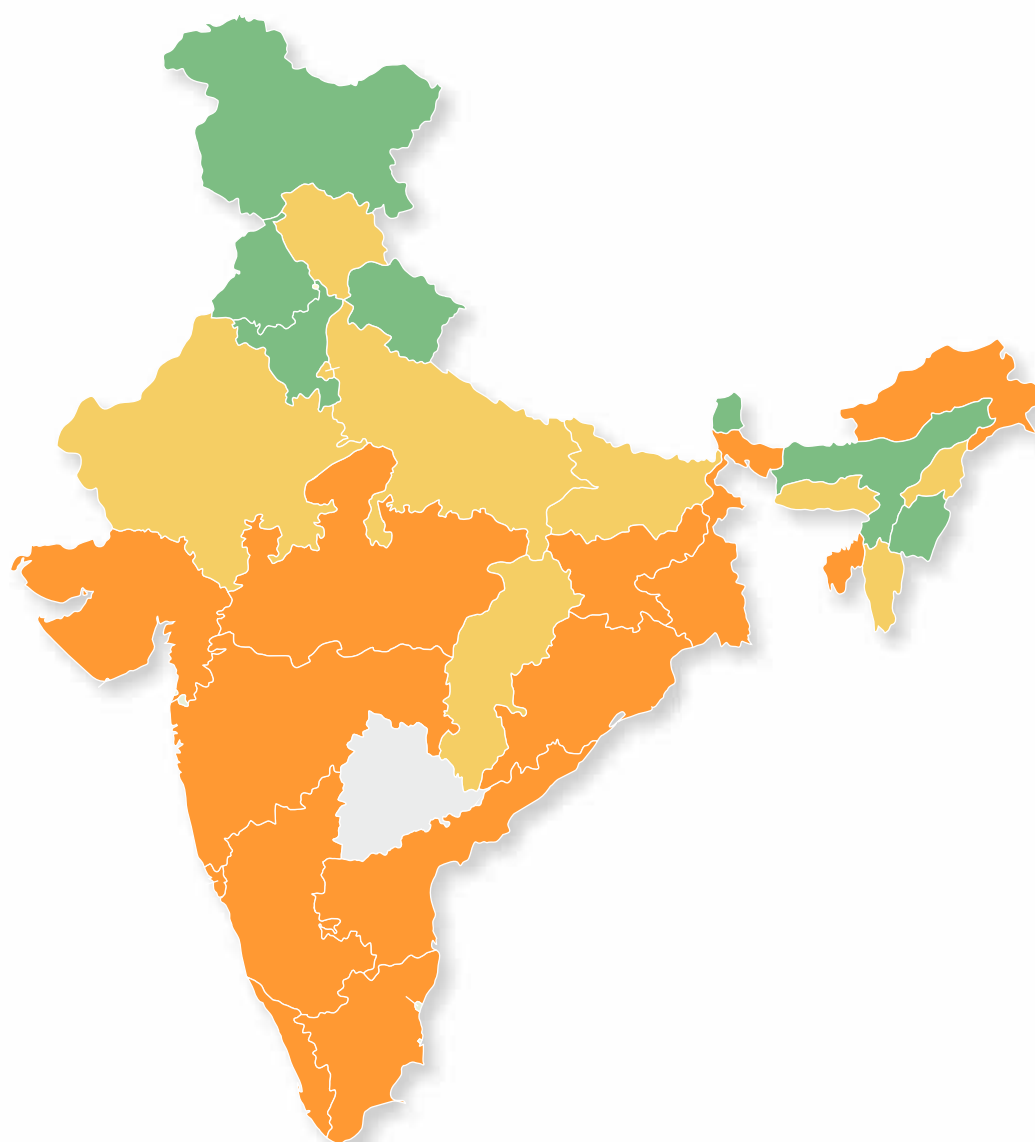
■ More than 40%   
 ■ Between 40% - 30%   
 ■ Less than 30%   
 ■ Data not available

| States            | Numbers in Percentage |
|-------------------|-----------------------|
| Uttar Pradesh     | 50.4                  |
| Bihar             | 49.4                  |
| Jharkhand         | 47.4                  |
| Chhattisgarh      | 43.0                  |
| Meghalaya         | 42.9                  |
| Gujarat           | 41.6                  |
| Madhya Pradesh    | 41.5                  |
| Assam             | 40.6                  |
| <b>India</b>      | <b>38.7</b>           |
| Odisha            | 38.2                  |
| Haryana           | 36.5                  |
| Rajasthan         | 36.4                  |
| Maharashtra       | 35.4                  |
| Andhra Pradesh    | 35.4                  |
| West Bengal       | 34.7                  |
| Karnataka         | 34.2                  |
| Himachal Pradesh  | 34.2                  |
| Uttarakhand       | 34.0                  |
| Manipur           | 33.2                  |
| Jammu & Kashmir   | 31.7                  |
| Tripura           | 31.0                  |
| Punjab            | 30.5                  |
| Delhi             | 29.1                  |
| Nagaland          | 29.1                  |
| Arunachal Pradesh | 28.4                  |
| Sikkim            | 28.0                  |
| Mizoram           | 26.9                  |
| Tamil Nadu        | 23.3                  |
| Goa               | 21.3                  |
| Kerala            | 19.4                  |

## 2. CHILDREN UNDER 5 YEARS WHO ARE WASTED



(RSOC, 2014)



### Wasted Children

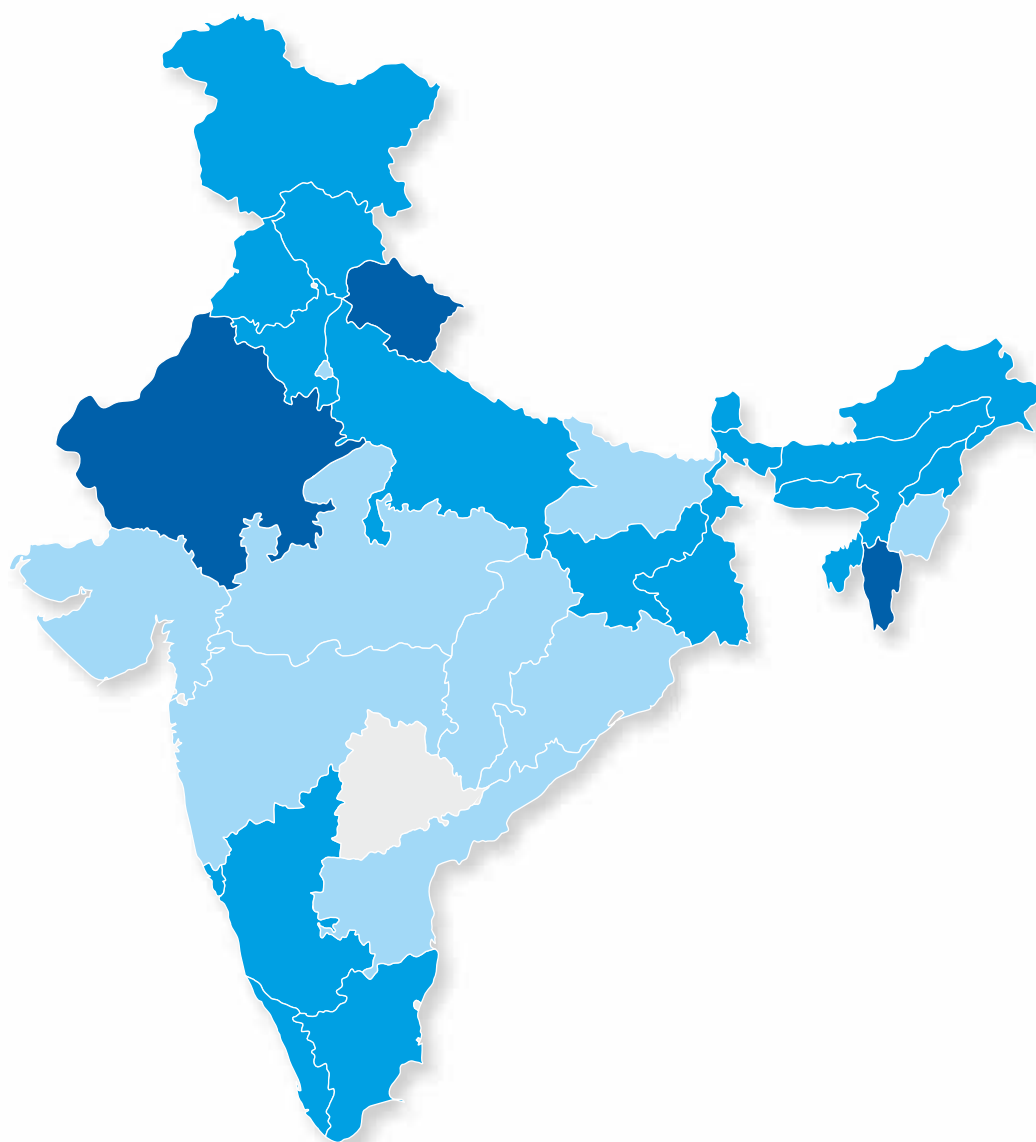
■ More than 15%
 ■ Between 10% - 15%
 ■ Less than 10%
 ■ Data not available

| States            | Numbers in Percentage |
|-------------------|-----------------------|
| Andhra Pradesh    | 19.0                  |
| Tamil Nadu        | 19.0                  |
| Gujarat           | 18.7                  |
| Maharashtra       | 18.6                  |
| Odisha            | 18.3                  |
| Madhya Pradesh    | 17.5                  |
| Tripura           | 17.1                  |
| Karnataka         | 17.0                  |
| Arunachal Pradesh | 17.0                  |
| Jharkhand         | 15.6                  |
| Kerala            | 15.5                  |
| Goa               | 15.4                  |
| West Bengal       | 15.3                  |
| <b>India</b>      | <b>15.1</b>           |
| Delhi             | 14.3                  |
| Mizoram           | 14.3                  |
| Rajasthan         | 14.1                  |
| Bihar             | 13.1                  |
| Meghalaya         | 13.1                  |
| Chhattisgarh      | 12.9                  |
| Nagaland          | 11.8                  |
| Himachal Pradesh  | 10.1                  |
| Uttar Pradesh     | 10.0                  |
| Assam             | 9.7                   |
| Uttarakhand       | 9.3                   |
| Haryana           | 8.8                   |
| Punjab            | 8.7                   |
| Jammu & Kashmir   | 7.1                   |
| Manipur           | 7.1                   |
| Sikkim            | 5.1                   |

### 3. INFANTS 0-5 MONTHS OLD WHO ARE EXCLUSIVELY BREASTFED



(RSoc, 2014)



#### Exclusive Breastfeeding

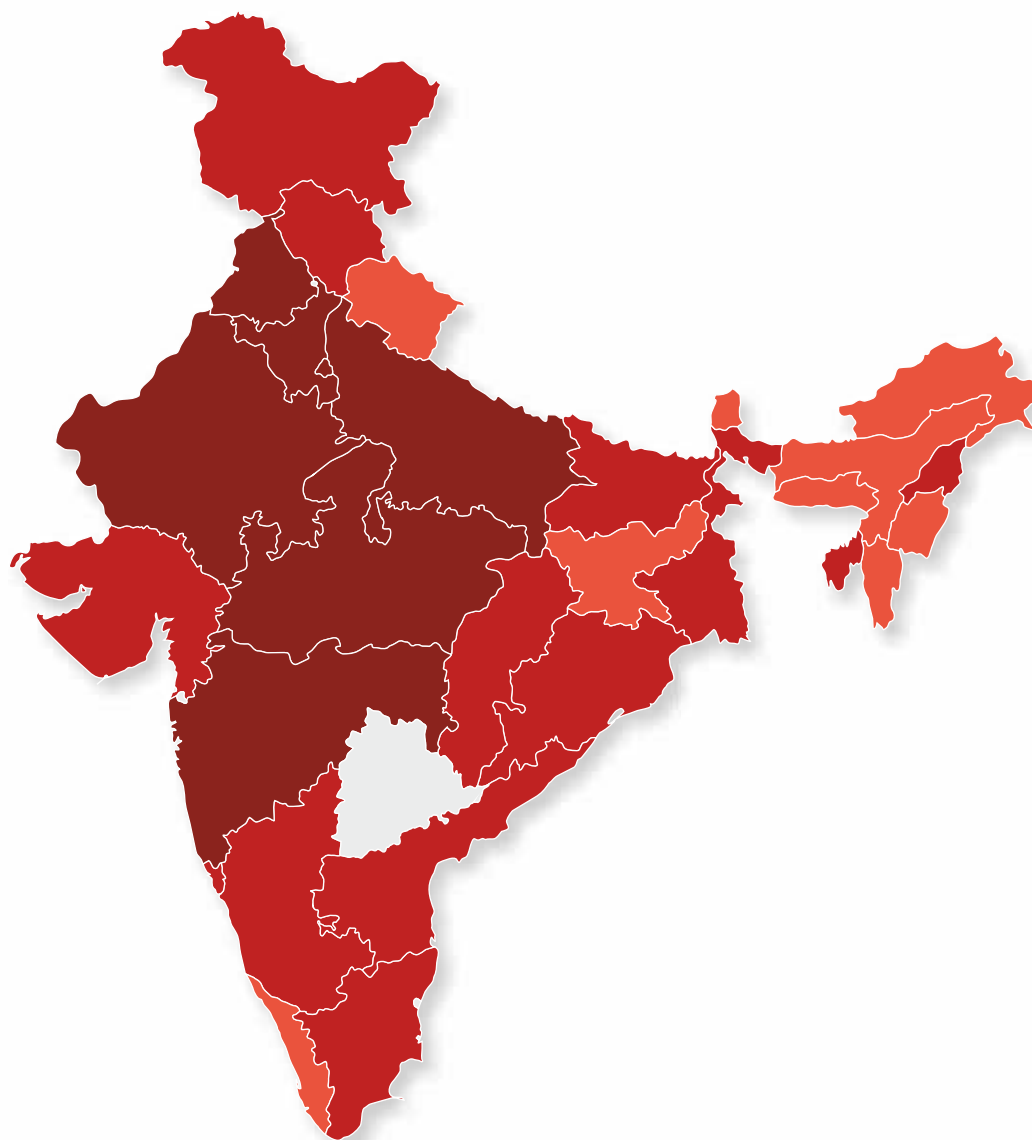
Less than 50%
  Between 50% - 65%
  More than 65%
  Data not available

| States            | Numbers in Percentage |
|-------------------|-----------------------|
| Mizoram           | 44.5                  |
| Uttarakhand       | 48.1                  |
| Rajasthan         | 49.9                  |
| Haryana           | 53.6                  |
| Meghalaya         | 54.9                  |
| Karnataka         | 55.1                  |
| Himachal Pradesh  | 55.2                  |
| Tamil Nadu        | 57.0                  |
| Tripura           | 57.7                  |
| Nagaland          | 58.1                  |
| Kerala            | 58.6                  |
| West Bengal       | 59.4                  |
| Arunachal Pradesh | 59.8                  |
| Punjab            | 60.2                  |
| Jammu & Kashmir   | 60.4                  |
| Uttar Pradesh     | 62.2                  |
| Goa               | 62.6                  |
| Sikkim            | 63.0                  |
| Jharkhand         | 64.3                  |
| Assam             | 64.7                  |
| <b>India</b>      | <b>64.9</b>           |
| Manipur           | 66.8                  |
| Delhi             | 67.8                  |
| Odisha            | 68.5                  |
| Andhra Pradesh    | 69.2                  |
| Bihar             | 70.8                  |
| Maharashtra       | 73.4                  |
| Gujarat           | 74.4                  |
| Madhya Pradesh    | 74.8                  |
| Chhattisgarh      | 82.3                  |

## 4. CHILDREN UNDER 3 YEARS WHO WERE LOW BIRTH WEIGHT



(RSoc, 2014)



### Low Birth Weight

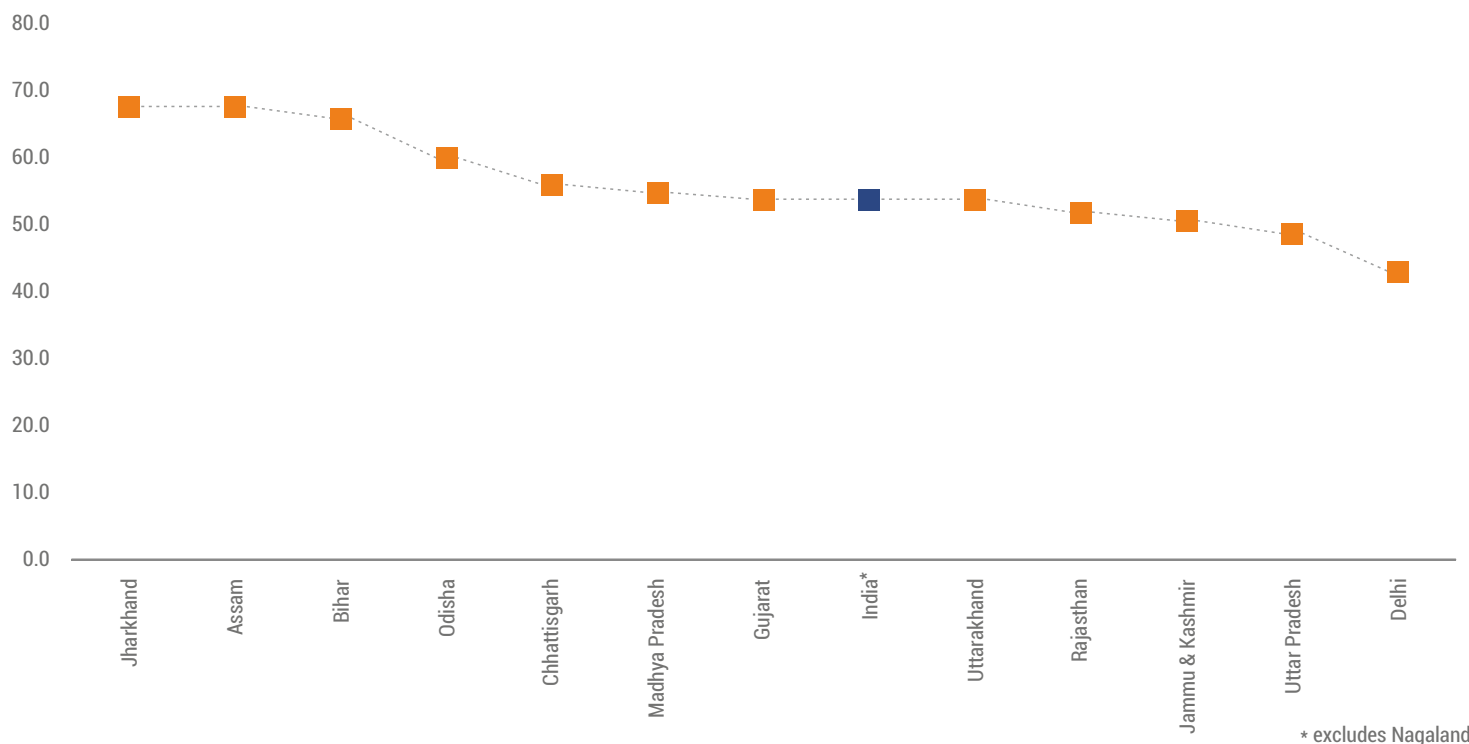
More than 20%
  Between 20% - 15%
  Less than 15%
  Data not available

| States            | Numbers in Percentage |
|-------------------|-----------------------|
| Rajasthan         | 23.2                  |
| Madhya Pradesh    | 23.1                  |
| Uttar Pradesh     | 22.5                  |
| Delhi             | 21.9                  |
| Haryana           | 20.9                  |
| Punjab            | 20.7                  |
| Maharashtra       | 20.6                  |
| Gujarat           | 19.5                  |
| Odisha            | 18.9                  |
| Nagaland          | 18.9                  |
| <b>India</b>      | <b>18.6</b>           |
| Tripura           | 18.5                  |
| Andhra Pradesh    | 18.4                  |
| Himachal Pradesh  | 17.7                  |
| Karnataka         | 17.2                  |
| Chhattisgarh      | 16.9                  |
| West Bengal       | 16.9                  |
| Tamil Nadu        | 16.7                  |
| Goa               | 16.7                  |
| Jammu & Kashmir   | 16.2                  |
| Bihar             | 15.0                  |
| Jharkhand         | 14.7                  |
| Uttarakhand       | 14.2                  |
| Assam             | 13.6                  |
| Kerala            | 13.0                  |
| Arunachal Pradesh | 11.5                  |
| Meghalaya         | 10.4                  |
| Sikkim            | 10.0                  |
| Manipur           | 7.3                   |
| Mizoram           | 2.2                   |

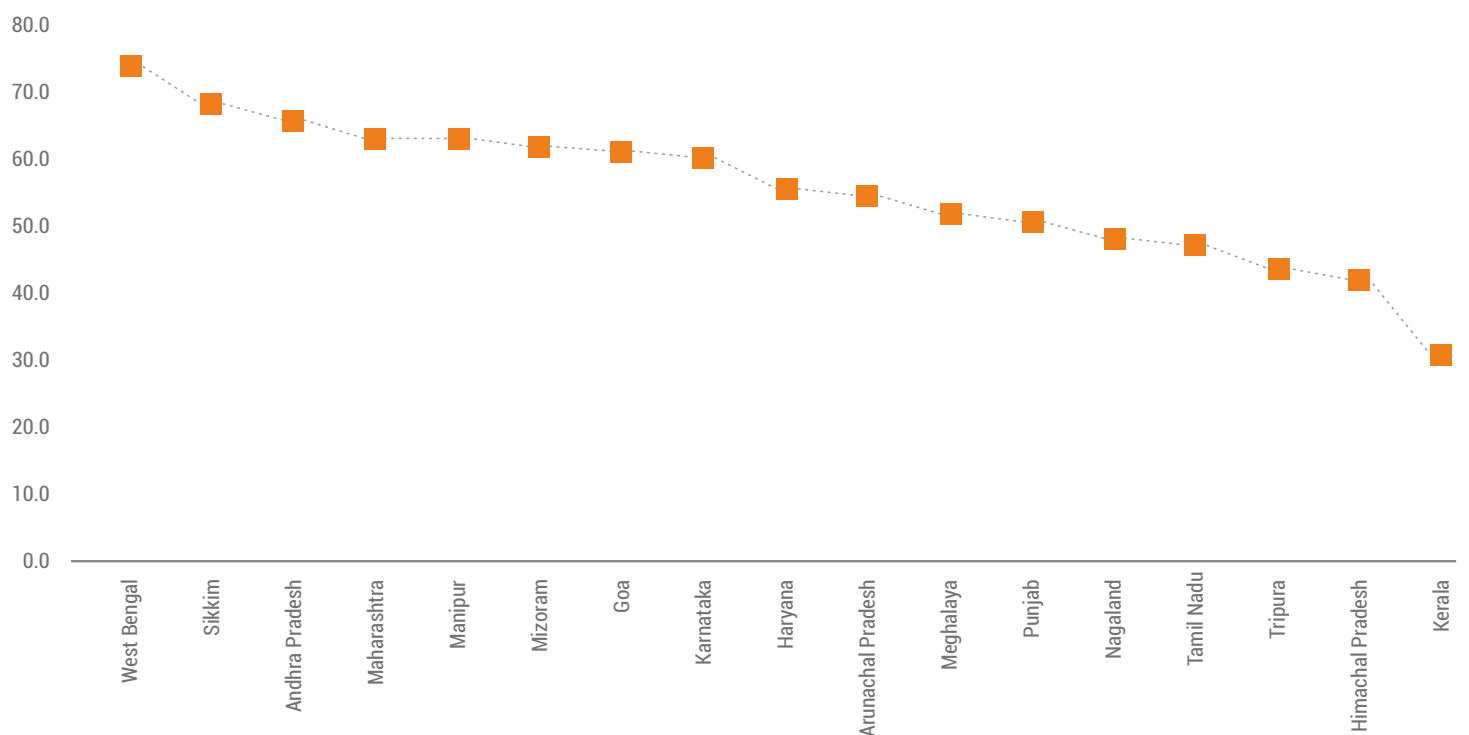
## 5. WOMEN 15-49 YEARS OLD WITH ANEMIA



(NFHS-3, 2006)



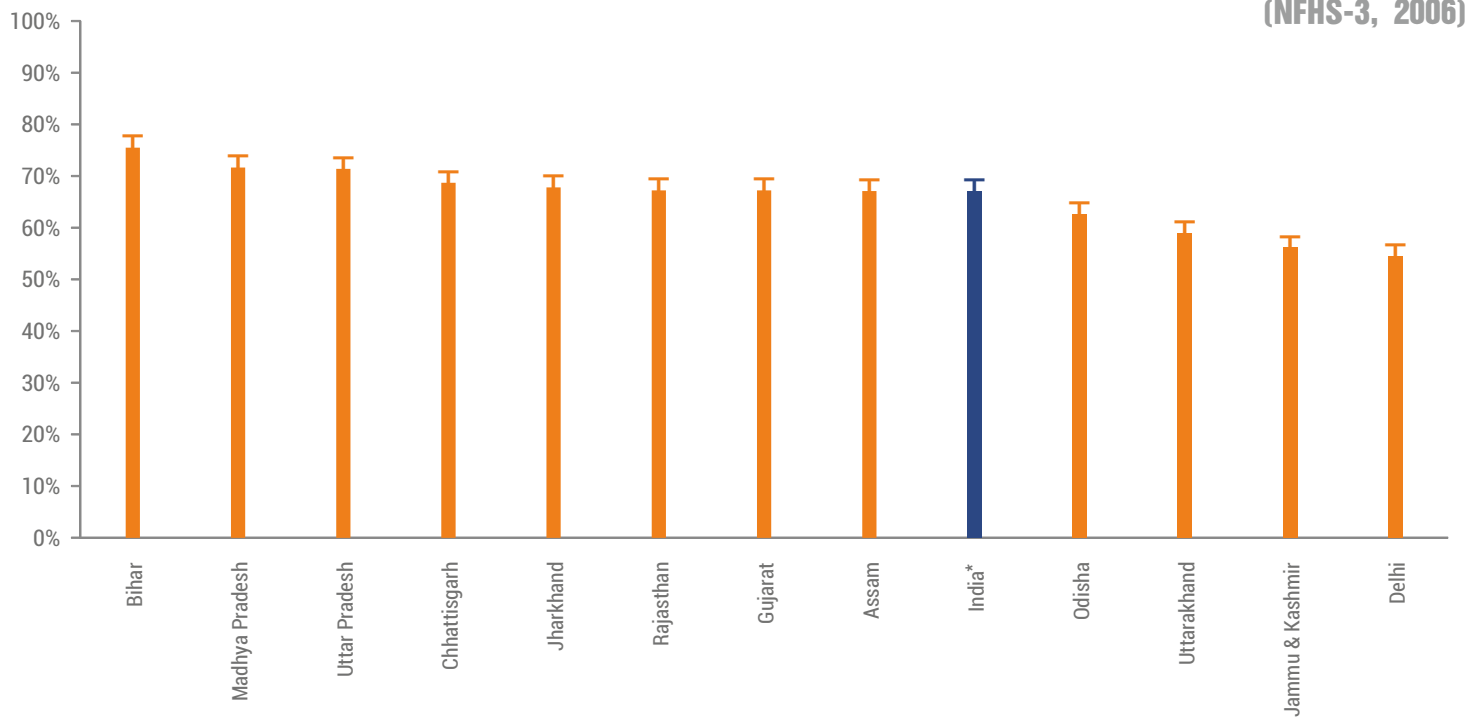
(DLHS-4, 2012-13)





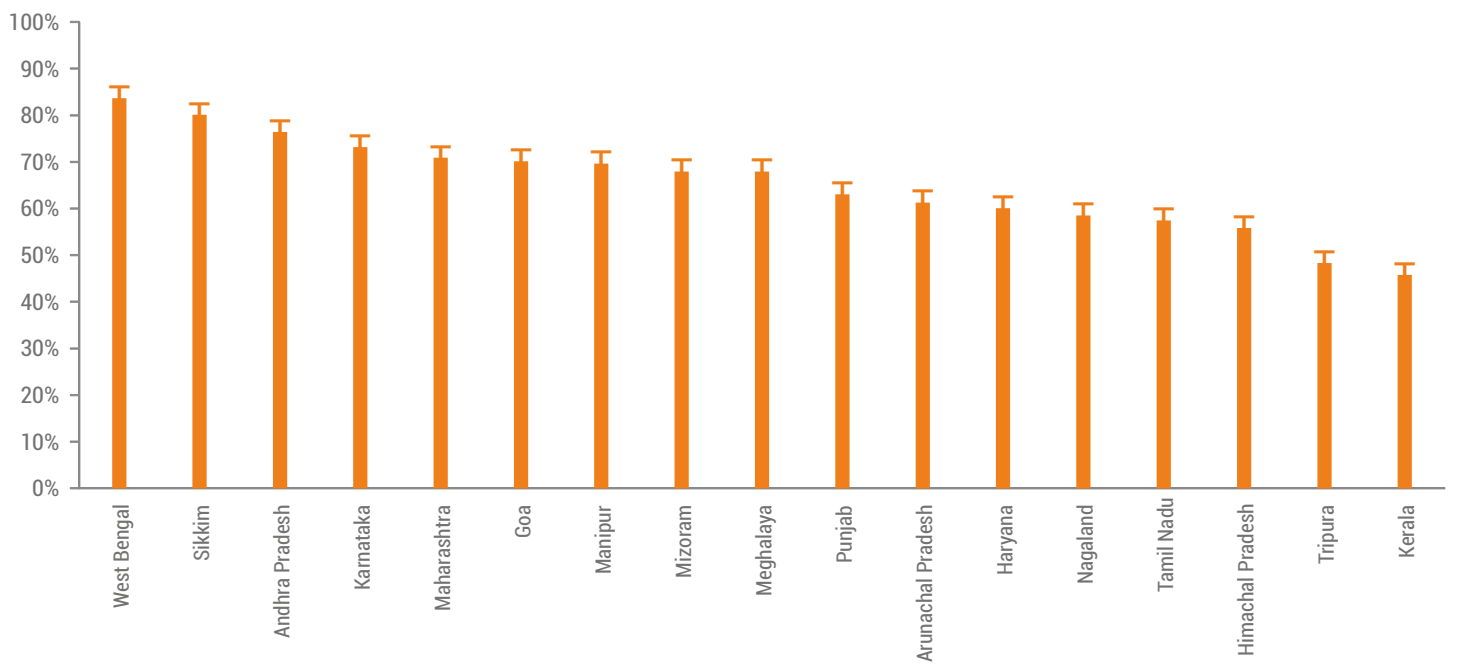
## 6. CHILDREN 6-59 MONTHS OLD WITH ANEMIA

(NFHS-3, 2006)



\* excludes Nagaland

(DLHS-4, 2012-13)

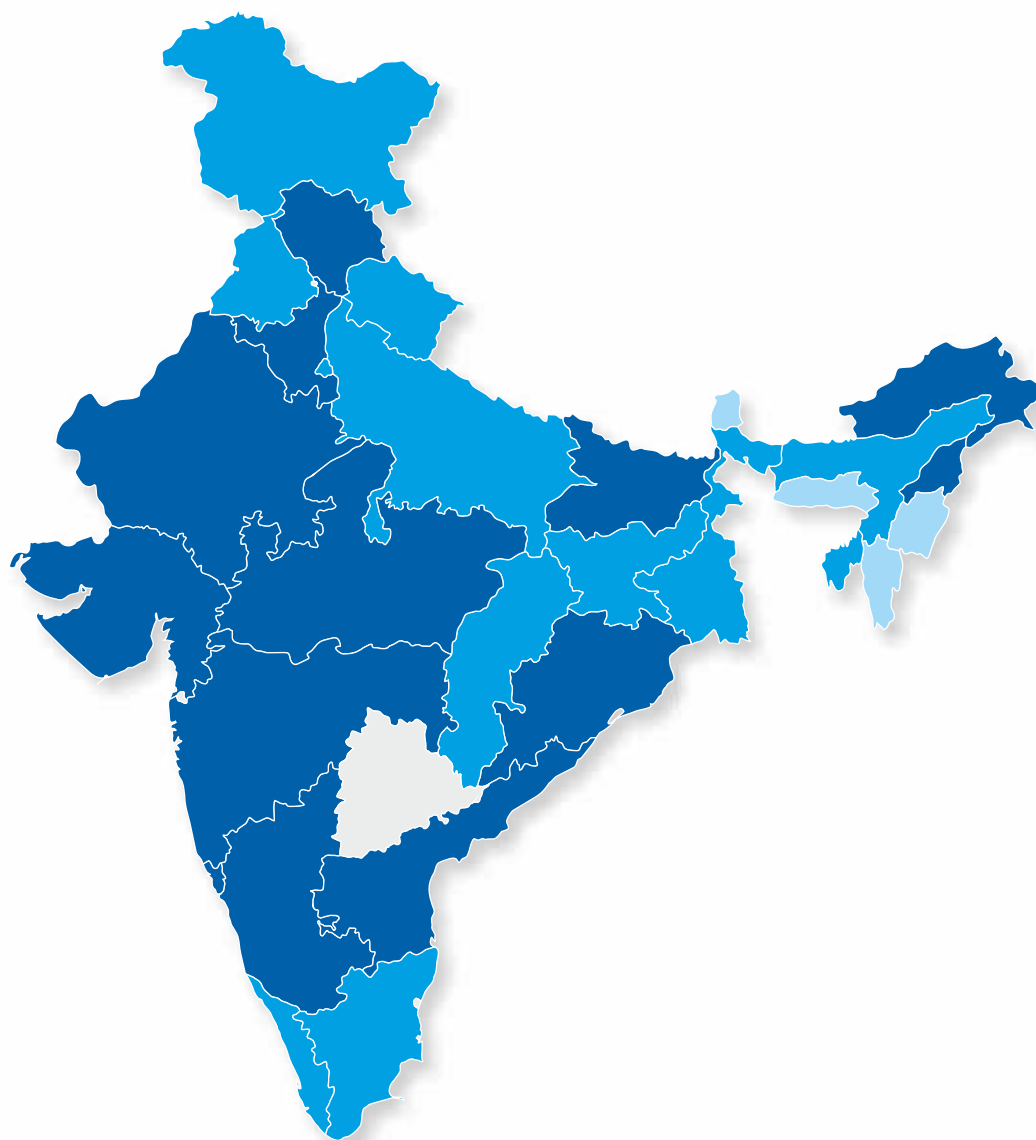




## 7. ADOLESCENT GIRLS 15-18 YEARS OLD WITH LOW BODY MASS INDEX



(RSoc, 2014)



### Low BMI

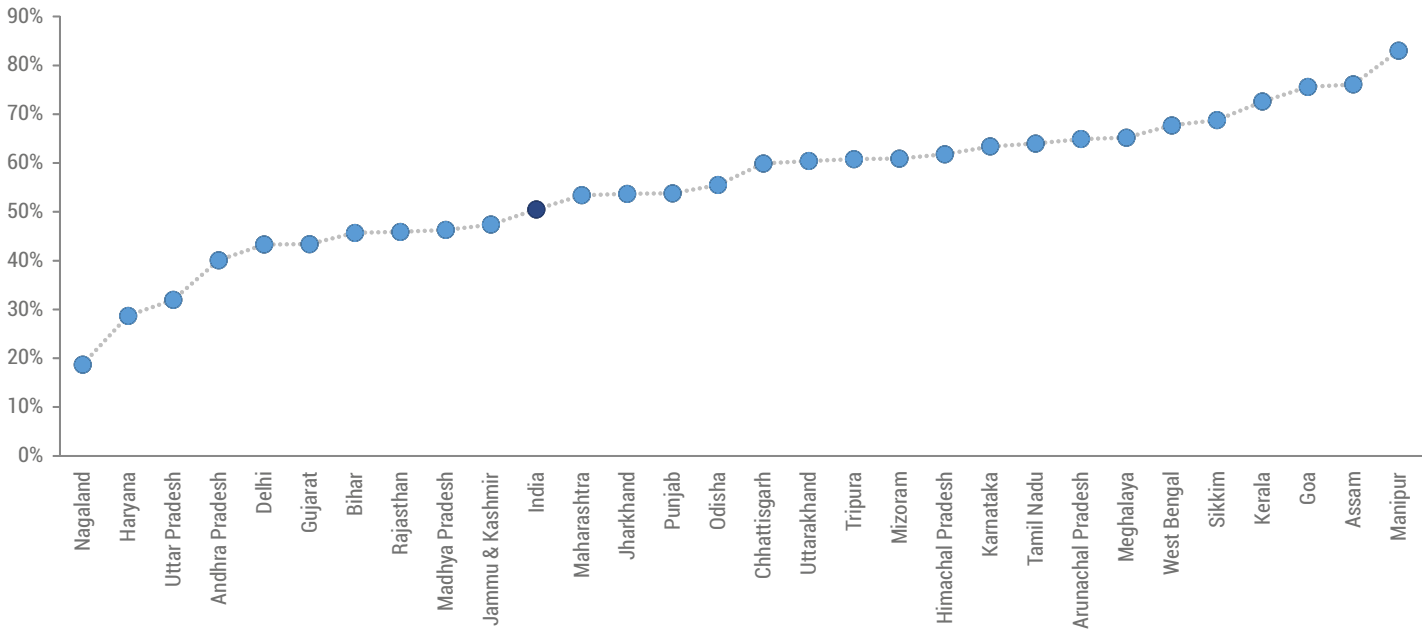
More than 45%
  Between 45% - 30%
  Less than 30%
  Data not available

| States            | Numbers in Percentage |
|-------------------|-----------------------|
| Rajasthan         | 60.2                  |
| Karnataka         | 58.0                  |
| Goa               | 55.9                  |
| Andhra Pradesh    | 54.8                  |
| Maharashtra       | 54.2                  |
| Gujarat           | 52.6                  |
| Odisha            | 51.8                  |
| Himachal Pradesh  | 51.6                  |
| Nagaland          | 50.9                  |
| Arunachal Pradesh | 50.3                  |
| Haryana           | 49.3                  |
| Madhya Pradesh    | 45.8                  |
| Bihar             | 45.2                  |
| <b>India</b>      | <b>44.7</b>           |
| Delhi             | 43.7                  |
| Jharkhand         | 43.3                  |
| Chhattisgarh      | 43.0                  |
| Assam             | 40.8                  |
| Punjab            | 38.8                  |
| Uttar Pradesh     | 36.7                  |
| Tamil Nadu        | 35.2                  |
| Kerala            | 34.8                  |
| West Bengal       | 34.5                  |
| Uttarakhand       | 32.0                  |
| Tripura           | 31.8                  |
| Jammu & Kashmir   | 30.5                  |
| Mizoram           | 24.8                  |
| Manipur           | 21.9                  |
| Meghalaya         | 19.7                  |
| Sikkim            | 10.5                  |



## 8. INFANTS 6-8 MONTHS OLD WHO RECEIVE SOLID, SEMI-SOLID OR SOFT FOODS

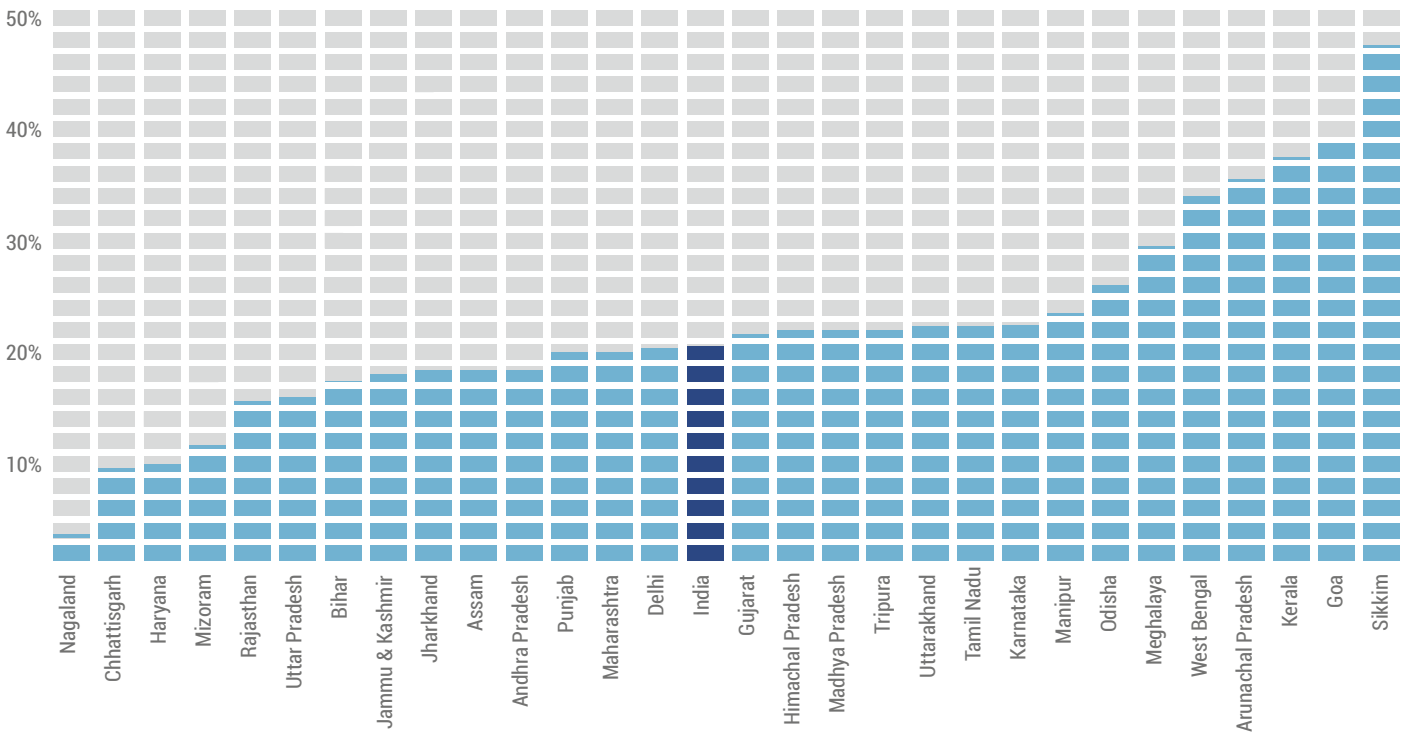
(RSoc, 2014)



## 9. MINIMUM DIET DIVERSITY DURING COMPLEMENTARY FEEDING (FOR INFANTS AND YOUNG CHILDREN 6-23 MONTHS OLD)



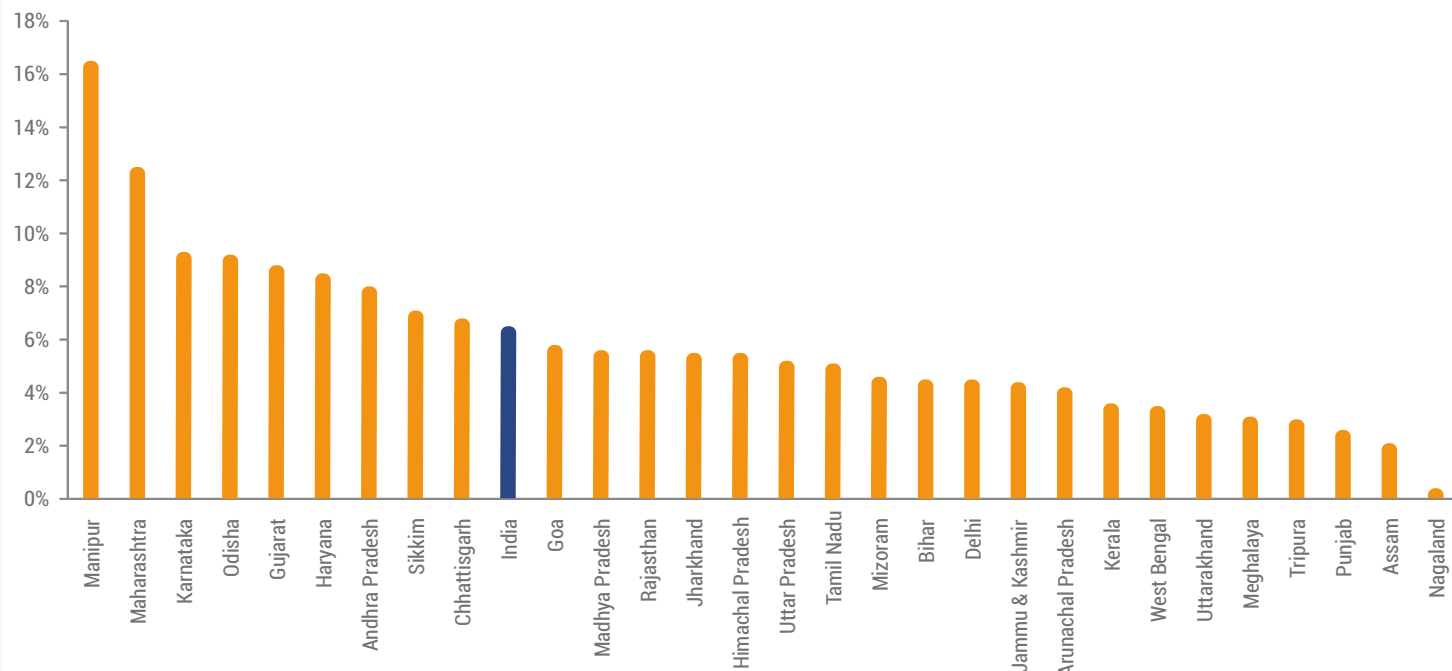
(RSoc, 2014)



## 10. CHILDREN UNDER 5 YEARS WITH DIARRHEA IN 15 DAYS PRIOR TO SURVEY



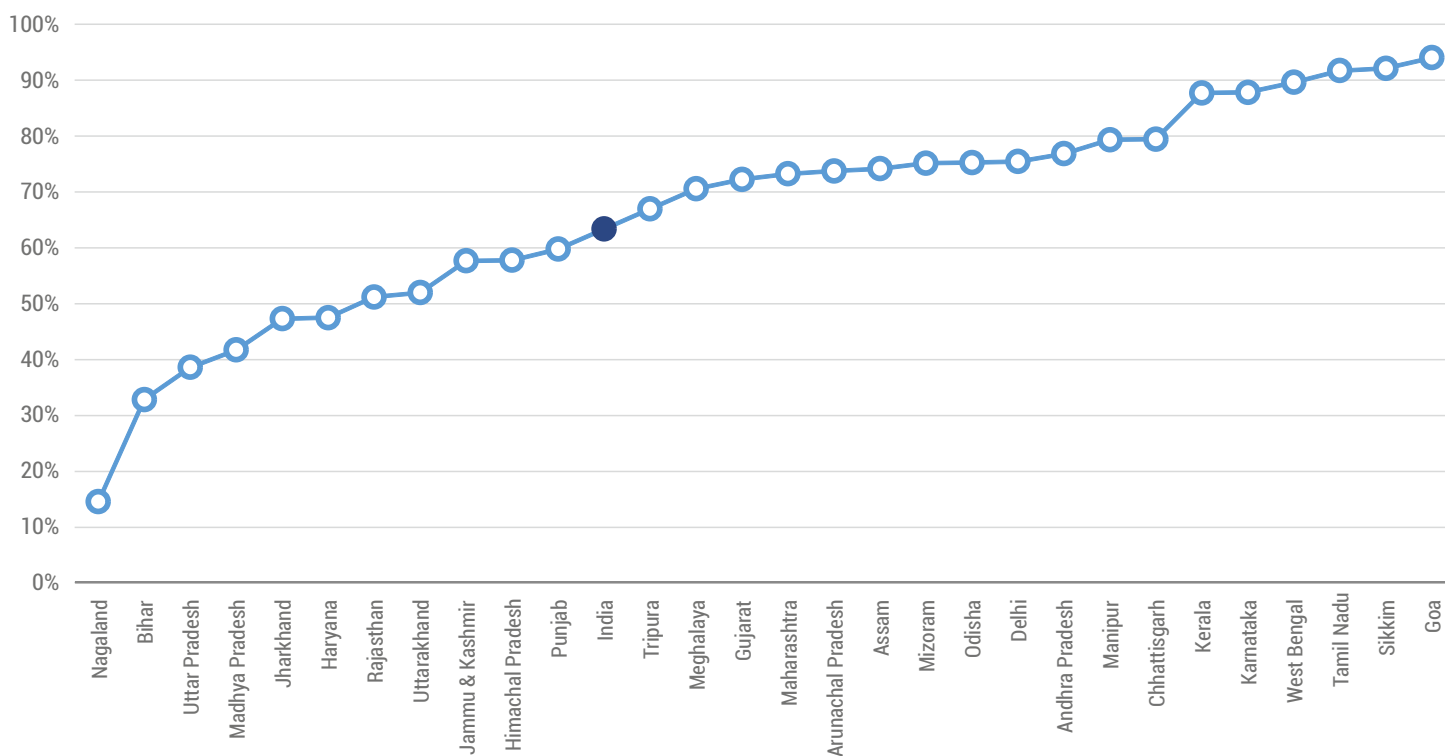
(RSoc, 2014)



## 11. MOTHERS OF CHILDREN UNDER 3 YEARS OLD WHO RECEIVED THREE OR MORE ANTENATAL CHECKUPS



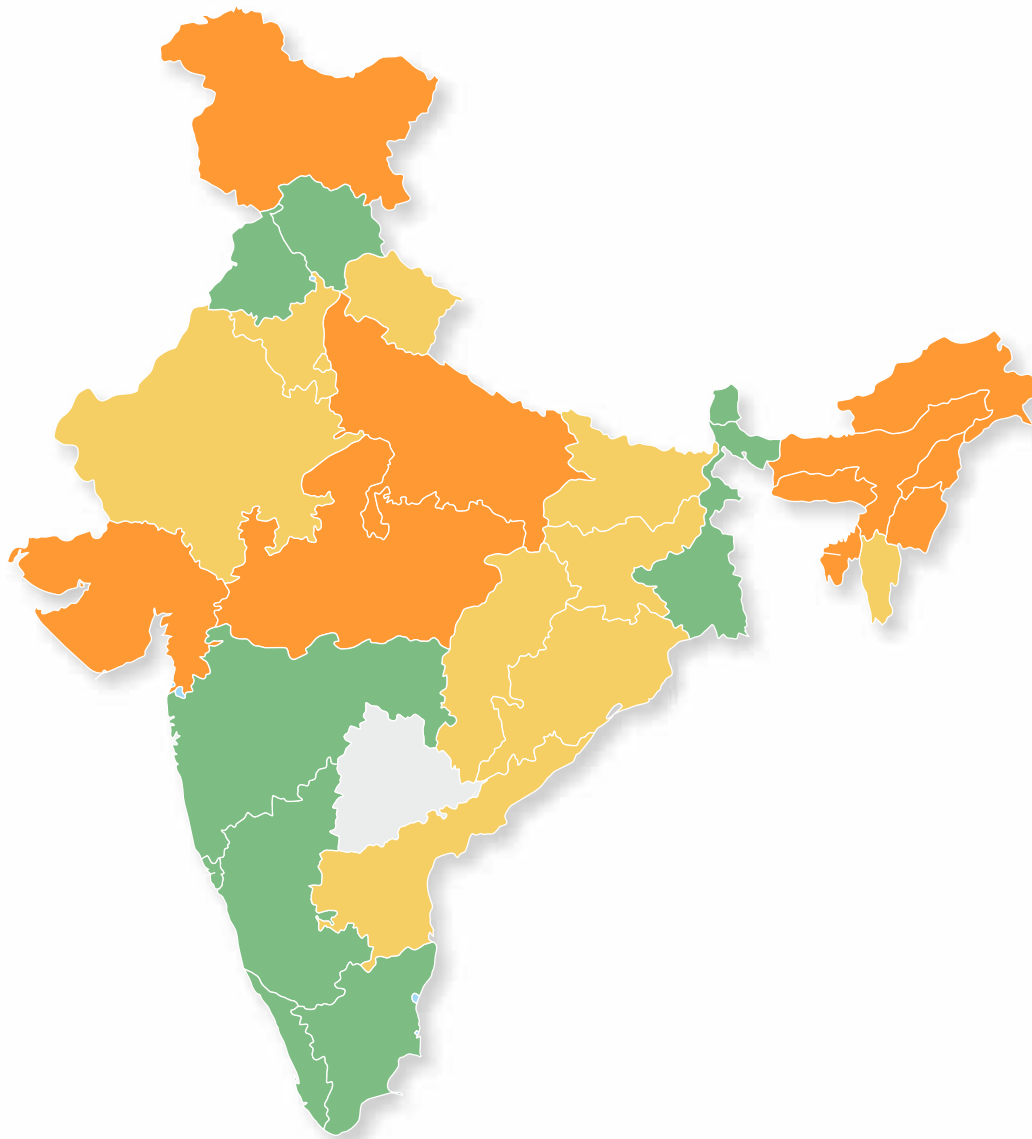
(RSoc, 2014)





## 12. CHILDREN 12-23 MONTHS OLD WHO ARE FULLY IMMUNIZED

(RSoc, 2014)



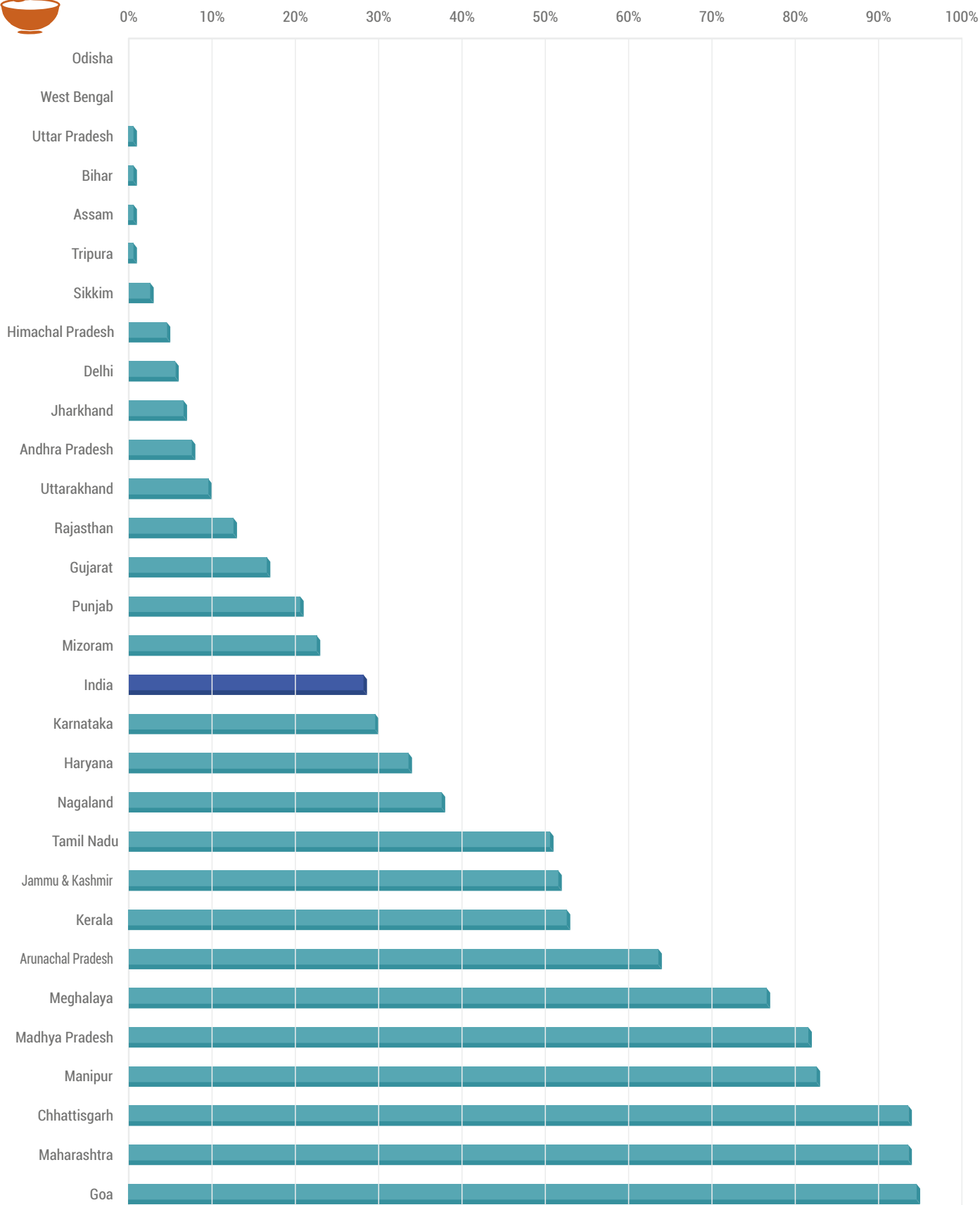
### Fully Immunized Children

More than 40%    Between 40% - 30%    Less than 30%    Data not available

| States            | Numbers in Percentage |
|-------------------|-----------------------|
| Nagaland          | 33.2                  |
| Meghalaya         | 44.6                  |
| Uttar Pradesh     | 47.0                  |
| Arunachal Pradesh | 50.5                  |
| Madhya Pradesh    | 53.5                  |
| Manipur           | 55.2                  |
| Assam             | 55.3                  |
| Gujarat           | 56.2                  |
| Jammu & Kashmir   | 59.0                  |
| Tripura           | 59.2                  |
| Bihar             | 60.4                  |
| Rajasthan         | 60.7                  |
| Odisha            | 62.0                  |
| Jharkhand         | 64.9                  |
| India             | 65.3                  |
| Chhattisgarh      | 67.2                  |
| Uttarakhand       | 68.6                  |
| Mizoram           | 68.6                  |
| Delhi             | 69.7                  |
| Haryana           | 70.7                  |
| Andhra Pradesh    | 74.1                  |
| West Bengal       | 75.2                  |
| Tamil Nadu        | 76.3                  |
| Maharashtra       | 77.4                  |
| Sikkim            | 77.8                  |
| Punjab            | 78.6                  |
| Karnataka         | 79.4                  |
| Himachal Pradesh  | 80.2                  |
| Kerala            | 83.0                  |
| Goa               | 91.9                  |

13. CHILDREN 6-35 MONTHS OLD WHO RECEIVED SUPPLEMENTARY FOOD UNDER ICDS FOR AT LEAST 21 DAYS IN THE MONTH PRIOR TO THE SURVEY

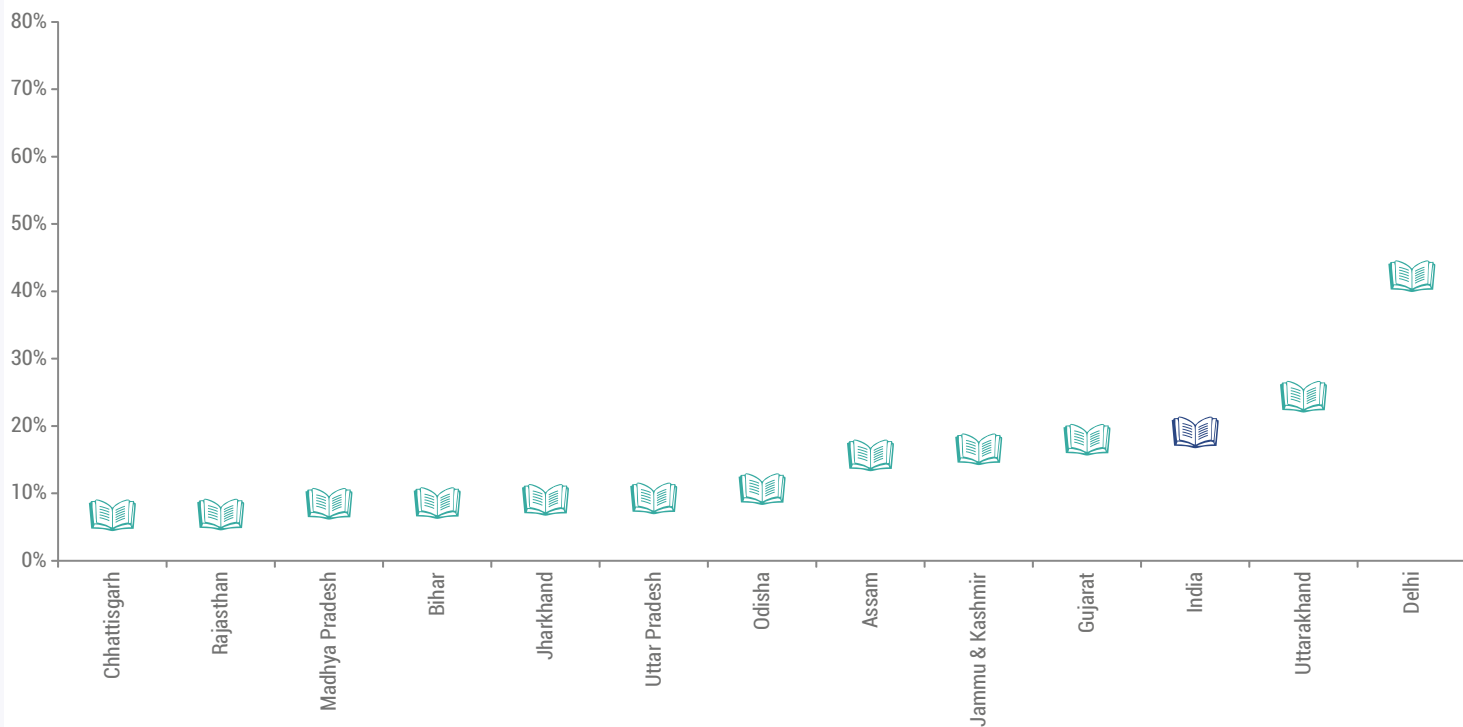
(RSOC, 2014)



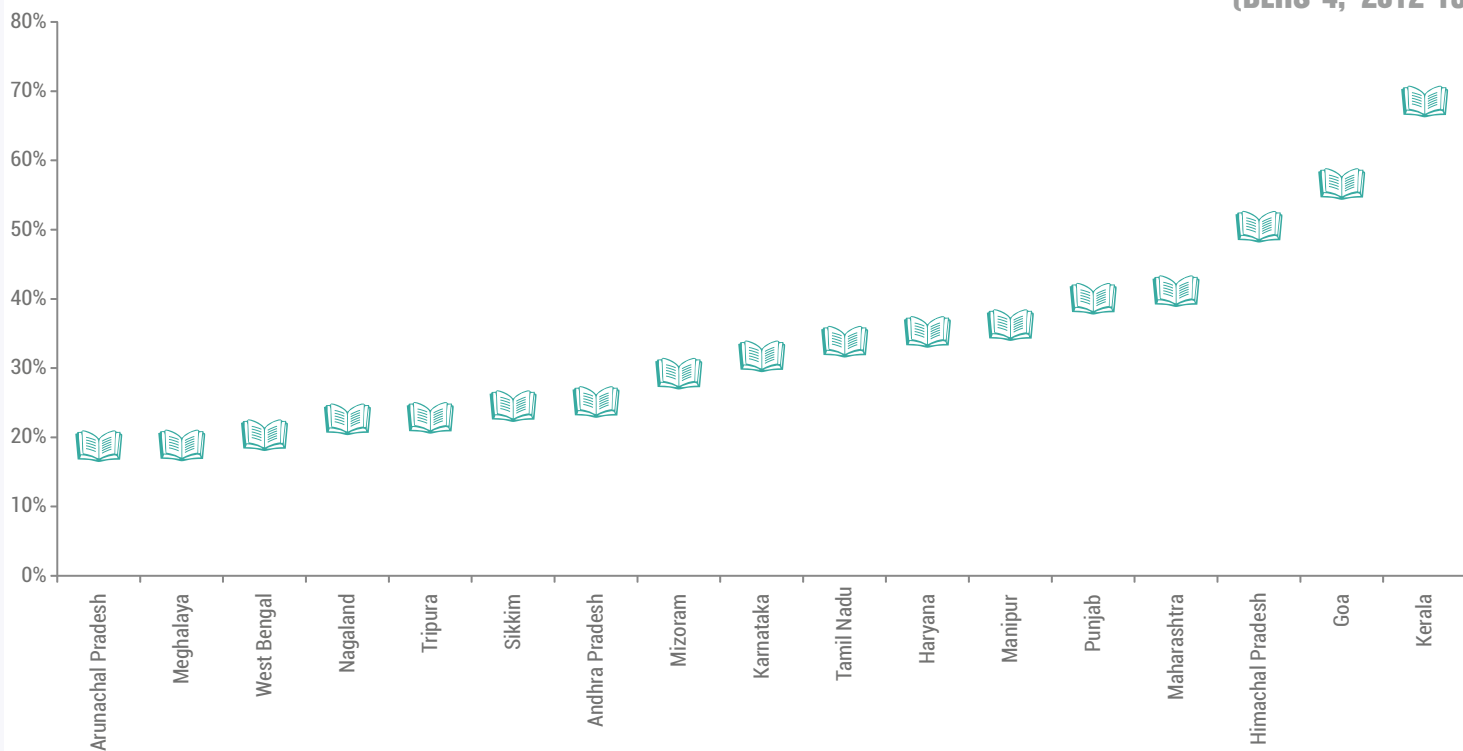
## 14. CURRENTLY MARRIED WOMEN WITH 10 OR MORE YEARS OF SCHOOLING



(DLHS-3, 2007-08)



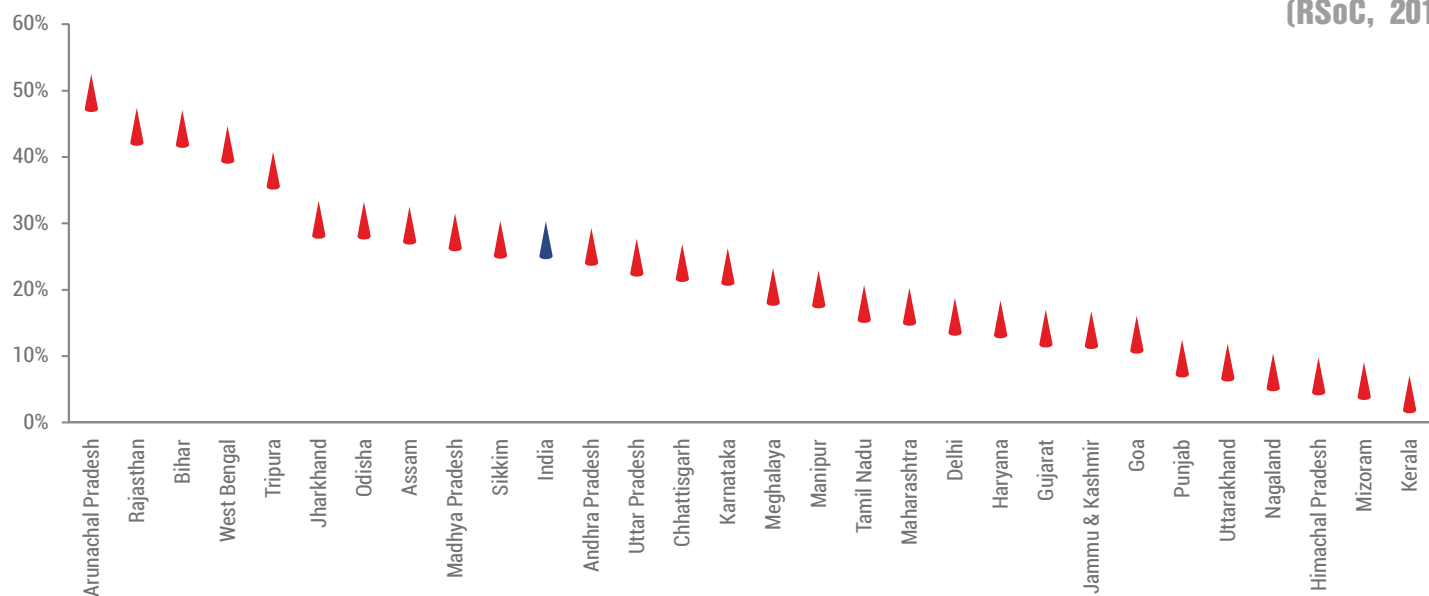
(DLHS-4, 2012-13)





## 15. WOMEN AGED 20-24 YEARS WHO WERE MARRIED BEFORE THE AGE OF 18

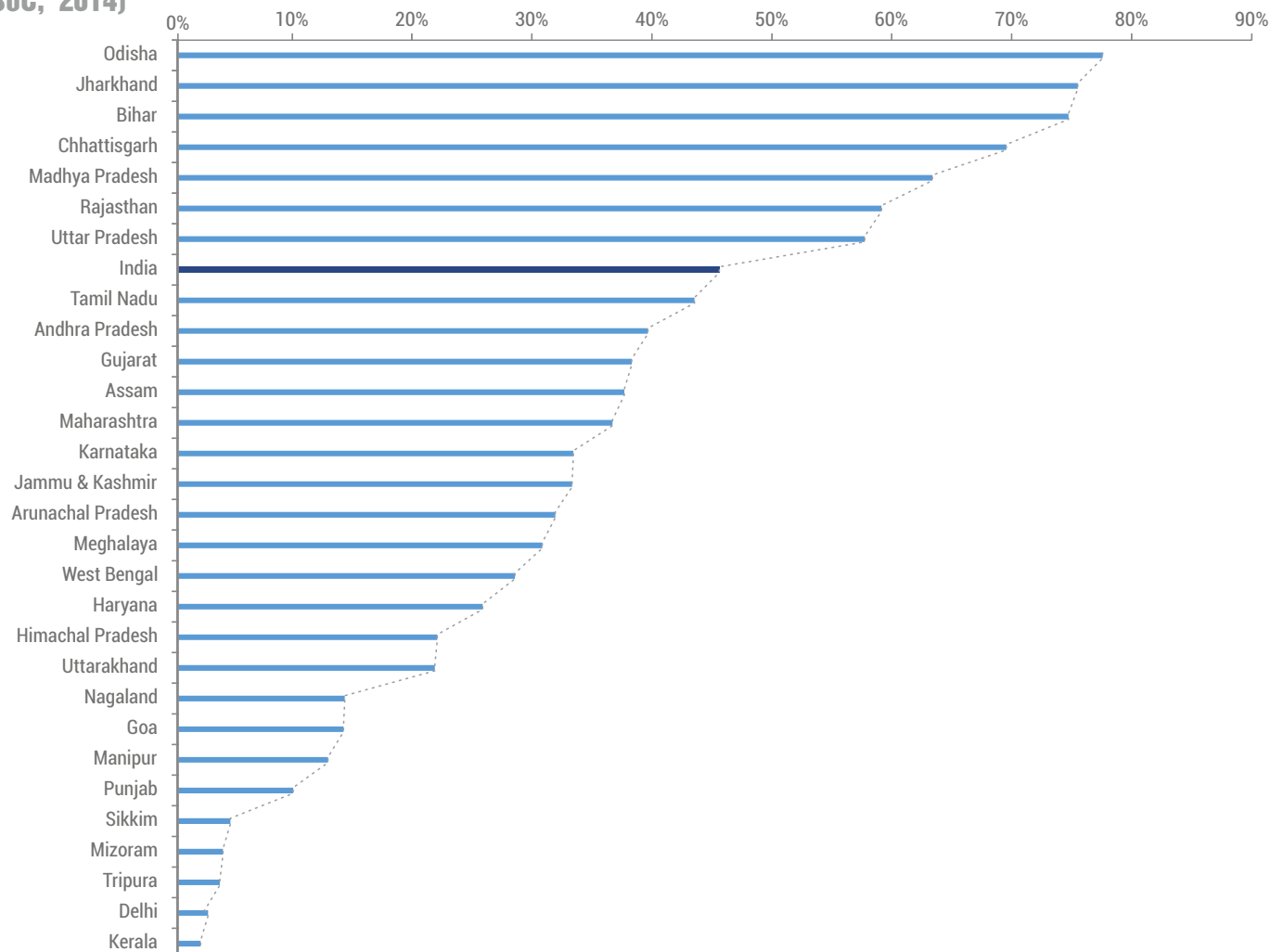
(RSoc, 2014)



## 16. OPEN DEFECTION



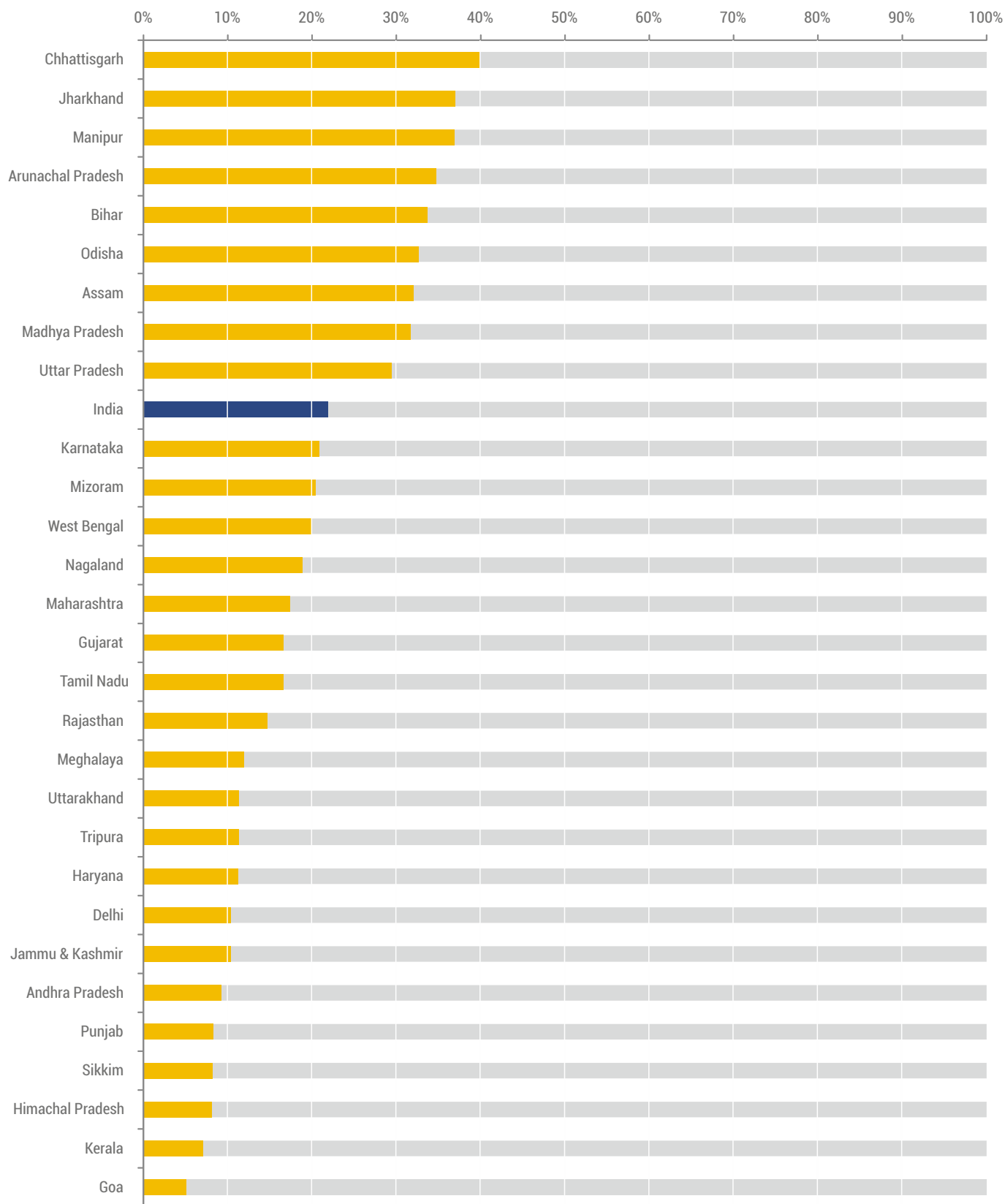
(RSoc, 2014)



## 17. POPULATION BELOW STATE-SPECIFIC POVERTY LINE

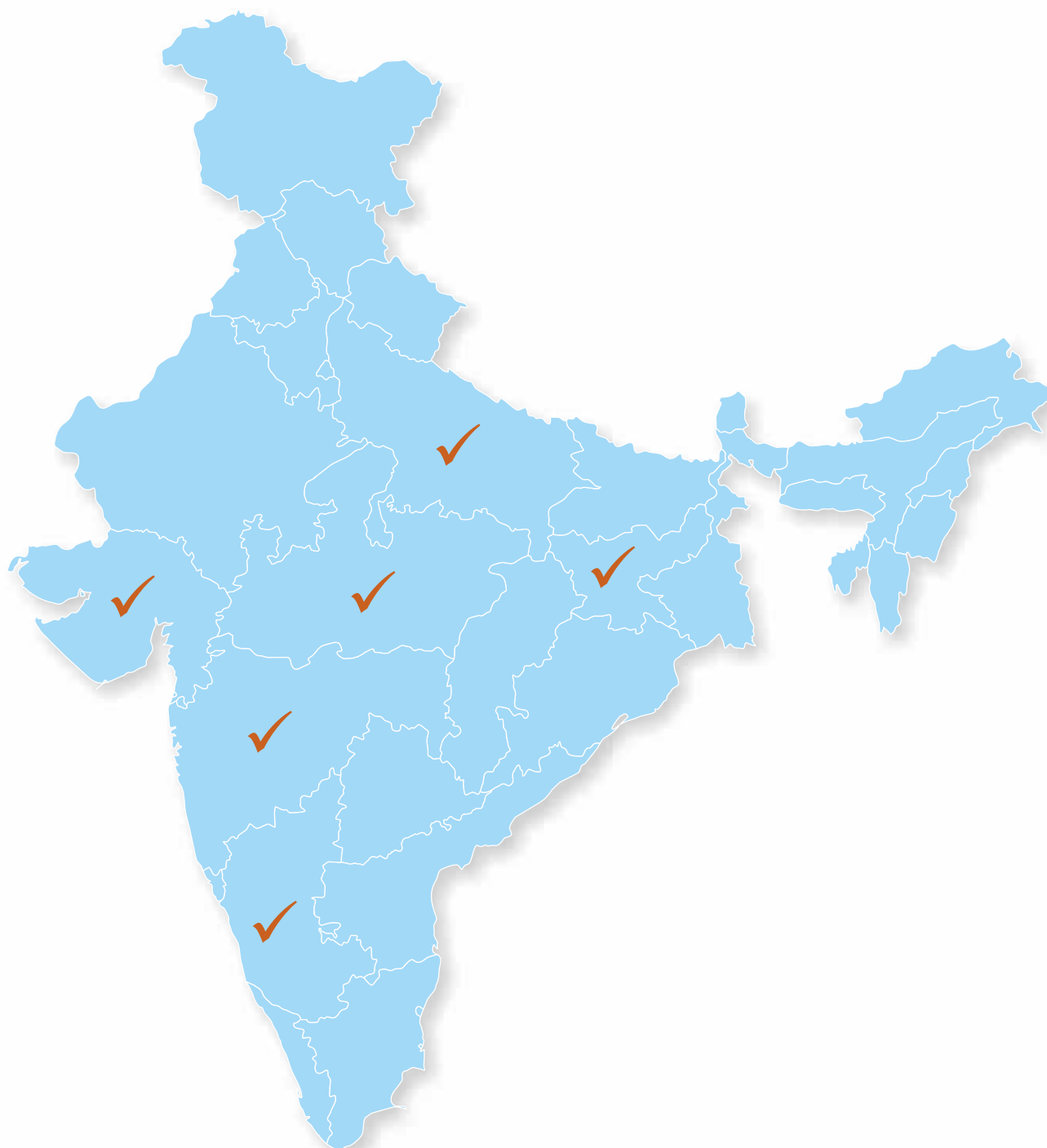


(PLANNING COMMISSION, 2011-12)





## 18. STATES THAT HAVE A NUTRITION MISSION







**ABOUT THE  
NUTRITION DASHBOARDS**





## ABOUT THE NUTRITION DASHBOARDS

These nutrition dashboards, constructed using multiple data sources, are aligned with the UNICEF framework of actions necessary to achieve optimal fetal and child nutrition and development (Black, Victora et al. 2013). They close a critical data gap for nutrition by bringing together data in ways that can help to facilitate greater understanding of the factors that are known to lead to poor nutrition. They are designed, therefore, to support decisions about actions to support nutrition across multiple sectors, and in the larger demographic and socioeconomic context of the state.

### ORGANIZATION OF THE DASHBOARD

**Context:** Each dashboard begins with a brief demographic and socioeconomic profile of the state (1A). This is followed by trends in indicators of child mortality over time to facilitate comparisons between child survival trends and child undernutrition trends within the state (1B). Despite the gains in child survival rates in the last decade, progress in improving child health and nutrition in India has been rather slow.

**Nutrition outcomes:** The dashboard first describes key health outcomes for children less than five years of age – anthropometric measures (2A, 2B, 2C) and anemia prevalence (2D).

Since undernutrition among children is also affected by social and economic conditions, in Section 2B, we depict how the three anthropometric measures of stunting, wasting, and underweight among children under five years of age vary by maternal and socioeconomic factors.

Having described nutrition outcomes and trends in each state, the dashboard then proceeds to describe the status of the determinants of undernutrition and of interventions that can improve nutrition. We present a series of indicators on immediate determinants, underlying determinants, and aspects of the enabling environment for nutrition.

**Immediate determinants:** Child nutrition is closely linked with infant feeding, childhood illnesses and poor maternal health. Section 3A focuses on infant and young child feeding practices, 3B on child health, and 3C on key nutritional indicators for women and adolescents. Section 3C covers aspects of maternal and adolescent health and nutrition which relate to the potential for intergenerational transmission of poor nutrition.

**Underlying determinants:** The role of social determinants that affect nutrition is covered in this section. Women's educational and socioeconomic status is included in Section 4A, water, sanitation and hygiene practices in Section 4B and agriculture and food security in Section 4C. The role of poverty, caste and other drivers is laid out in Section 2B.

**Status of nutrition-relevant interventions:** This section covers issues related to capacity and financial resources that go towards various nutrition related schemes and initiatives at the state level. Indicators of the use and coverage of national schemes reflect a combination of performance and demand for services. Therefore this section includes information on coverage of and expenditure on key centrally funded schemes that directly or indirectly affect maternal and child nutrition. Section 5A focuses on coverage, human resource capacity, and expenditure on schemes delivering nutrition-specific interventions. Section 5B includes coverage and expenditure information on schemes delivering nutrition-sensitive interventions.

## WHAT DATA ARE USED IN THIS DASHBOARDS?

Data featured in these dashboards are obtained from multiple sources, because data needed to understand nutrition outcomes, determinants of nutritional outcomes, are not available from a single data source. The following sources are used in these dashboards:

### Surveys and databases

- Rapid Survey on Children (RSOC) Fact Sheets, Ministry of Women and Child Development, 2013-2014
- National Family Health Survey (NFHS) 3, Ministry of Health and Family Welfare, 2005-2006
- District Level Household and Facility Survey (DLHS) 3 and 4, Ministry of Health and Family Welfare, 2007-2008 and 2012-2013
- National Sample Survey Organization (NSSO) 66th and 68th rounds, Ministry of Statistics and Program Implementation, 2009-2010 and 2011-2012
- Census of India, Registrar General & Census Commissioner, 2011
- Sample Registration System, Registrar General India, 1990-2013
- Indiastat, Ministry of Agriculture, 2011-12
- Indiastat, Ministry of Health and Family Welfare, 2012
- ICDS Data Tables, Ministry of Women and Child Development, 2012

### Reports and other data sources

- India State Hunger Index, International Food Policy Research Institute, 2008.
- Gender Human Development Indices: Recasting the Gender Development Index and Gender Empowerment Measure for India, Ministry of Women and Child Development, 2009
- Women and Men in India, 16th Issue. Social Statistics Division, CSO, MoSPI, GoI, 2014
- Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India Rajya Sabha and Lok Sabha Unstarred Questions, Indiastat, 2011-2012
- Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14
- Food Corporation of India, 2013
- Update on ASHA program, Ministry of Health and Family Welfare, 2013
- Development Research Group World Development Indicators, World Bank, World Databank 2014

## HOW CAN THE NUTRITION DASHBOARDS BE USED?

These dashboards are intended to facilitate dialogue, support decision-making and benchmark progress towards improvements in nutrition and in nutrition-relevant actions at the state-level. The intended users of this dashboard are national and state-level policymakers, development partners, implementers of government and non-governmental plans, civil society, researchers and the media.



# INDIA DASHBOARD



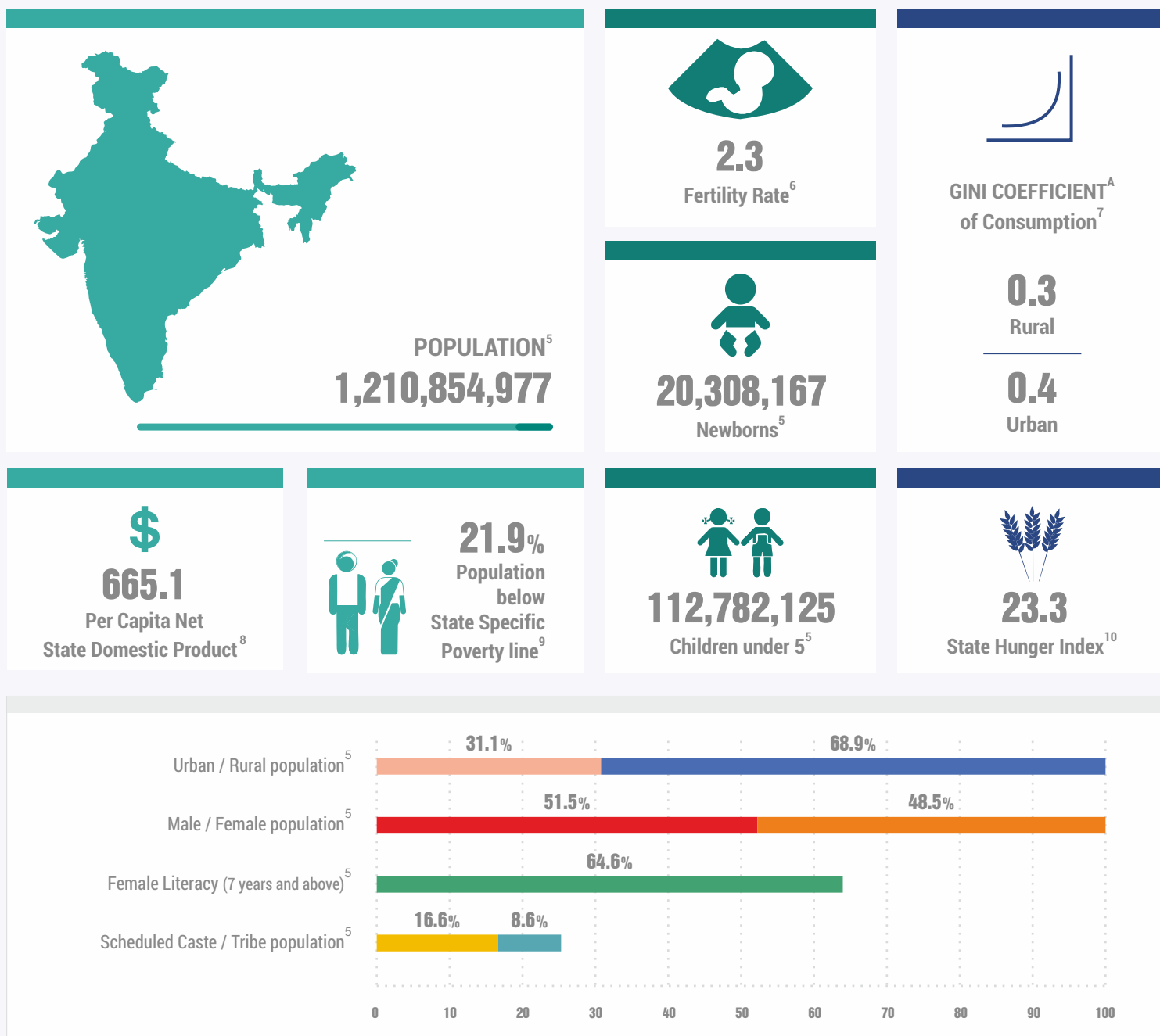




## I. CONTEXT

### A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

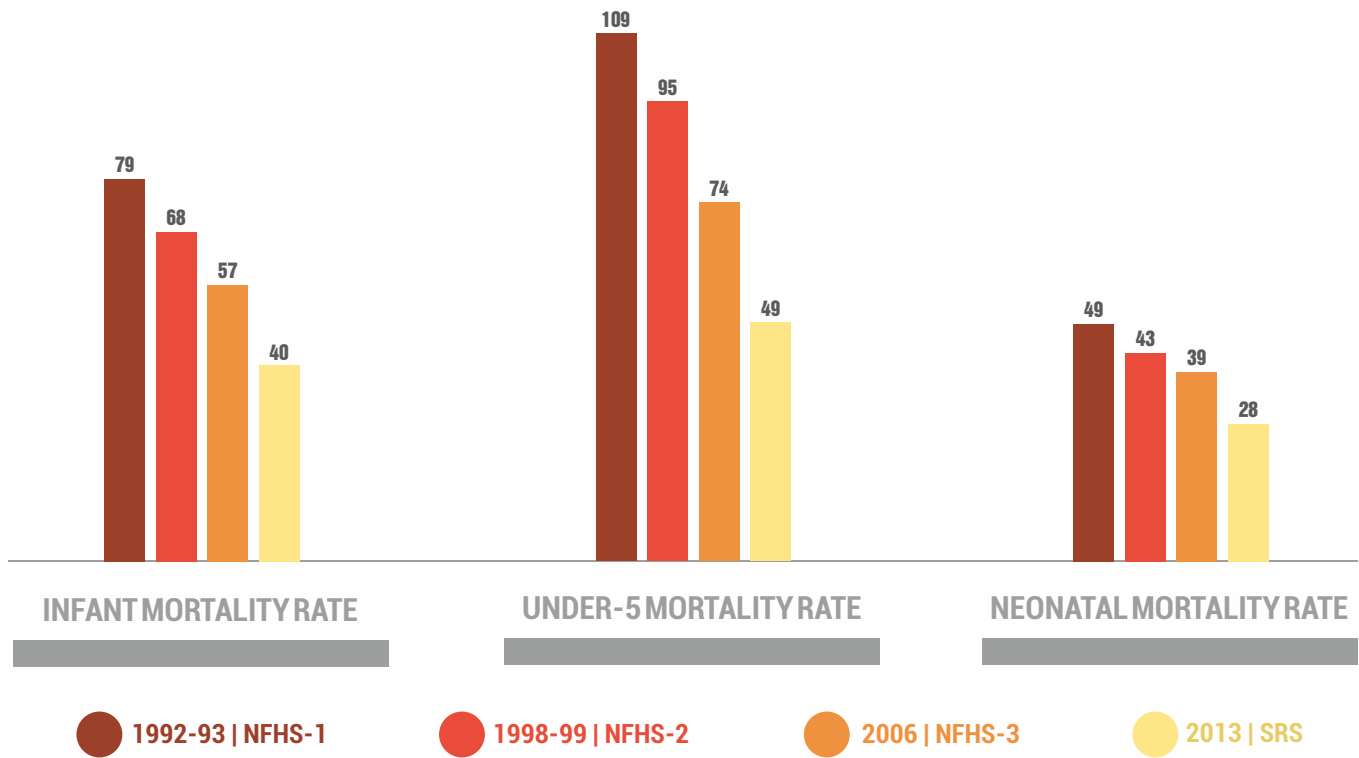
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14; [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

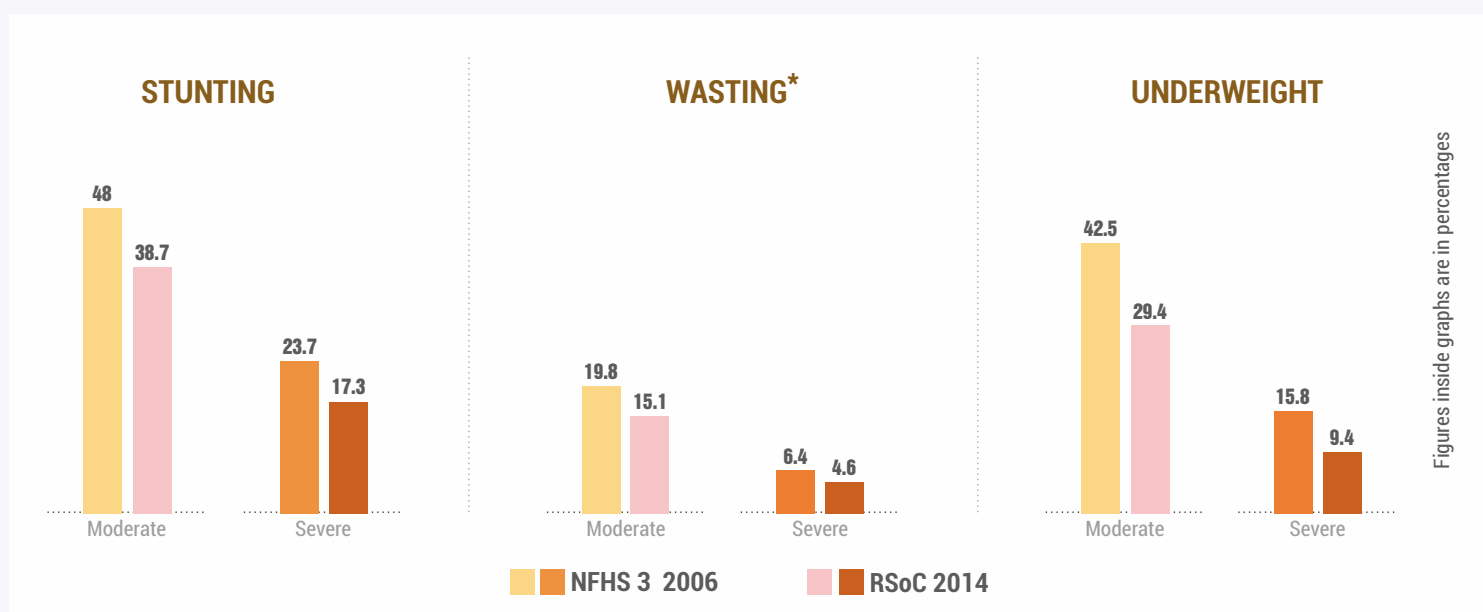
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

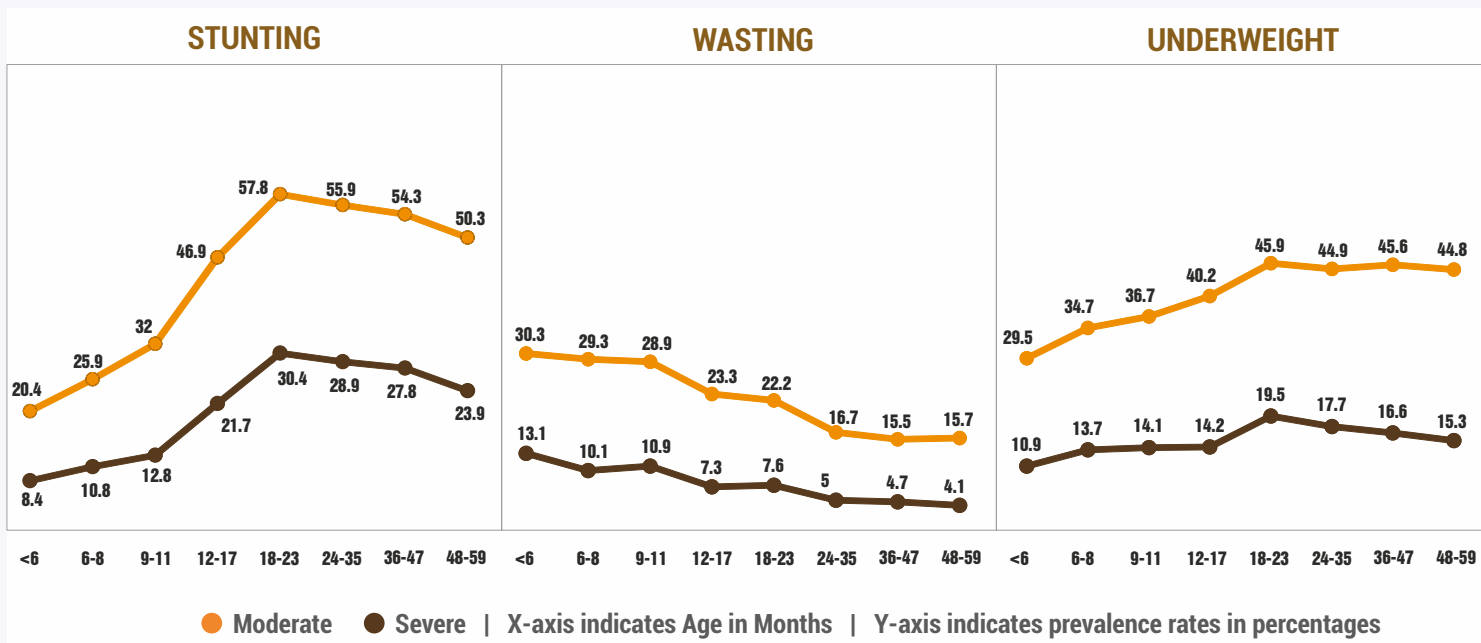
Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.



\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

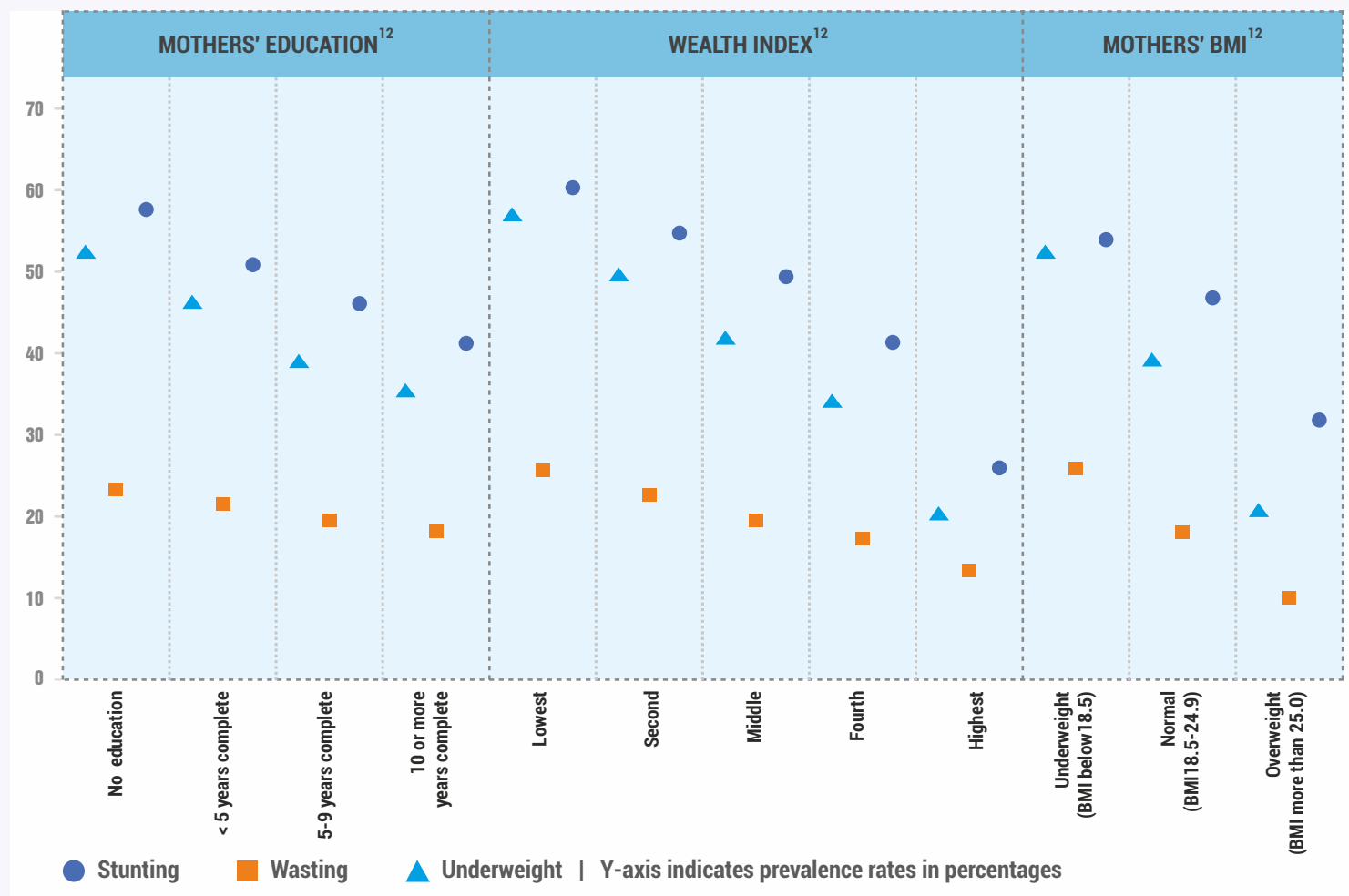
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



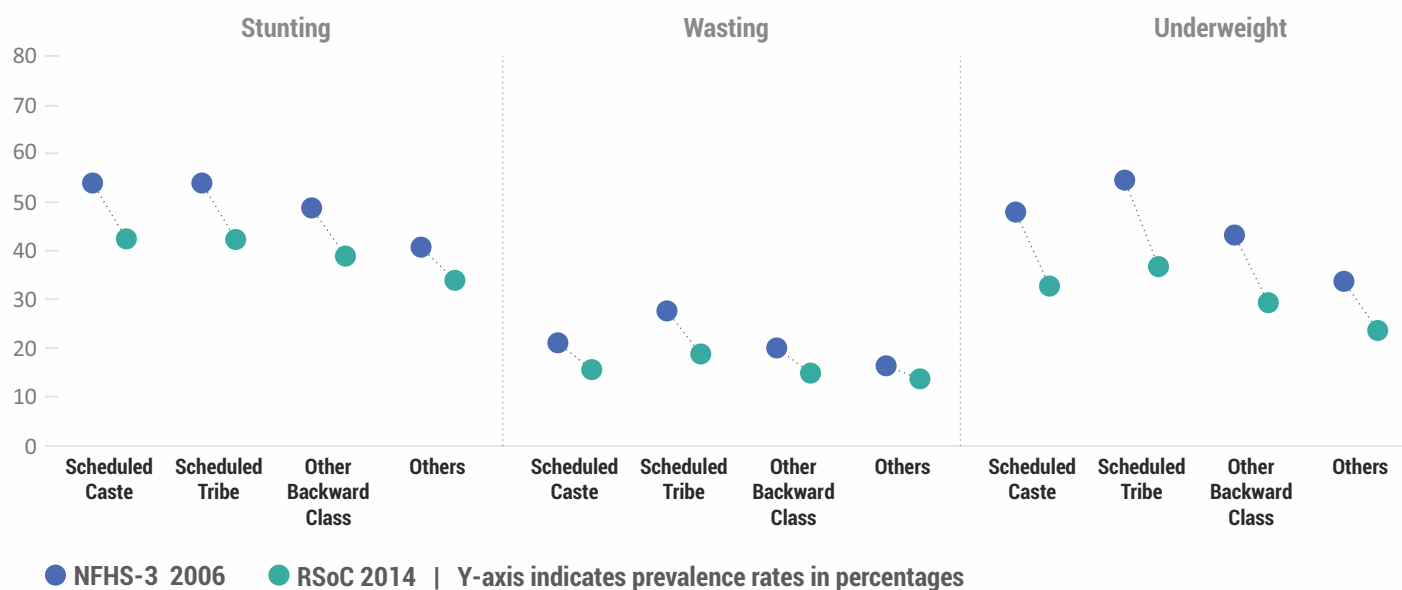
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

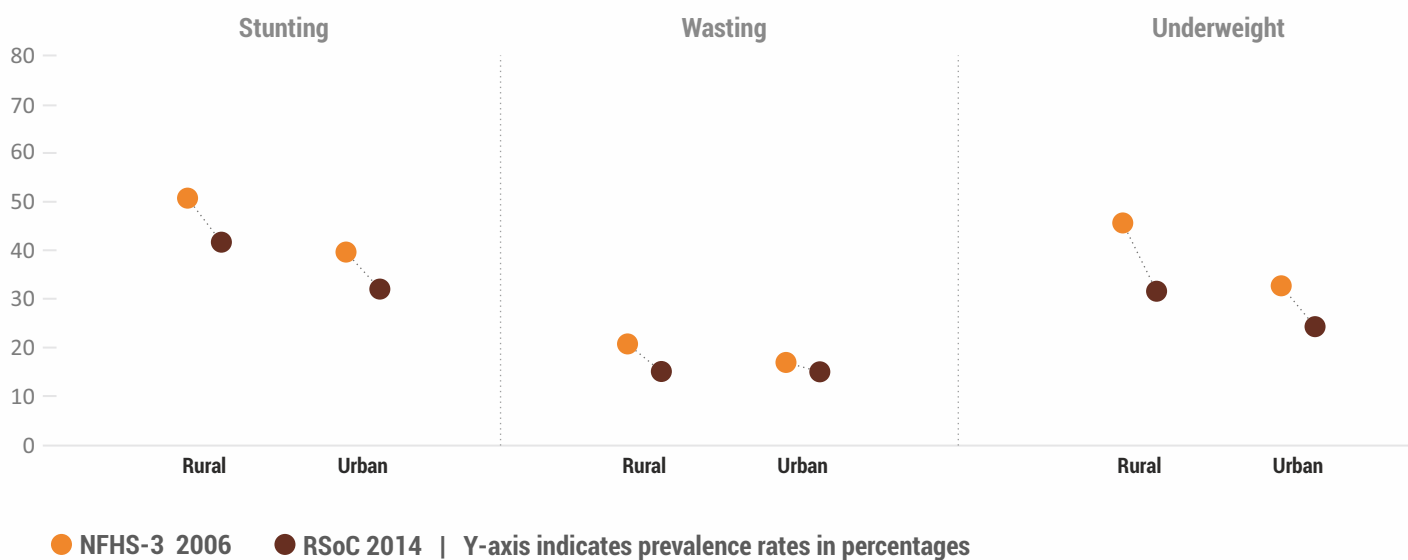


<sup>12</sup> Source : NFHS-3, 2006

## CASTE

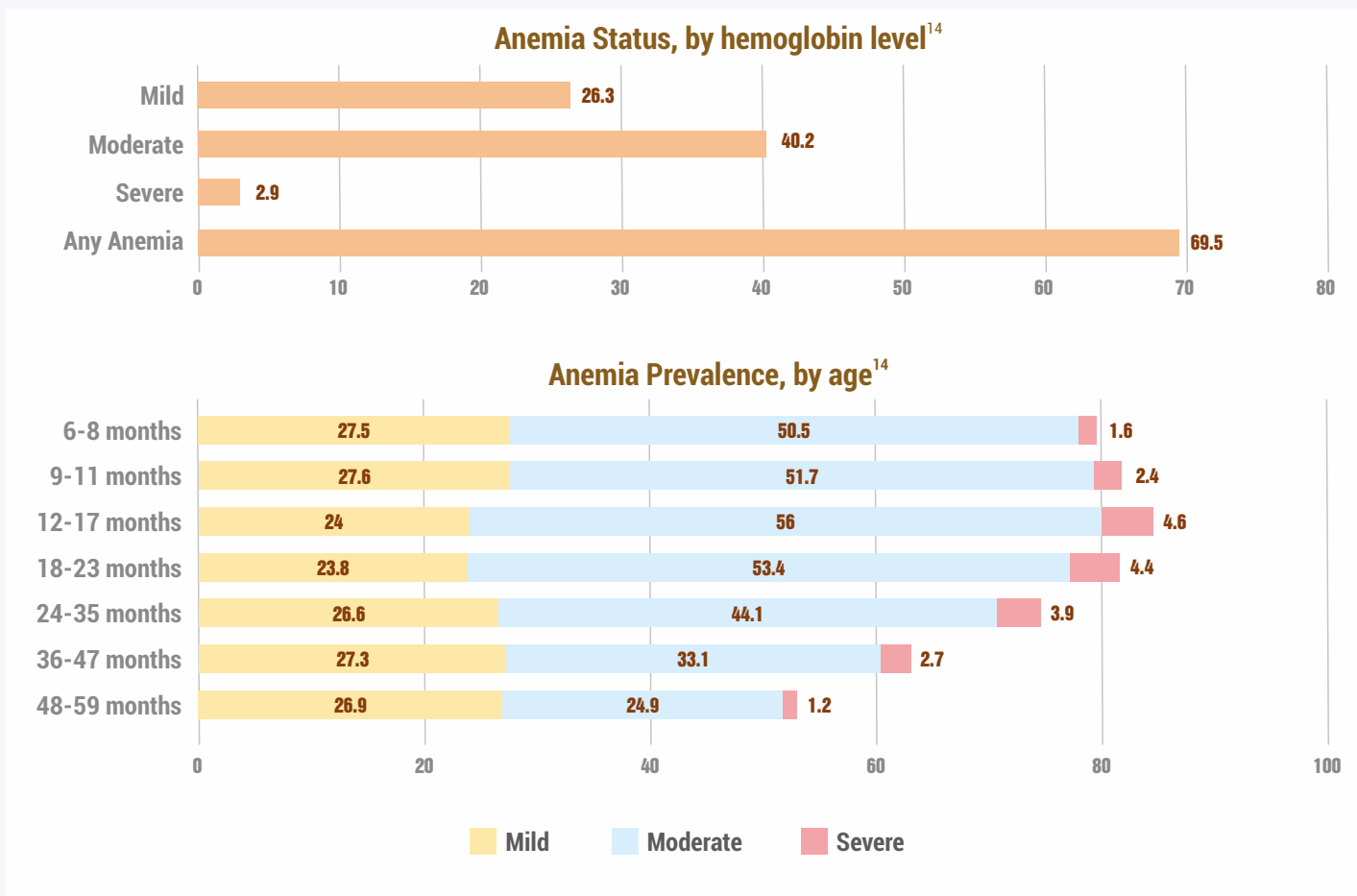


## RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.




<sup>14</sup> Source : NFHS-3, 2006

### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 44.6% |
|  | Children aged 0-5 months who were exclusively breastfed  | 64.9% |
|   | Children aged 6-8 months who were fed complementary foods  | 50.5% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.   | 36.3% |
|   | Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old |       |
|   | B. Had minimum dietary diversity   | 19.9% |
|   | Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months                      |       |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 6.5%  |
| Had fever in 15 days prior to survey   | 13.6% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 8.6%  |

<sup>B</sup> The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

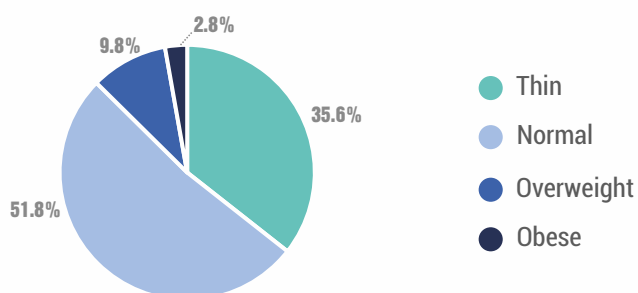
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



**55.3%**

Women aged 15-49 years are anemic

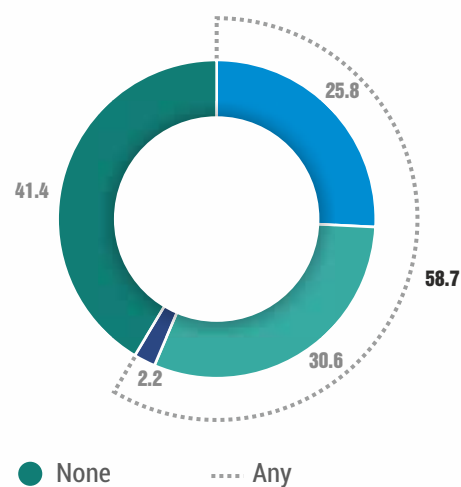
**1.8%**

Women aged 15-49 years are severely anemic

<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]

### C.2. PREGNANT WOMEN<sup>16</sup>

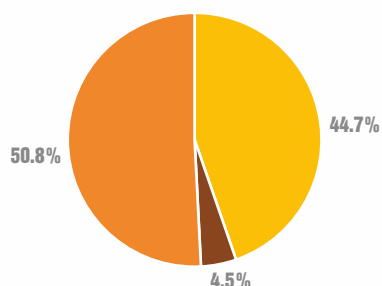
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



● Normal ● Thin ● Overweight and Obese



**55.8%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**1.7%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

<sup>16</sup> Source : NFHS-3, 2006

<sup>17</sup> Source : RSOC, 2014



## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **21.4%**



**30.3%** Women aged 20-24 years who were married before the age of 18<sup>19</sup>

**21.1** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.5** National Average



Female workforce participation rate<sup>22</sup> **25.5%**

Currently married women who make decisions about<sup>23</sup>:



**27.1%** Own healthcare



**8.5%** Major household purchase



**32.4%** Purchases for daily household needs



**10.7%** Visits to her family/friends/relatives



**39.7%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**54.4%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-3, 2007-08

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation are associated with undernutrition among children, by directly increasing exposure and susceptibility to infections. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



91%

Households with access to improved sources of drinking water<sup>E, 24</sup>

41.8%

Households using improved sanitation facility<sup>F, 24</sup>



45.5%

Households practicing open defecation<sup>24</sup>



1,065 M

Expenditure on toilets under Total Sanitation Campaign (TSC) National Average<sup>G, 25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



4%

Growth rate of agriculture from 2007-2012<sup>26</sup>

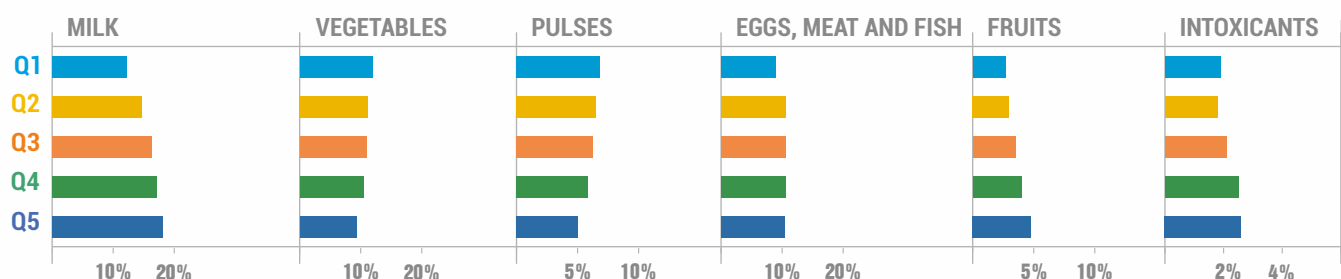


Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

RURAL  
2233

URBAN  
2206

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiatat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiatat, compiled by datanet from Rajyasabha & Loksabha unstarred questions no. 3039, 4535. 2007-12

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 49.2% |
| Children 36-71 months | 44.2% |
| Pregnant women        | 40.7% |
| Lactating mothers     | 42.4% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 21.3% |
| Children aged 36-71 months | 31%   |
| Pregnant women             | 27.8% |
| Lactating women            | 20.3% |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



63.4%

Received 3 or more antenatal checkups prior to delivery



89.8%

Received 2 or more TT injections prior to delivery



23.6%

Consumed 100 or more IFA tablets/syrup during pregnancy



78.7%

Had Institutional delivery



81.1%

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



62.4% Rural  
72% Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



6.6%

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



59.6%  
Breastfeeding



56.6%  
Nutrition



47.7%  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 7.9%     |
| AWWs living in the AWC village/ward  | 74.1%    |
| AWWs having 10 or more years of schooling  | 84.8%    |
| Median age of AWWs   | 38 years |
| AWCs serving to population more than the stipulated norm                           | 56.9%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 72.4% |
| AWCs having functional adult weighing scale | 51.6% |
| Available WHO growth chart at AWCs          | 89.7% |

<sup>H</sup> Number of AWCs surveyed for India as per RSoC 2014 is 5630.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS 3, 2007-08

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 91.4% |
| AWWs having correct knowledge of normal birth weight of children                    | 80.4% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 96%   |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 92.9% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 63.8% |

| Health Service Delivery Personnel   | Value |
|---|-------|
| ASHAs selected <sup>33</sup>  | 93.3% |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | NA    |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | NA    |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | Value |
|---|-------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 75    |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 68.8  |
| NRHM expenditure (State Government) <sup>36</sup>                       | 9.3   |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 37.4% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 48.2% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 73.9% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | Value |
|---|-------|
| MDMS <sup>40</sup>                          | 47    |
| PDS <sup>41</sup>                           | 475.3 |
| MGNREGA <sup>42</sup>                       | 214   |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

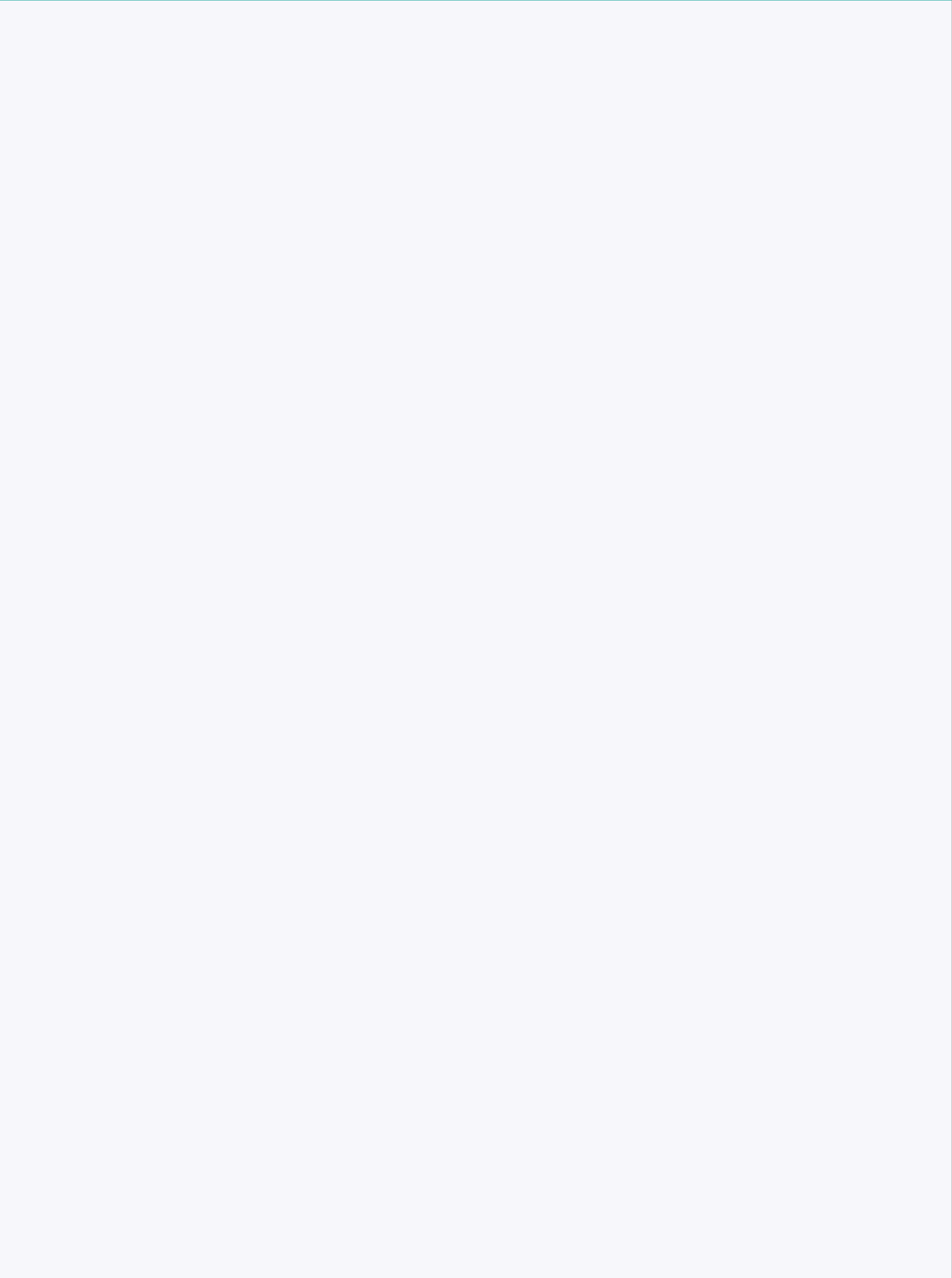
<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

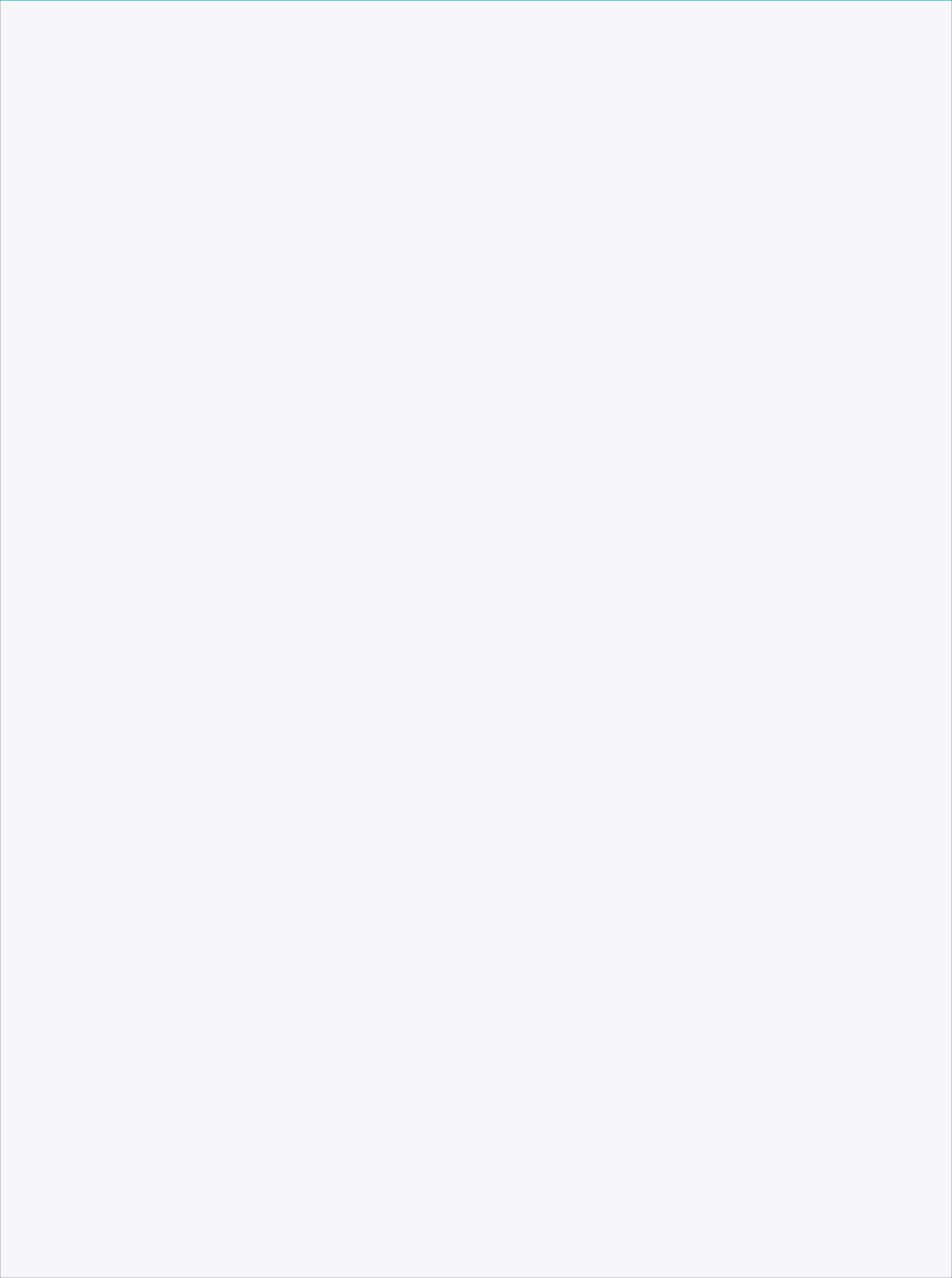
<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13





# STATE DASHBOARDS



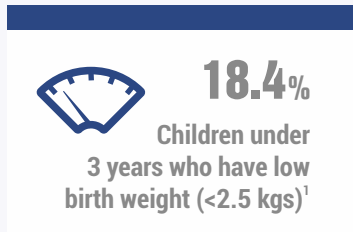
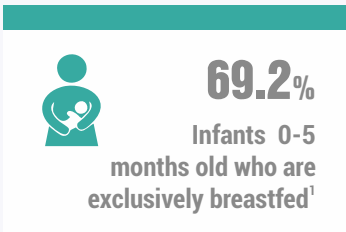
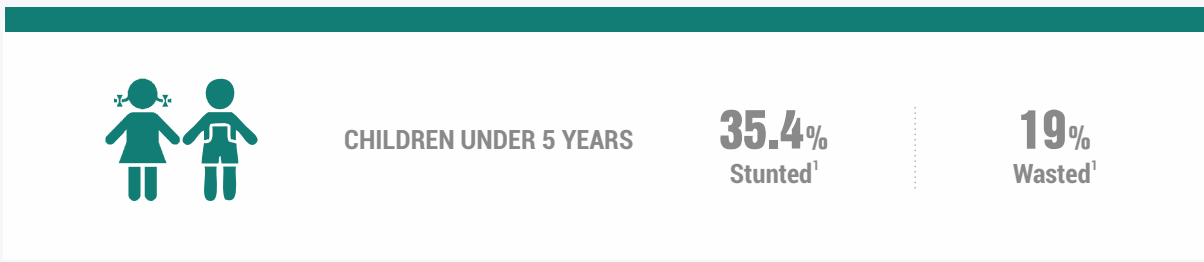




# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN ANDHRA PRADESH

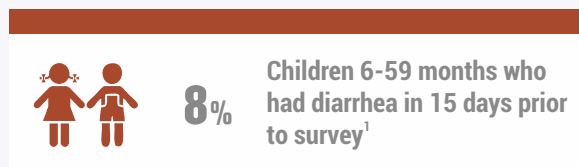
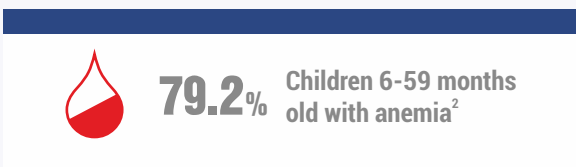
World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



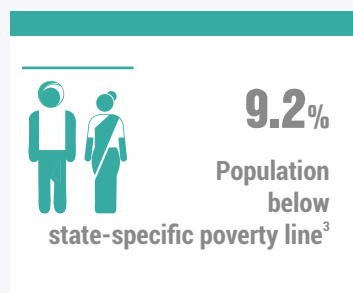
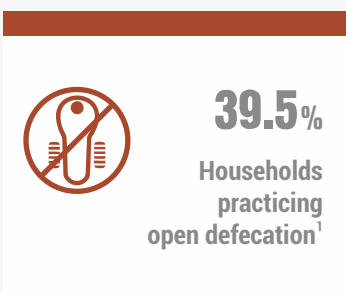
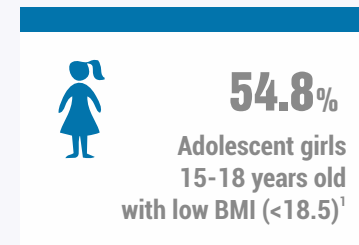
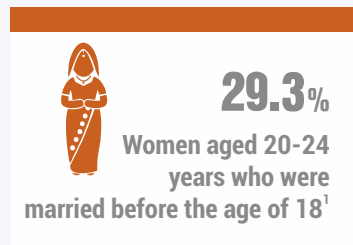
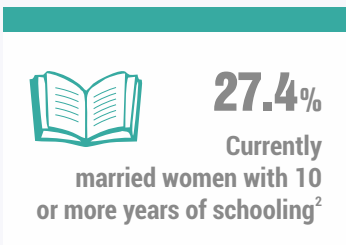
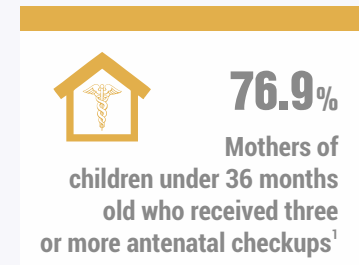
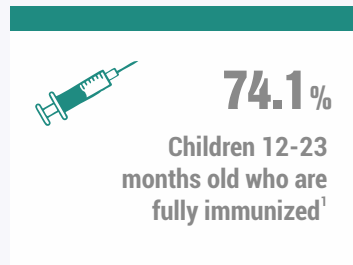
Immediate Determinants

Immediate Determinants



Underlying Determinants

Underlying Determinants



<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : DLHS4, 2012-13

<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

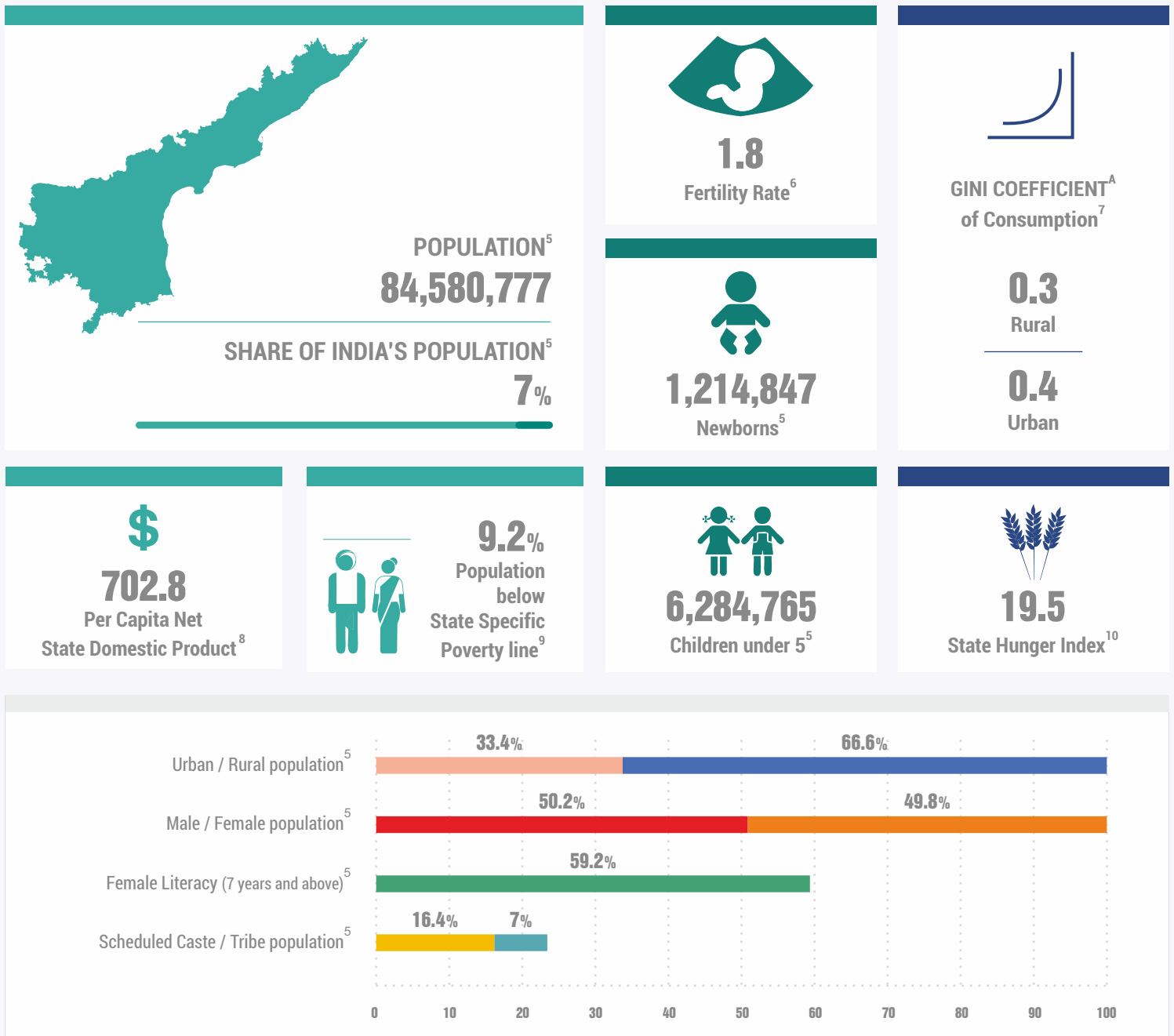


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# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

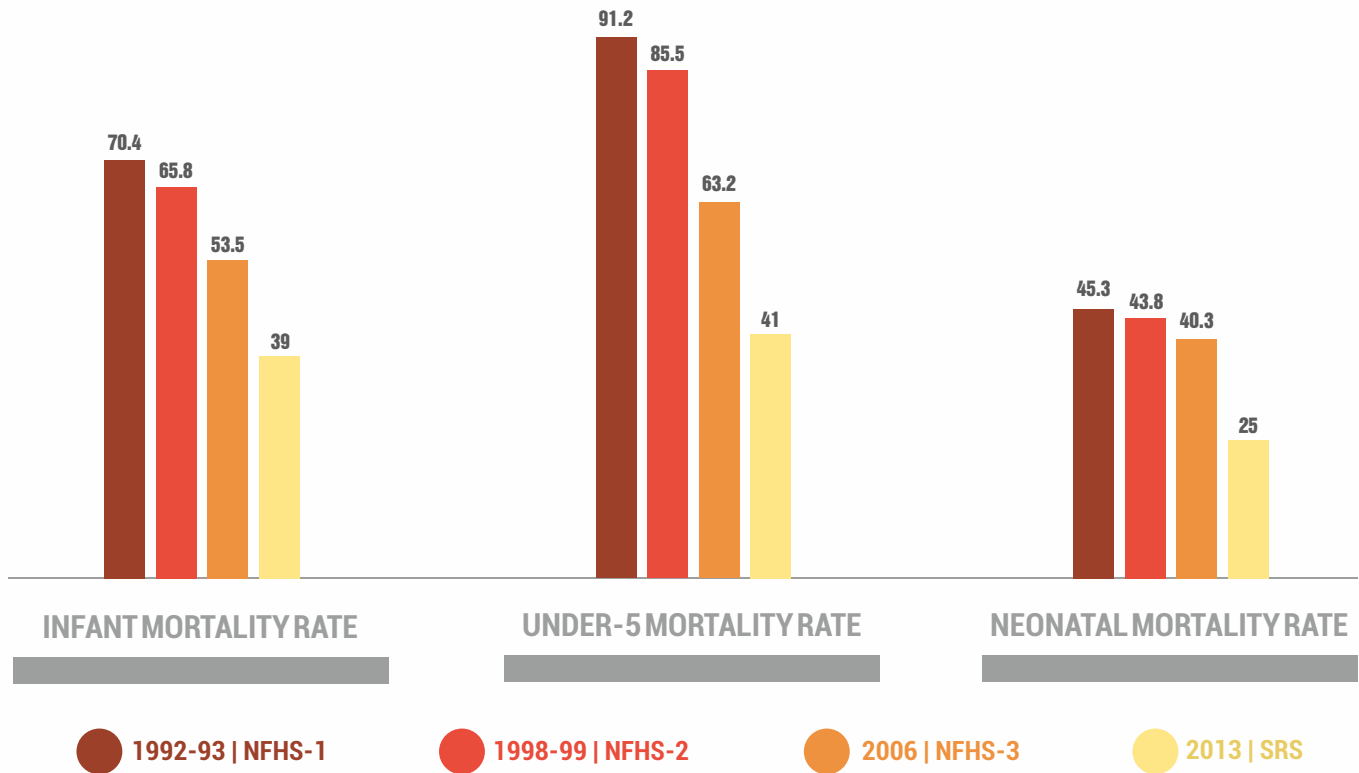
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India state hunger index, comparisons of hunger across states, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

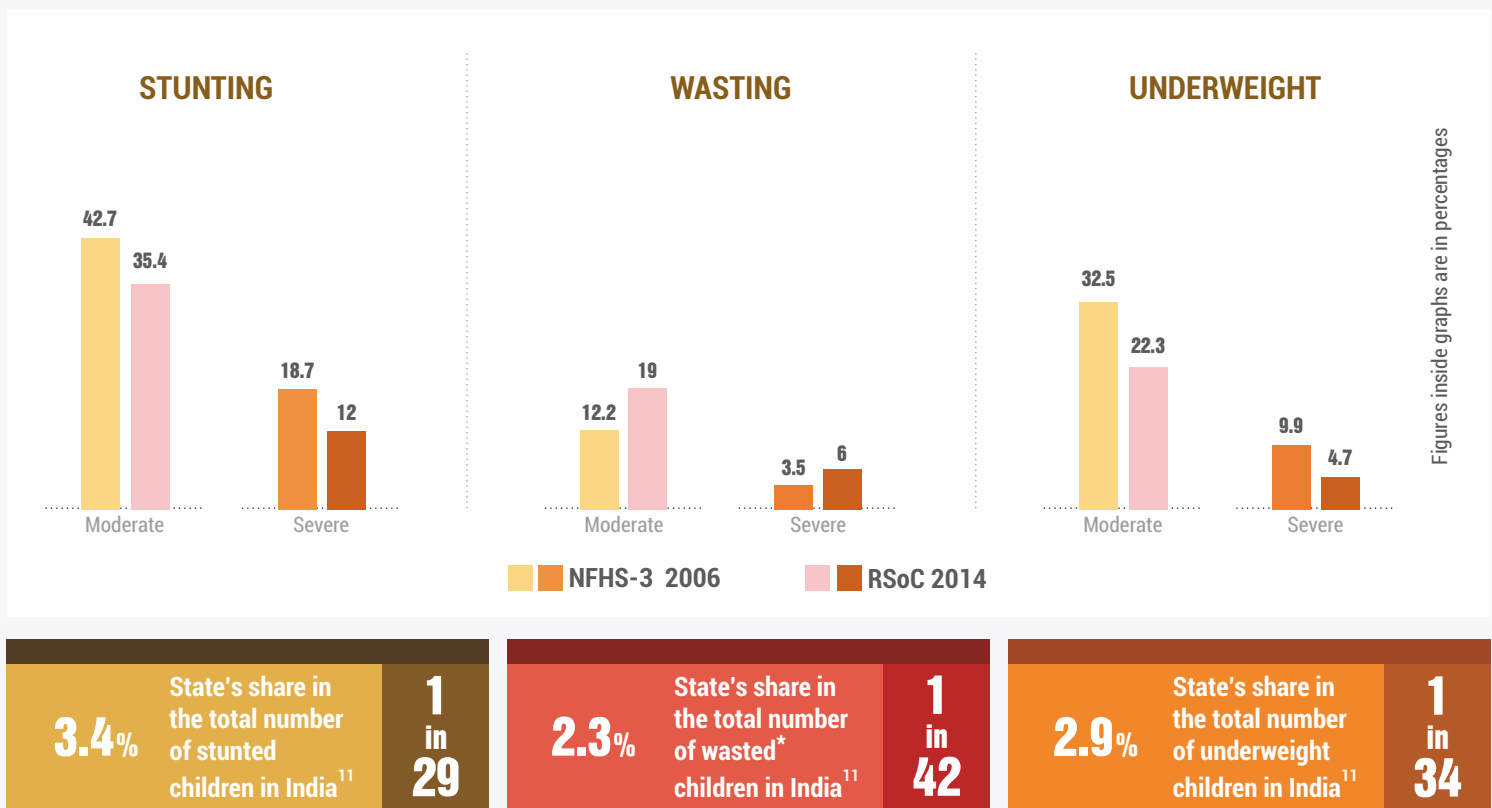
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

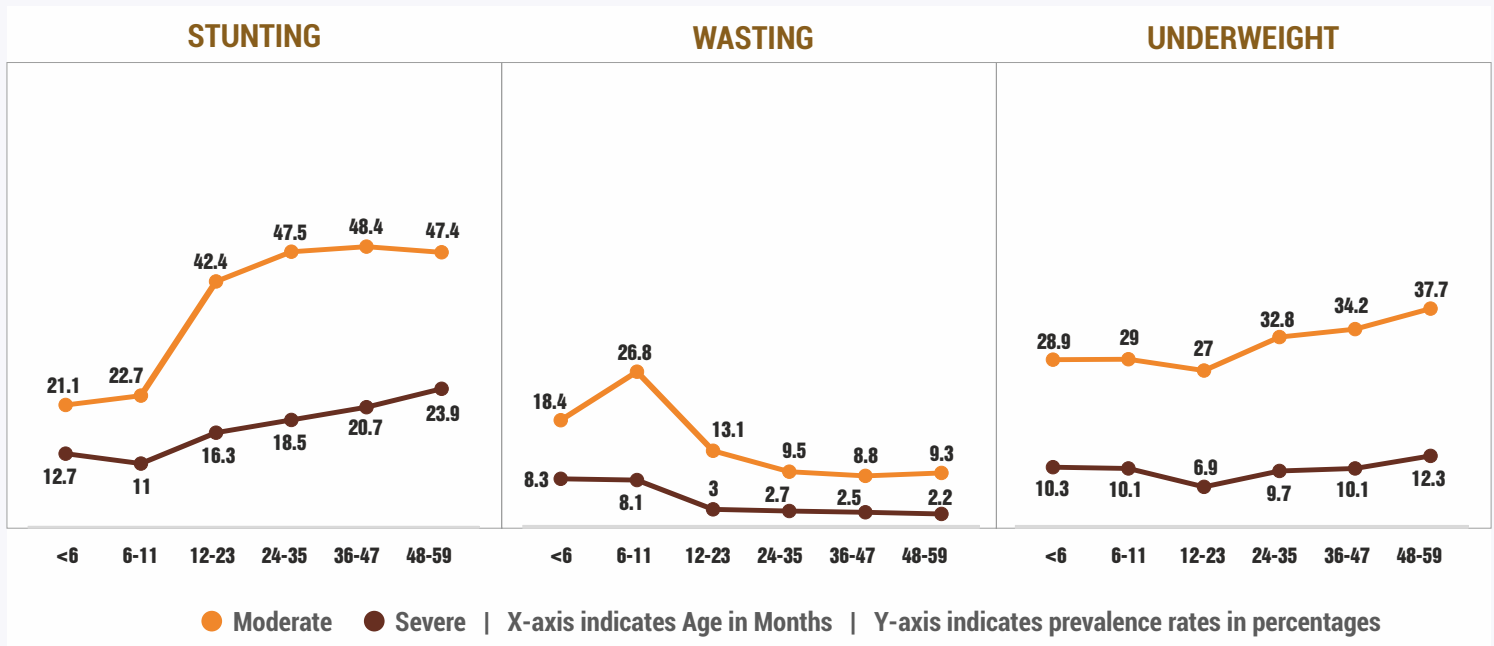


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

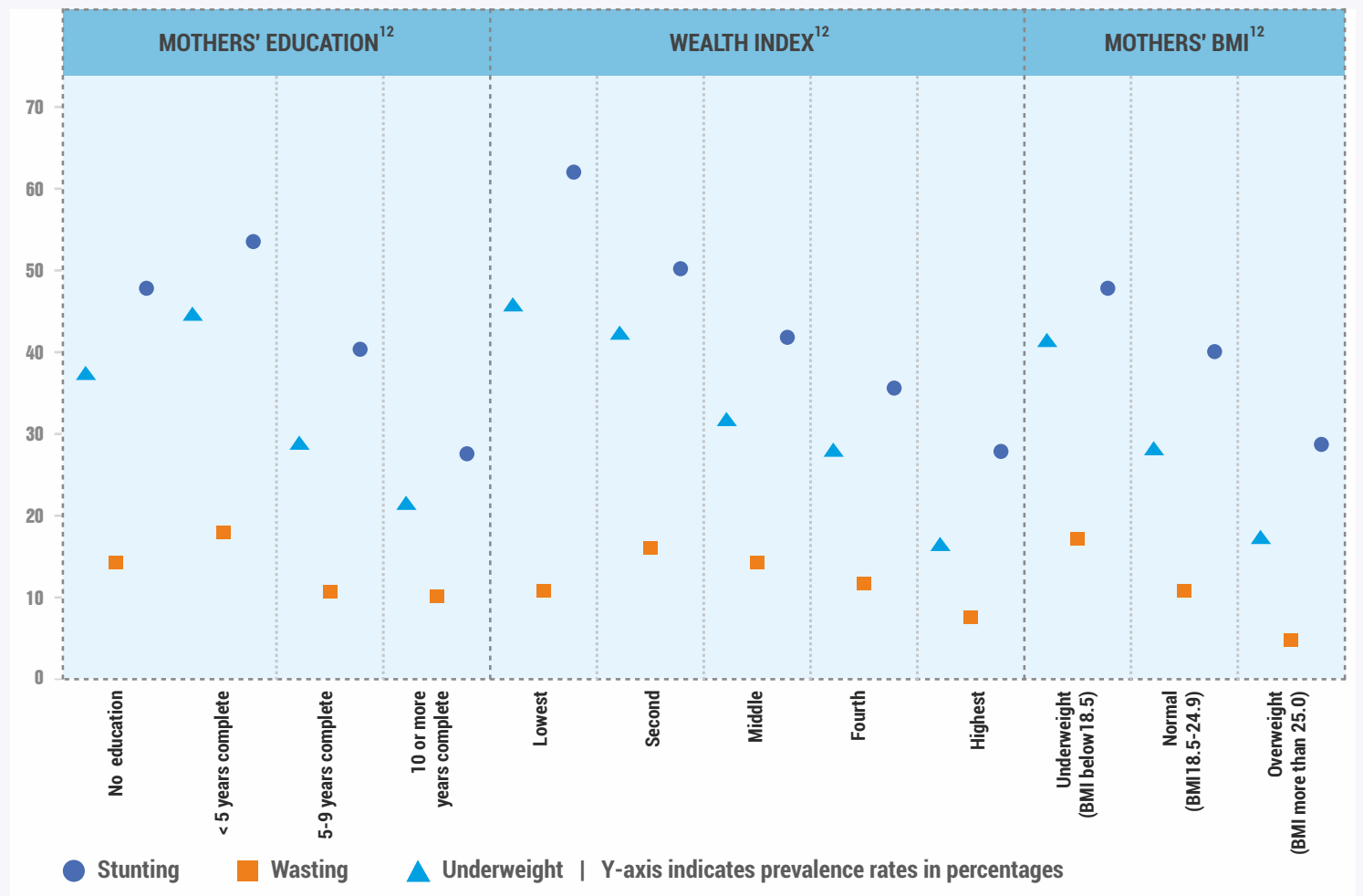
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



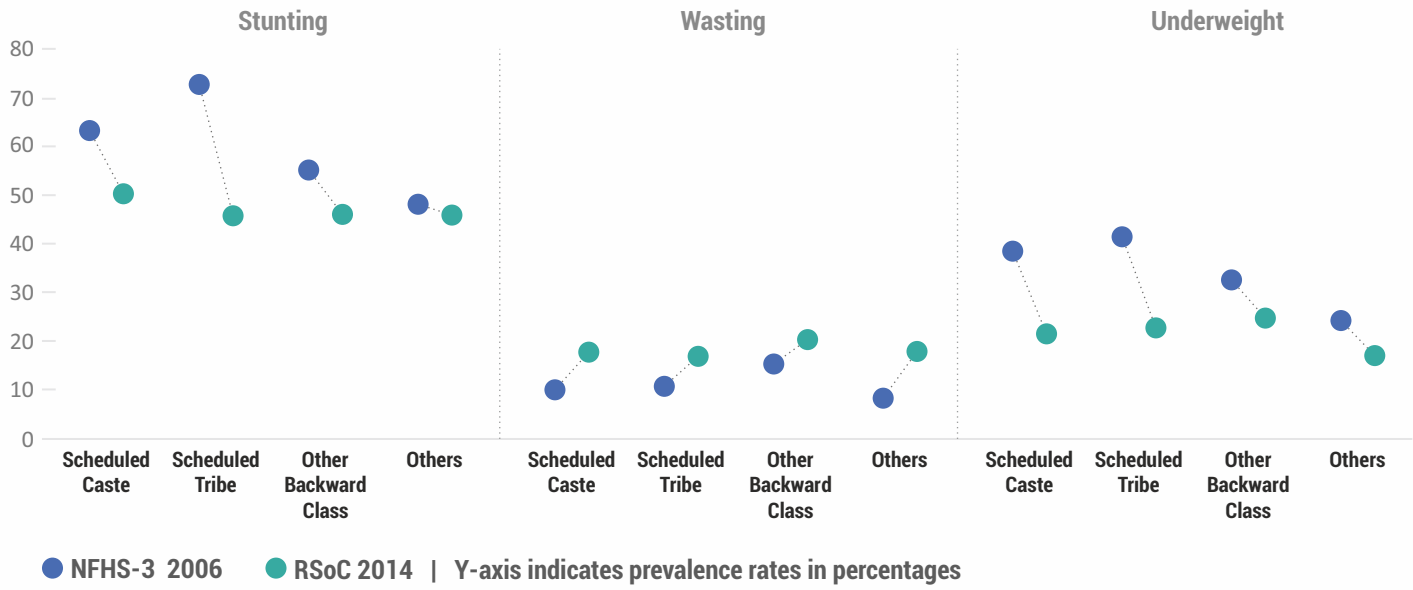
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

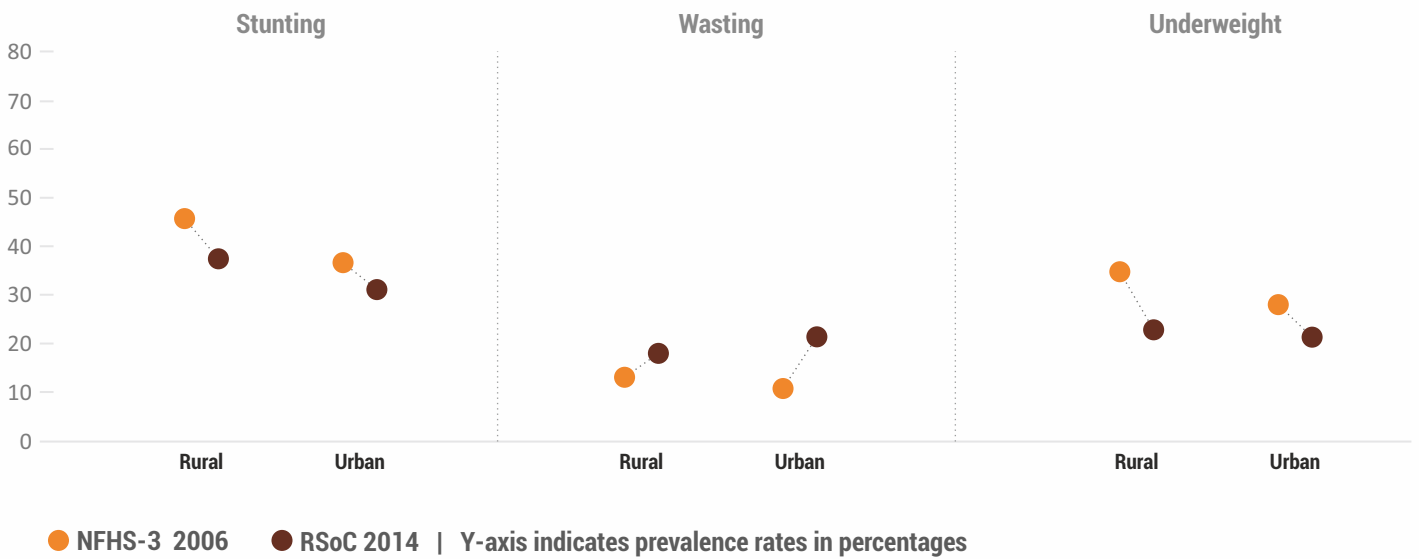


<sup>12</sup> Source : NFHS-3, 2006

CASTE

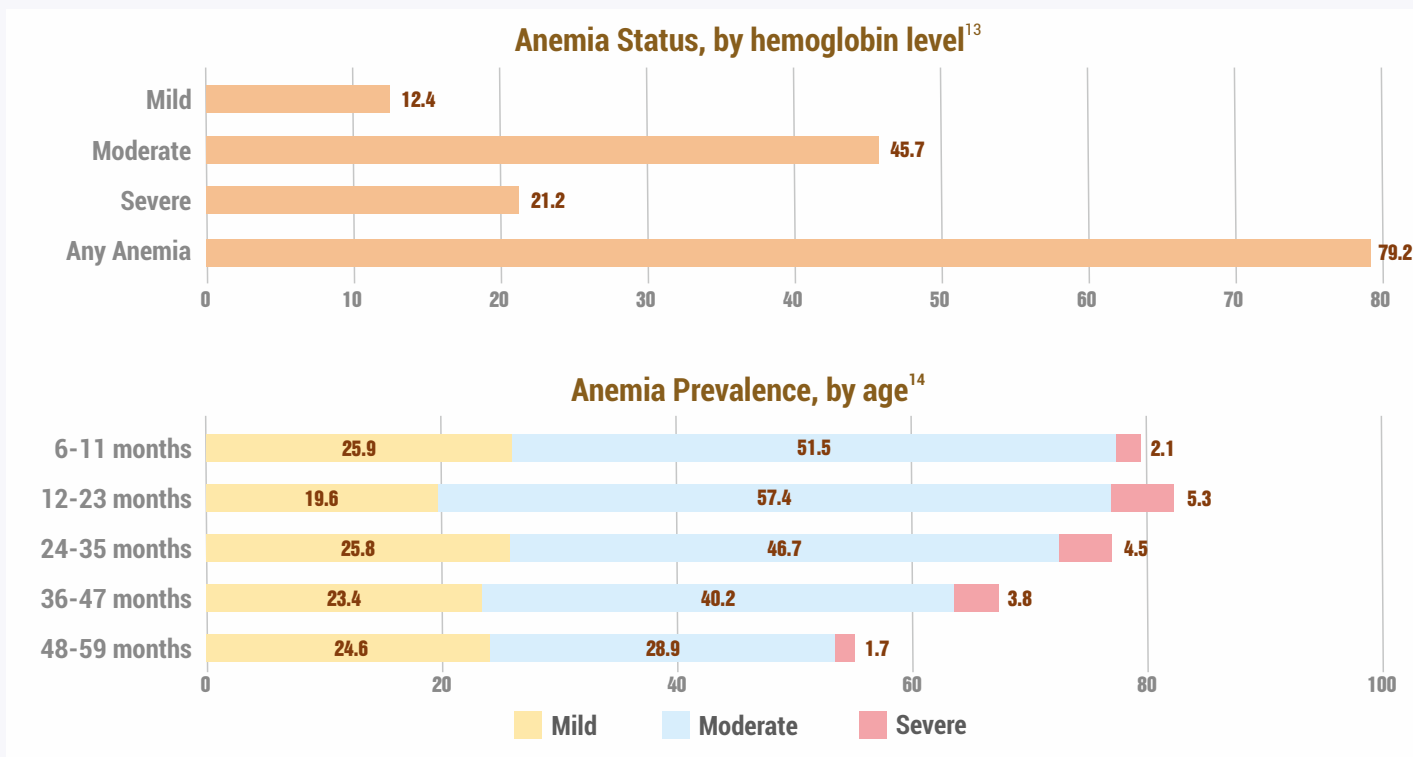


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 49.8% |
|  | Children aged 0-5 months who were exclusively breastfed  | 69.2% |
|   | Children aged 6-8 months who were fed complementary foods  | 40.1% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 24.1% |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 17.8% |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 8%    |
| Had fever in 15 days prior to survey   | 13.6% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 6.9%  |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

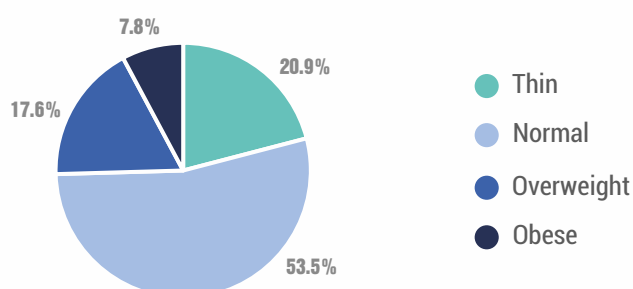
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



**64%**

Women aged 15-49 years are anemic

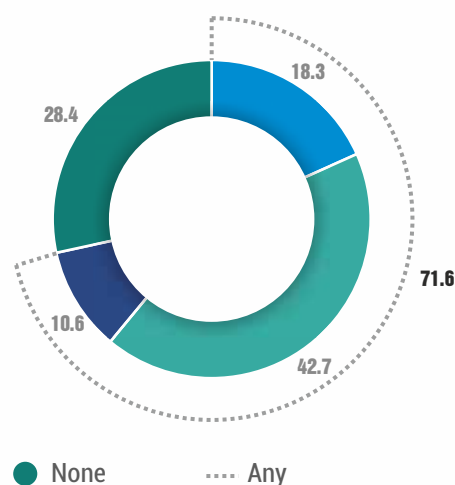
**8.1%**

Women aged 15-49 years are severely anemic

<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]

### C.2. PREGNANT WOMEN<sup>16</sup>

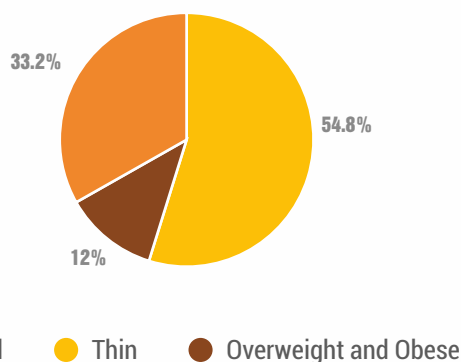
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**68.3%**

Adolescent girls aged 15-19 years are anemic<sup>17a</sup>

**3.1%**

Adolescent girls aged 15-19 years are severely anemic<sup>17a</sup>

● Normal ● Thin ● Overweight and Obese

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **28.9%**



**29.3%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **20.4** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.5** | **0.5** National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **36.2%**

Currently married women who make decisions about<sup>23</sup>:



**19.7%** Own healthcare



**13.6%** Major household purchase



**29.2%** Purchases for daily household needs



**10.2%** Visits to her family/friends/relatives



**36.8%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**77.1%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



85.2%

Households with access to improved sources of drinking water<sup>E, 24</sup>

52.2%

Households using improved sanitation facility<sup>F, 24</sup>



39.5%

Households practicing open defecation<sup>24</sup>

90.1 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



4%

Growth rate of agriculture from 2007-2012<sup>26</sup>



7.1%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

RURAL

URBAN

2365

2233

2281

2206

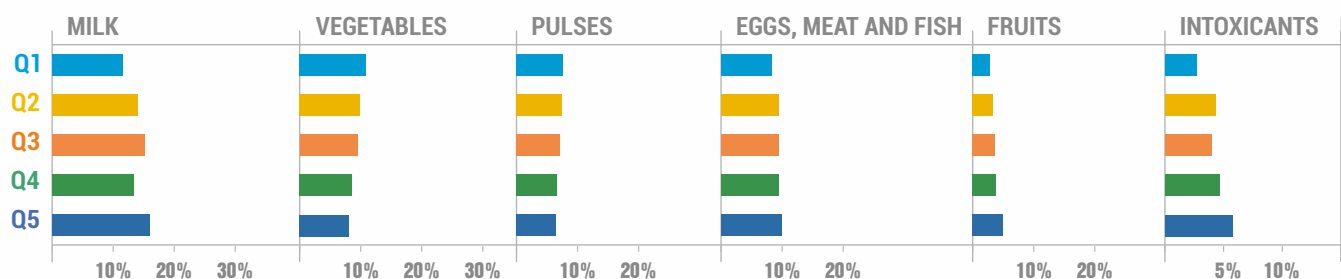
ANDHRA PRADESH

INDIA AVG

ANDHRA PRADESH

INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 65.3% |
| Children 36-71 months | 52.4% |
| Pregnant women        | 78.3% |
| Lactating mothers     | 60.1% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 24.6% |
| Children aged 36-71 months | 28.7% |
| Pregnant women             | 29.9% |
| Lactating women            | 22.3% |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



76.9%

Received 3 or more antenatal checkups prior to delivery



97.1%

Received 2 or more TT injections prior to delivery



47%

Consumed 100 or more IFA tablets/syrup during pregnancy



91.1%

Had Institutional delivery



93.3%

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



74.8% Rural

72.2% Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



2.3%

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



71.6%  
Breastfeeding



58.4%  
Nutrition of mother and child



47.2%  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 9.5%     |
| AWWs living in the AWC village/ward  | 86.4%    |
| AWWs having 10 or more years of schooling  | 92.2%    |
| Median age of AWWs   | 36 years |
| AWCs serving to population more than the stipulated norm                           | 57.1%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 79.2% |
| AWCs having functional adult weighing scale | 72.1% |
| Available WHO growth chart at AWCs          | 92.7% |

<sup>H</sup> Number of AWCs surveyed for Andhra Pradesh as per RSoC 2014 is 212.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-4, 2012-13

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 98%   |
| AWWs having correct knowledge of normal birth weight of children                    | 75%   |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 99.5% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 100%  |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 54.6% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 100%              |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 796 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0%                |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 183            | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 135.1          | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 18.2           | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 33.3% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 71.4% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 83.5% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 90             | 47               |
| PDS <sup>41</sup>                           | 1186.1         | 475.3            |
| MGNREGA <sup>42</sup>                       | 854            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lq/15/15/as216.htm](http://164.100.47.132/Annexure_New/lq/15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

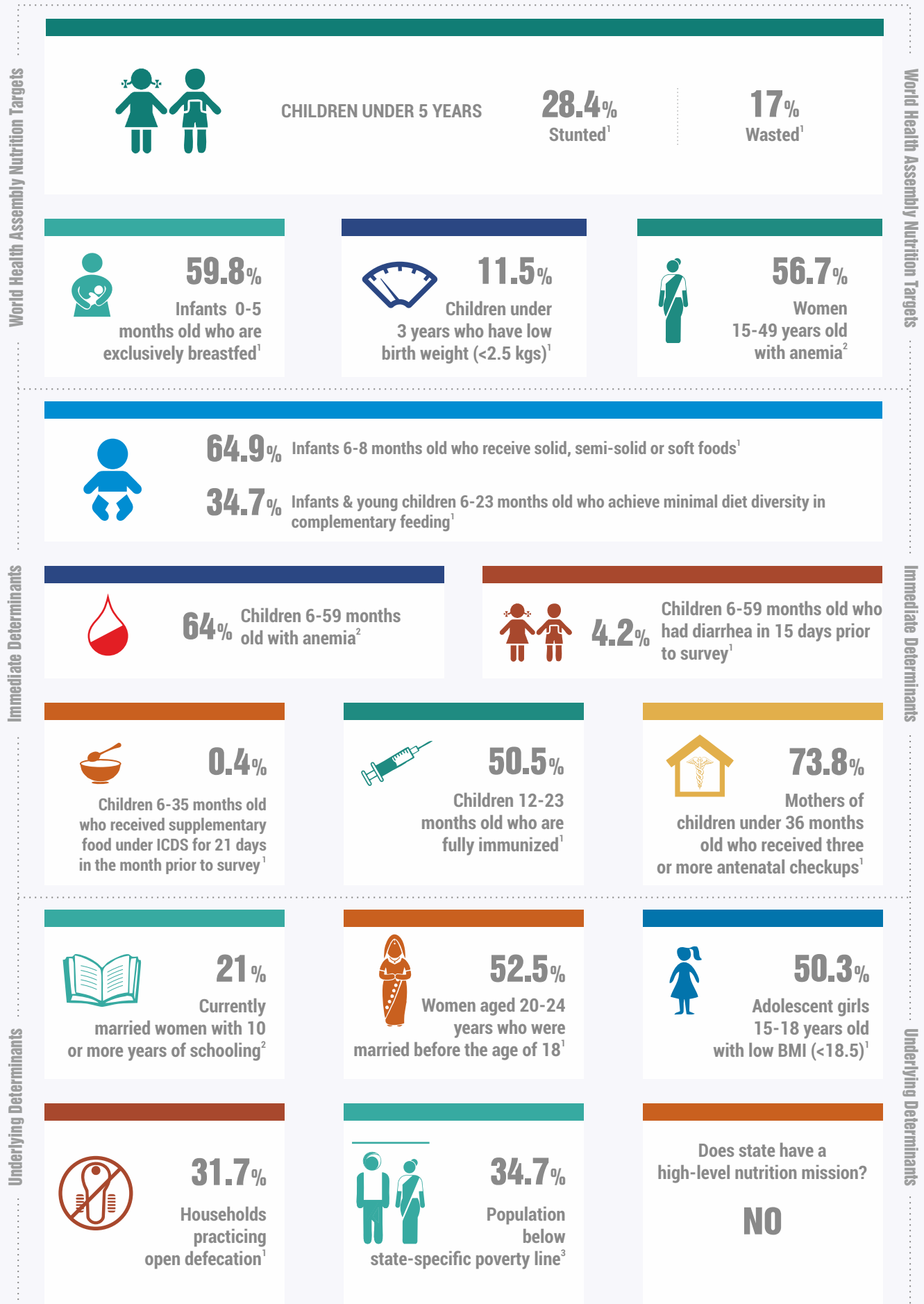
<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13



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## FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN ARUNACHAL PRADESH

<sup>1</sup> Source : RSoC, 2014<sup>2</sup> Source : DLHS4, 2012-13<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

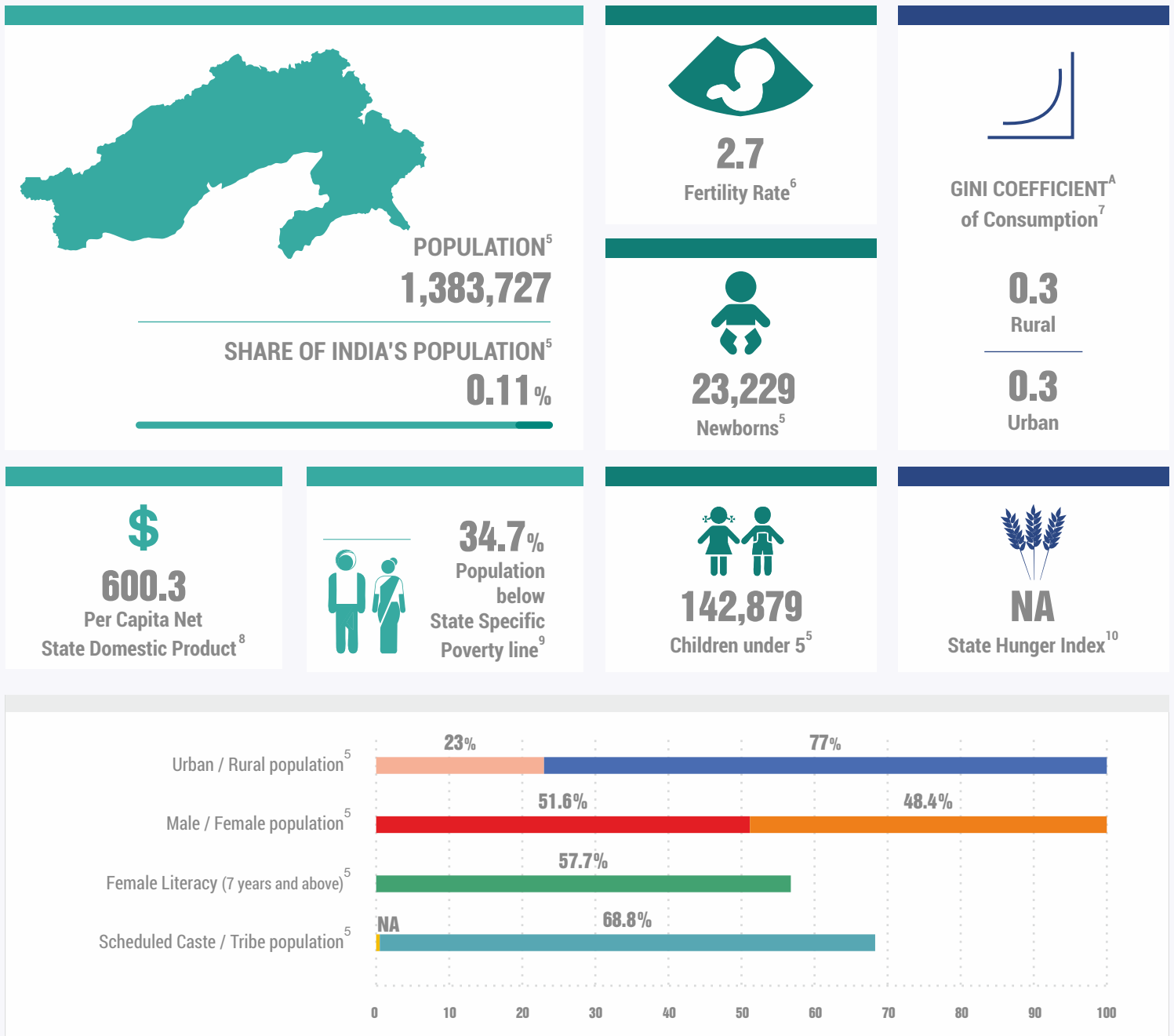


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# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2009

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

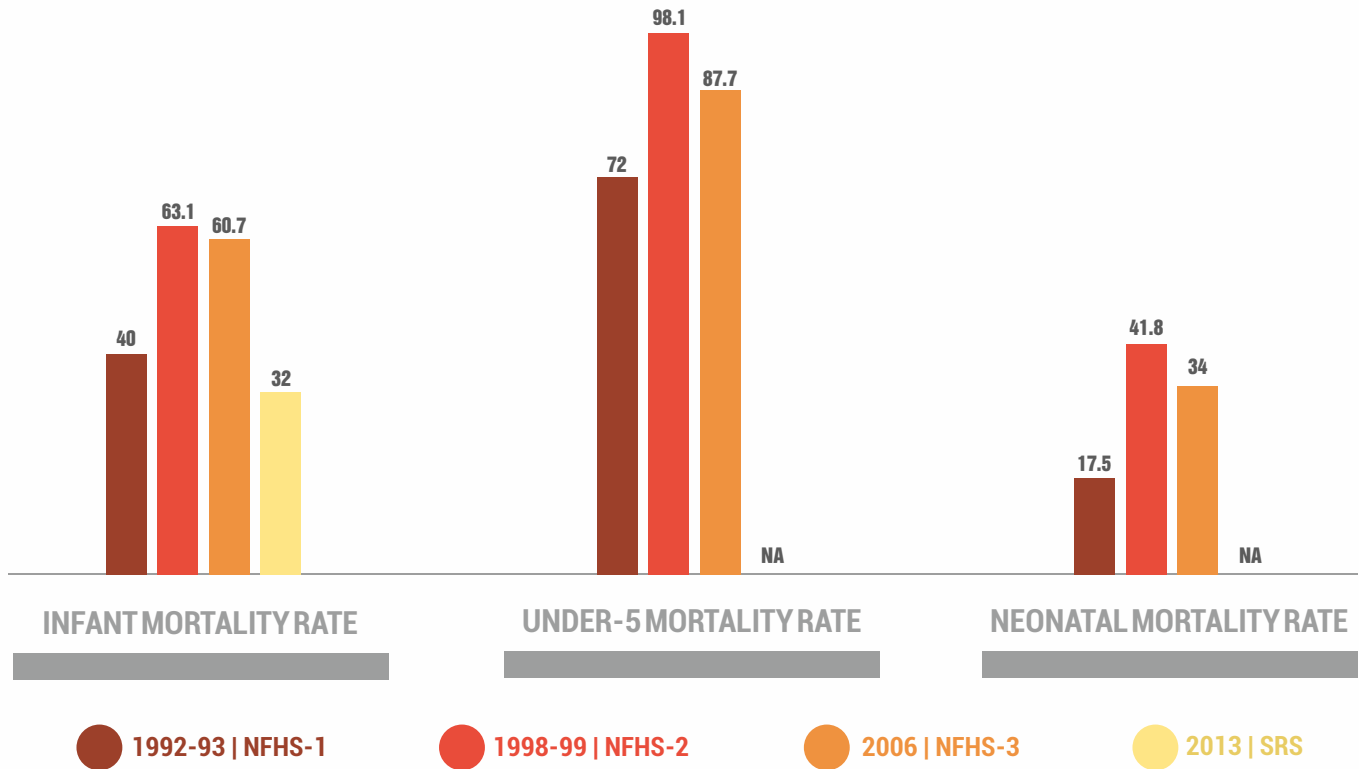
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

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## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

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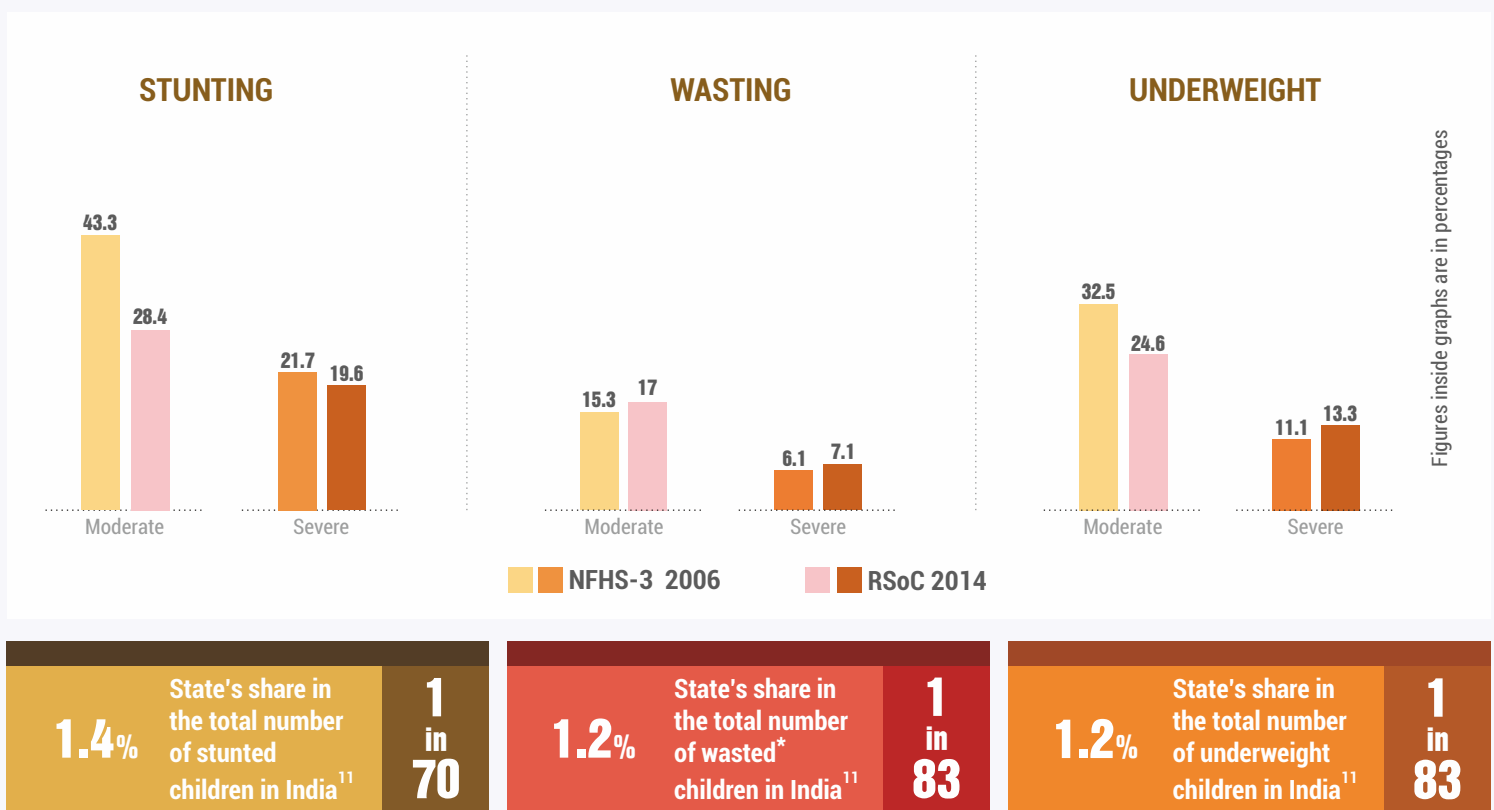
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

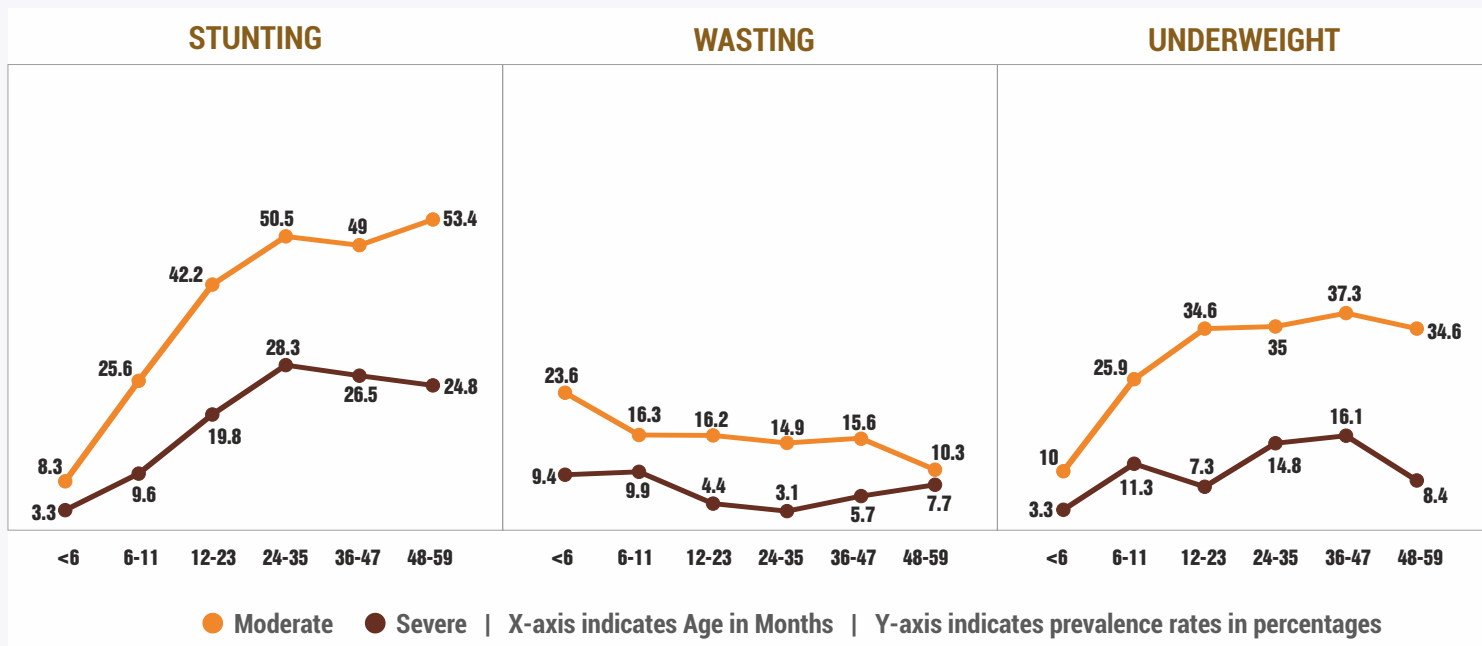


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

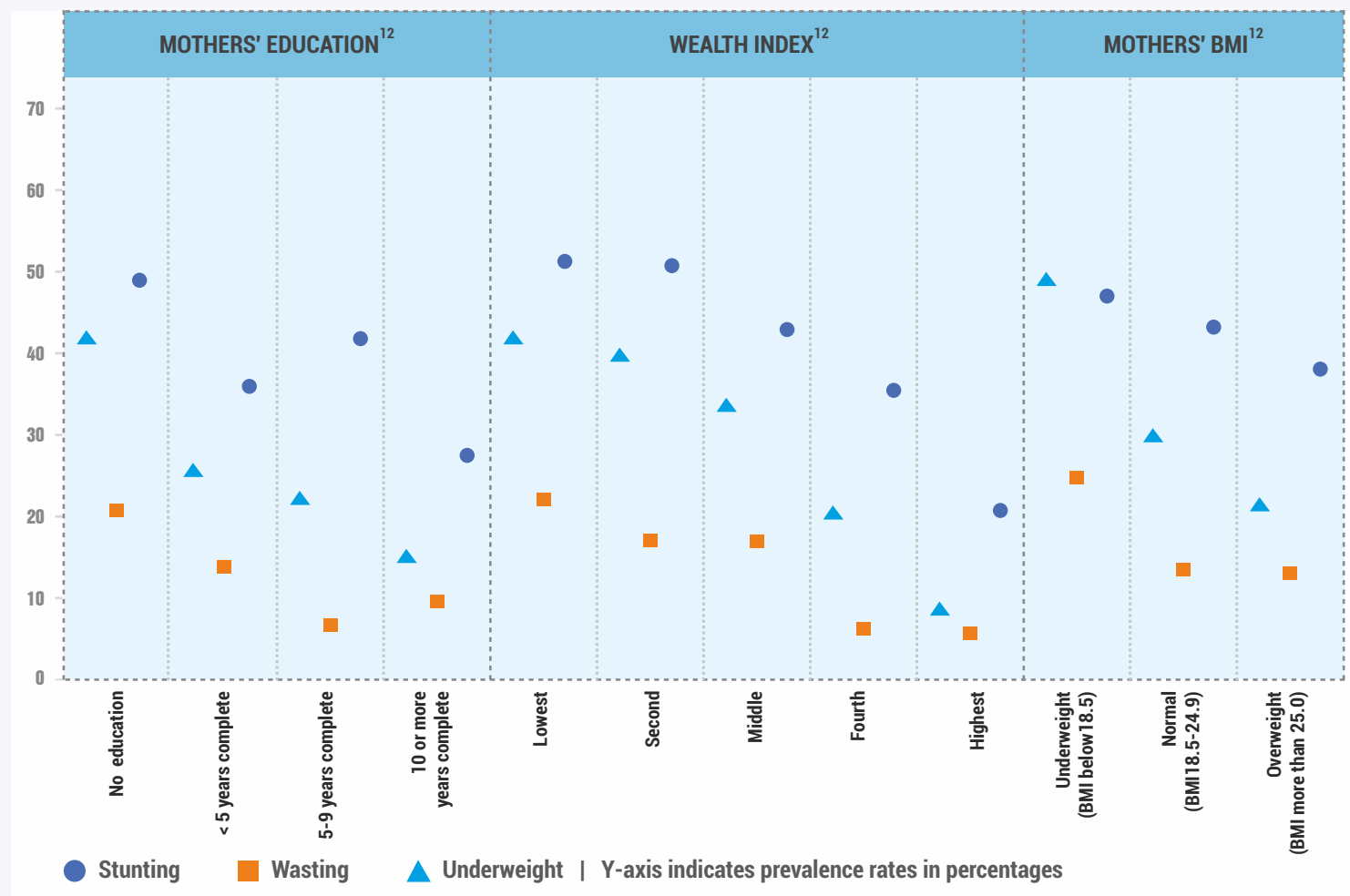
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



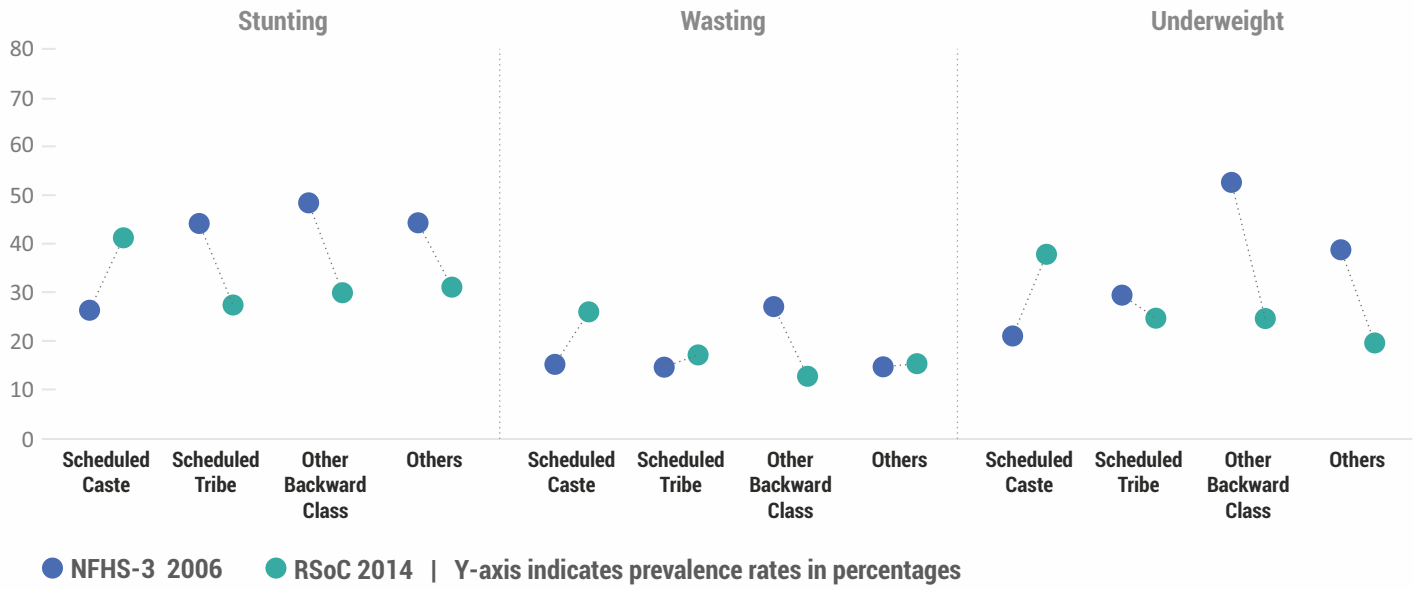
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

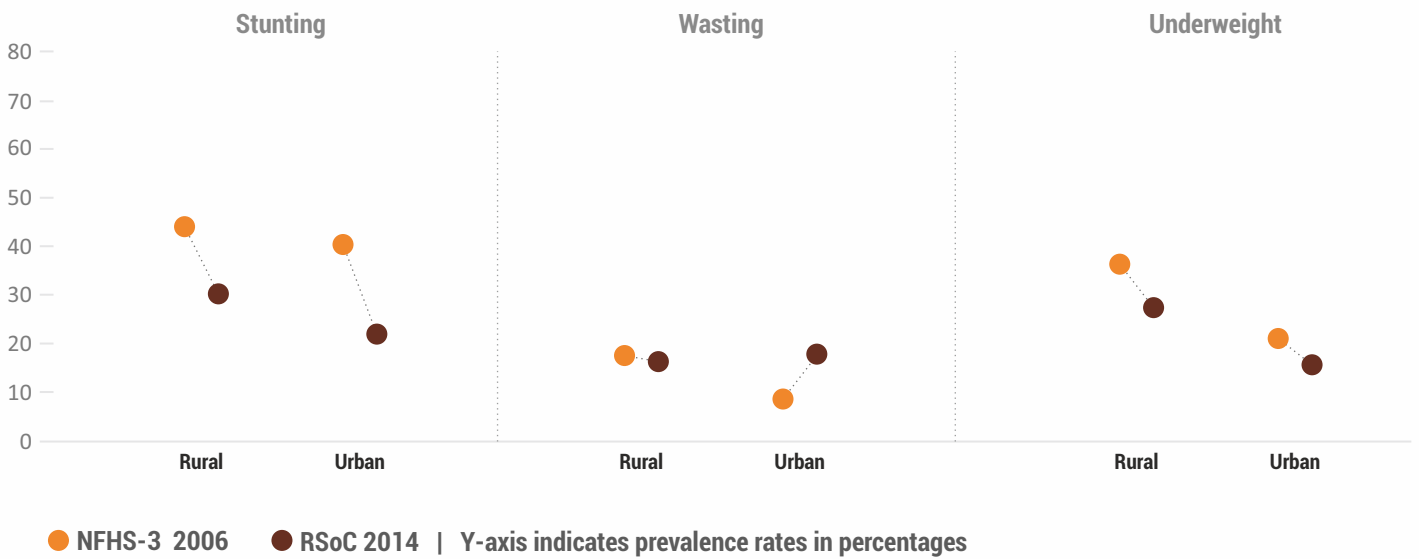


<sup>12</sup> Source : NFHS-3, 2006

CASTE

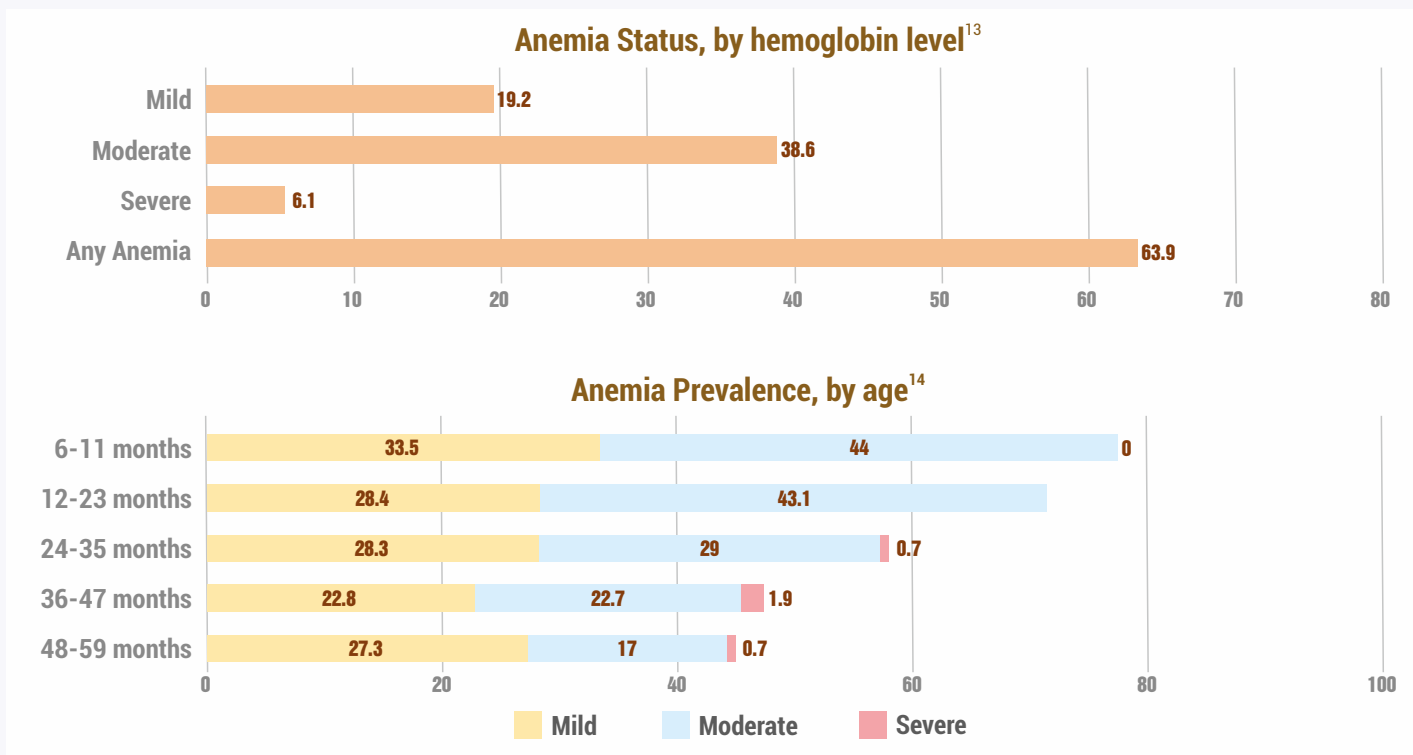


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|  |       |
|--|-------|
| Children aged 0-23 months breastfed immediately/within an hour of birth  | 66.5% |
|  Children aged 0-5 months who were exclusively breastfed  | 59.8% |
| Children aged 6-8 months who were fed complementary foods  | 64.9% |
| For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 41.2% |
| B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 34.7% |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |      |
|--|------|
| Had diarrhea in 15 days prior to survey                                      | 4.2% |
| Had fever in 15 days prior to survey   | 9.3% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 3.1% |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

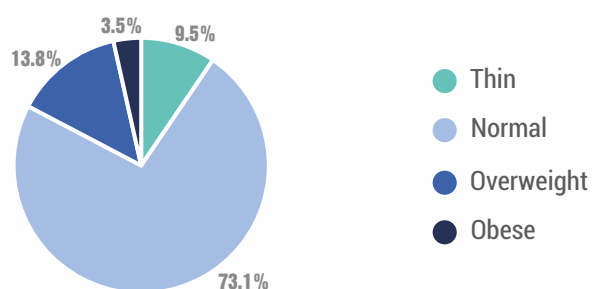
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**56.7%**

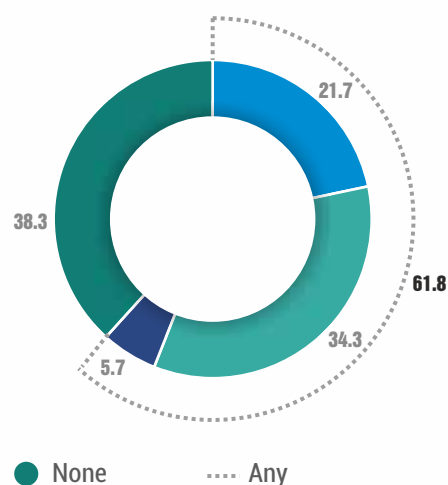
Women aged 15-49 years are anemic

**4.1%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

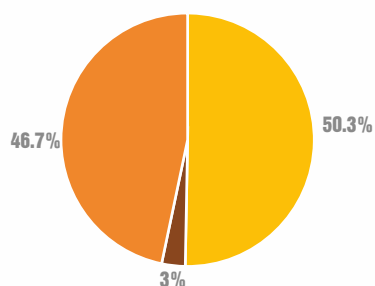
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



● Normal ● Thin ● Overweight and Obese



**51.2%**

Adolescent girls aged 15-19 years are anemic<sup>17a</sup>

**1.2%**

Adolescent girls aged 15-19 years are severely anemic<sup>17a</sup>

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **21%**



**52.5%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **22.3** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.5** | **0.5** National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **35.4%**

Currently married women who make decisions about<sup>23</sup>:



**27.9%** Own healthcare



**19.6%** Major household purchase



**59.4%** Purchases for daily household needs



**30.9%** Visits to her family/friends/relatives



**43.0%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**70.8%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



96.7%

Households with access to improved sources of drinking water<sup>E, 24</sup>

55.1%

Households using improved sanitation facility<sup>F, 24</sup>



31.7%

Households practicing open defecation<sup>24</sup>

0.2 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



2.8%

Growth rate of agriculture from 2007-2012<sup>26</sup>



0.1%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

**RURAL**

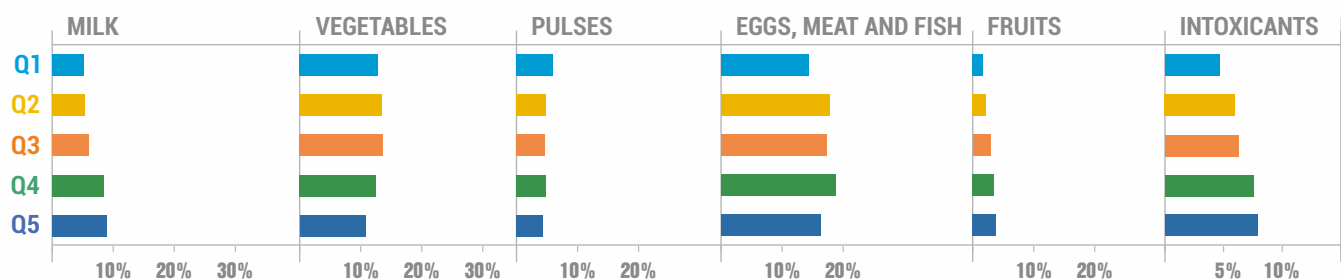
**URBAN**

NA 2233

NA 2206

ARUNACHAL PRADESH INDIA AVG ARUNACHAL PRADESH INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 51.1% |
| Children 36-71 months | 63.2% |
| Pregnant women        | 20.6% |
| Lactating mothers     | 25.9% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |      |
|----------------------------|------|
| Children aged 6-35 months  | 0.4% |
| Children aged 36-71 months | 1.1% |
| Pregnant women             | NA   |
| Lactating women            | 0%   |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**73.8%**

Received 3 or more antenatal checkups prior to delivery



**77.5%**

Received 2 or more TT injections prior to delivery



**27.7%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**63.7%**

Had Institutional delivery



**65.4%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**47%** Rural  
**62.5%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**9%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



**45.3%**  
Breastfeeding



**32.5%**  
Nutrition of mother and child



**26.4%**  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value           |
|--|-----------------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | <b>3.2%</b>     |
| AWWs living in the AWC village/ward  | <b>92.9%</b>    |
| AWWs having 10 or more years of schooling  | <b>31.6%</b>    |
| Median age of AWWs   | <b>32 years</b> |
| AWCs serving to population more than the stipulated norm                           | <b>0.2%</b>     |

| Growth Monitoring <sup>30</sup>             | Value        |
|---|--------------|
| AWCs having functional baby weighing scale  | <b>64.5%</b> |
| AWCs having functional adult weighing scale | <b>9.6%</b>  |
| Available WHO growth chart at AWCs          | <b>47.1%</b> |

<sup>H</sup> Number of AWCs surveyed for Arunachal Pradesh as per RSoC 2014 is 131.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-4, 2012-13

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 58.7% |
| AWWs having correct knowledge of normal birth weight of children                    | 59.5% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 96.1% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 92%   |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 71%   |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 97%               |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 918 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | NA                |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 21             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 8.9            | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 2.4            | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 3.9%  |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 51.5% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 92%   |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 5              | 47               |
| PDS <sup>41</sup>                           | 40.3           | 475.3            |
| MGNREGA <sup>42</sup>                       | 9              | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lq15/15/as216.htm](http://164.100.47.132/Annexure_New/lq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13



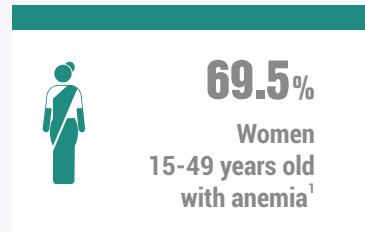
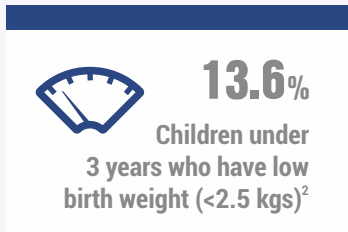
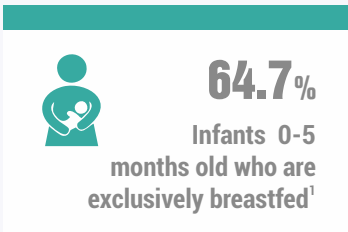
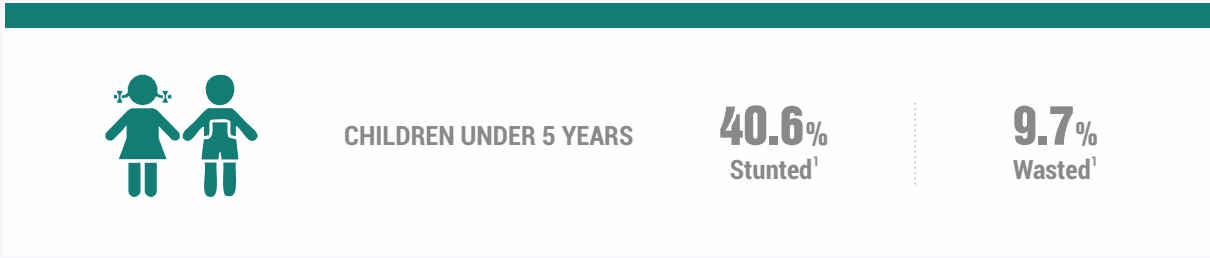
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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN ASSAM

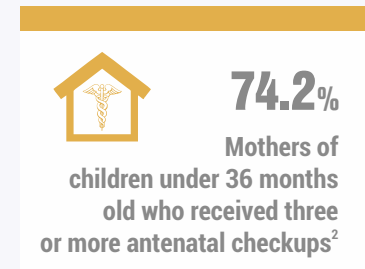
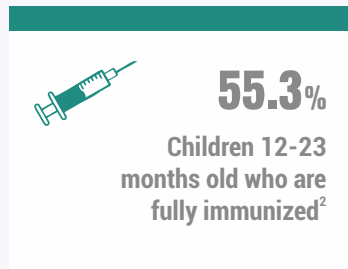
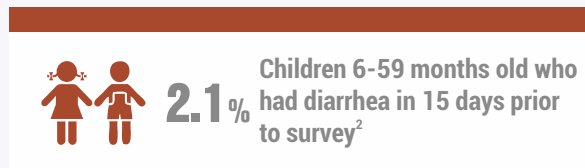
World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



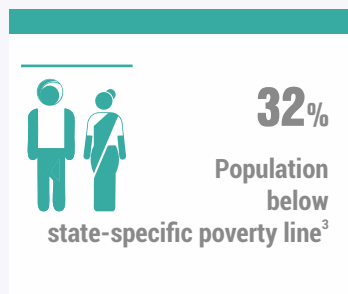
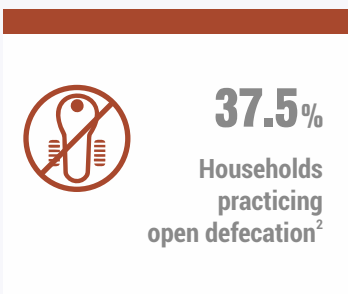
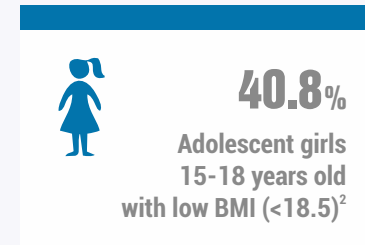
Immediate Determinants

Immediate Determinants



Underlying Determinants

Underlying Determinants

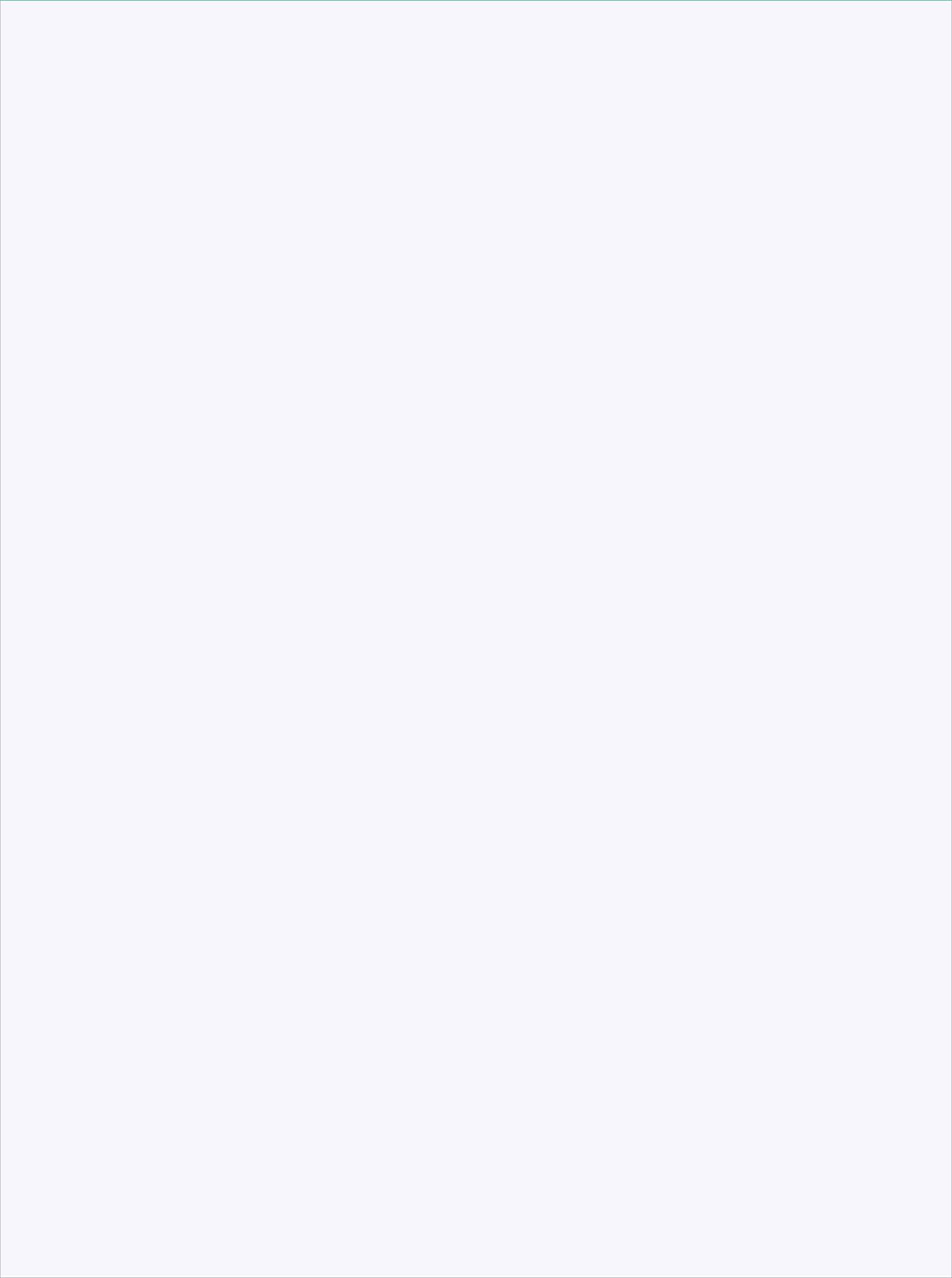


<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : NFHS-3, 2006

<sup>3</sup> Source : DLHS-3, 2007-08

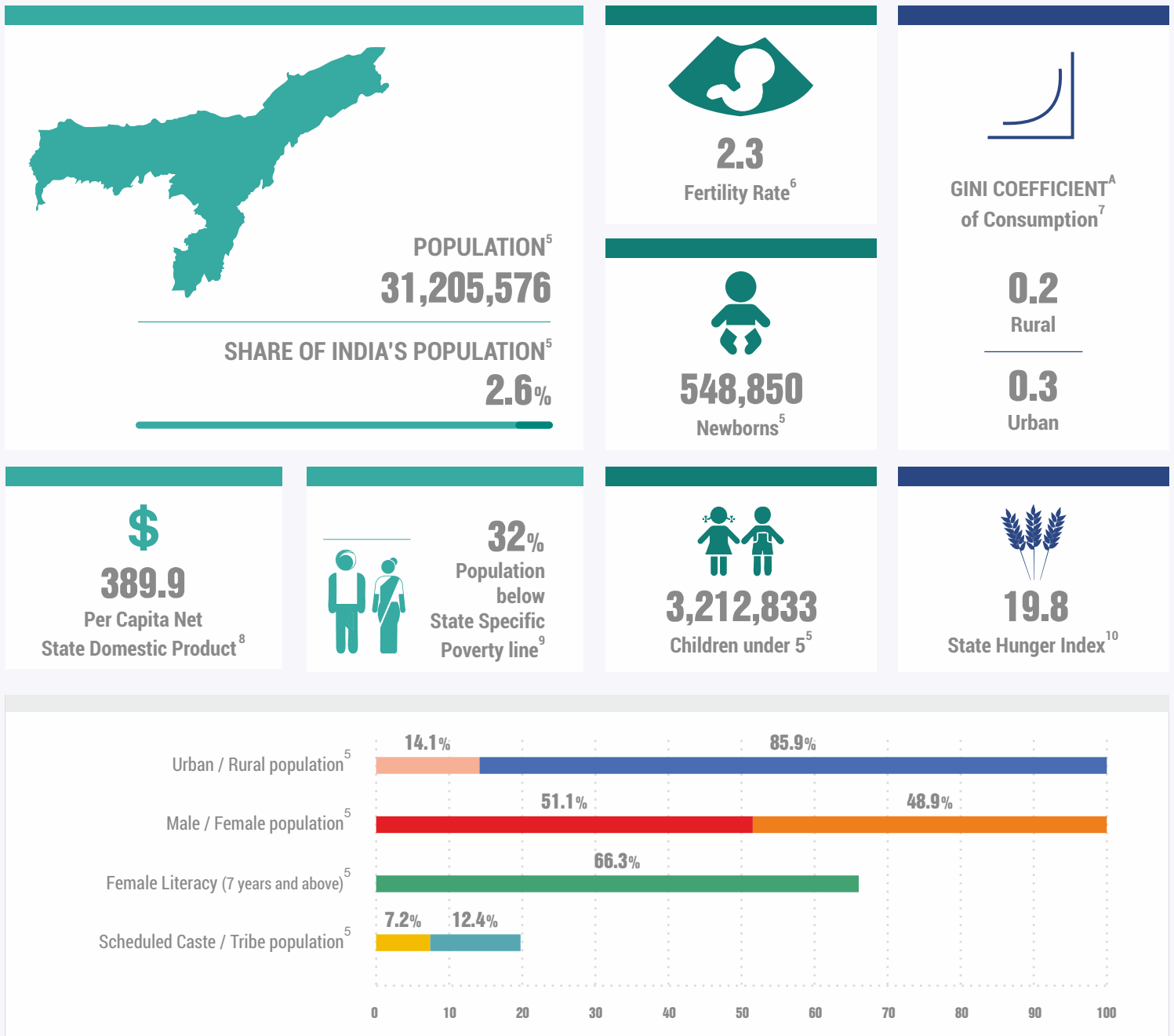
<sup>4</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India



## I. CONTEXT

### A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

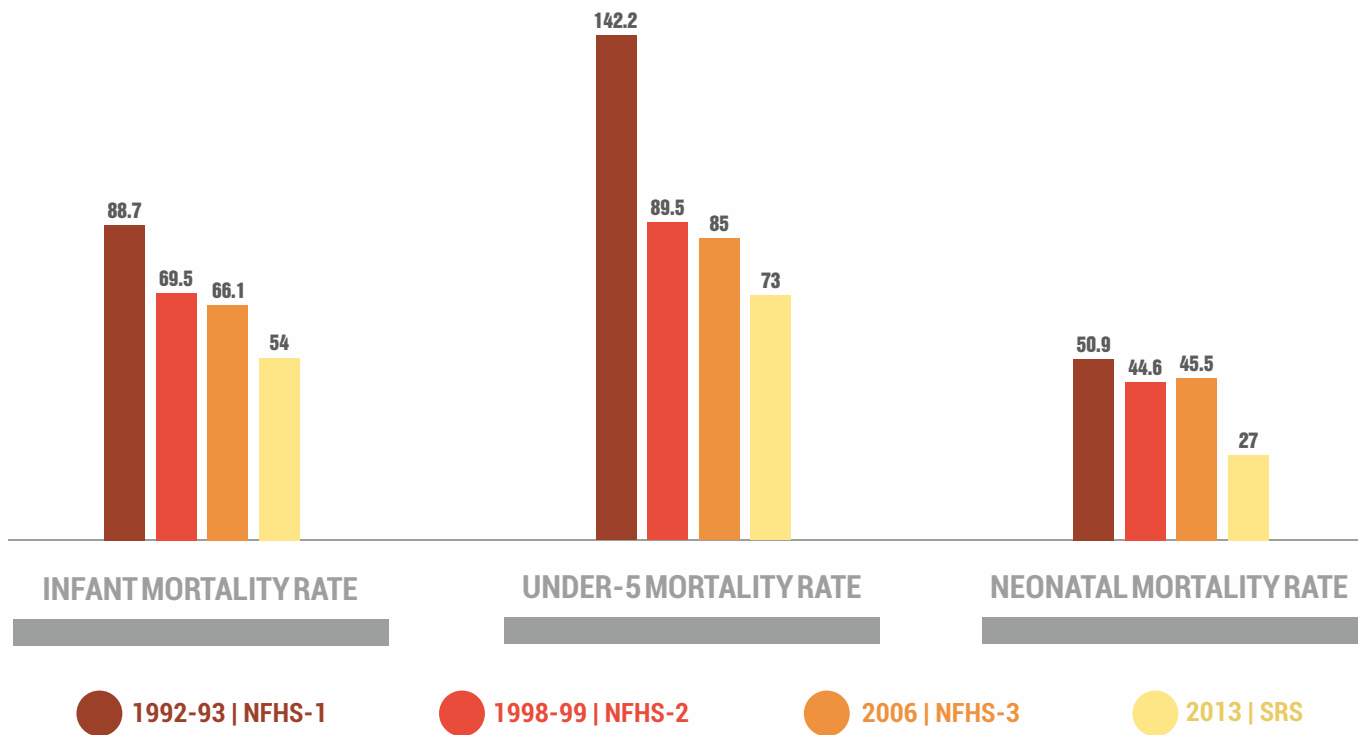
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14.; [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

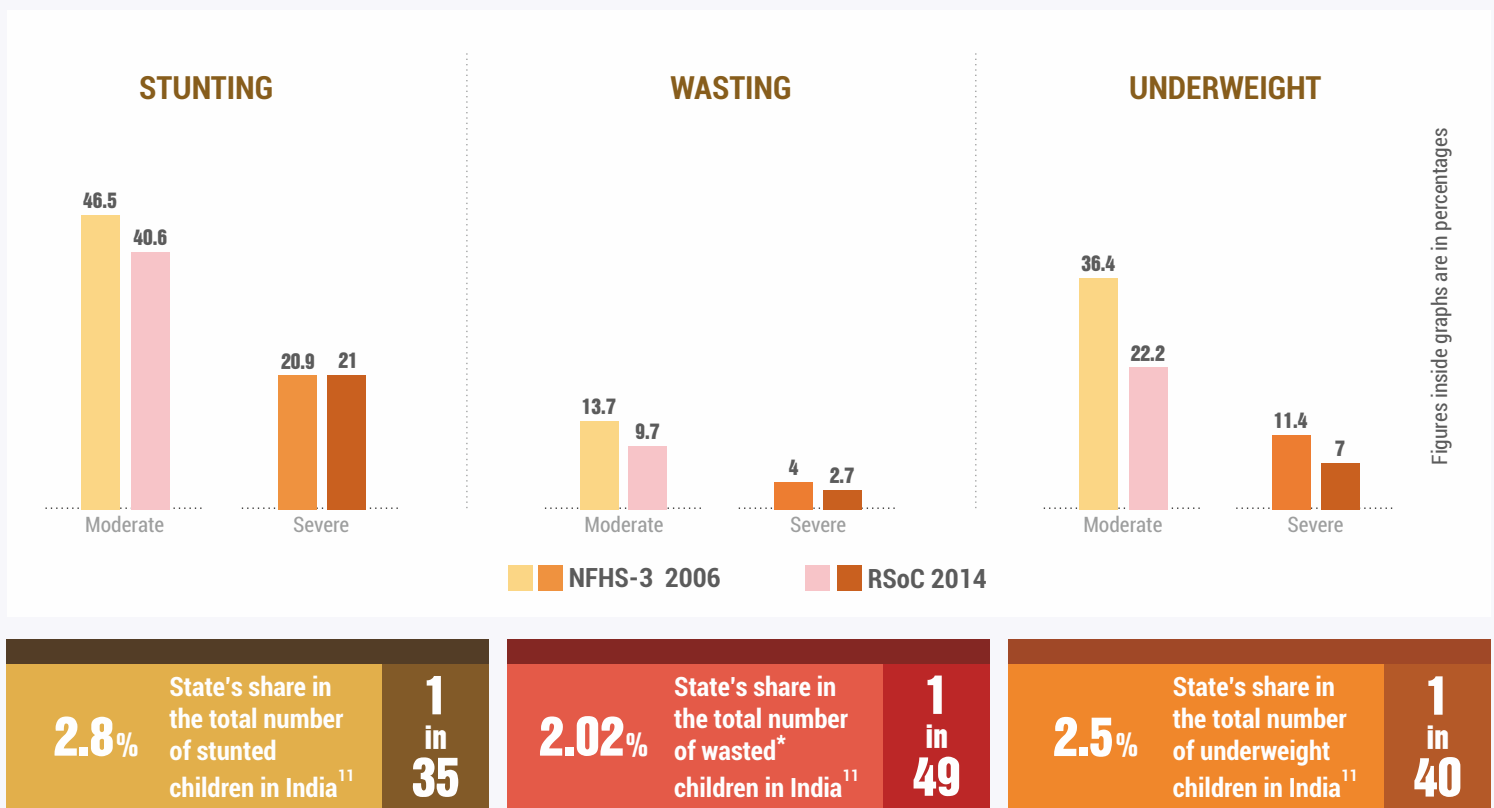
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

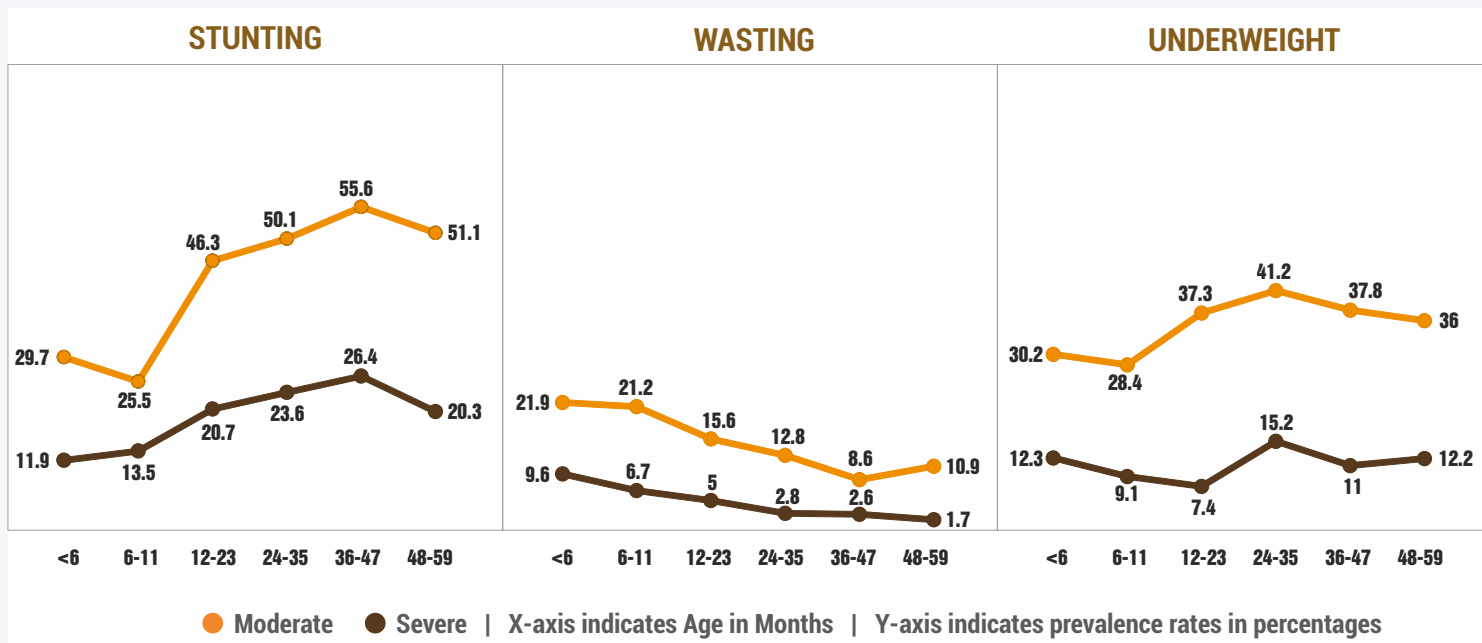


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

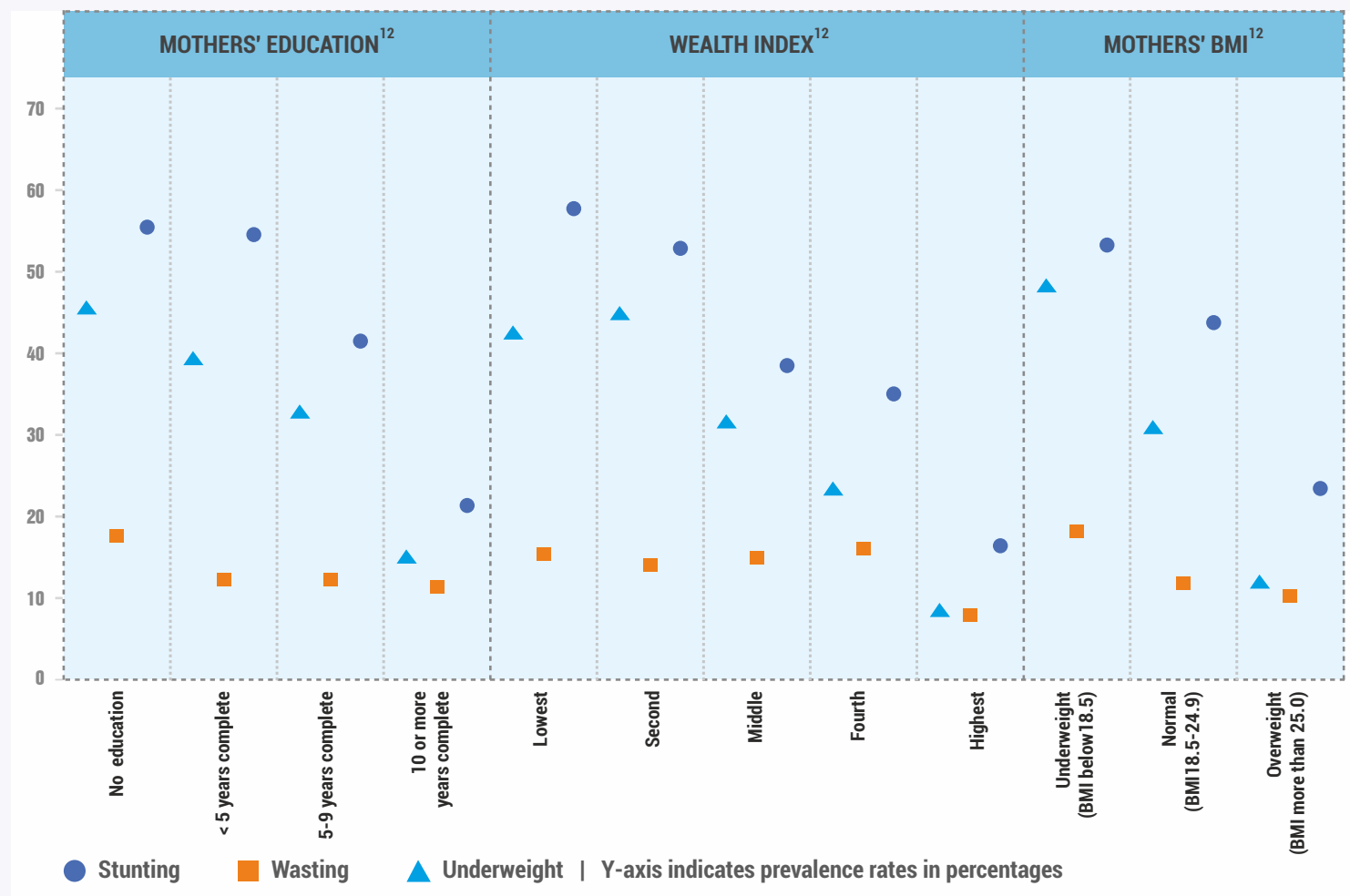
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



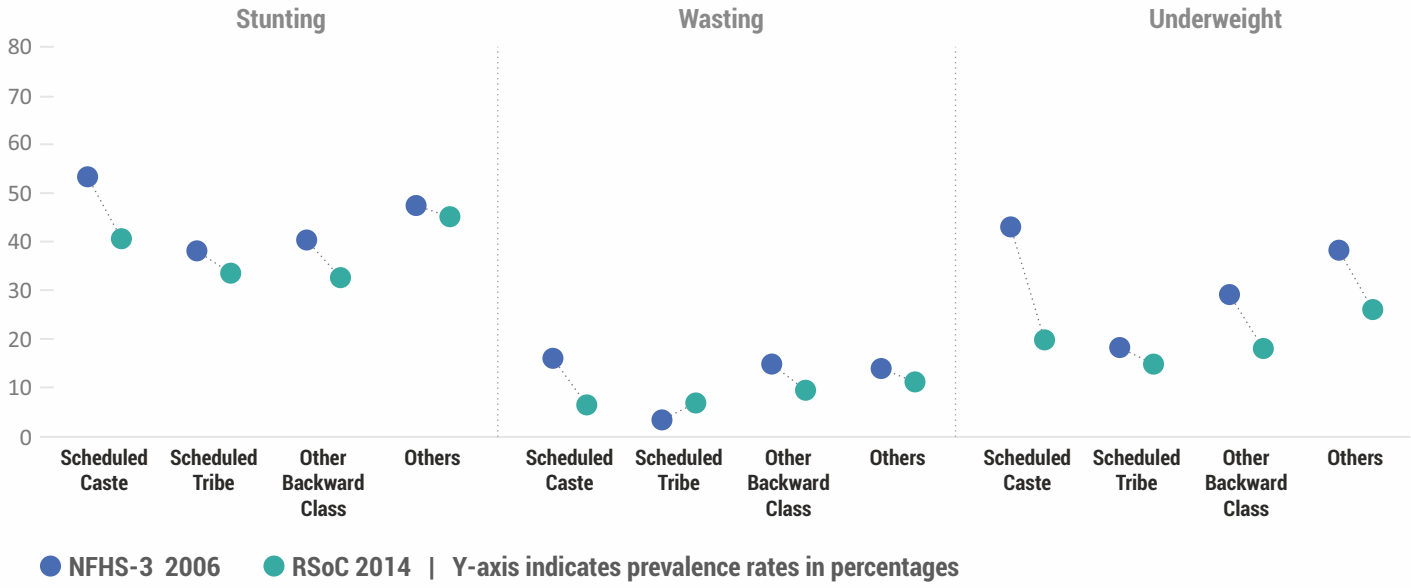
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

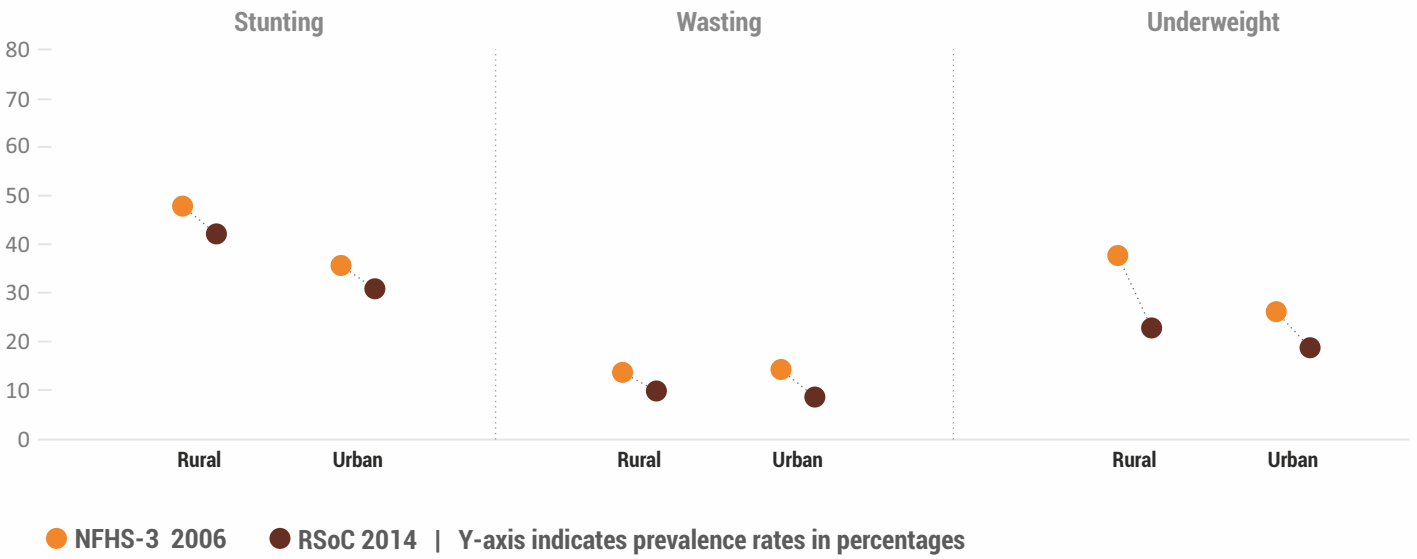


<sup>12</sup> Source : NFHS-3, 2006

CASTE

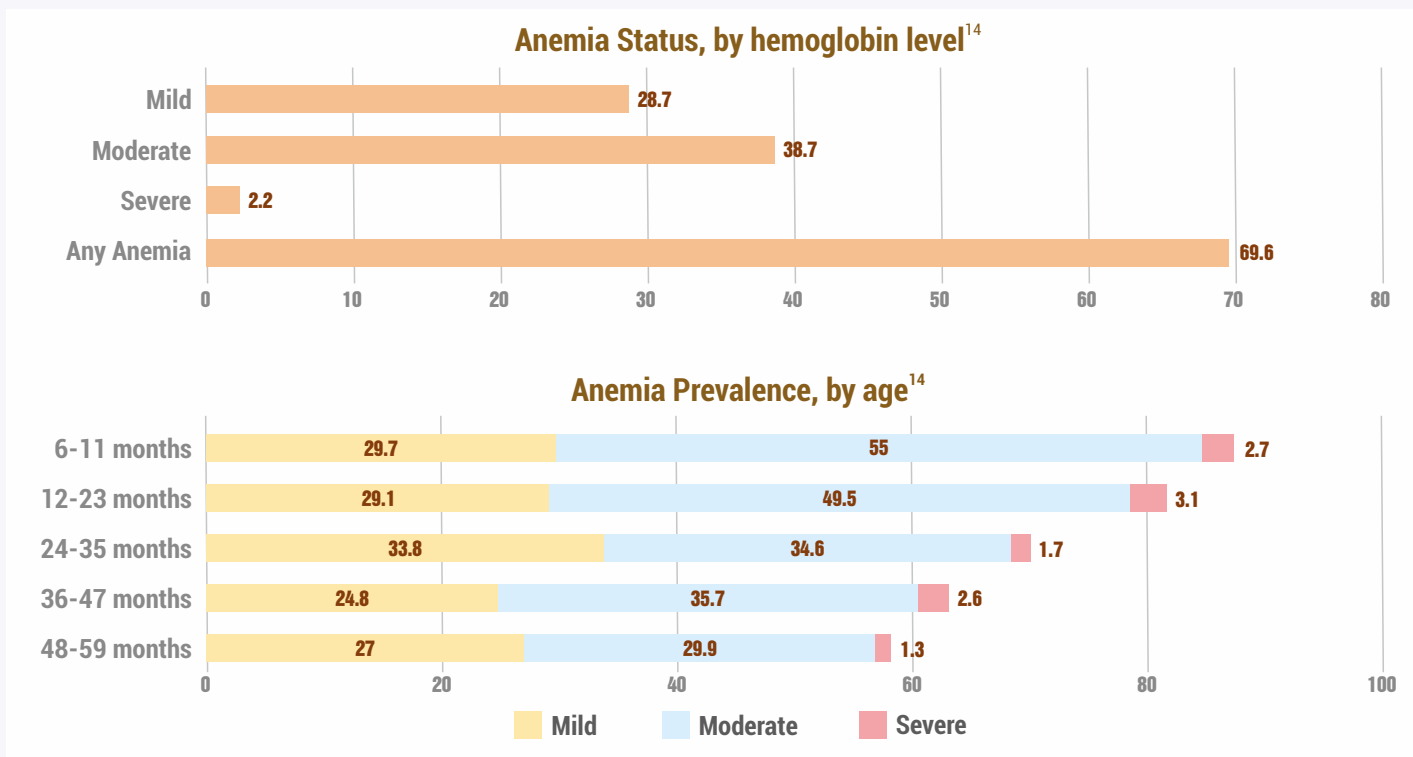


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.




<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 72.9% |
|  | Children aged 0-5 months who were exclusively breastfed  | 64.7% |
|   | Children aged 6-8 months who were fed complementary foods  | 76.1% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 25.6% |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 17.8% |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 2.1%  |
| Had fever in 15 days prior to survey   | 10.4% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 4.3%  |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

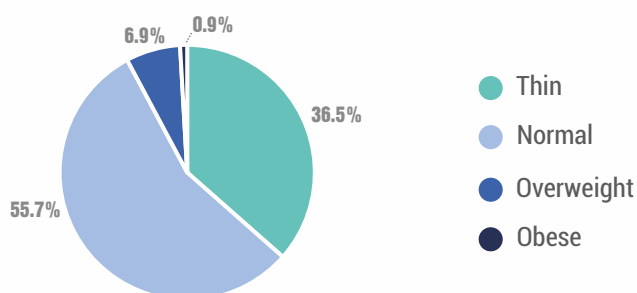
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



**69.5%**

Women aged 15-49 years are anemic

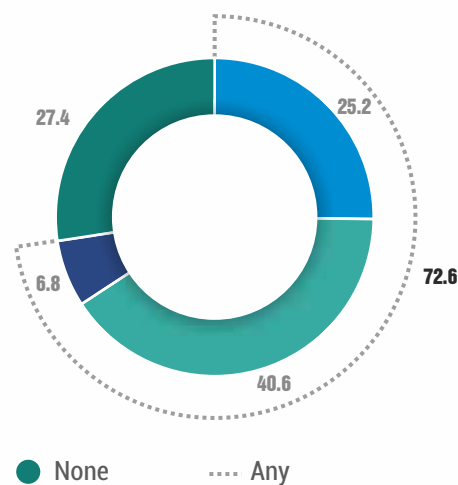
**3.4%**

Women aged 15-49 years are severely anemic

<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]

### C.2. PREGNANT WOMEN<sup>16</sup>

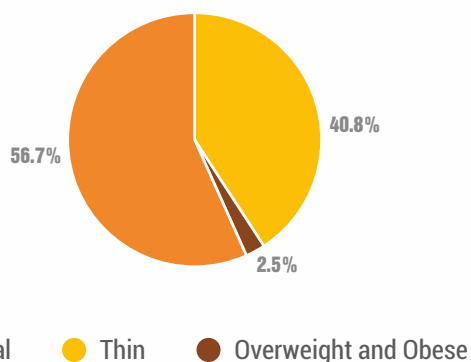
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**67.8%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**3.3%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

● Normal ● Thin ● Overweight and Obese

<sup>16</sup> Source : NFHS-3, 2006

<sup>17</sup> Source : RSoC, 2014

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **18%**



**32.5%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **21.4** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.4**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **22.5%**

Currently married women who make decisions about<sup>23</sup>:



**16.5%** Own healthcare



**5.9%** Major household purchase



**14%** Purchases for daily household needs



**9.1%** Visits to her family/friends/relatives



**42.1%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**43.9%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-3, 2007-08

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



**87.2%**

Households with access to improved sources of drinking water<sup>E, 24</sup>

**42.4%**

Households using improved sanitation facility<sup>F, 24</sup>



**37.5%**

Households practicing open defecation<sup>24</sup>

**42 M**

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



**1,065 M**

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



**2%**

Growth rate of agriculture from 2007-2012<sup>26</sup>



**1.8%**

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

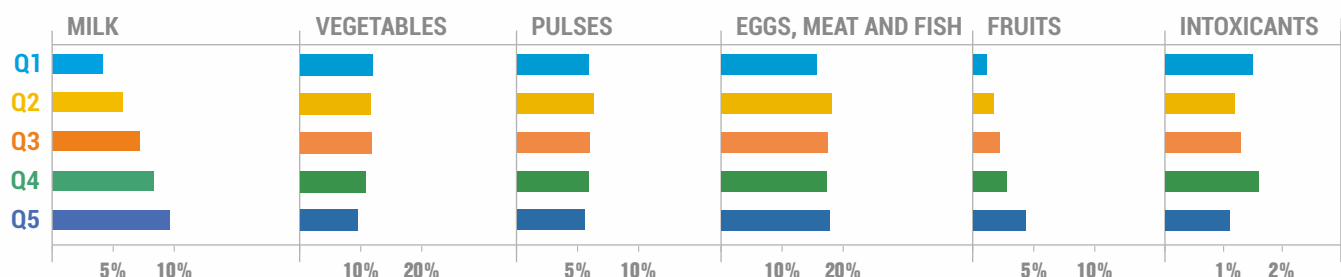
**RURAL**

**2170** | **2233**  
ASSAM | INDIA AVG

**URBAN**

**2110** | **2206**  
ASSAM | INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Loksabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 71.2% |
| Children 36-71 months | 72.9% |
| Pregnant women        | 29.8% |
| Lactating mothers     | 41.4% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |      |
|----------------------------|------|
| Children aged 6-35 months  | 0%   |
| Children aged 36-71 months | 4.7% |
| Pregnant women             | 1.9% |
| Lactating women            | 0%   |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



74.2%

Received 3 or more antenatal checkups prior to delivery



90.2%

Received 2 or more TT injections prior to delivery



27.7%

Consumed 100 or more IFA tablets/syrup during pregnancy



74.2%

Had Institutional delivery



74.9%

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



53.8% Rural  
66.4% Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



6.5%

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



43.4%  
Breastfeeding



35.1%  
Nutrition



41.5%  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 6.5%     |
| AWWs living in the AWC village/ward  | 85.9%    |
| AWWs having 10 or more years of schooling  | 92.2%    |
| Median age of AWWs   | 35 years |
| AWCs serving to population more than the stipulated norm                           | 17.6%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 68.7% |
| AWCs having functional adult weighing scale | 6.3%  |
| Available WHO growth chart at AWCs          | 88.3% |

<sup>H</sup> Number of AWCs surveyed for Assam as per RSoC 2014 is 151.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS 3, 2007-08

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 84.1% |
| AWWs having correct knowledge of normal birth weight of children                    | 74.5% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 96%   |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 78%   |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 72.6% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 98%               |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 918 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | NA                |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 150            | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 143.2          | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 54             | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 42.1% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 50.3% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 73.7% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 76             | 47               |
| PDS <sup>41</sup>                           | 714.1          | 475.3            |
| MGNREGA <sup>42</sup>                       | 109            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13



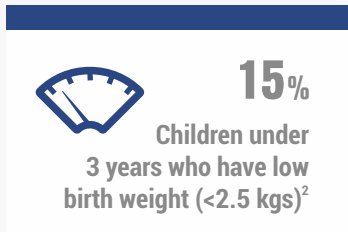
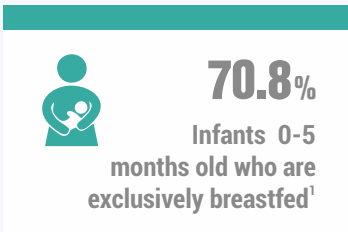
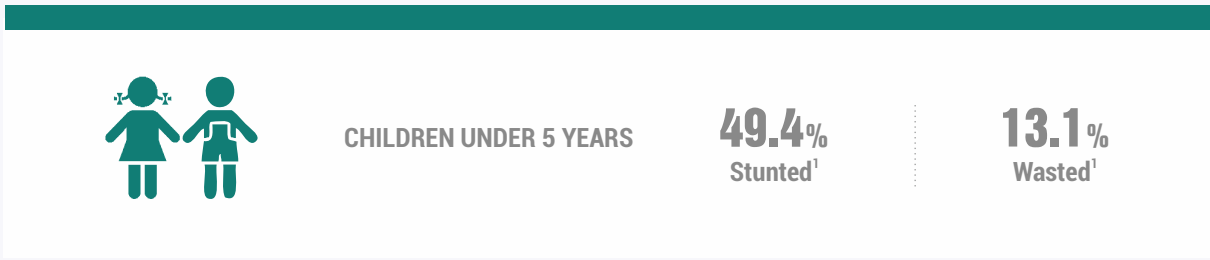
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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN BIHAR

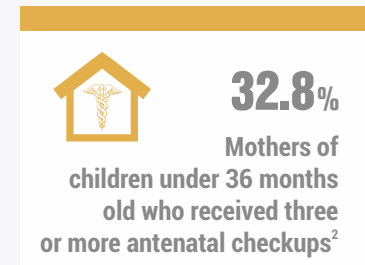
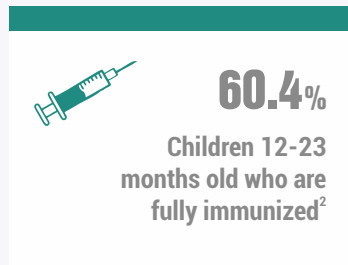
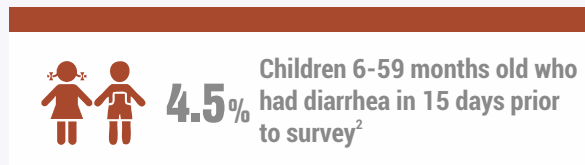
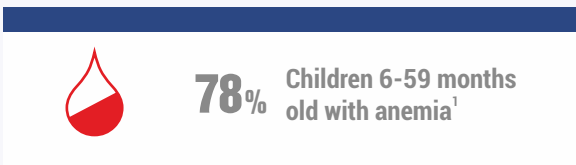
World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



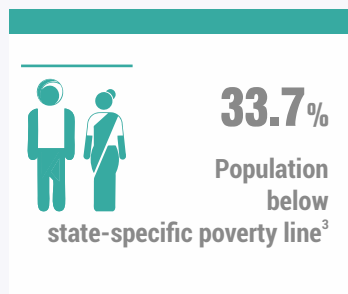
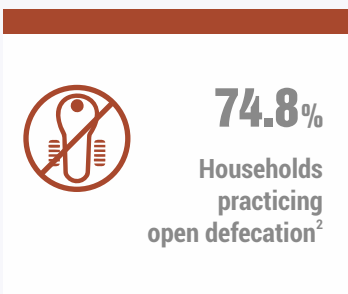
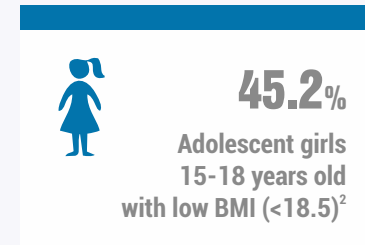
Immediate Determinants

Immediate Determinants



Underlying Determinants

Underlying Determinants



<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : NFHS-3, 2006

<sup>3</sup> Source : DLHS-3, 2007-08

<sup>4</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

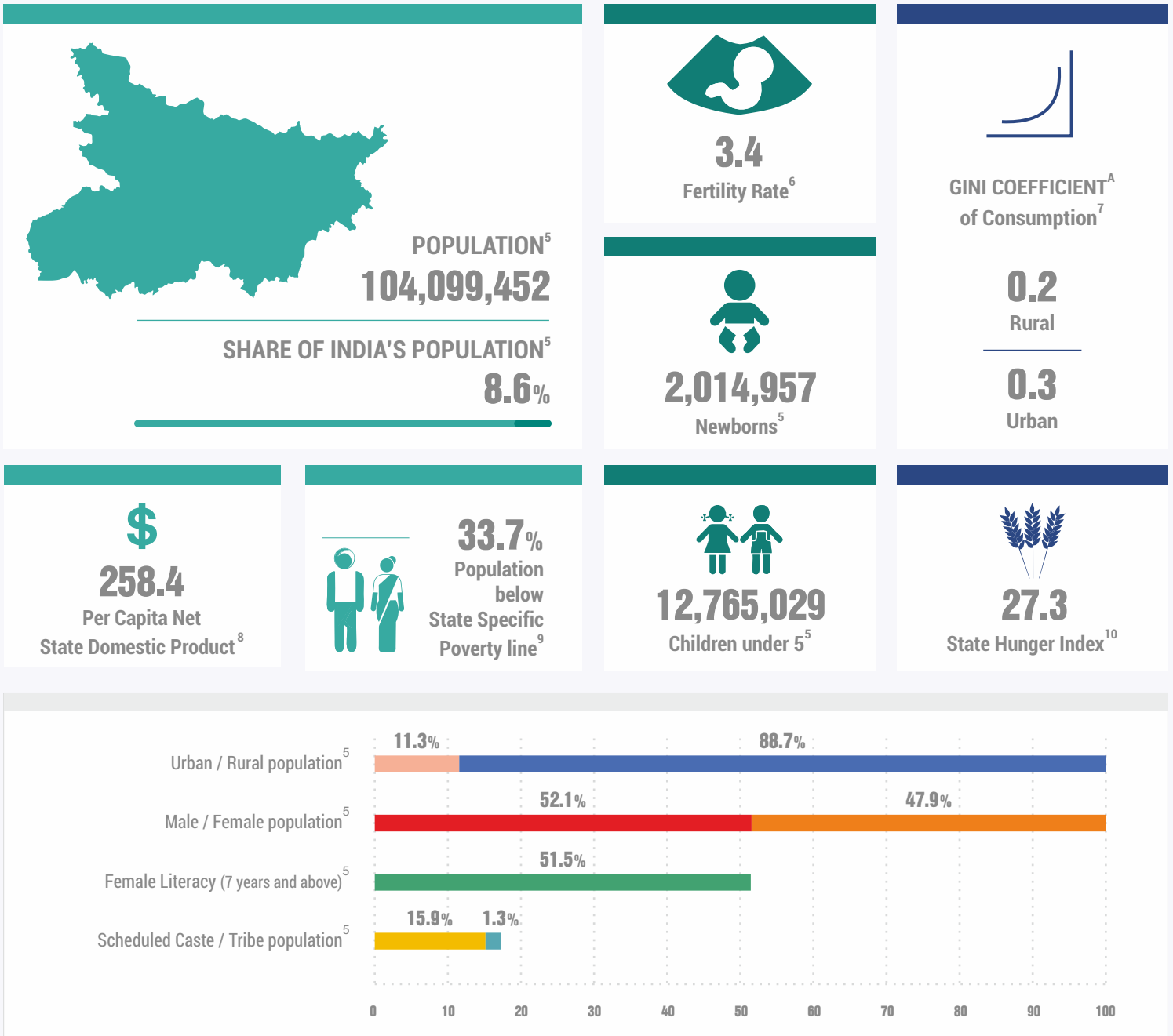


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# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

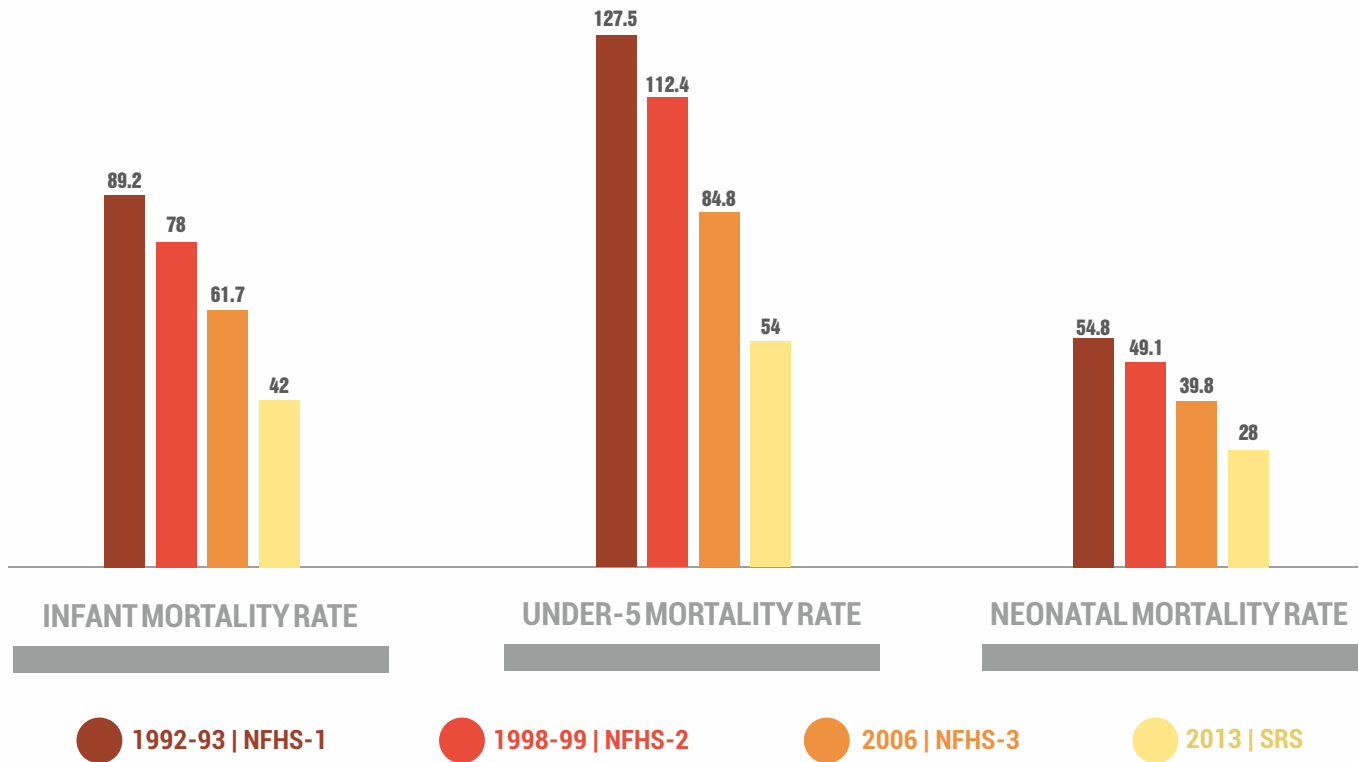
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14; [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

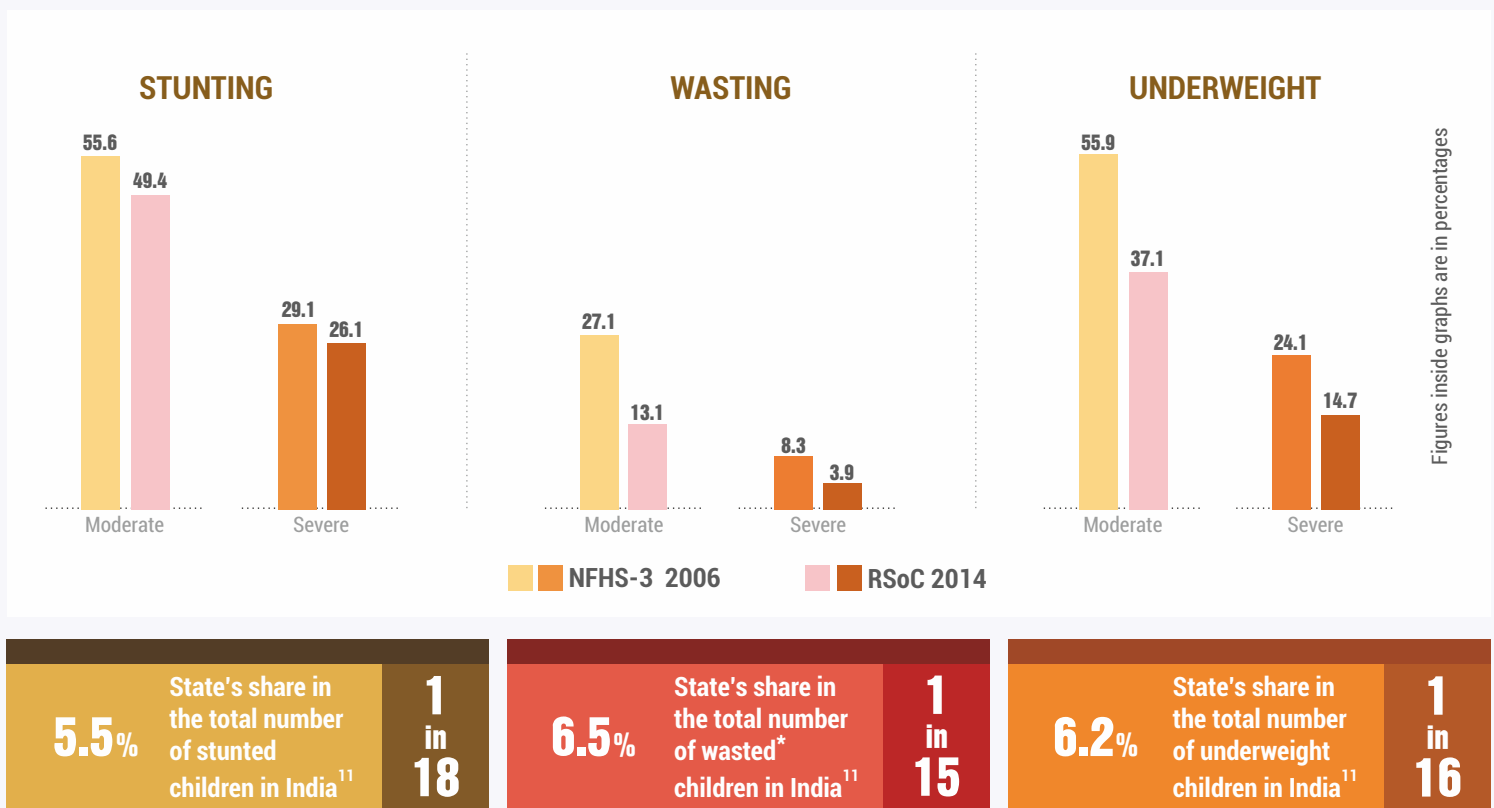
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

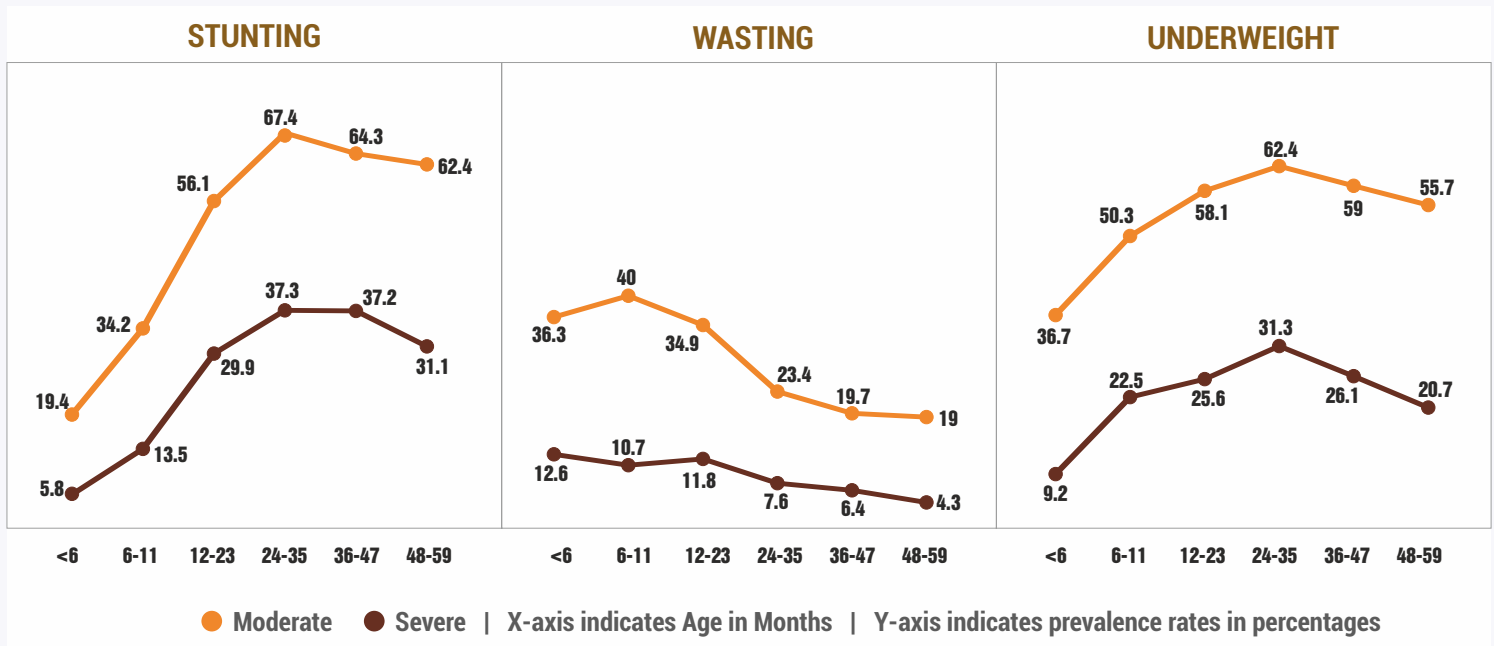


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

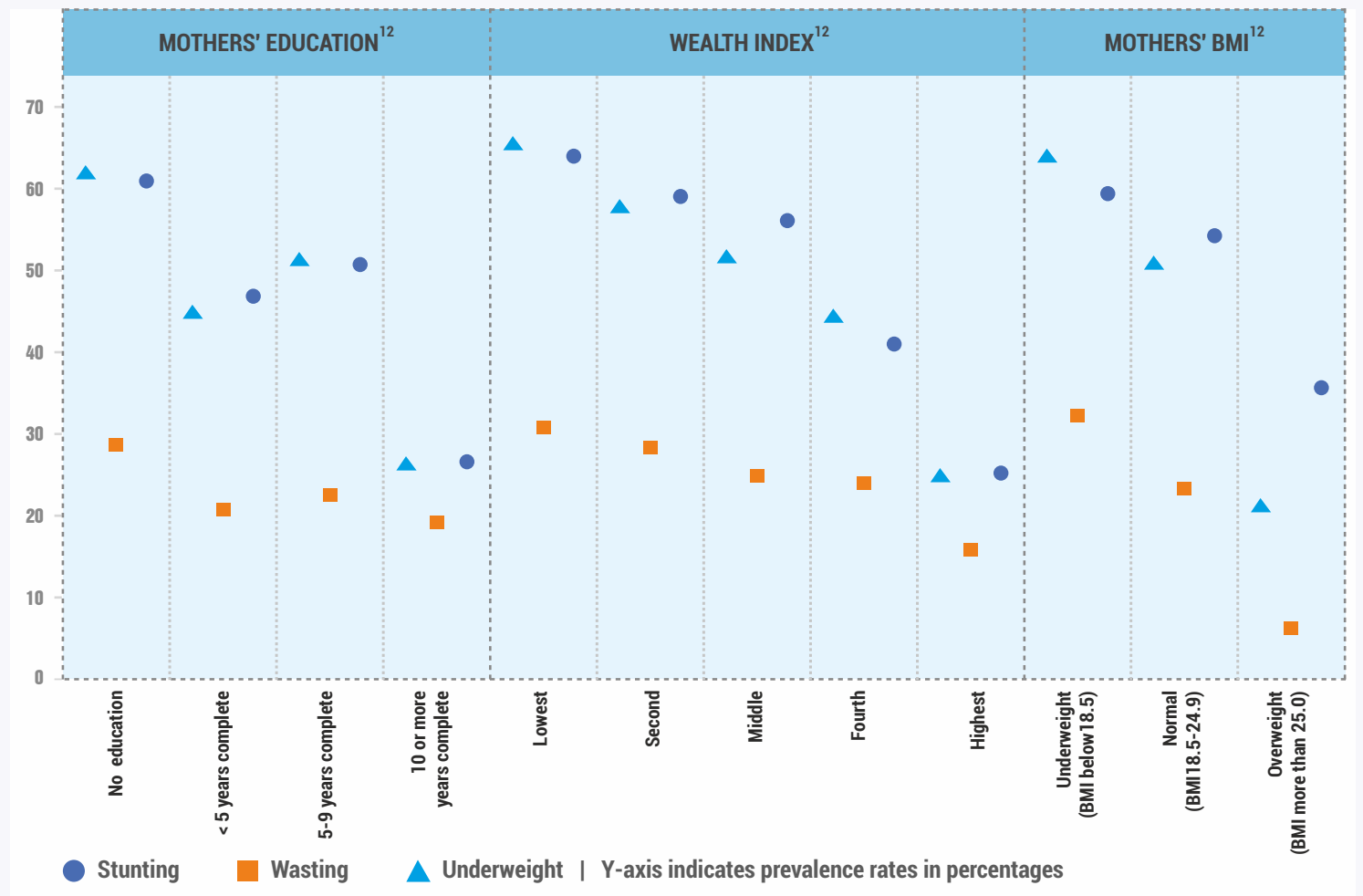
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



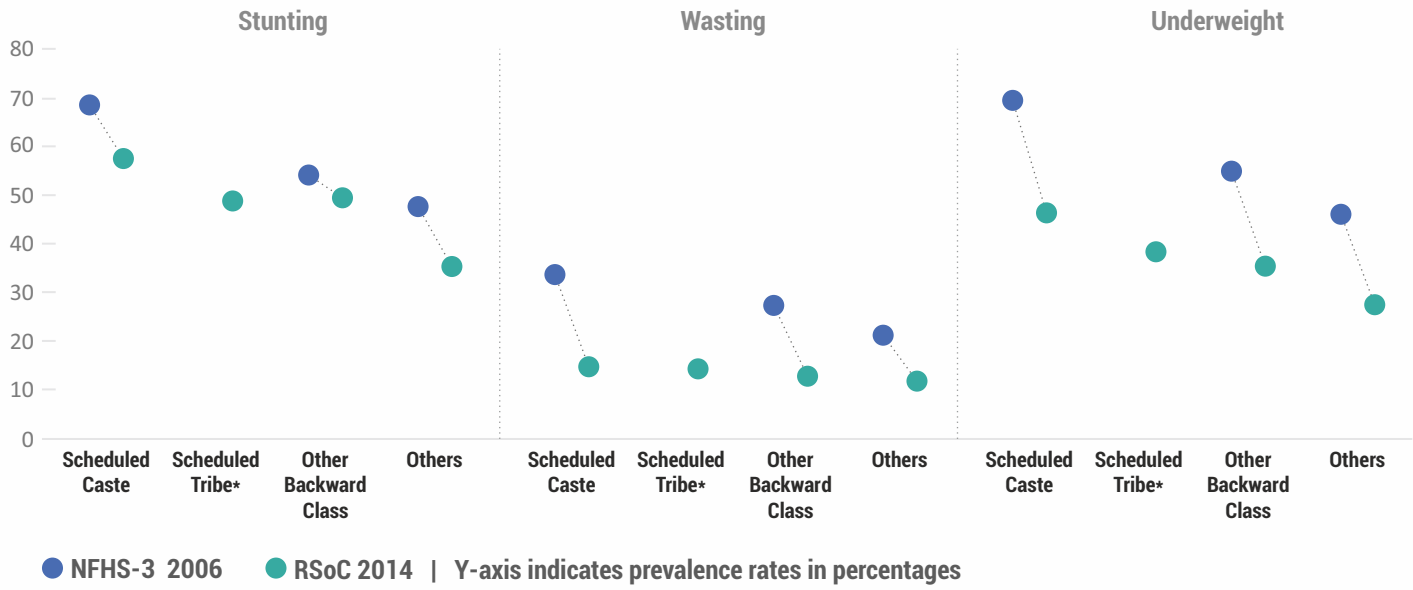
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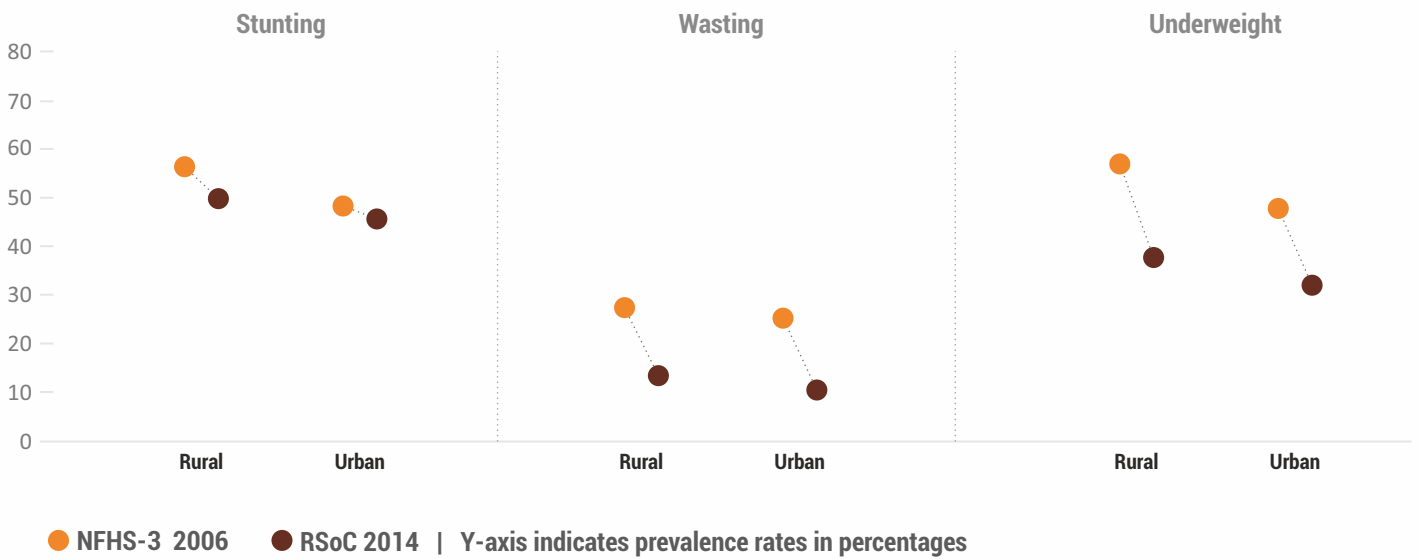
<sup>12</sup> Source : NFHS-3, 2006

CASTE



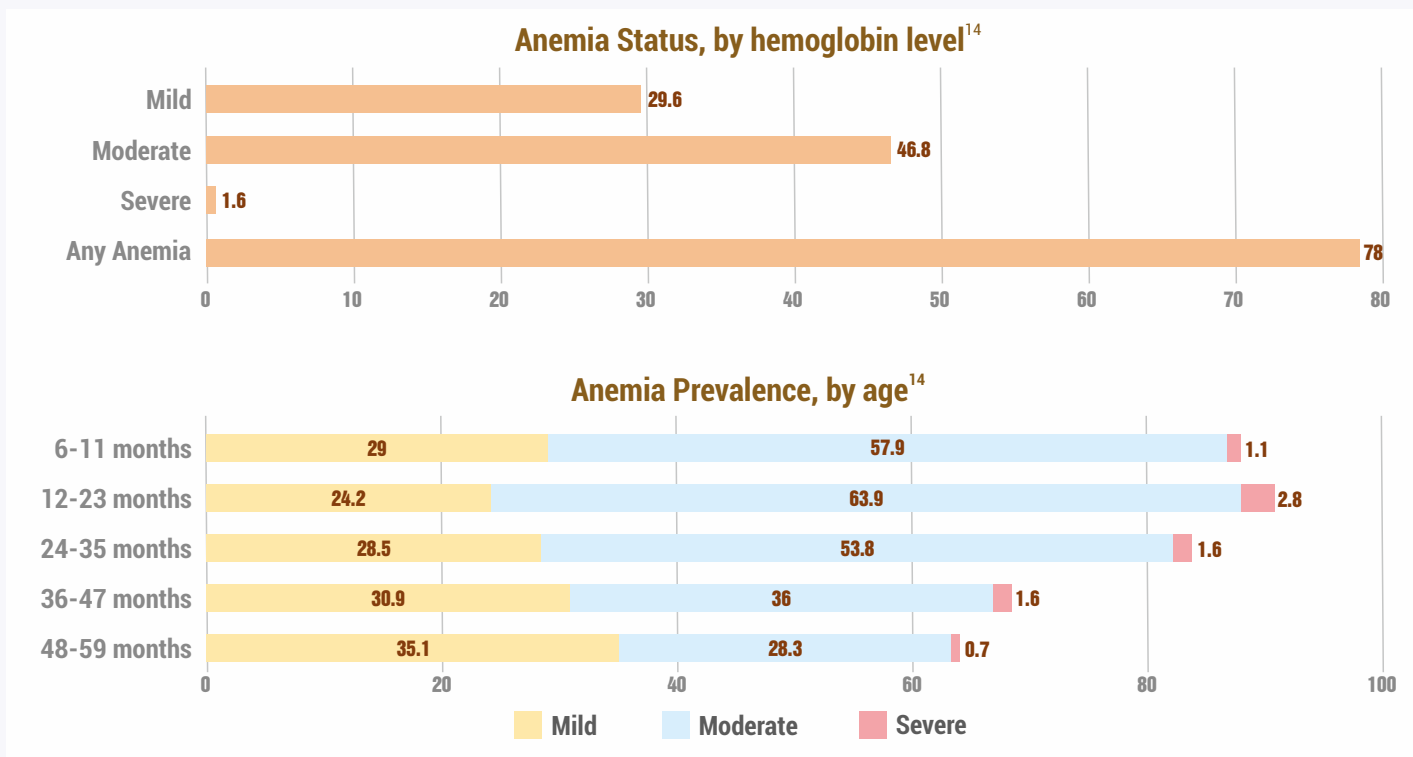
\*Data for Scheduled Tribes is not available in NFHS-3 for this state

RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.




<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 35.5% |
|  | Children aged 0-5 months who were exclusively breastfed  | 70.8% |
|   | Children aged 6-8 months who were fed complementary foods  | 45.7% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 45.7% |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 16.1% |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 4.5%  |
| Had fever in 15 days prior to survey   | 16.3% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 12%   |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

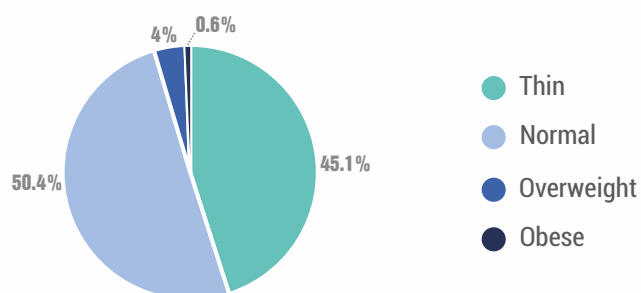
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



**67.4%**

Women aged 15-49 years are anemic

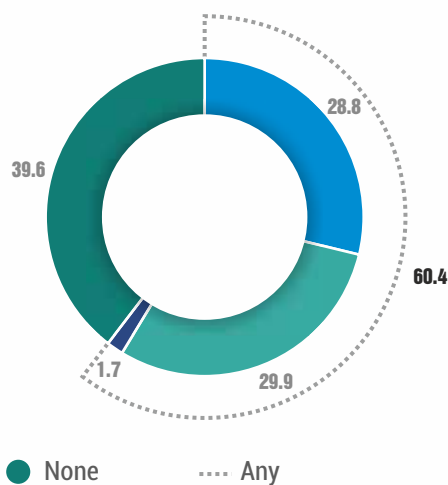
**1%**

Women aged 15-49 years are severely anemic

<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]

### C.2. PREGNANT WOMEN<sup>16</sup>

Anemia prevalence in pregnant women aged 15-49 years



● Mild

● Moderate

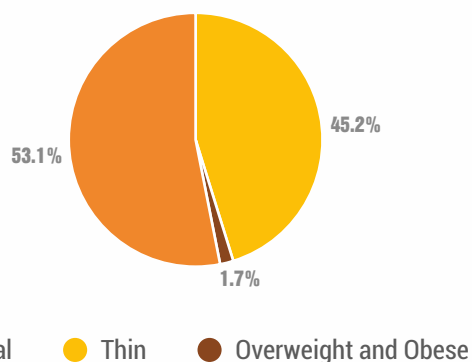
● Severe

● None

--- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**66.4%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**1.1%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

● Normal

● Thin

● Overweight and Obese

<sup>16</sup> Source : NFHS-3, 2006

<sup>17</sup> Source : RSOC, 2014

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **10.9%**



**47.1%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **18.8** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.4** | **0.5** National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **19.1%**

Currently married women who make decisions about<sup>23</sup>:



**22.5%** Own healthcare



**9.8%** Major household purchase



**30.4%** Purchases for daily household needs



**9.3%** Visits to her family/friends/relatives



**60.8%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**54.8%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-3, 2007-08

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



97.7%

Households with access to improved sources of drinking water<sup>E, 24</sup>

18.3%

Households using improved sanitation facility<sup>F, 24</sup>



74.8%

Households practicing open defecation<sup>24</sup>

75.6 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



7%

Growth rate of agriculture from 2007-2012<sup>26</sup>



5.4%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

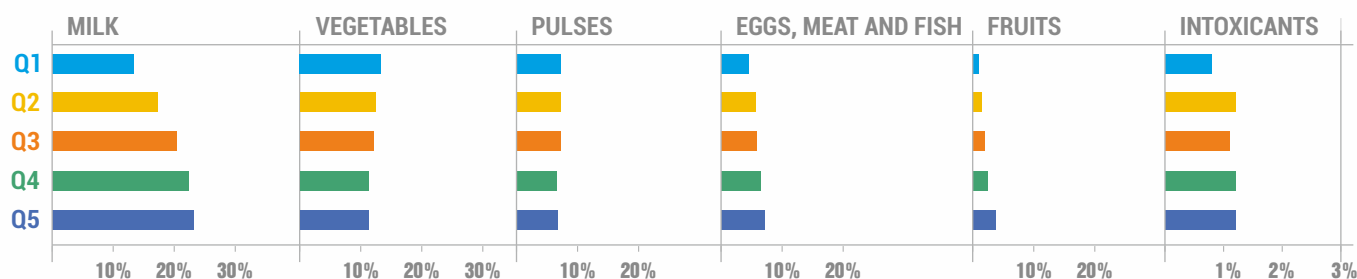
RURAL

2242 BIHAR  
2233 INDIA AVG

URBAN

2170 BIHAR  
2206 INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 36.6% |
| Children 36-71 months | 42.9% |
| Pregnant women        | 21.7% |
| Lactating mothers     | 39.3% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 0%    |
| Children aged 36-71 months | 34.1% |
| Pregnant women             | 33.2% |
| Lactating women            | 0%    |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**32.8%**

Received 3 or more antenatal checkups prior to delivery



**88.6%**

Received 2 or more TT injections prior to delivery



**14%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**65.3%**

Had Institutional delivery



**68.4%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**60.6%** Rural

**58.4%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**11.6%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



**30.1%**  
Breastfeeding



**37.6%**  
Nutrition



**27.2%**  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 11.2%    |
| AWWs living in the AWC village/ward  | 89.8%    |
| AWWs having 10 or more years of schooling  | 99.1%    |
| Median age of AWWs   | 35 years |
| AWCs serving to population more than the stipulated norm                           | 92.4%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 56.5% |
| AWCs having functional adult weighing scale | 50.1% |
| Available WHO growth chart at AWCs          | 88.2% |

<sup>H</sup> Number of AWCs surveyed for Bihar as per RSoC 2014 is 292.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-3, 2007-08

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 92.6% |
| AWWs having correct knowledge of normal birth weight of children                    | 77.1% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 97.6% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 96.6% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 55.4% |

| Health Service Delivery Personnel   | Value               |
|---|---------------------|
| ASHAs selected <sup>33</sup>  | 97%                 |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 1,090 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0                   |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 180            | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 178.1          | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 27             | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 41.7% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 44%   |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 57.2% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 140            | 47               |
| PDS <sup>41</sup>                           | 1252.3         | 475.3            |
| MGNREGA <sup>42</sup>                       | 310            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lq15/15/as216.htm](http://164.100.47.132/Annexure_New/lq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13



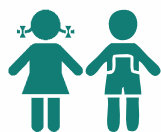
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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN CHHATTISGARH

World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**43%**  
Stunted<sup>1</sup>

**12.9%**  
Wasted<sup>1</sup>



**82.3%**

Infants 0-5 months old who are exclusively breastfed<sup>1</sup>



**16.9%**

Children under 3 years who have low birth weight (<2.5 kgs)<sup>2</sup>



**57.5%**

Women 15-49 years old with anemia<sup>1</sup>

Immediate Determinants

Immediate Determinants



**59.9%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>2</sup>

**8.6%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>2</sup>



**71.2%** Children 6-59 months old with anemia<sup>1</sup>



**6.8%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>2</sup>



**49.7%**

Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>2</sup>



**67.2%**

Children 12-23 months old who are fully immunized<sup>2</sup>



**79.5%**

Mothers of children under 36 months old who received three or more antenatal checkups<sup>2</sup>

Underlying Determinants

Underlying Determinants



**9.1%**

Currently married women with 10 or more years of schooling<sup>1</sup>



**26.9%**

Women aged 20-24 years who were married before the age of 18<sup>2</sup>



**43%**

Adolescent girls 15-18 years old with low BMI (<18.5)<sup>2</sup>



**69.6%**

Households practicing open defecation<sup>2</sup>



**39.9%**

Population below state-specific poverty line<sup>3</sup>

Does state have a high-level nutrition mission?

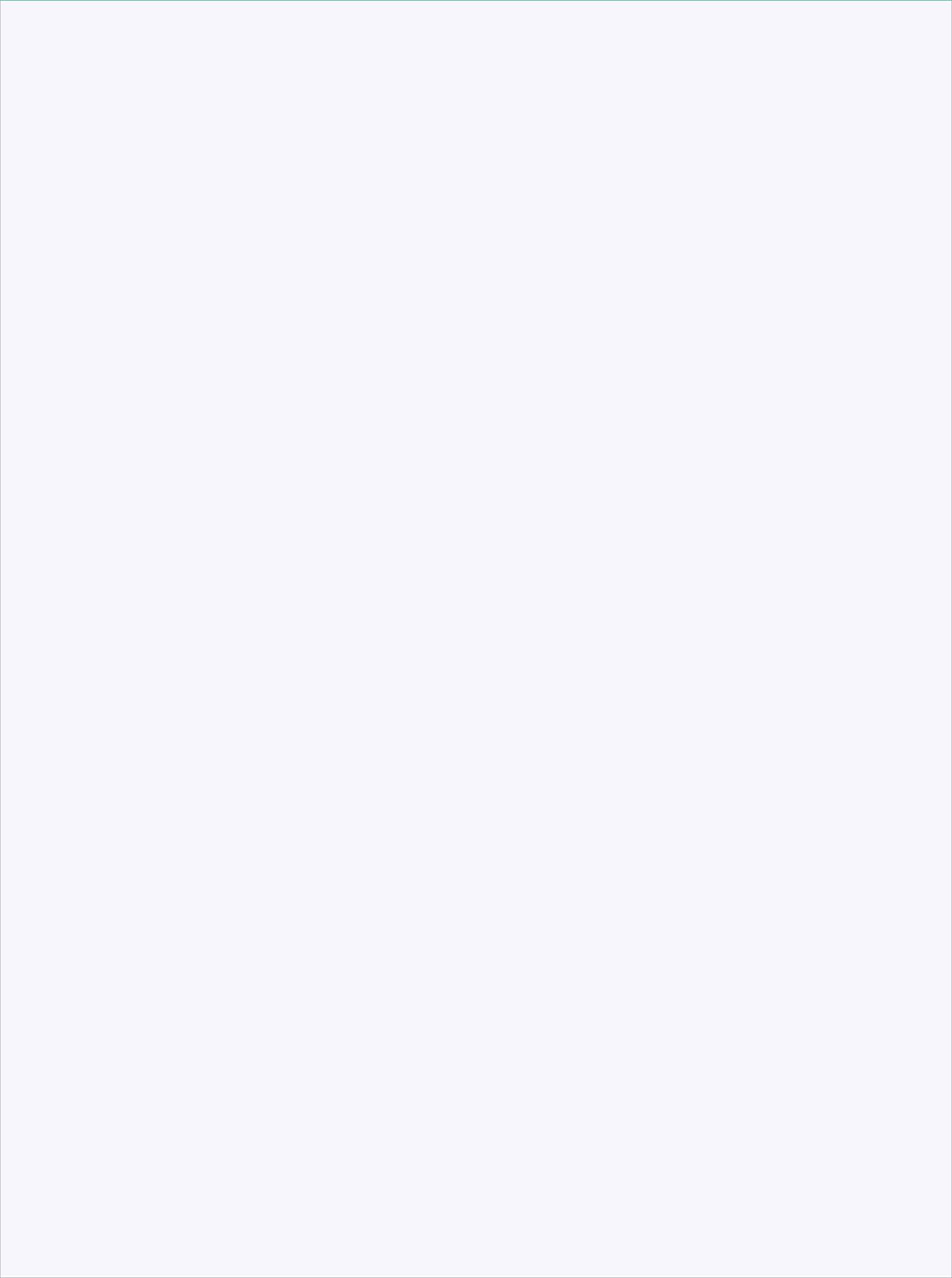
**NO**

<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : NFHS-3, 2006

<sup>3</sup> Source : DLHS-3, 2007-08

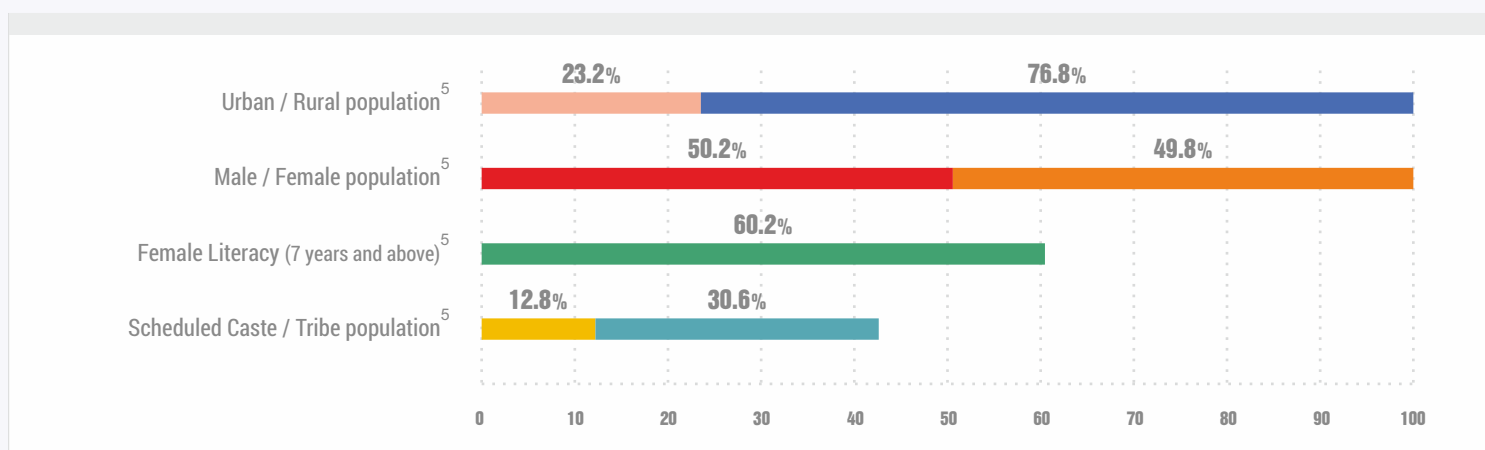
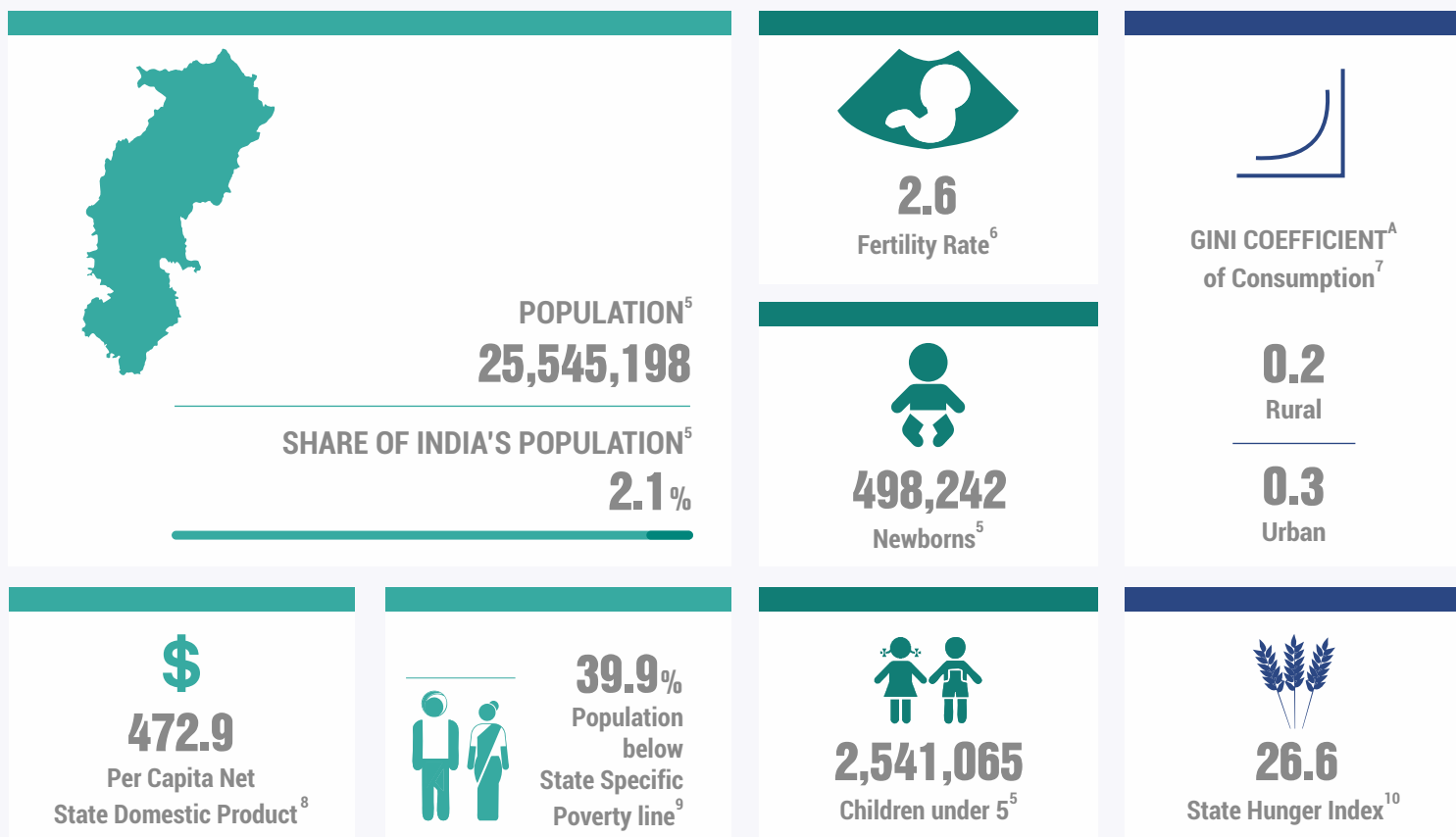
<sup>4</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India



# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

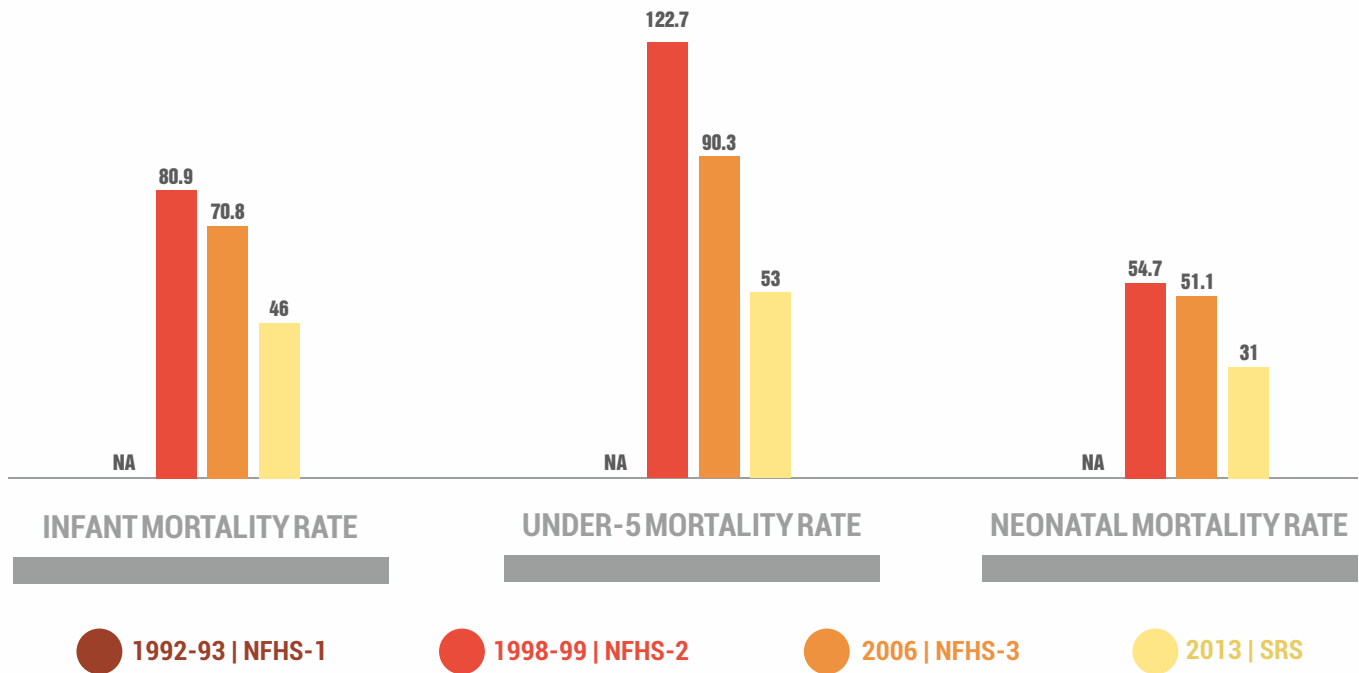
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14.; [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

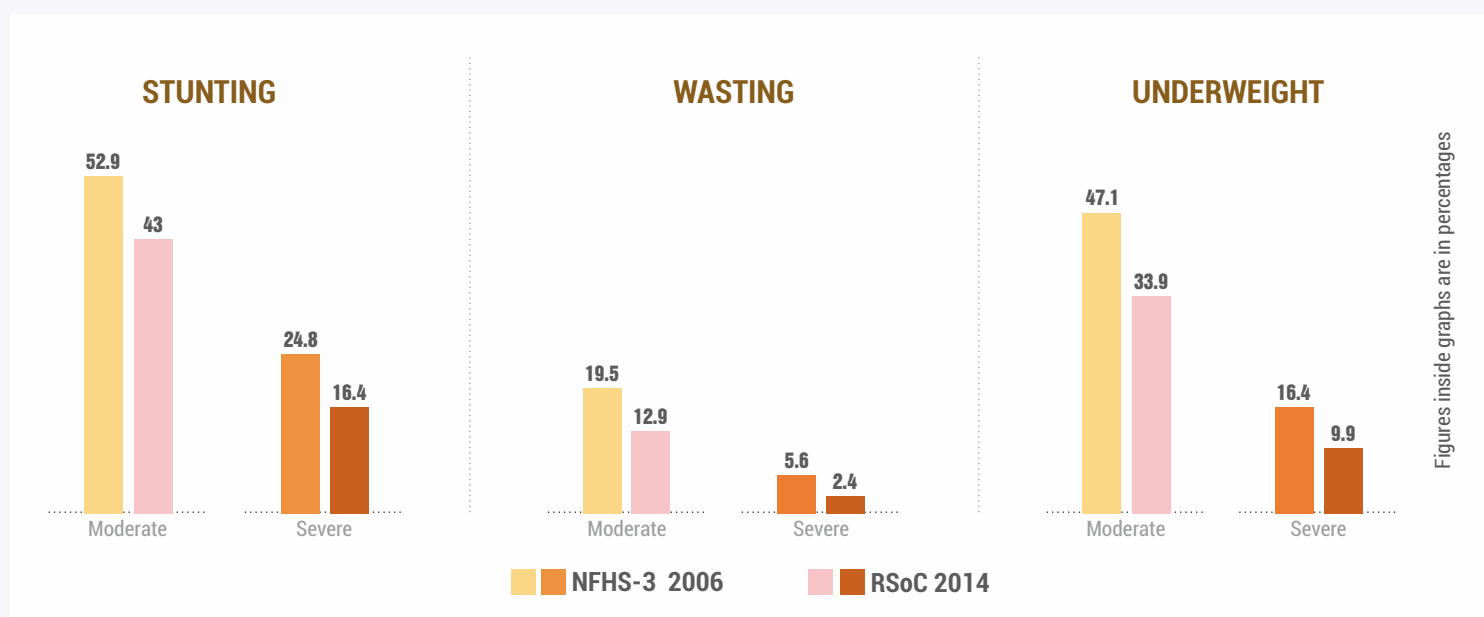
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.



**3.5%** State's share in the total number of stunted children in India<sup>11</sup>

**1 in 28**

**3.1%** State's share in the total number of wasted\* children in India<sup>11</sup>

**1 in 32**

**3.5%** State's share in the total number of underweight children in India<sup>11</sup>

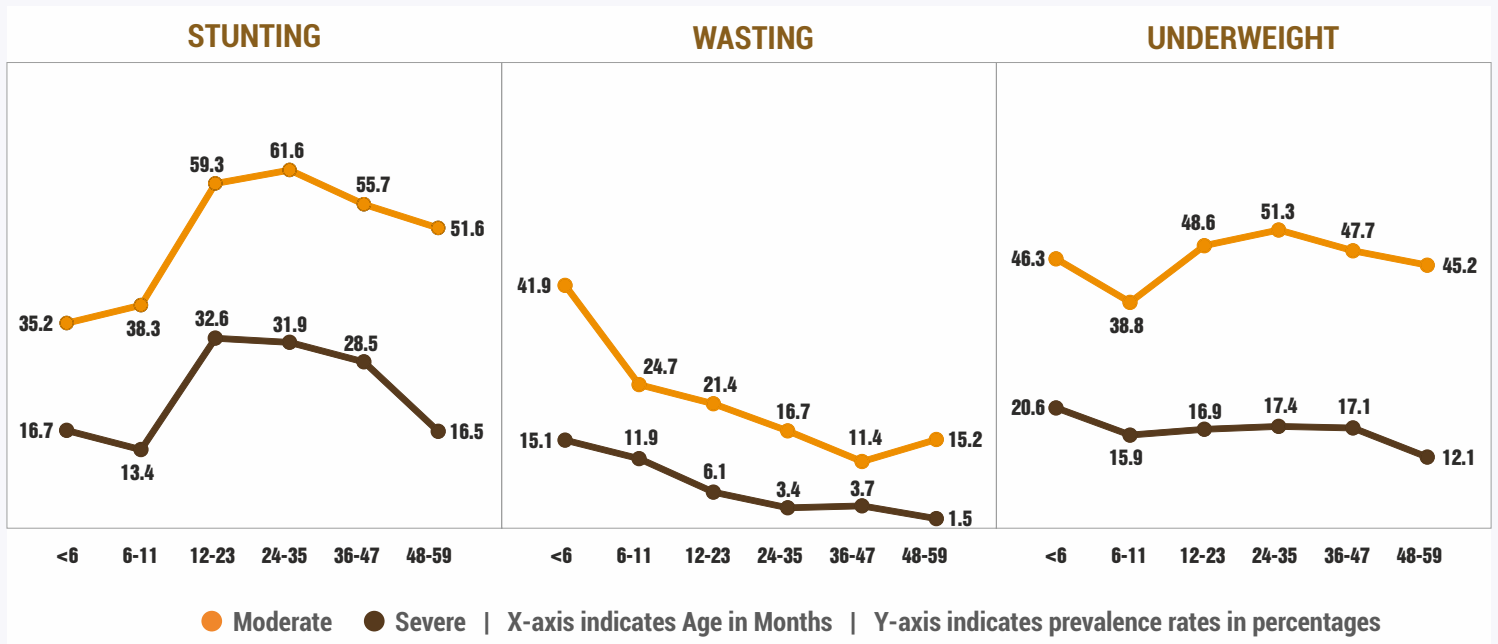
**1 in 28**

\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

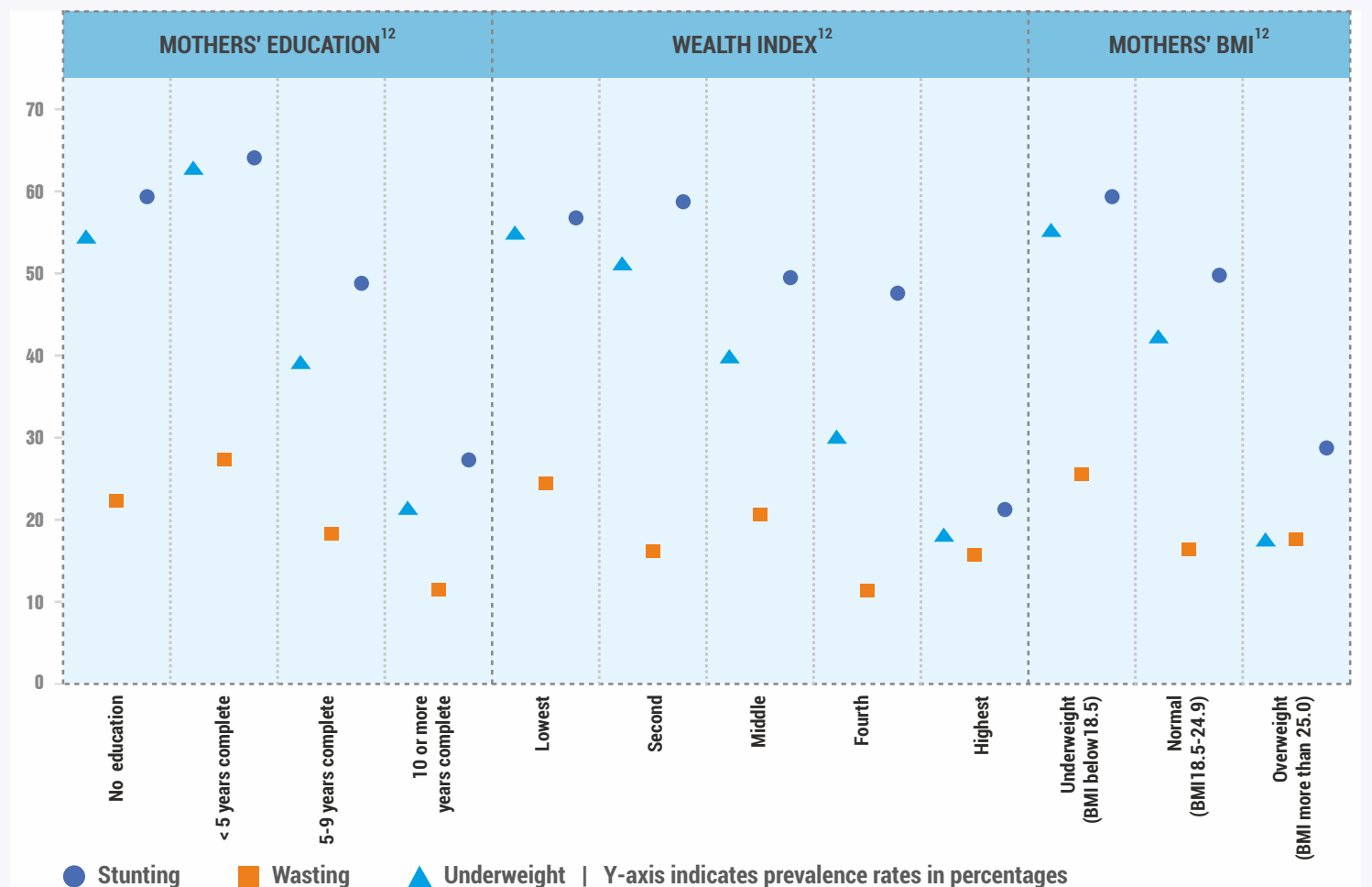
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



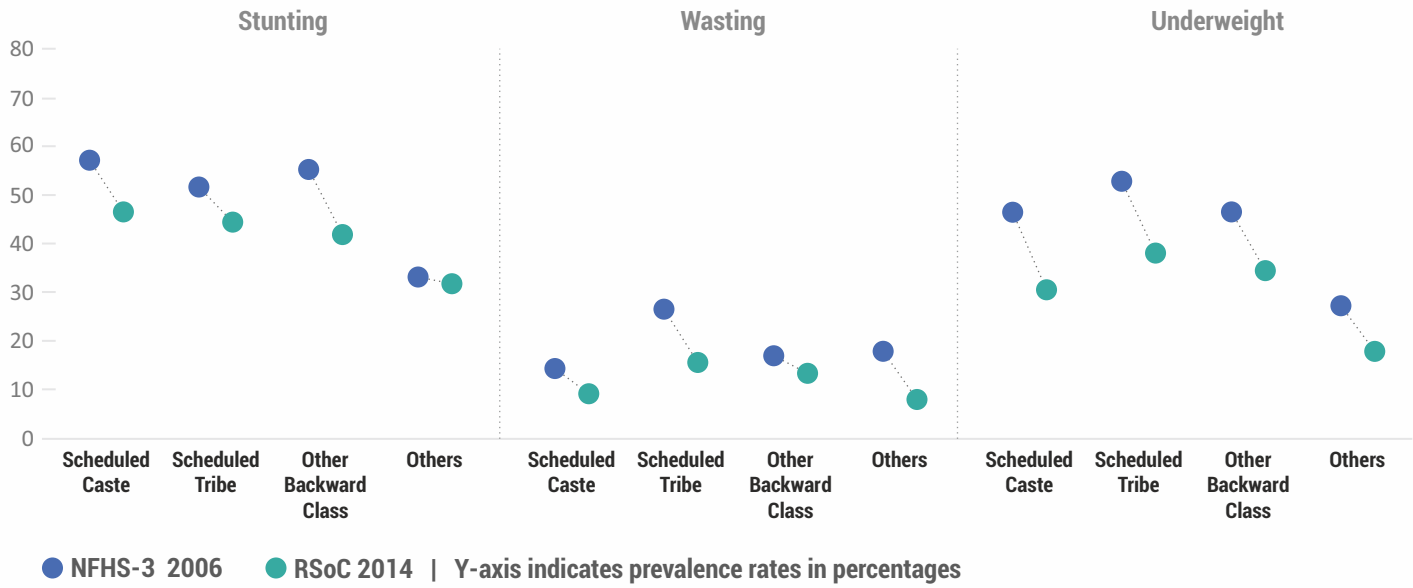
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

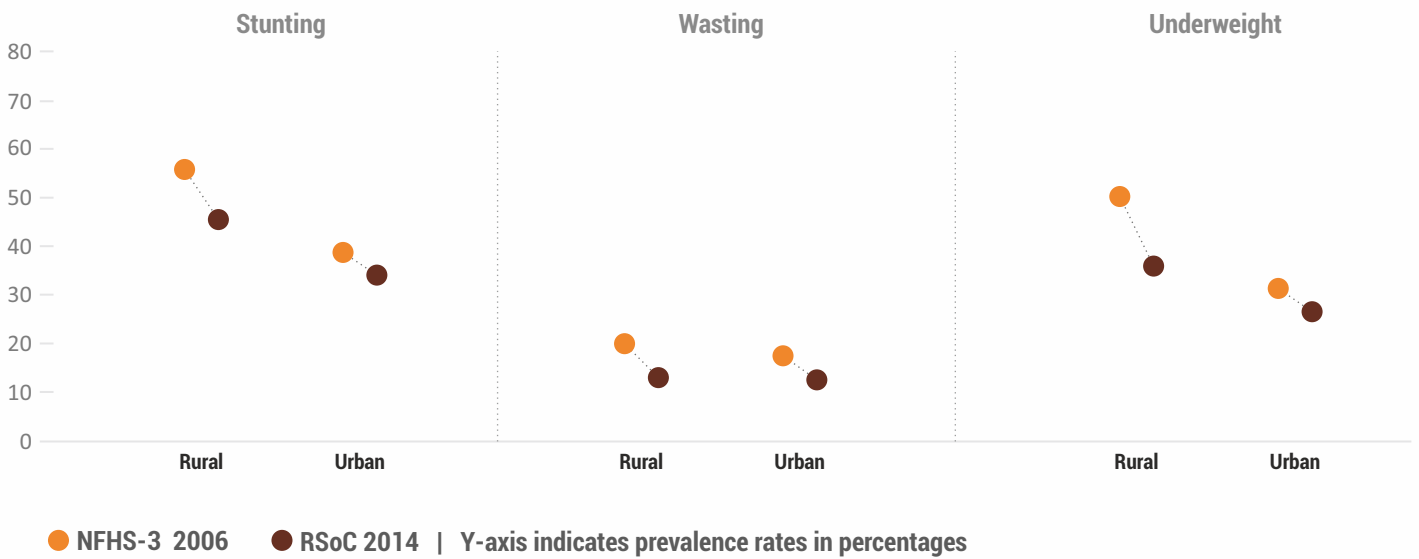


<sup>12</sup> Source : NFHS-3, 2006

CASTE

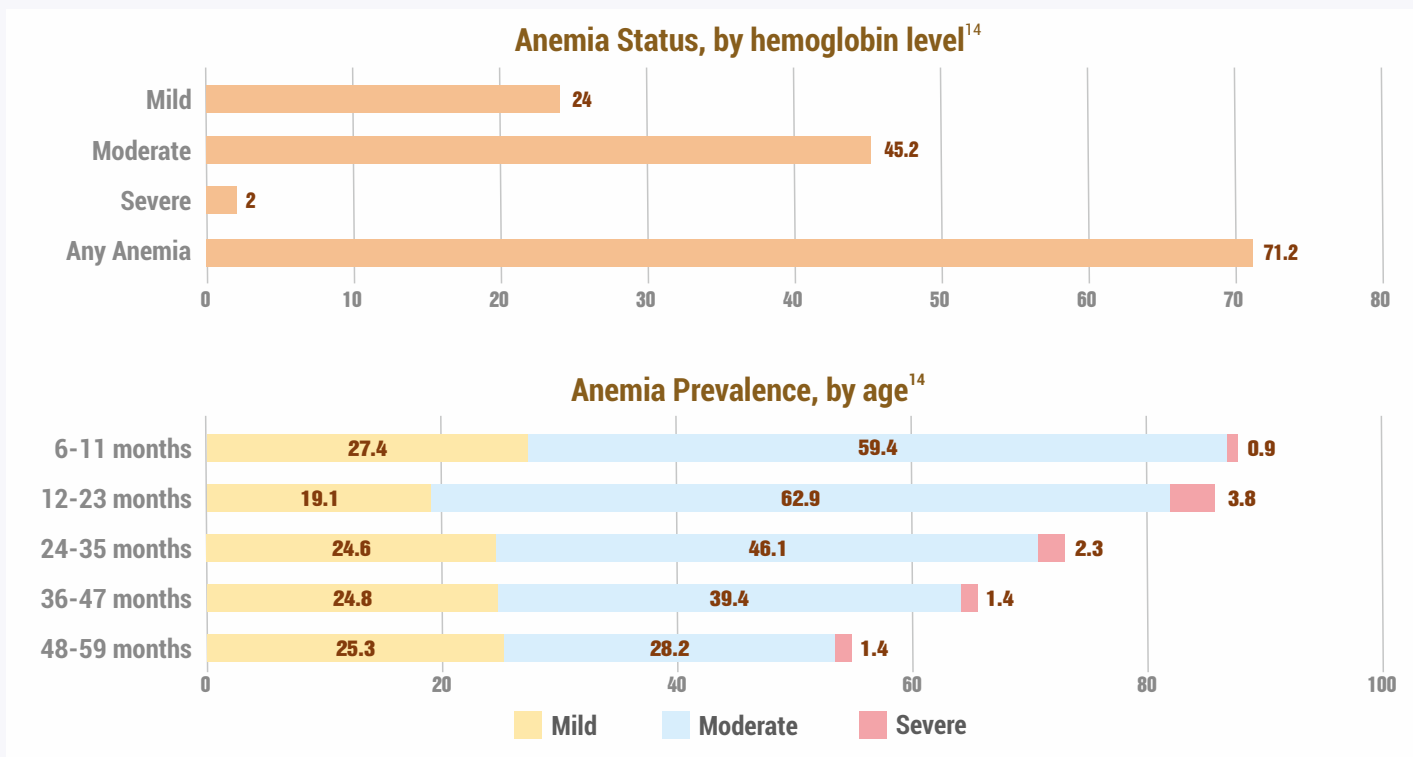


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.




<sup>14</sup> Source : NFHS-3, 2006



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This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |   |       |
|---|---|-------|
| Children aged 0-23 months breastfed immediately/within an hour of birth   | 44.9%   |       |
|    | Children aged 0-5 months who were exclusively breastfed   | 82.3% |
|   | Children aged 6-8 months who were fed complementary foods | 59.9% |
| <p>For breastfed children (6-23 months)-</p> <p>A. Fed minimum number of times.</p> <p>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old</p> | 57.5%   |       |
| <p>B. Had minimum dietary diversity</p> <p>Note : Minimum dietary diversity refers to four or more food groups<sup>B</sup> fed to children aged 6-23 months</p>   | 8.6%  |       |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 6.8%  |
| Had fever in 15 days prior to survey   | 16.1% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 11%   |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

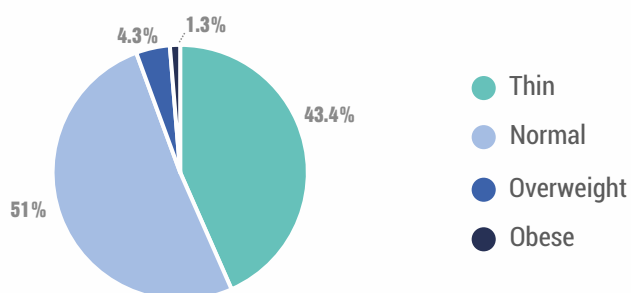
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



**57.5%**

Women aged 15-49 years are anemic

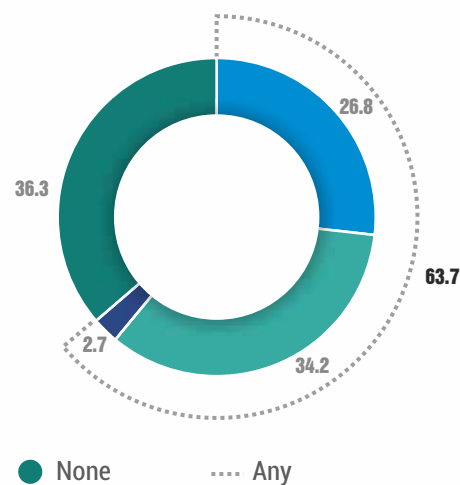
**1.9%**

Women aged 15-49 years are severely anemic

<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]

### C.2. PREGNANT WOMEN<sup>16</sup>

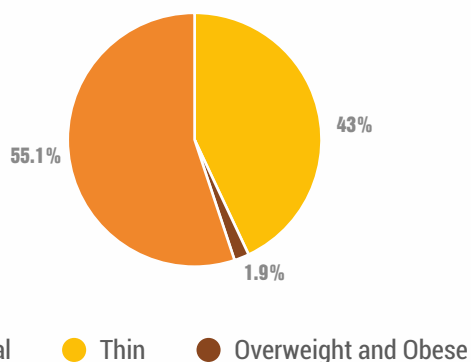
Anemia prevalence in pregnant women aged 15-49 years



● Mild    ● Moderate    ● Severe    ● None    --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**58.7%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**2.3%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

● Normal    ● Thin    ● Overweight and Obese

<sup>16</sup> Source : NFHS-3, 2006

<sup>17</sup> Source : RSOC, 2014

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **9.1%**



**26.9%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **20.5** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup>

**0.5**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **39.7%**

Currently married women who make decisions about<sup>23</sup>:



**18.3%** Own healthcare



**3.9%** Major household purchase



**35.7%** Purchases for daily household needs



**4.2%** Visits to her family/friends/relatives



**32.3%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**34%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-3, 2007-08

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



89.8%

Households with access to improved sources of drinking water<sup>E, 24</sup>

18.4%

Households using improved sanitation facility<sup>F, 24</sup>



69.6%

Households practicing open defecation<sup>24</sup>

31 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



1.7%

Growth rate of agriculture from 2007-2012<sup>26</sup>



2.6%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

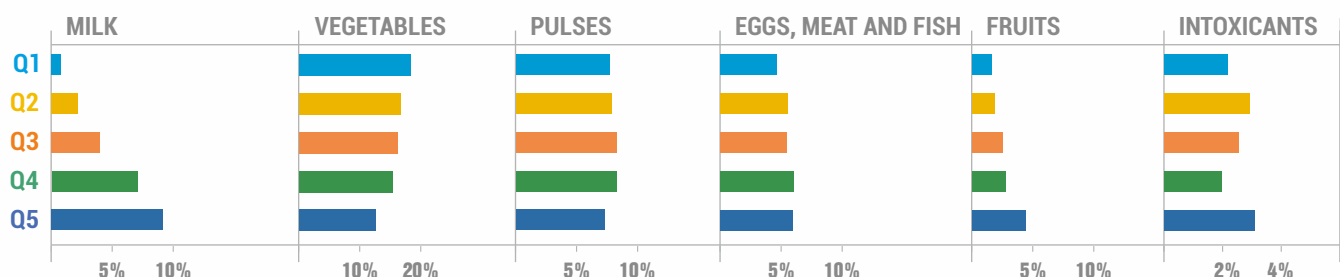
RURAL

URBAN

2162 CHHATTISGARH | 2233 INDIA AVG

2205 CHHATTISGARH | 2206 INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 82.8% |
| Children 36-71 months | 60.2% |
| Pregnant women        | 65.4% |
| Lactating mothers     | 81.5% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 49.7% |
| Children aged 36-71 months | 29.8% |
| Pregnant women             | 62%   |
| Lactating women            | 49.9% |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**79.5%**

Received 3 or more antenatal checkups prior to delivery



**92.2%**

Received 2 or more TT injections prior to delivery



**22.1%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**56.1%**

Had Institutional delivery



**64.2%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**66.4%** Rural  
**70.1%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**1.7%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



**59.7%**  
Breastfeeding



**53.6%**  
Nutrition



**38.7%**  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value           |
|--|-----------------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | <b>25.7%</b>    |
| AWWs living in the AWC village/ward  | <b>83.9%</b>    |
| AWWs having 10 or more years of schooling  | <b>72.5%</b>    |
| Median age of AWWs   | <b>34 years</b> |
| AWCs serving to population more than the stipulated norm                           | <b>21%</b>      |

| Growth Monitoring <sup>30</sup>             | Value        |
|---|--------------|
| AWCs having functional baby weighing scale  | <b>87.8%</b> |
| AWCs having functional adult weighing scale | <b>78.7%</b> |
| Available WHO growth chart at AWCs          | <b>93%</b>   |

<sup>H</sup> Number of AWCs surveyed for Chhattisgarh as per RSoC 2014 is 202.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-3, 2007-08

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 85.7% |
| AWWs having correct knowledge of normal birth weight of children                    | 88%   |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 95.8% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 87.6% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 22.4% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 100%              |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 297 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 29.7%             |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 90             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 59.6           | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 24.5           | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 62.6% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 56%   |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 90.8% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 69             | 47               |
| PDS <sup>41</sup>                           | 485.3          | 475.3            |
| MGNREGA <sup>42</sup>                       | 370            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13

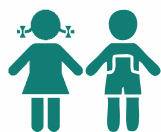


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## FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN DELHI

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**29.1%**  
Stunted<sup>1</sup>
**14.3%**  
Wasted<sup>1</sup>

World Health Assembly Nutrition Targets


**67.8%**

 Infants 0-5 months old who are exclusively breastfed<sup>1</sup>

**21.9%**

 Children under 3 years who have low birth weight (<2.5 kgs)<sup>2</sup>

**44.3%**

 Women 15-49 years old with anemia<sup>1</sup>

Immediate Determinants


**43.3%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>2</sup>
**19.5%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>2</sup>

**57%** Children 6-59 months old with anemia<sup>1</sup>

**4.5%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>2</sup>

Immediate Determinants

Underlying Determinants


**18.4%**

 Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>2</sup>

**69.7%**

 Children 12-23 months old who are fully immunized<sup>2</sup>

**75.5%**

 Mothers of children under 36 months old who received three or more antenatal checkups<sup>2</sup>

**44.6%**

 Currently married women with 10 or more years of schooling<sup>1</sup>

**18.8%**

 Women aged 20-24 years who were married before the age of 18<sup>2</sup>

**43.7%**

 Adolescent girls 15-18 years old with low BMI (<18.5)<sup>2</sup>

Underlying Determinants


**2.5%**

 Households practicing open defecation<sup>2</sup>

**10.4%**

 Population below state-specific poverty line<sup>3</sup>

Does state have a high-level nutrition mission?

**NO**
<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : NFHS-3, 2006

<sup>3</sup> Source : DLHS-3, 2007-08

<sup>4</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

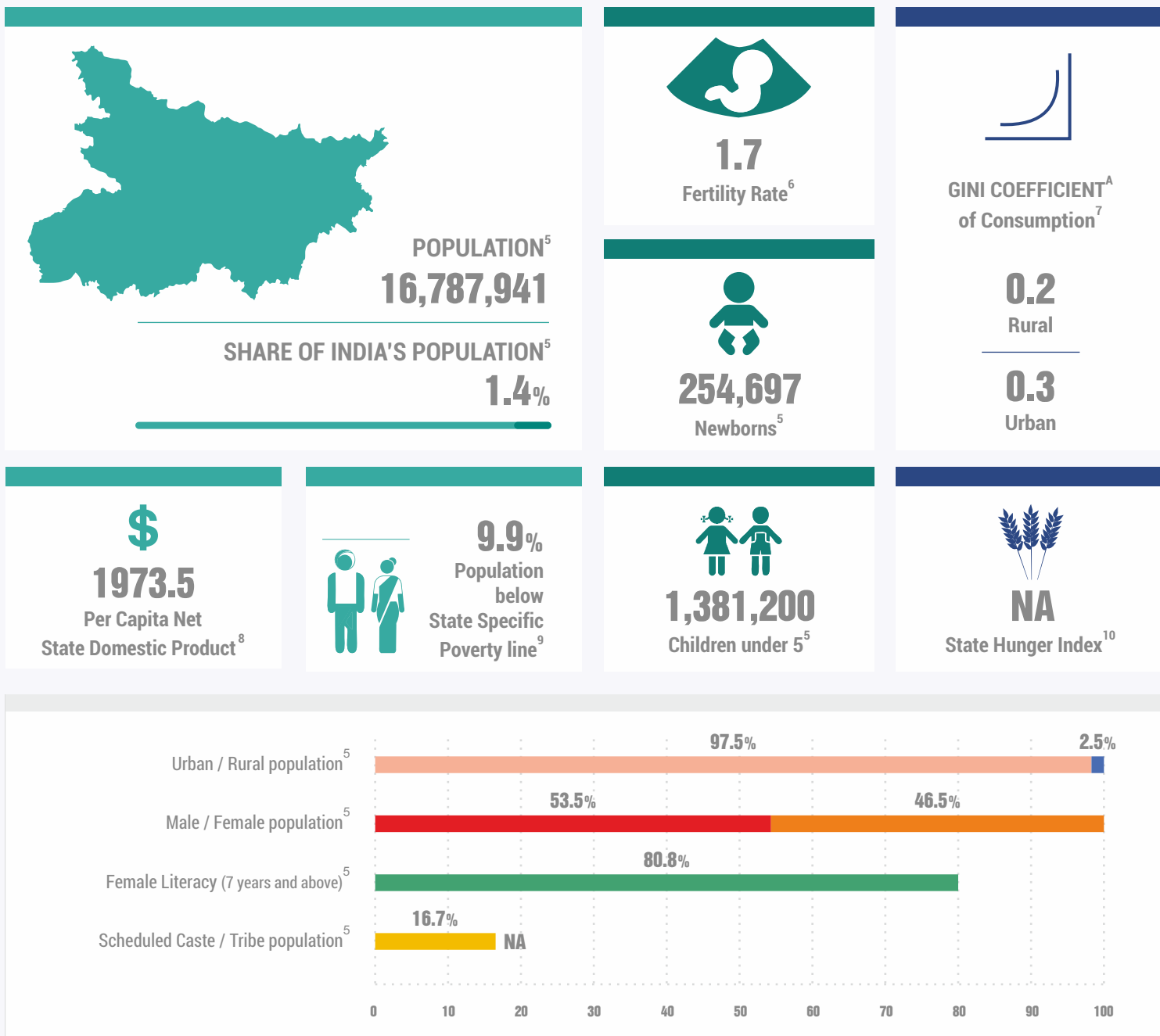


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# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

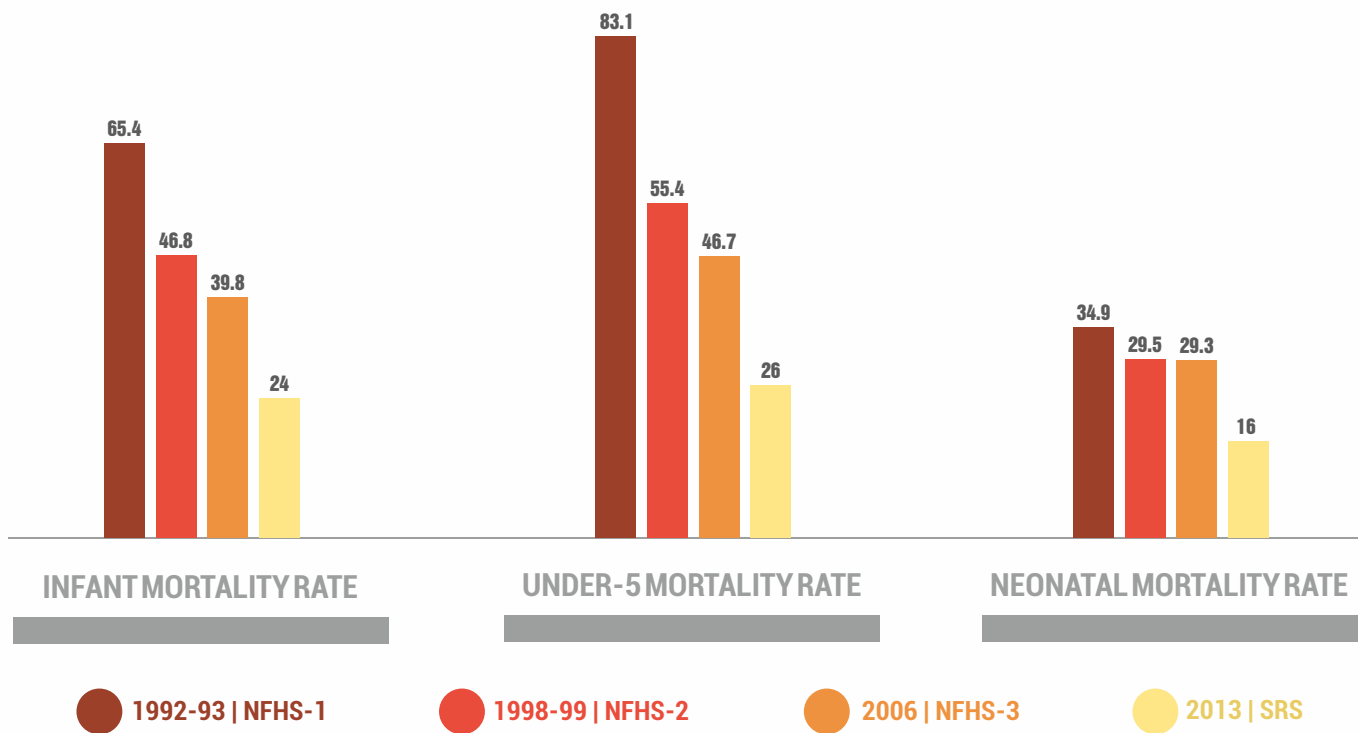
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14.; [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

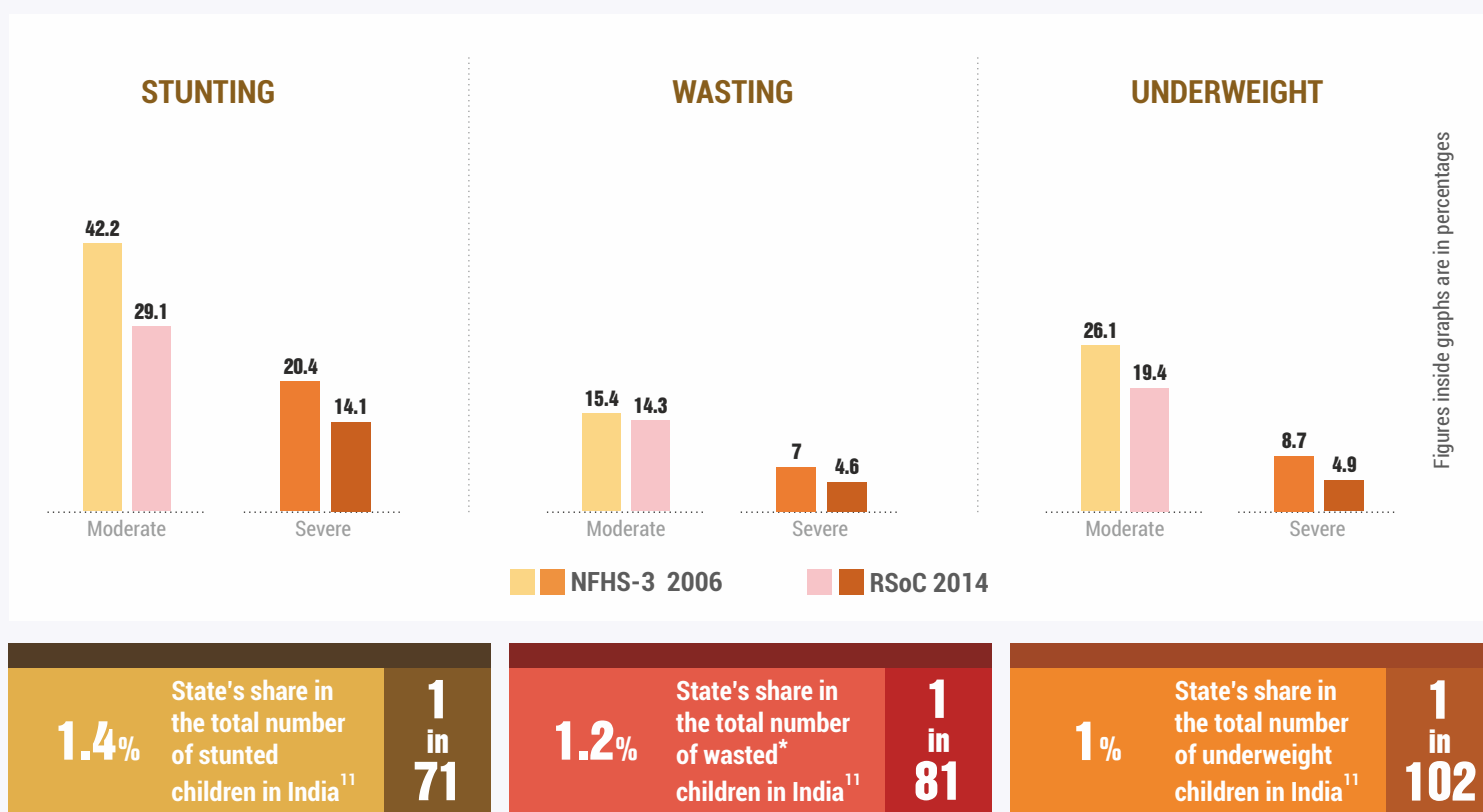
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

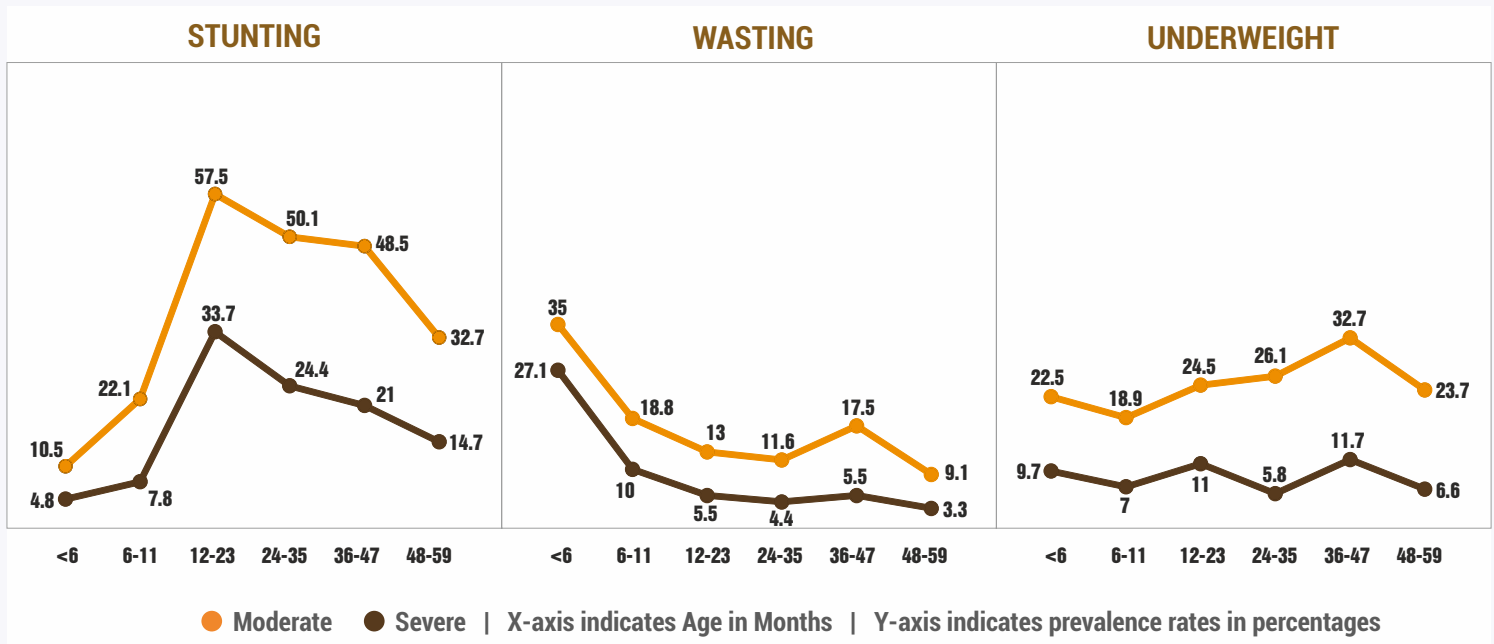


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

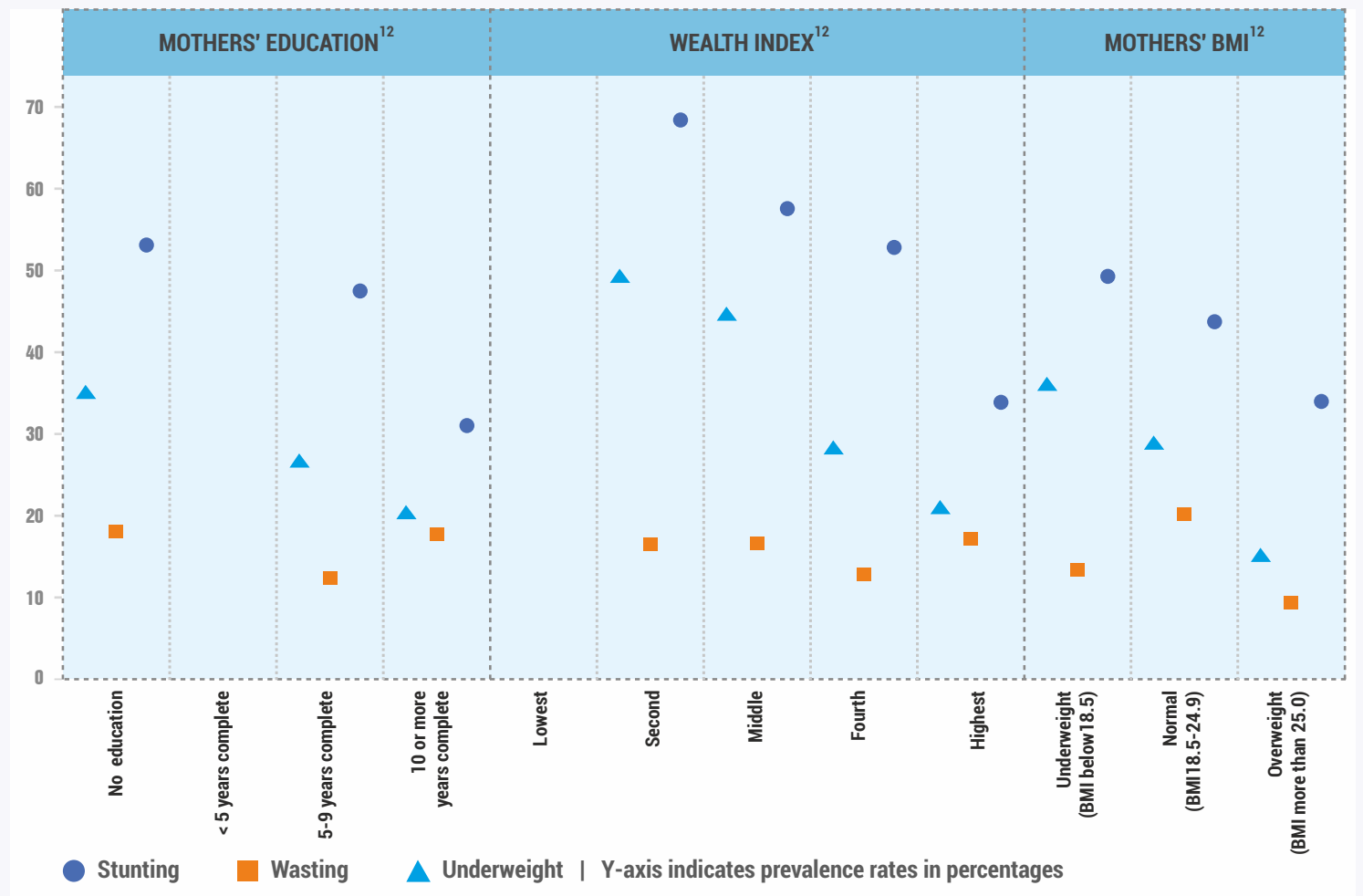
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



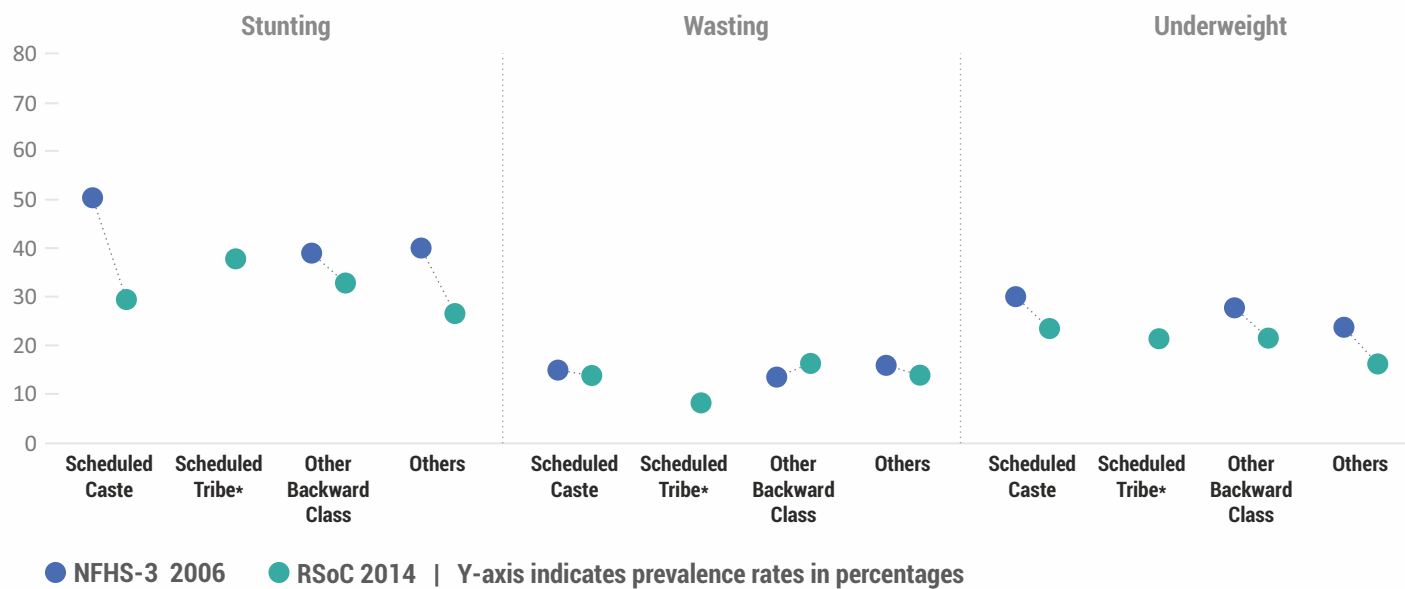
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.



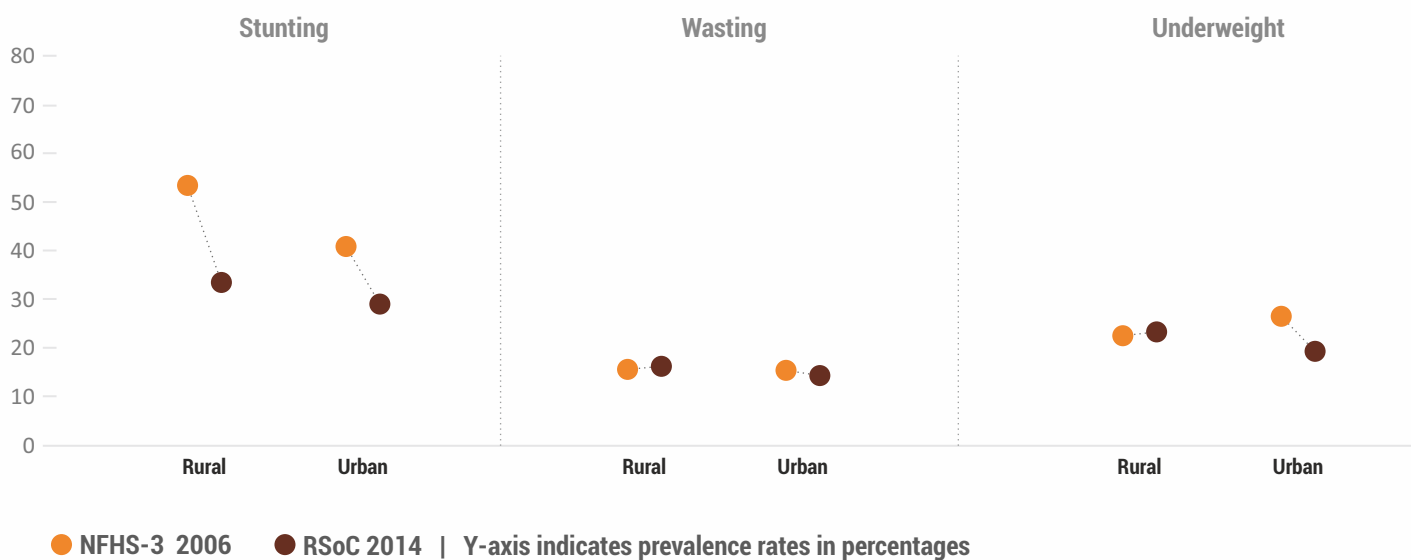
<sup>12</sup> Source : NFHS-3, 2006

CASTE



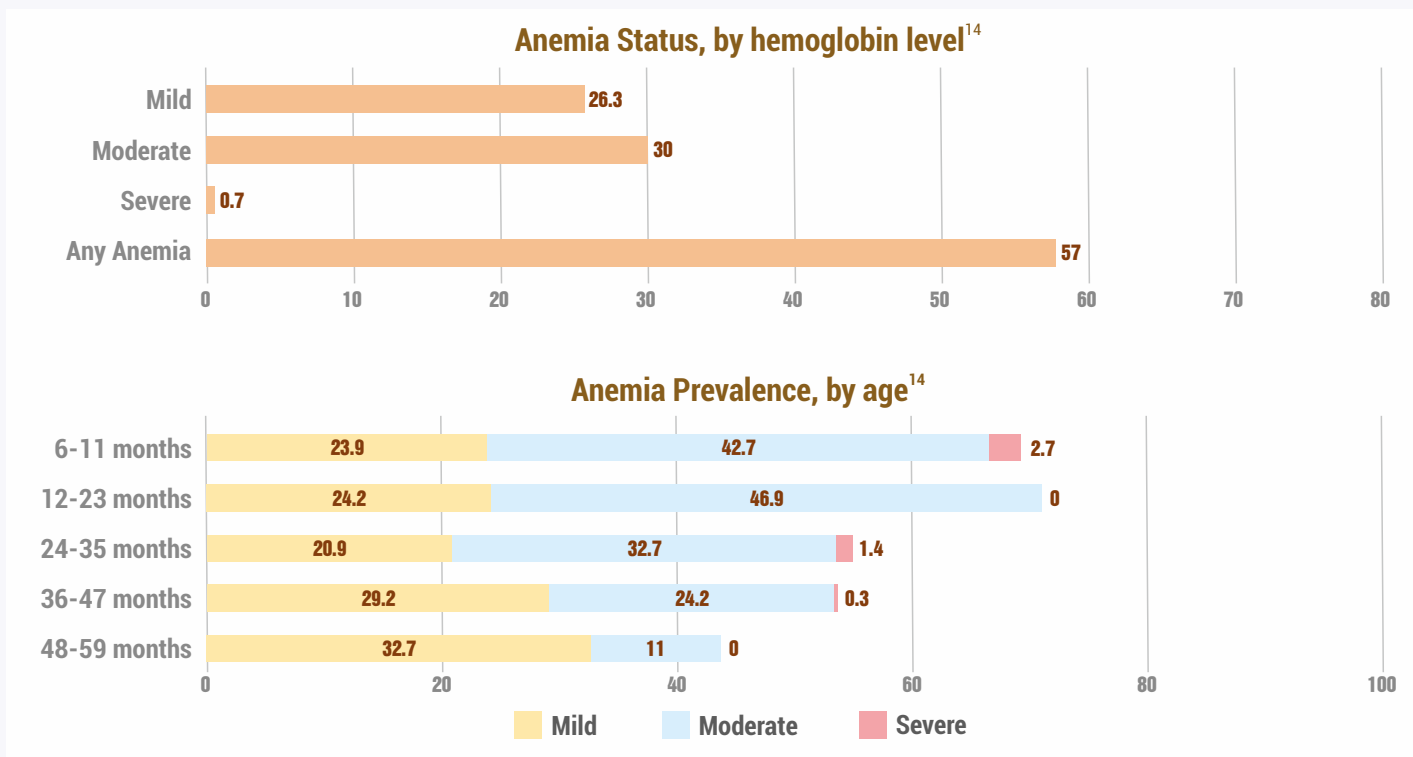
\*Data for Scheduled Tribes is not available in NFHS-3 for this state

RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.




<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 36.9% |
|  | Children aged 0-5 months who were exclusively breastfed  | 67.8% |
|   | Children aged 6-8 months who were fed complementary foods  | 43.3% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 31.6% |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 19.5% |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |      |
|--|------|
| Had diarrhea in 15 days prior to survey                                      | 4.5% |
| Had fever in 15 days prior to survey   | 7.1% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 5%   |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

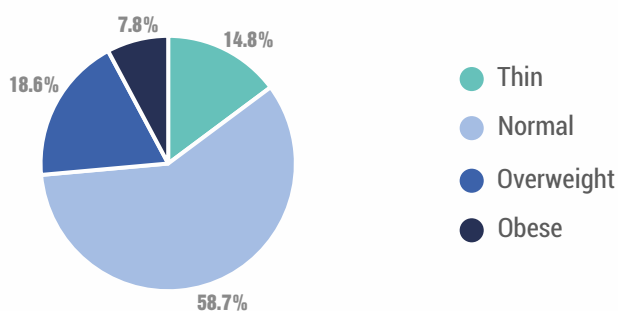
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**44.3%**

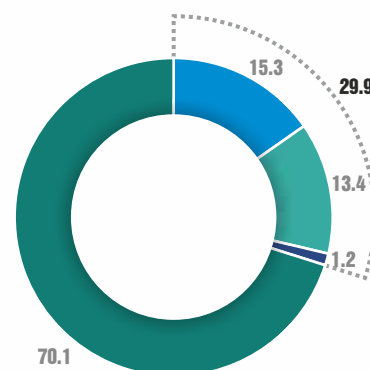
Women aged 15-49 years are anemic

**0.2%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

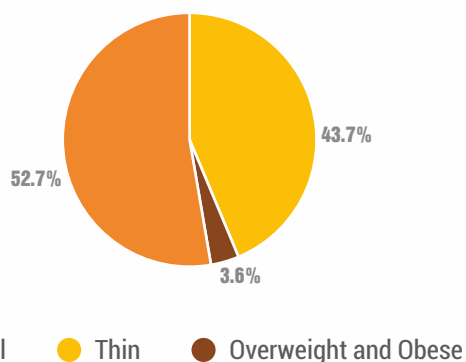
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None ---- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**49.7%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**0.1%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

<sup>16</sup> Source : NFHS-3, 2006

<sup>17</sup> Source : RSoC, 2014

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **44.6%**



**18.8%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **22.1** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.6**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **10.6%**

Currently married women who make decisions about<sup>23</sup>:



**35.7%** Own healthcare



**6.1%** Major household purchase



**46.9%** Purchases for daily household needs



**10%** Visits to her family/friends/relatives



**17.2%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**35.2%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-3, 2007-08

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



90%

Households with access to improved sources of drinking water<sup>E, 24</sup>

68%

Households using improved sanitation facility<sup>F, 24</sup>



2.5%

Households practicing open defecation<sup>24</sup>

NA

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



NA

Growth rate of agriculture from 2007-2012<sup>26</sup>



0.1%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

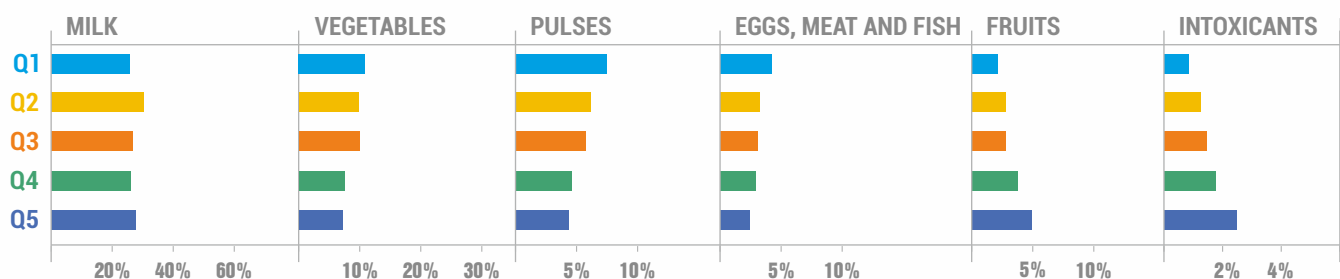
RURAL

NA 2233  
DELHI INDIA AVG

URBAN

NA 2206  
DELHI INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 11.9% |
| Children 36-71 months | 13.7% |
| Pregnant women        | 8.8%  |
| Lactating mothers     | 4.3%  |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 18.4% |
| Children aged 36-71 months | 29.3% |
| Pregnant women             | NA    |
| Lactating women            | NA    |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



75.5%

Received 3 or more antenatal checkups prior to delivery



88.2%

Received 2 or more TT injections prior to delivery



22.2%

Consumed 100 or more IFA tablets/syrup during pregnancy



83.4%

Had Institutional delivery



85.5%

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



58.9% Rural  
70% Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



4.9%

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



76%  
Breastfeeding



62.7%  
Nutrition



49.8%  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 5.6%     |
| AWWs living in the AWC village/ward  | 30.8%    |
| AWWs having 10 or more years of schooling  | 98.3%    |
| Median age of AWWs   | 40 years |
| AWCs serving to population more than the stipulated norm                           | 81.4%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 60.5% |
| AWCs having functional adult weighing scale | 67.2% |
| Available WHO growth chart at AWCs          | 79.7% |

<sup>H</sup> Number of AWCs surveyed for Delhi as per RSoC 2014 is 122.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-3, 2007-08

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 92.2% |
| AWWs having correct knowledge of normal birth weight of children                    | 88%   |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 94%   |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 91.5% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 71.6% |

| Health Service Delivery Personnel   | Value              |
|---|--------------------|
| ASHAs selected <sup>33</sup>  | 93%                |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 2000 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0%                 |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 27             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 8.7            | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 7.9            | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 18.1% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 9.2%  |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | NA    |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 13             | 47               |
| PDS <sup>41</sup>                           | 167.9          | 475.3            |
| MGNREGA <sup>42</sup>                       | NA             | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

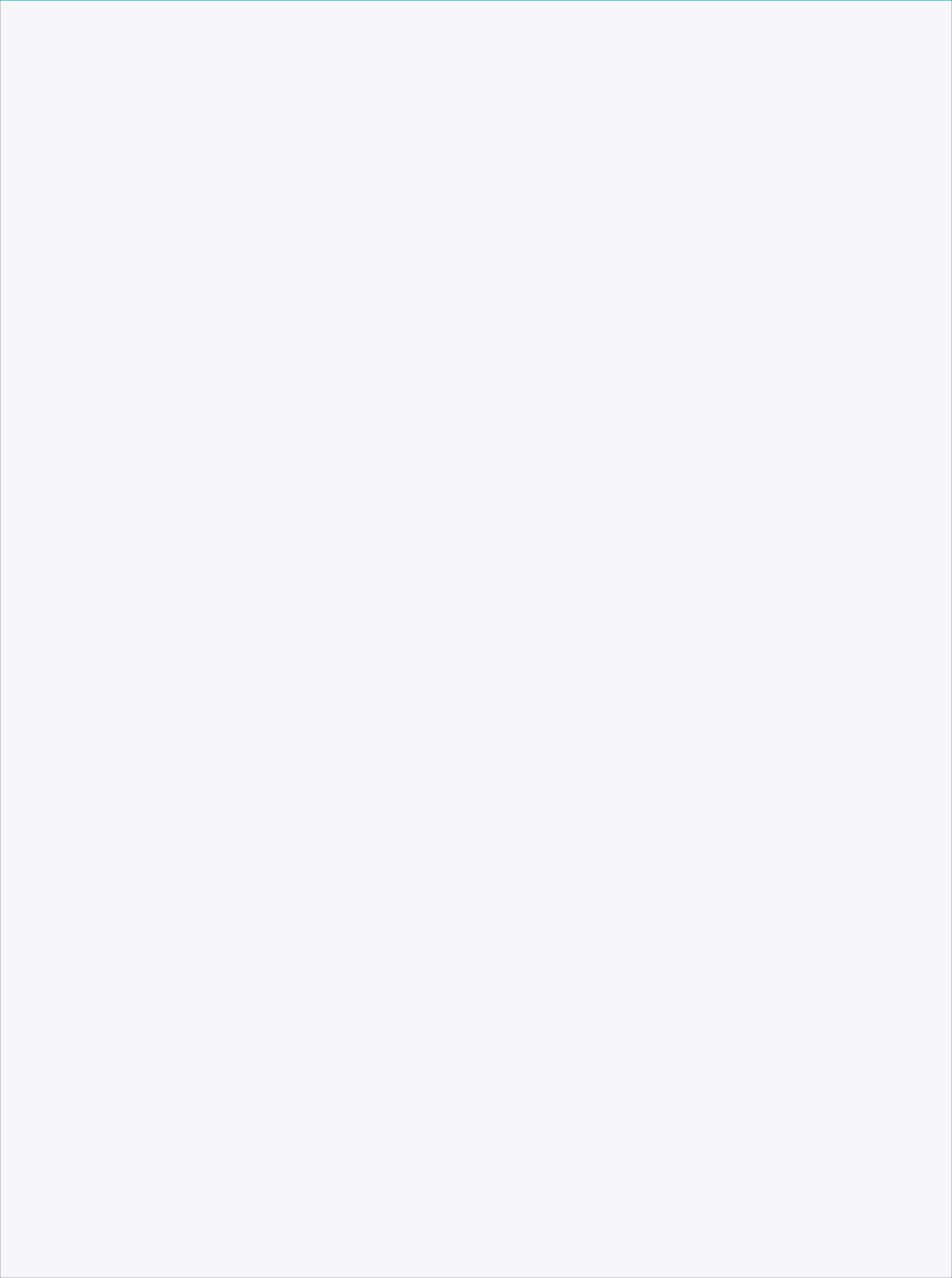
<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

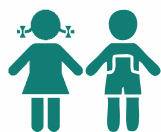
<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13





## FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN GOA

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**21.3%**  
Stunted<sup>1</sup>
**15.4%**  
Wasted<sup>1</sup>

World Health Assembly Nutrition Targets


**62.6%**

 Infants 0-5 months old who are exclusively breastfed<sup>1</sup>

**16.7%**

 Children under 3 years who have low birth weight (<2.5 kgs)<sup>1</sup>

**63.4%**

 Women 15-49 years old with anemia<sup>2</sup>

Immediate Determinants


**75.6%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>1</sup>
**38%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>1</sup>

**72.9%** Children 6-59 months old with anemia<sup>2</sup>

**5.8%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>1</sup>

Immediate Determinants


**66.5%**

 Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>1</sup>

**91.9%**

 Children 12-23 months old who are fully immunized<sup>1</sup>

**94.1%**

 Mothers of children under 36 months old who received three or more antenatal checkups<sup>1</sup>

Underlying Determinants


**58.9%**

 Currently married women with 10 or more years of schooling<sup>2</sup>

**16.1%**

 Women aged 20-24 years who were married before the age of 18<sup>1</sup>

**55.9%**

 Adolescent girls 15-18 years old with low BMI (<18.5)<sup>1</sup>

Underlying Determinants


**13.9%**

 Households practicing open defecation<sup>1</sup>

**5.1%**

 Population below state-specific poverty line<sup>3</sup>

Does state have a high-level nutrition mission?

**NO**
<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : DLHS4, 2012-13

<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

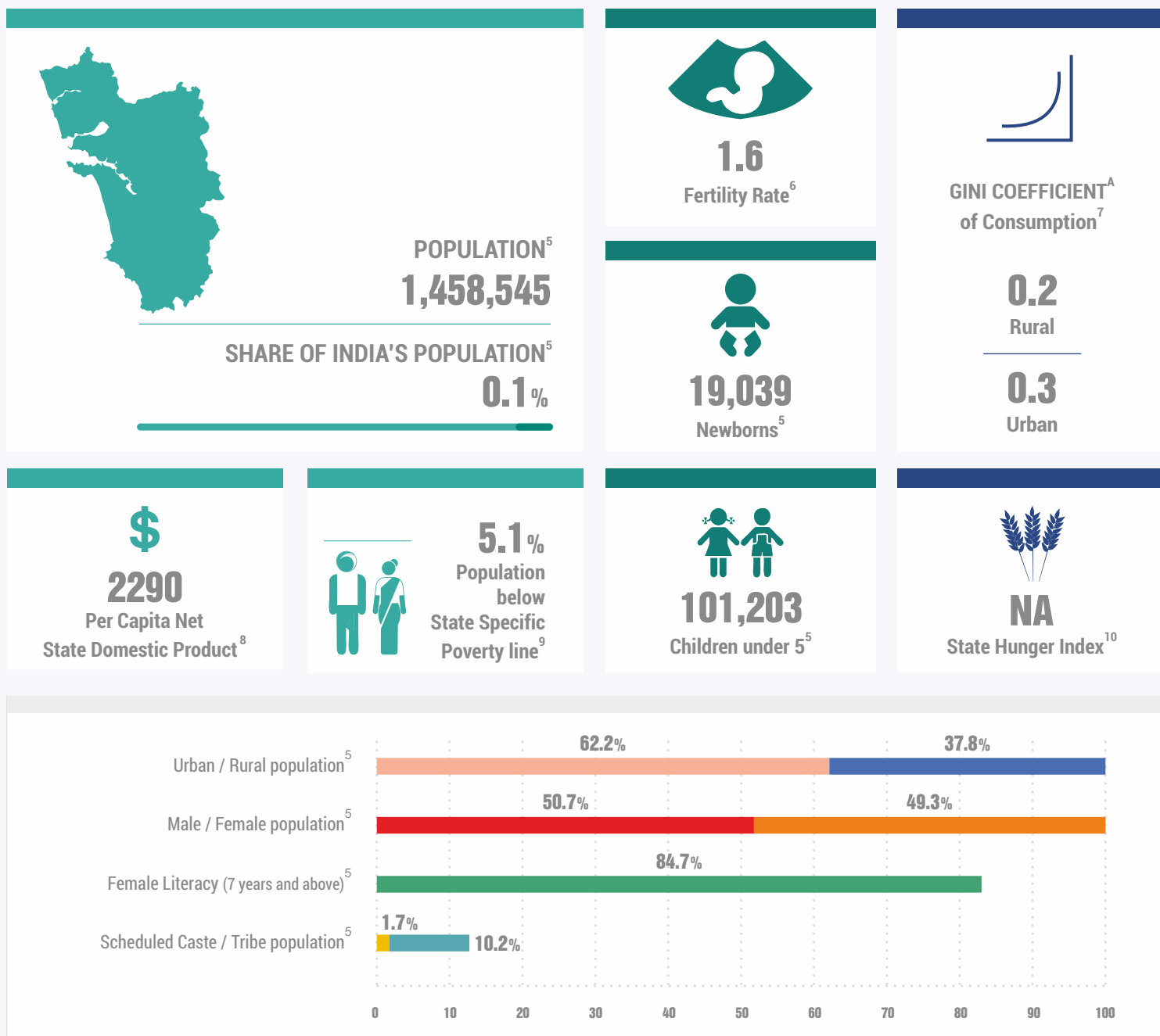


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## I. CONTEXT

### A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2009

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

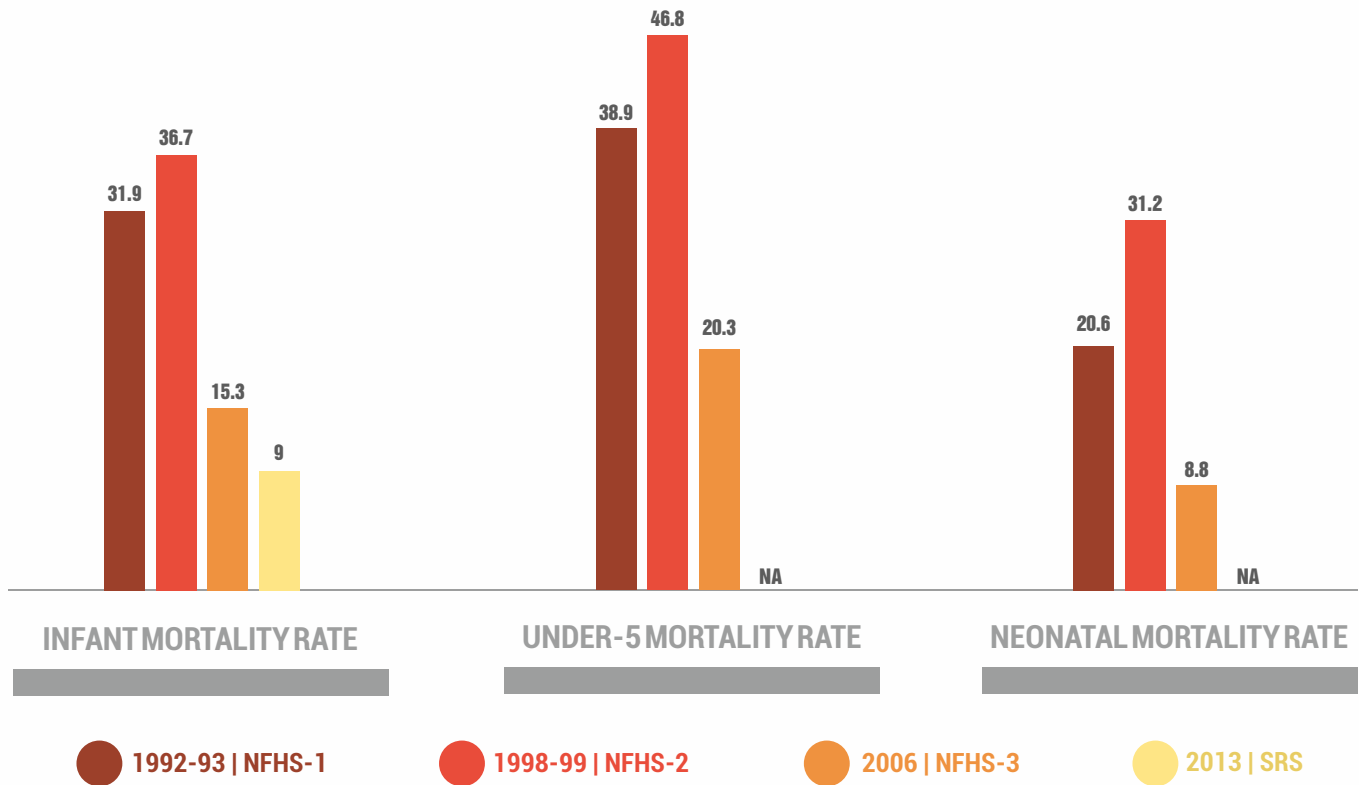
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

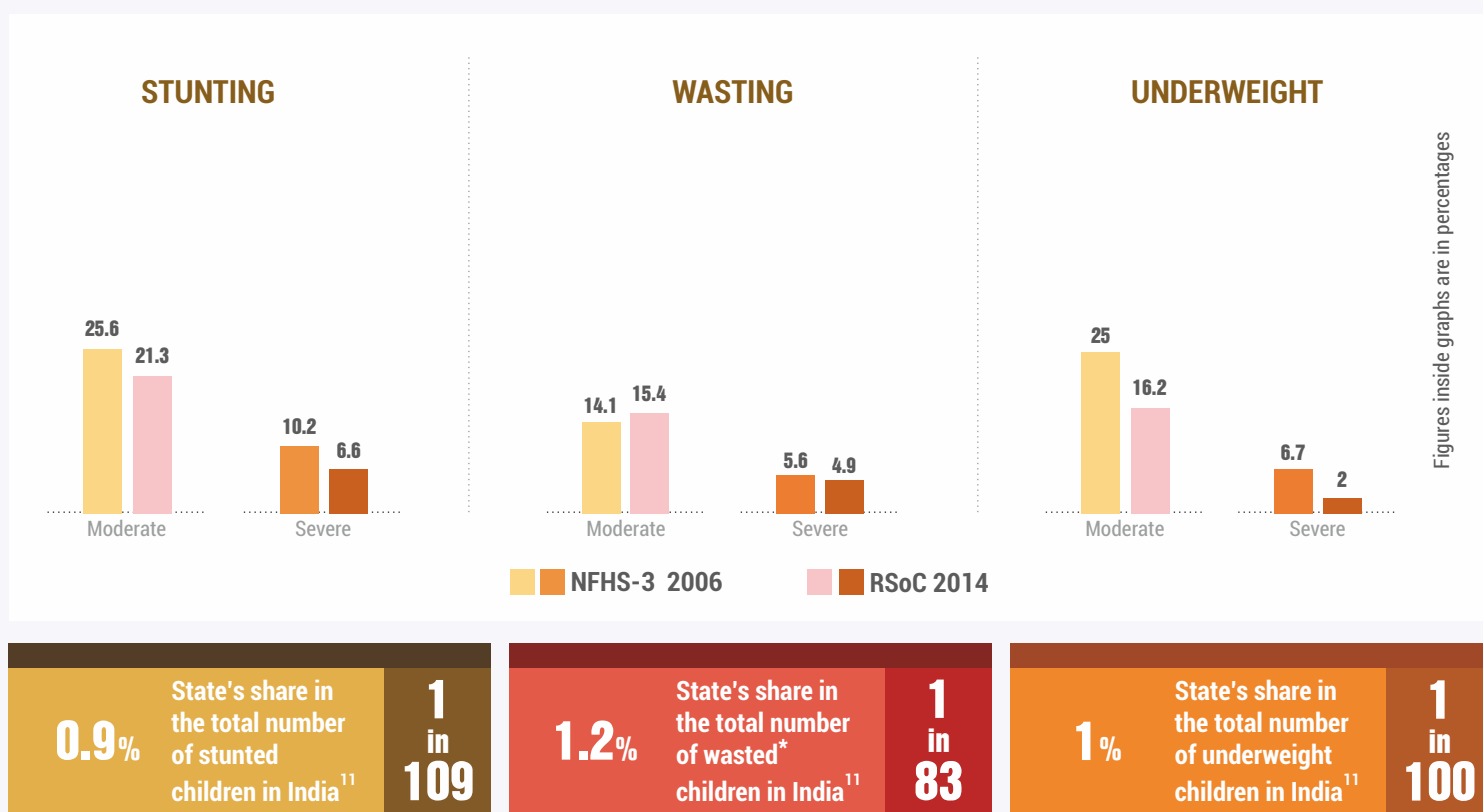
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

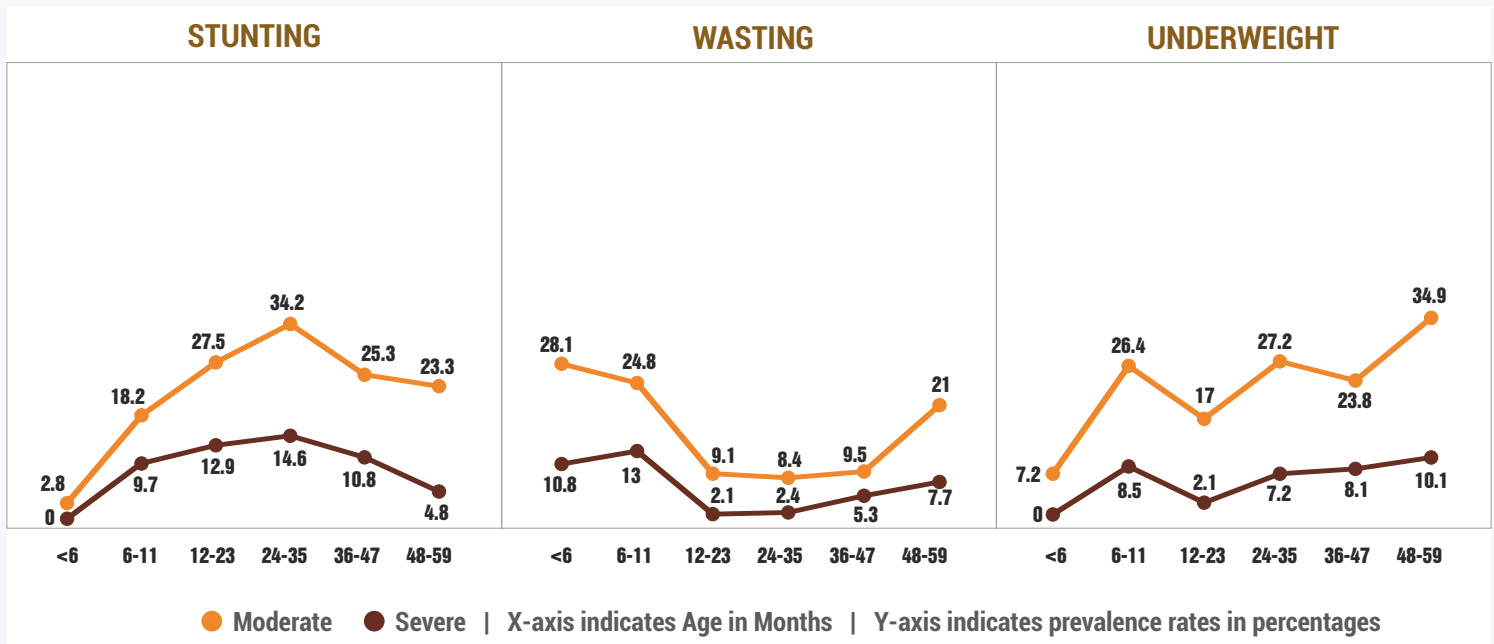


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

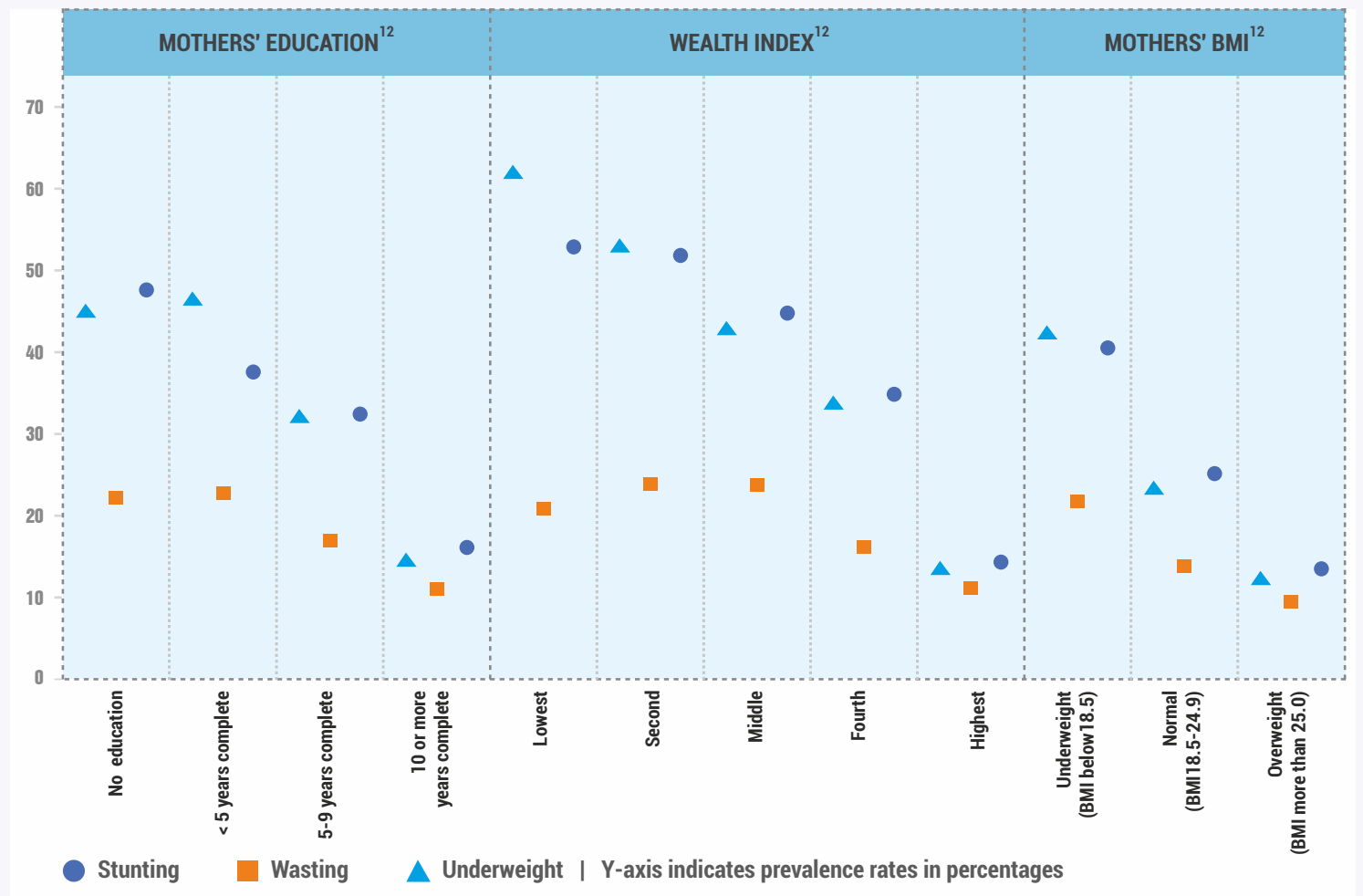
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



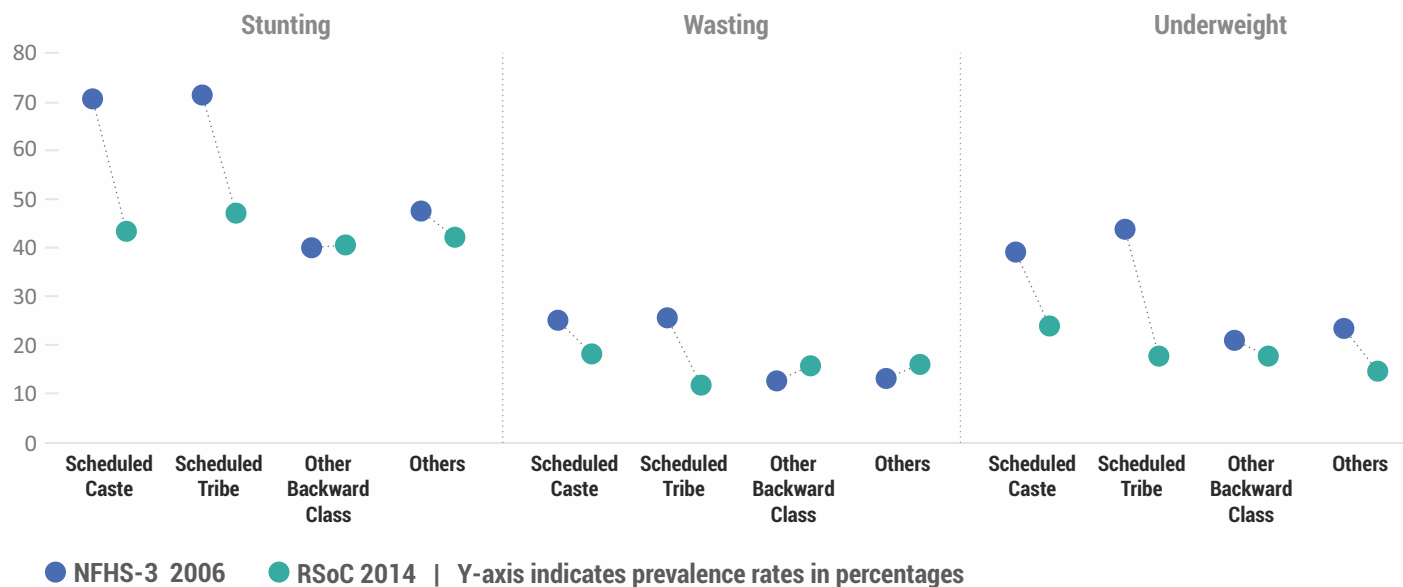
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

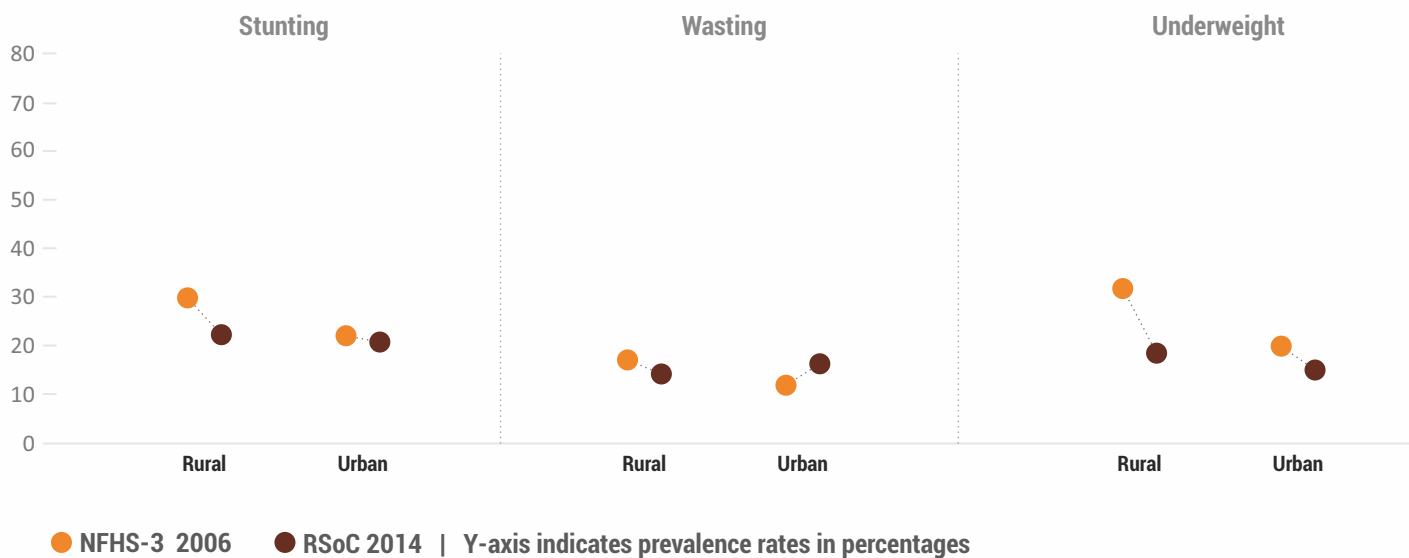


<sup>12</sup> Source : NFHS-3, 2006

### CASTE

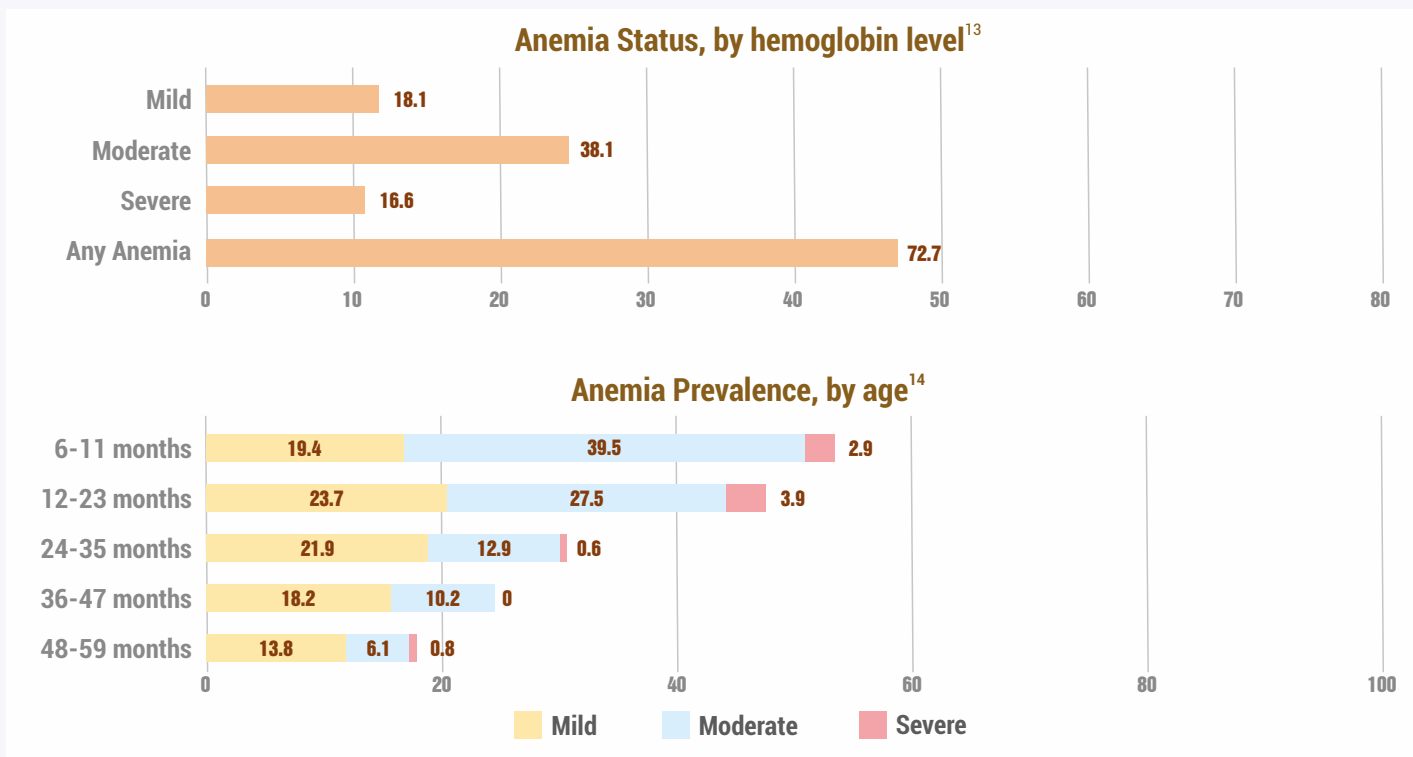


### RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 56.2% |
|  | Children aged 0-5 months who were exclusively breastfed  | 62.6% |
|   | Children aged 6-8 months who were fed complementary foods  | 75.6% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 38.5% |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 38%   |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 5.8%  |
| Had fever in 15 days prior to survey   | 12.3% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 4.9%  |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

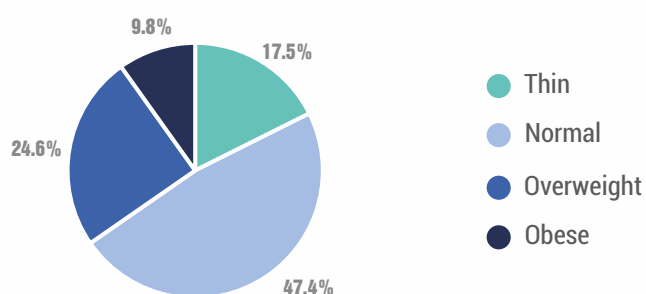
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**63.4%**

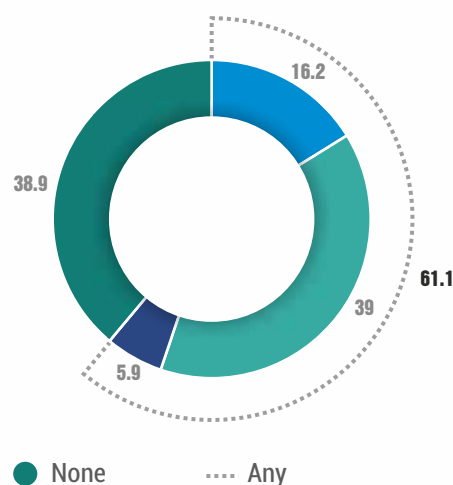
Women aged 15-49 years are anemic

**7.3%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

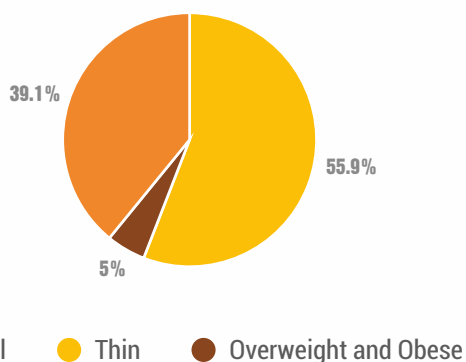
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**39.1%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**0.4%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

● Normal ● Thin ● Overweight and Obese

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **58.9%**



**16.1%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **29.1** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.5**

**0.5**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **21.9%**

Currently married women who make decisions about<sup>23</sup>:



**32.8%** Own healthcare



**13.3%** Major household purchase



**44.2%** Purchases for daily household needs



**27.8%** Visits to her family/friends/relatives



**19.6%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**40.2%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>0</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



89.5%

Households with access to improved sources of drinking water<sup>E, 24</sup>

67%

Households using improved sanitation facility<sup>F, 24</sup>



13.9%

Households practicing open defecation<sup>24</sup>

0.3 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



7.7%

Growth rate of agriculture from 2007-2012<sup>26</sup>



0.05%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

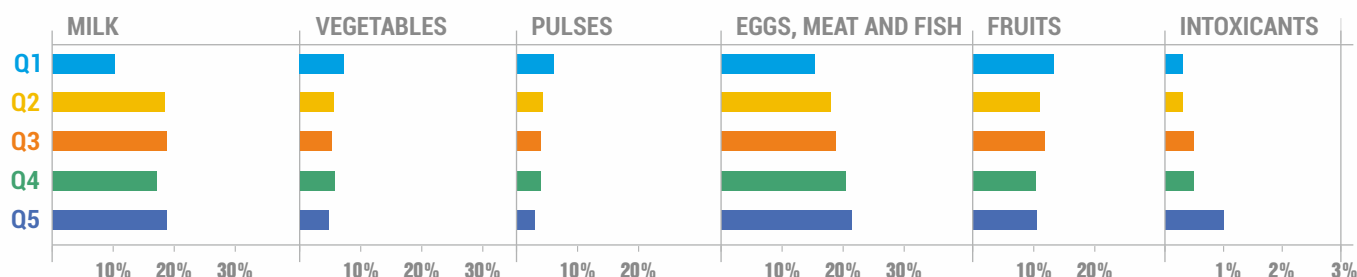
RURAL

NA 2233  
GOA INDIA AVG

URBAN

NA 2206  
GOA INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 66.5% |
| Children 36-71 months | 41.8% |
| Pregnant women        | 49.2% |
| Lactating mothers     | 70.2% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 62.6% |
| Children aged 36-71 months | 66.6% |
| Pregnant women             | 70.7% |
| Lactating women            | 69.9% |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**94.1%**

Received 3 or more antenatal checkups prior to delivery



**95.1%**

Received 2 or more TT injections prior to delivery



**61%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**99.5%**

Had Institutional delivery



**99.6%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**95.1%** Rural  
**90%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**0.3%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



**78.3%**  
Breastfeeding



**51.2%**  
Nutrition of mother and child



**16.1%**  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup> | Value           |
|--|-----------------|
| Pending or vacant Anganwadi workers to sanctioned number of workers*           | <b>0.3%</b>     |
| AWWs living in the AWC village/ward  | <b>59.4%</b>    |
| AWWs having 10 or more years of schooling                                      | <b>99.3%</b>    |
| Median age of AWWs   | <b>42 years</b> |
| AWCs serving to population more than the stipulated norm                       | <b>48.2%</b>    |

| Growth Monitoring <sup>30</sup>             | Value        |
|---|--------------|
| AWCs having functional baby weighing scale  | <b>94.9%</b> |
| AWCs having functional adult weighing scale | <b>95.7%</b> |
| Available WHO growth chart at AWCs          | <b>99.6%</b> |

<sup>H</sup> Number of AWCs surveyed for Goa as per RSoC 2014 is 100.

<sup>30</sup> Source : RSoC, 2014

<sup>31</sup> Source : DLHS-4, 2012-13

\* Source : MoWCD, 2012

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 100%  |
| AWWs having correct knowledge of normal birth weight of children                    | 96.3% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 98.2% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 100%  |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 99.6% |

| Health Service Delivery Personnel   | Value |
|---|-------|
| ASHAs selected <sup>33</sup>  | NA    |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | NA    |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0%    |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 3              | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 4.1            | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 0.6            | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 13.2% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 62.5% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 100%  |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 2              | 47               |
| PDS <sup>41</sup>                           | 25.2           | 475.3            |
| MGNREGA <sup>42</sup>                       | 0              | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lq15/15/as216.htm](http://164.100.47.132/Annexure_New/lq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13

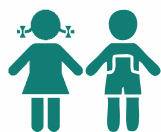


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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN GUJARAT

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**41.6%**  
Stunted<sup>1</sup>
**18.7%**  
Wasted<sup>1</sup>

World Health Assembly Nutrition Targets


**74.4%**

 Infants 0-5 months old who are exclusively breastfed<sup>1</sup>

**19.5%**

 Children under 3 years who have low birth weight (<2.5 kgs)<sup>2</sup>

**55.3%**

 Women 15-49 years old with anemia<sup>1</sup>

Immediate Determinants


**43.4%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>2</sup>
**20.2%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>2</sup>

**69.7%** Children 6-59 months old with anemia<sup>1</sup>

**8.8%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>2</sup>

Immediate Determinants


**24.4%**

 Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>2</sup>

**56.2%**

 Children 12-23 months old who are fully immunized<sup>2</sup>

**72.3%**

 Mothers of children under 36 months old who received three or more antenatal checkups<sup>2</sup>

Underlying Determinants


**44.6%**

 Currently married women with 10 or more years of schooling<sup>1</sup>

**17%**

 Women aged 20-24 years who were married before the age of 18<sup>2</sup>

**52.6%**

 Adolescent girls 15-18 years old with low BMI (<18.5)<sup>2</sup>

Underlying Determinants


**38.1%**

 Households practicing open defecation<sup>2</sup>

**16.6%**

 Population below state-specific poverty line<sup>3</sup>

Does state have a high-level nutrition mission?

**YES**
<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : NFHS-3, 2006

<sup>3</sup> Source : DLHS-3, 2007-08

<sup>4</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

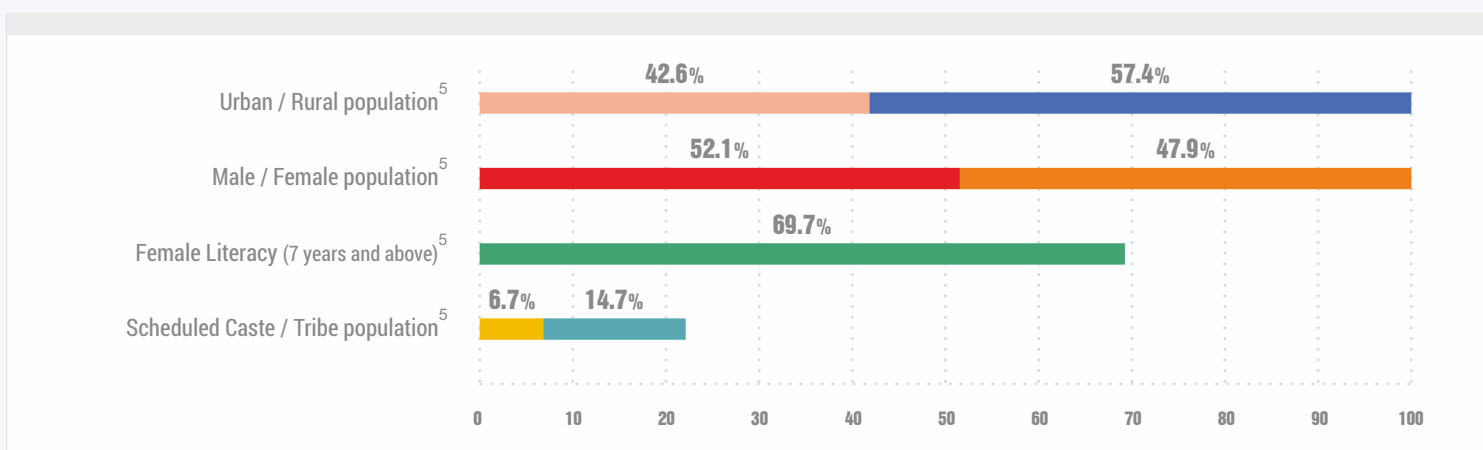
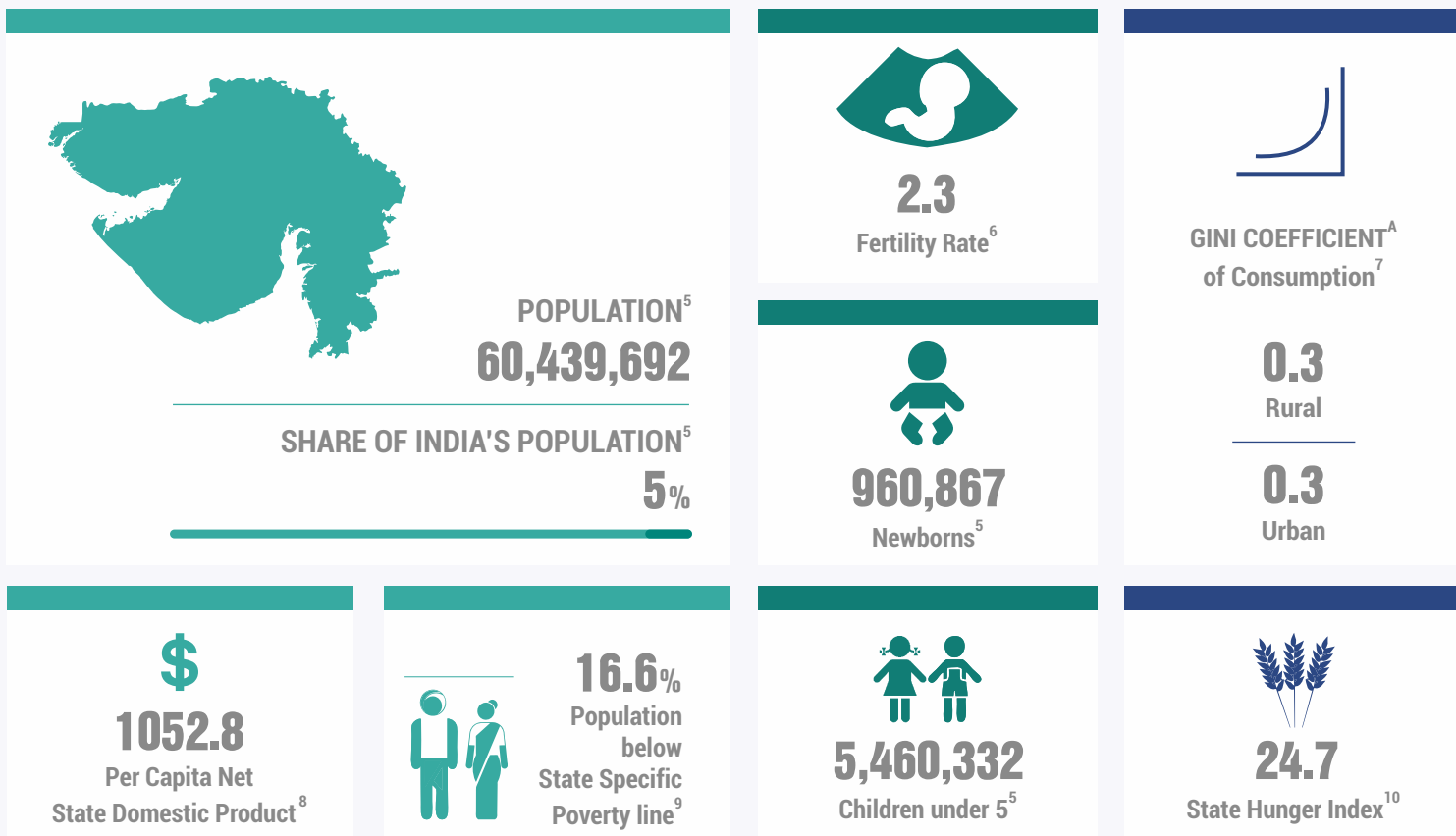


The page contains a large, faint watermark of a globe centered on the Atlantic Ocean, with the word "Globe" written across it. The globe is rendered in a light gray color and is positioned in the lower-left quadrant of the page. The rest of the page is blank white space.

# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

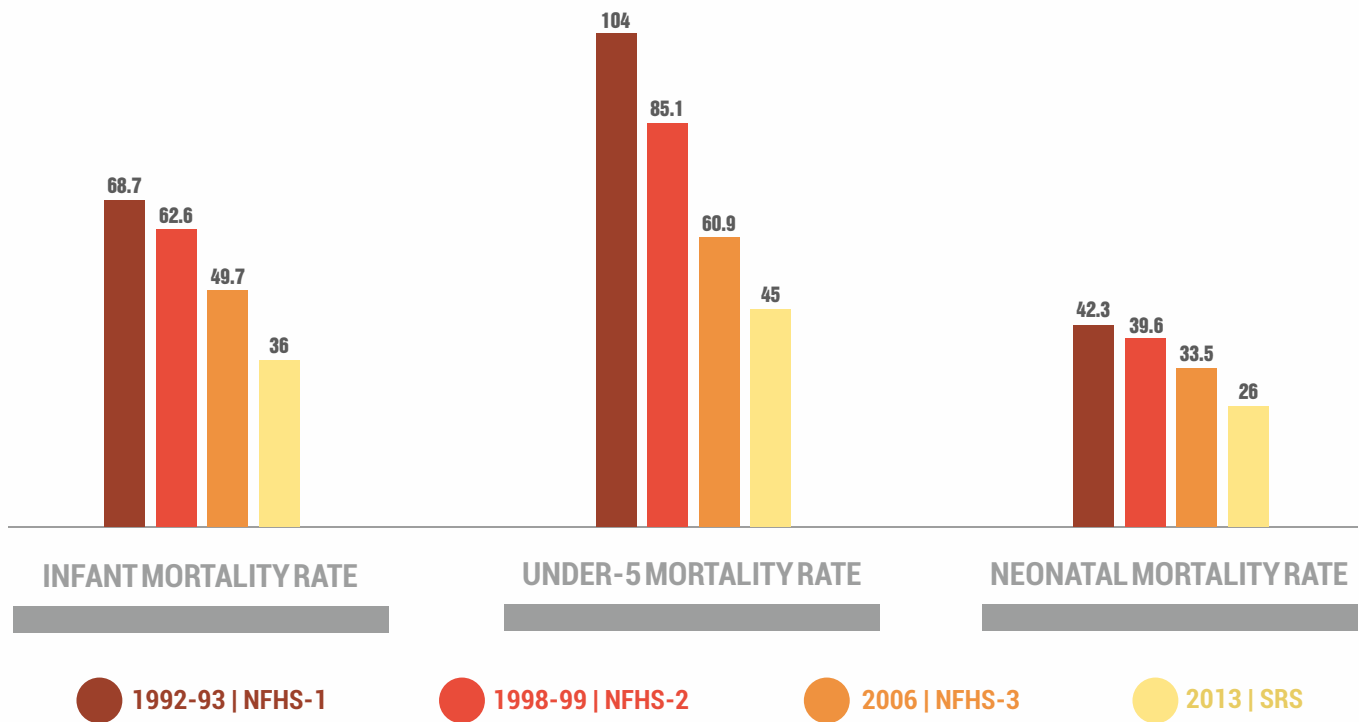
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14.; [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

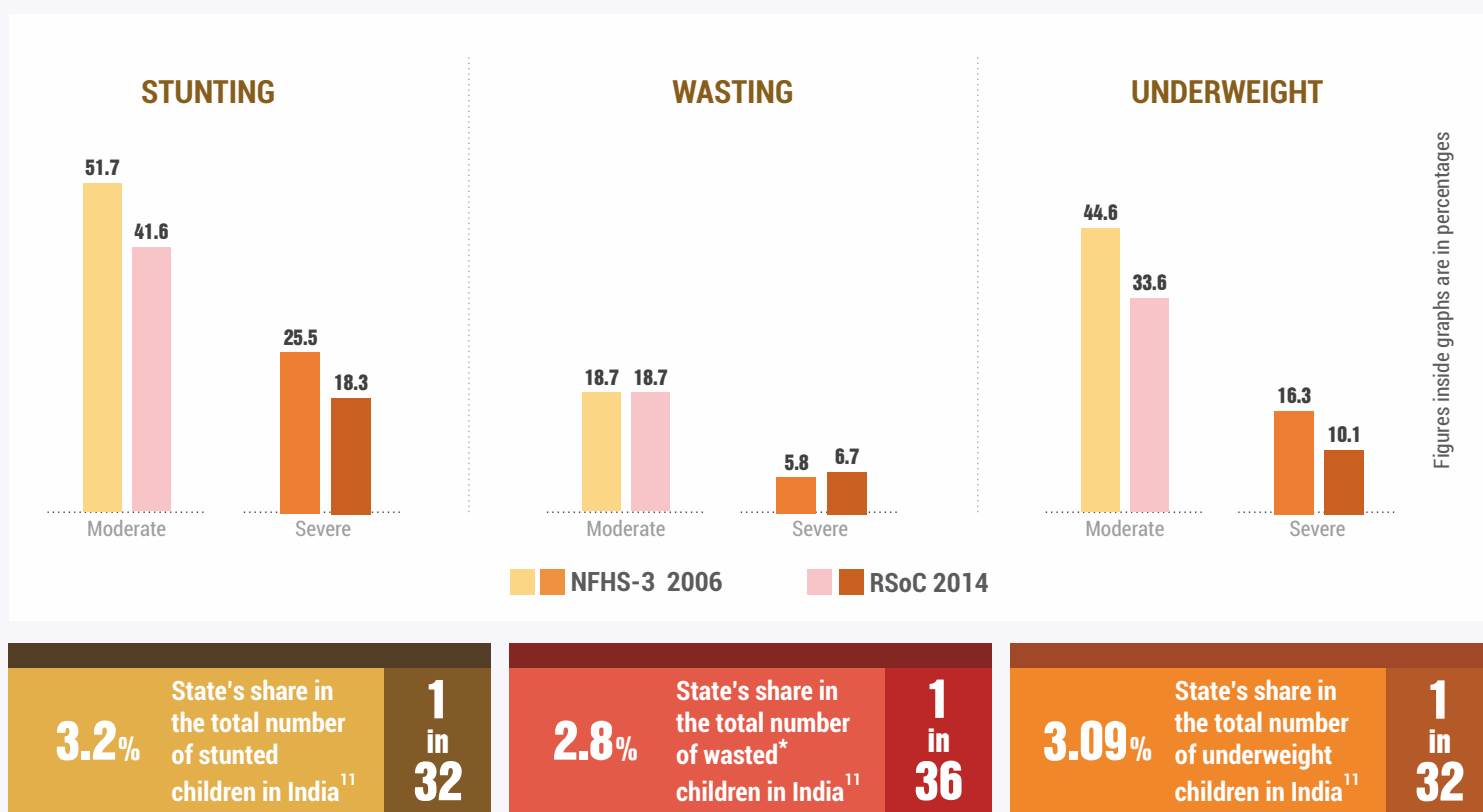
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

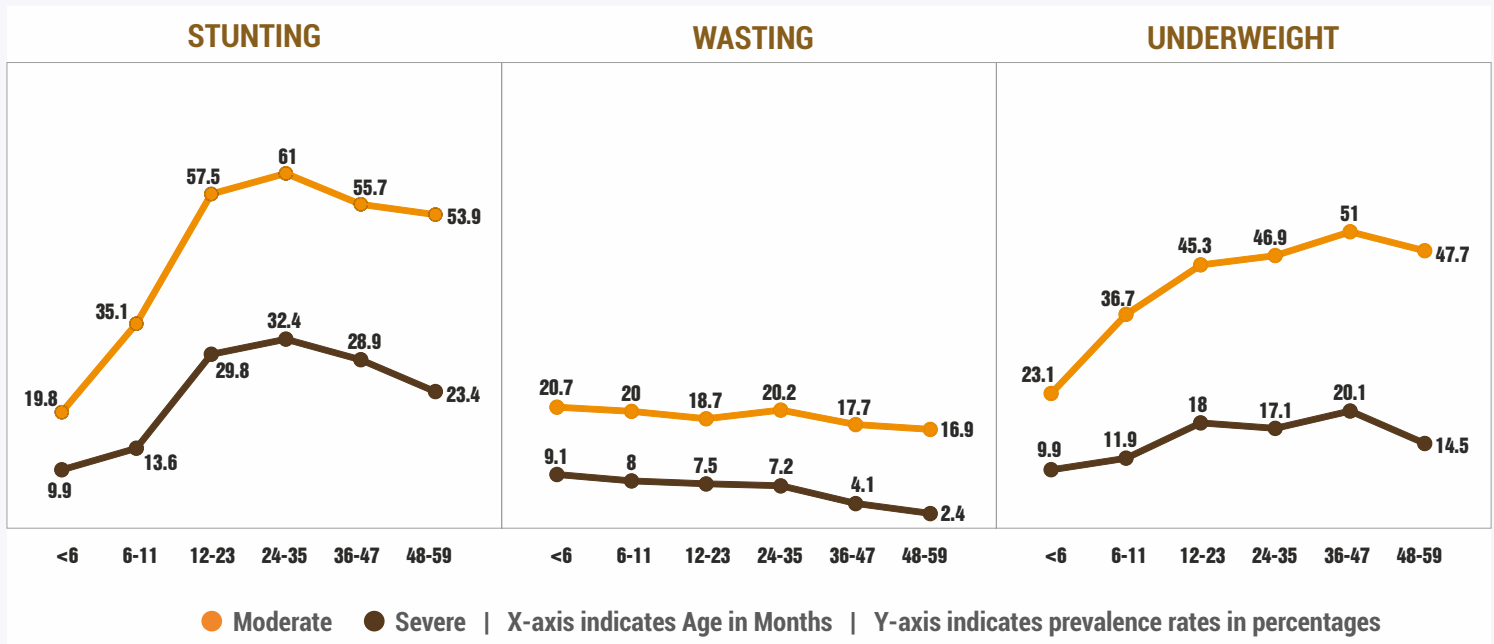


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

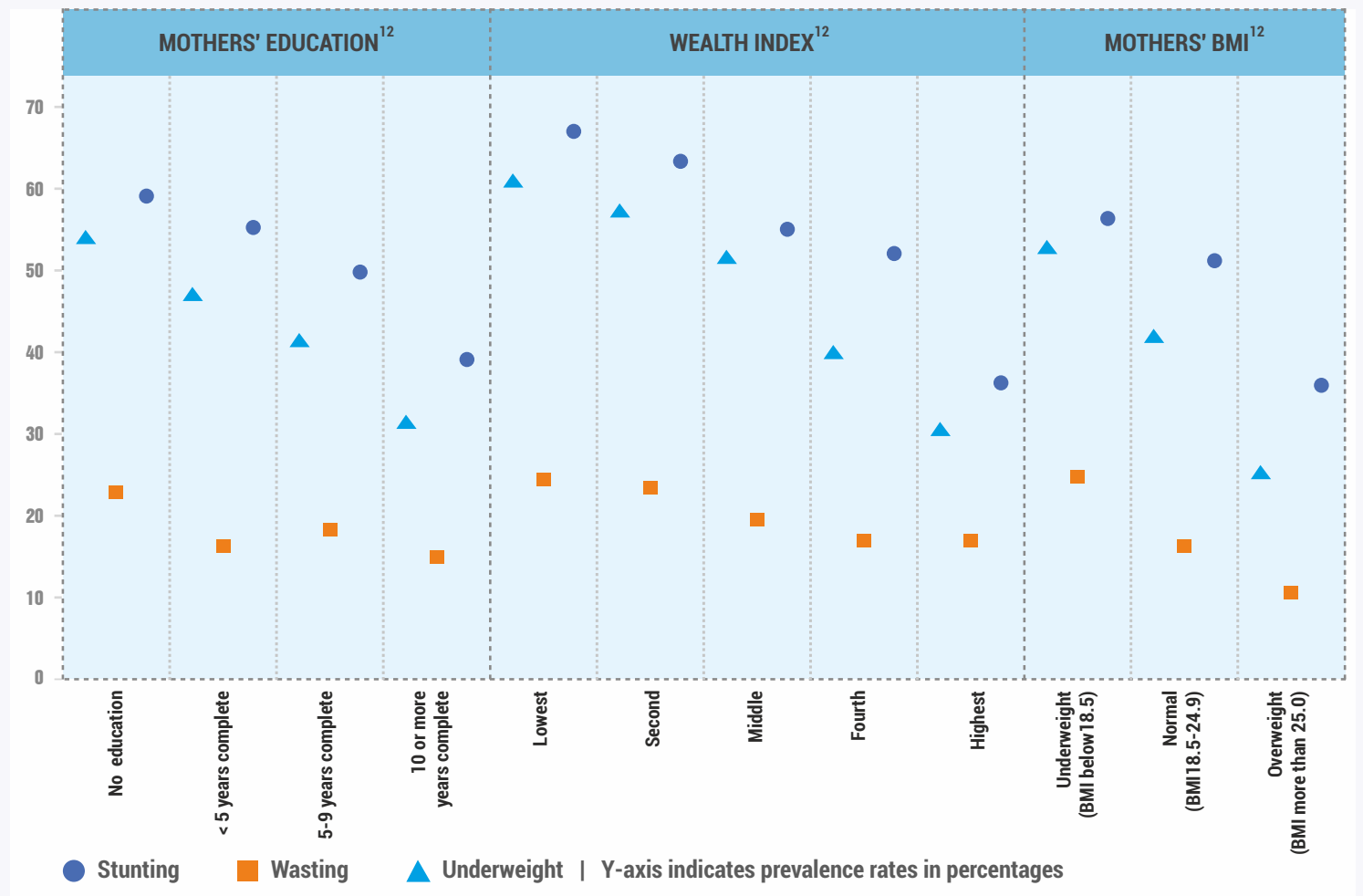
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



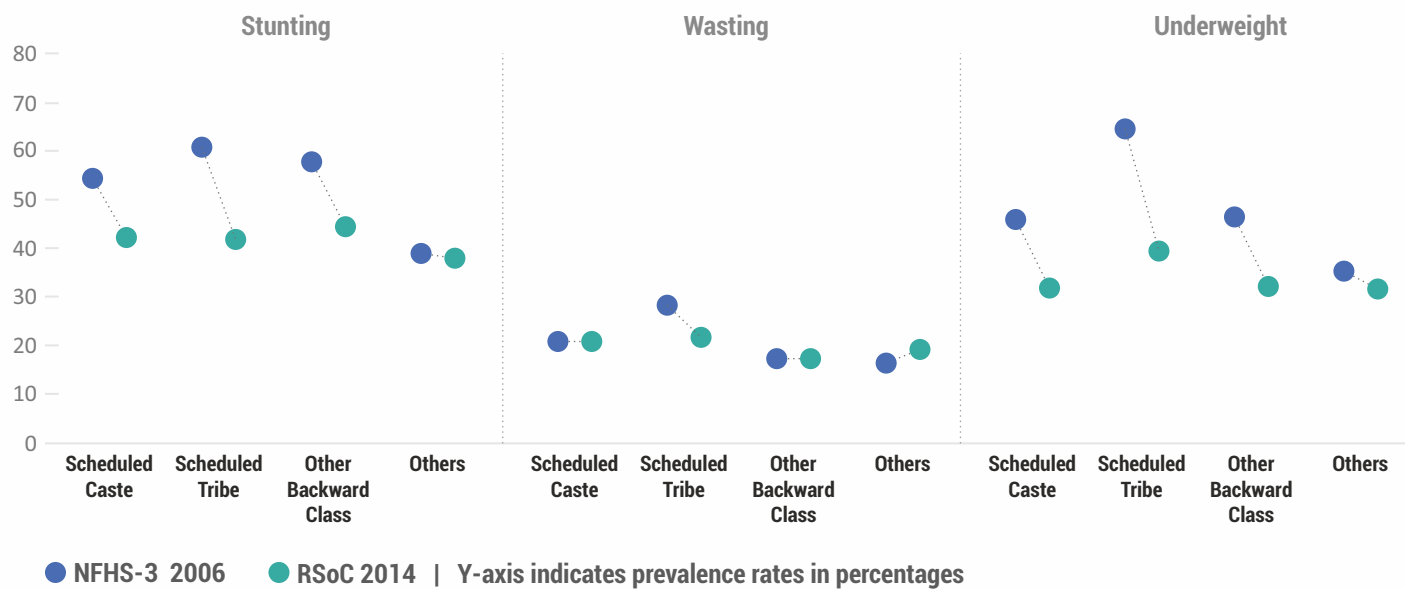
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

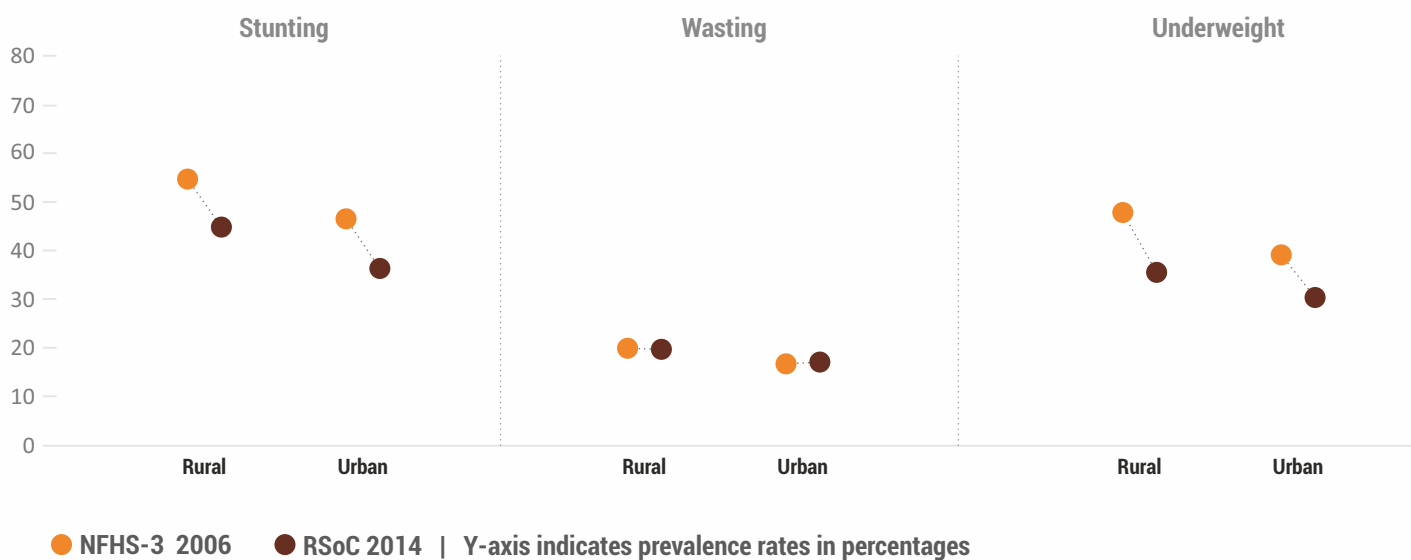


<sup>12</sup> Source : NFHS-3, 2006

CASTE

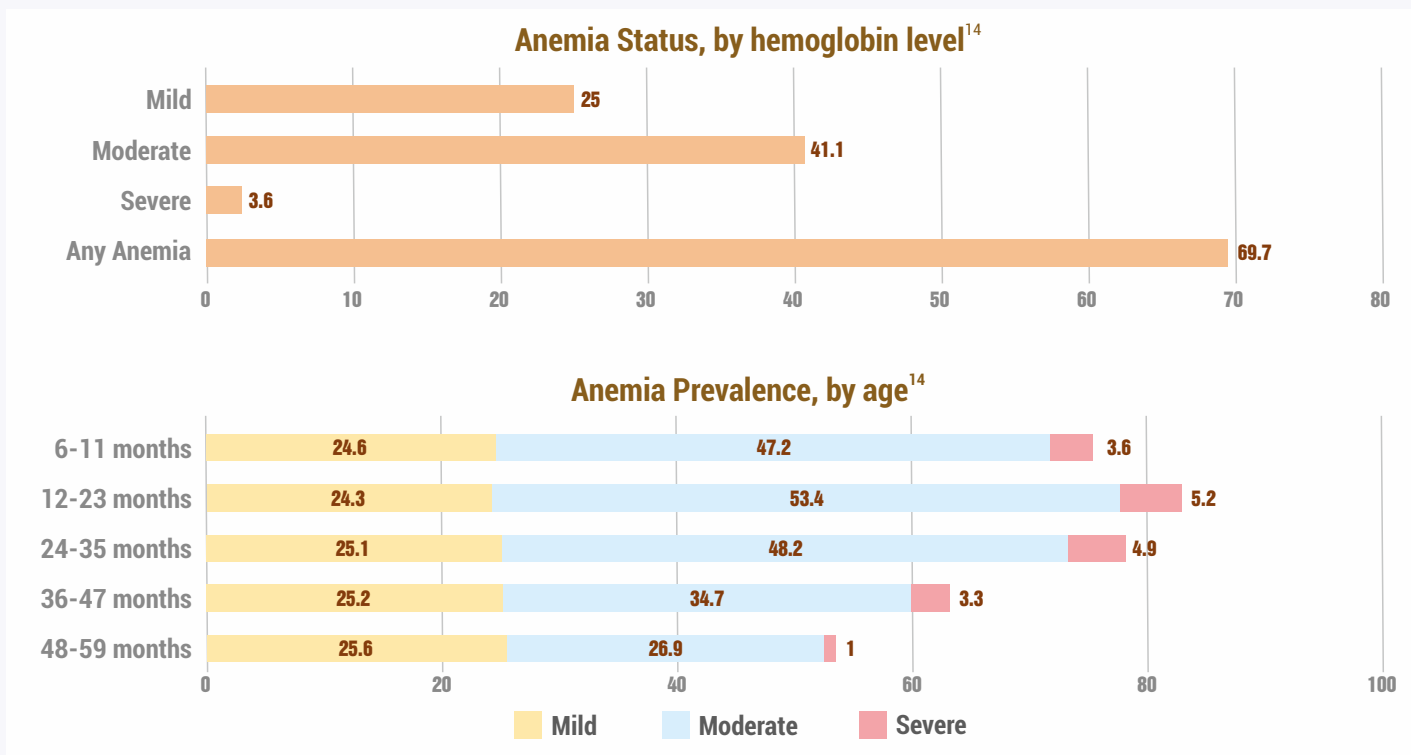


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.




<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 44.9% |
|  | Children aged 0-5 months who were exclusively breastfed  | 74.4% |
|   | Children aged 6-8 months who were fed complementary foods  | 43.4% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 30.4% |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 20.2% |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 8.8%  |
| Had fever in 15 days prior to survey   | 12.7% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 10.4% |

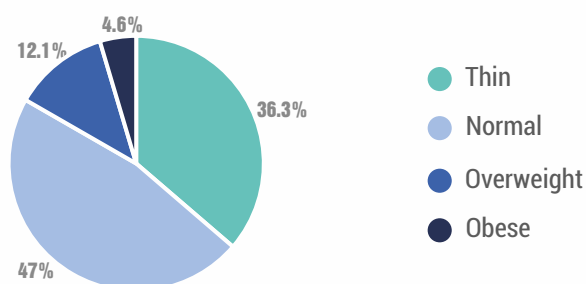
<sup>B</sup> The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**55.3%**

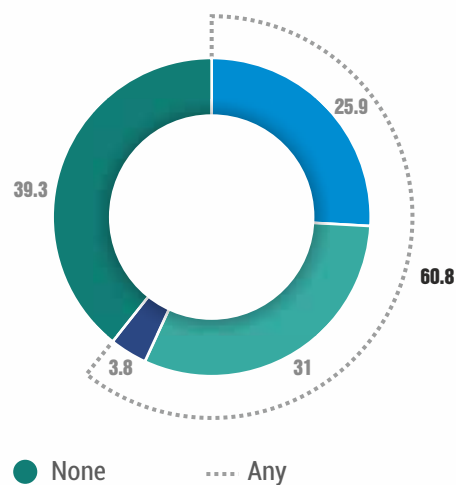
Women aged 15-49 years are anemic

**2.6%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

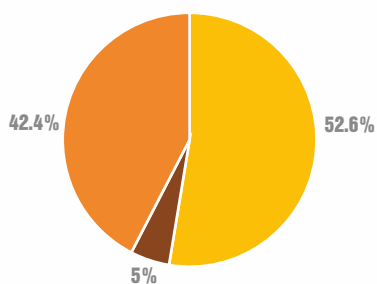
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



● Normal ● Thin ● Overweight and Obese



**57.4%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**2.1%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

<sup>16</sup> Source : NFHS-3, 2006

<sup>17</sup> Source : RSOC, 2014

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **20.3%**



**17%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **22.2** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.5**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **23.4%**

Currently married women who make decisions about<sup>23</sup>:



**33.4%** Own healthcare



**7.7%** Major household purchase



**51.3%** Purchases for daily household needs



**8.6%** Visits to her family/friends/relatives



**33.8%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**58%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-3, 2007-08

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



96.6%

Households with access to improved sources of drinking water<sup>E, 24</sup>

55.2%

Households using improved sanitation facility<sup>F, 24</sup>



38.1%

Households practicing open defecation<sup>24</sup>

44.9 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



5.5%

Growth rate of agriculture from 2007-2012<sup>26</sup>



3.4%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

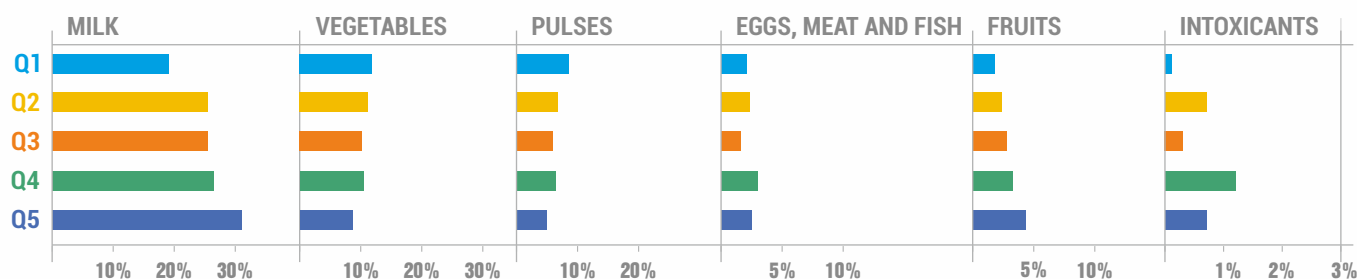
RURAL

2024 GUJARAT | 2233 INDIA AVG

URBAN

2154 GUJARAT | 2206 INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 54.5% |
| Children 36-71 months | 69.8% |
| Pregnant women        | 49%   |
| Lactating mothers     | 49.4% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 24.4% |
| Children aged 36-71 months | 40.5% |
| Pregnant women             | 20.2% |
| Lactating women            | 19.6% |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**72.3%**

Received 3 or more antenatal checkups prior to delivery



**87.6%**

Received 2 or more TT injections prior to delivery



**31.2%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**87.9%**

Had Institutional delivery



**89.6%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**53.6%** Rural  
**59.9%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**6.2%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



**65%**  
Breastfeeding



**59.5%**  
Nutrition



**42.9%**  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 7.5%     |
| AWWs living in the AWC village/ward  | 84.6%    |
| AWWs having 10 or more years of schooling  | 77.1%    |
| Median age of AWWs   | 40 years |
| AWCs serving to population more than the stipulated norm                           | 58.9%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 82.5% |
| AWCs having functional adult weighing scale | 48.1% |
| Available WHO growth chart at AWCs          | 96.2% |

<sup>H</sup> Number of AWCs surveyed for Gujarat as per RSoC 2014 is 174.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-3, 2007-08

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 97.4% |
| AWWs having correct knowledge of normal birth weight of children                    | 66.5% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 100%  |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 98.5% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 54%   |

| Health Service Delivery Personnel   | Value              |
|---|--------------------|
| ASHAs selected <sup>33</sup>  | 90%                |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 1089 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 11.8%              |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 100            | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 108            | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 7.4            | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 28.3% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 19.8% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 45.9% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 63             | 47               |
| PDS <sup>41</sup>                           | 554.1          | 475.3            |
| MGNREGA <sup>42</sup>                       | 103            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13



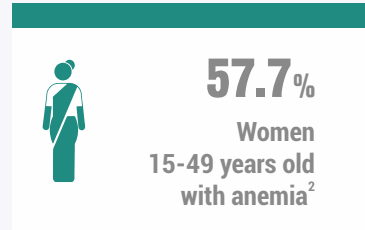
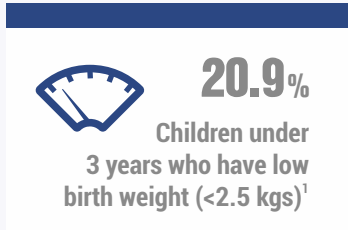
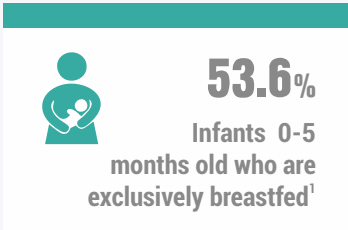
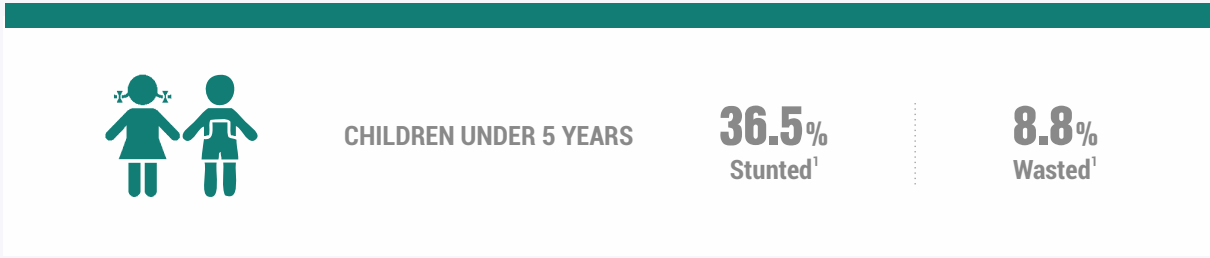
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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN HARYANA

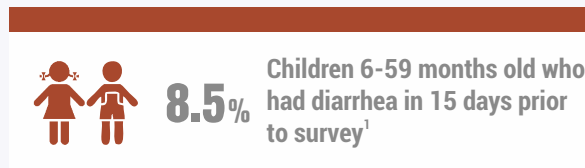
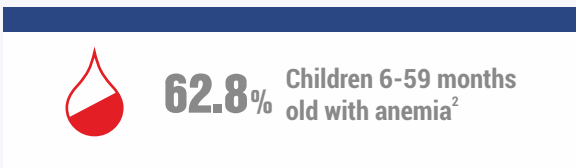
World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



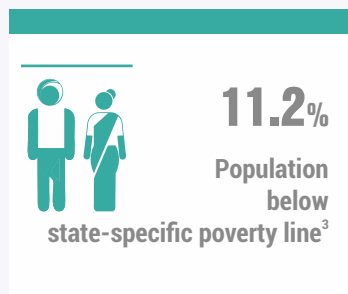
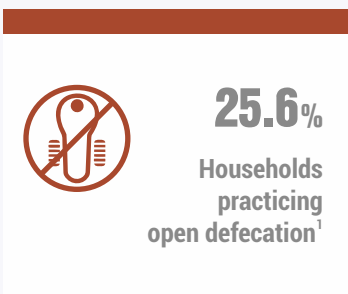
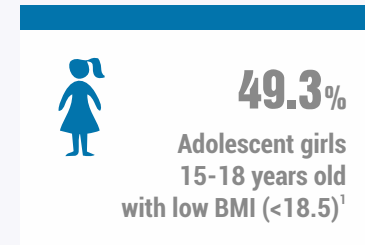
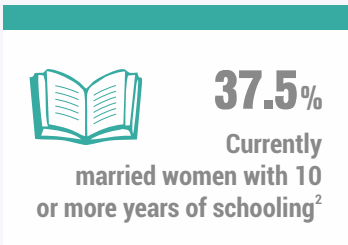
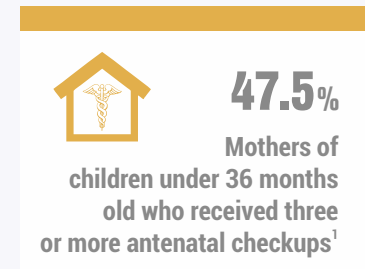
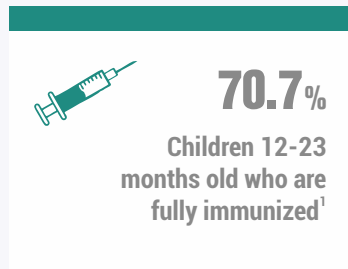
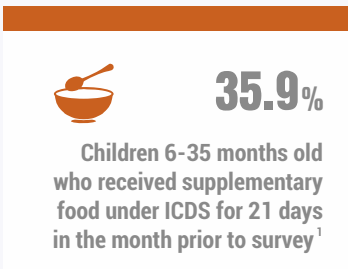
Immediate Determinants

Immediate Determinants



Underlying Determinants

Underlying Determinants



<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : DLHS4, 2012-13

<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

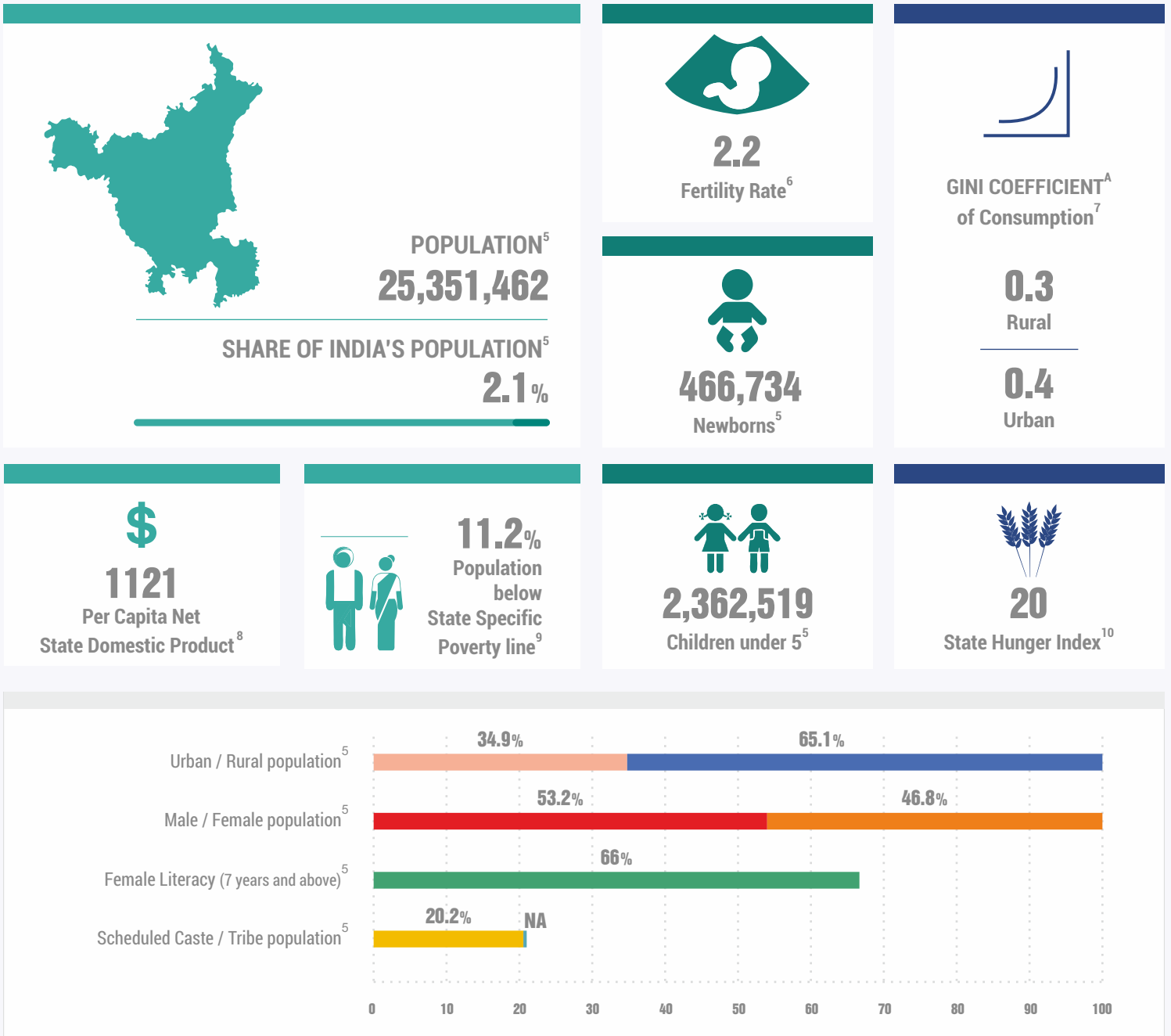


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# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

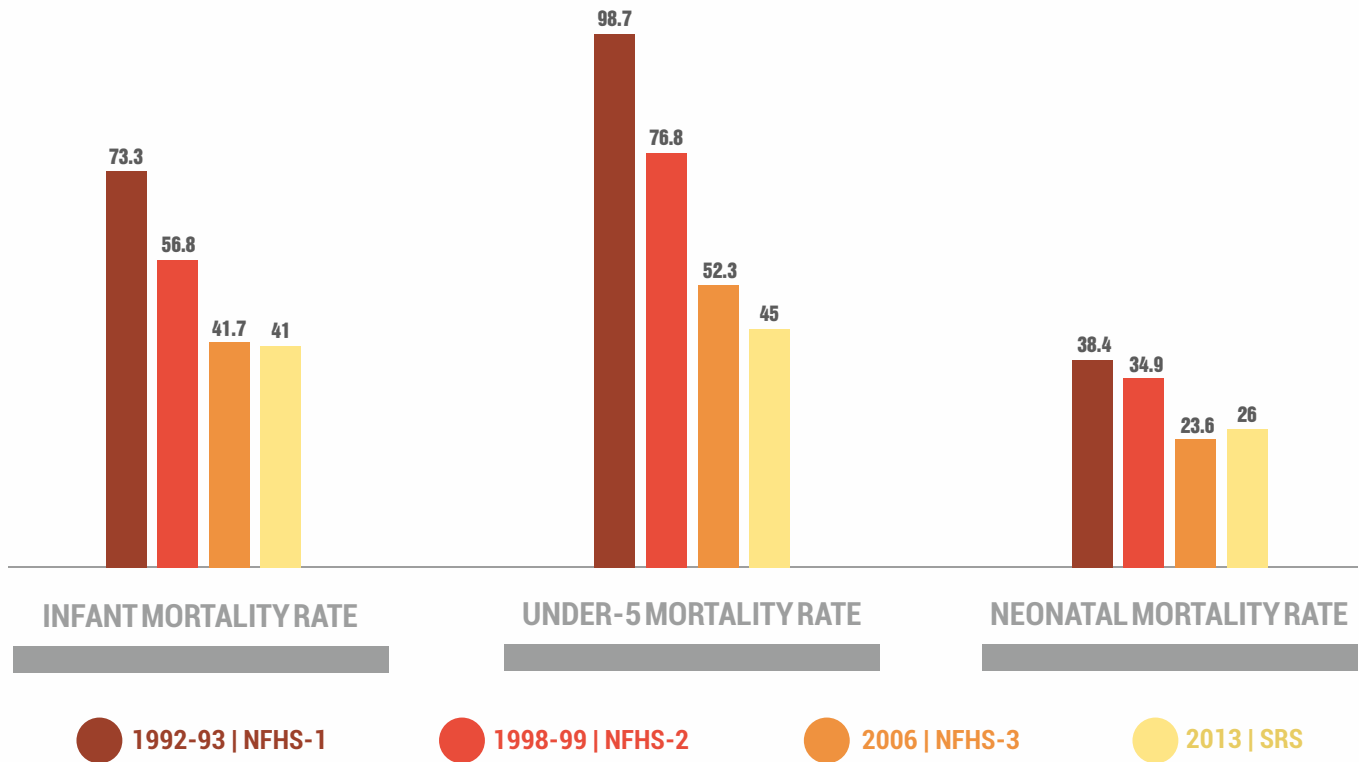
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India state hunger index, comparisons of hunger across states, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

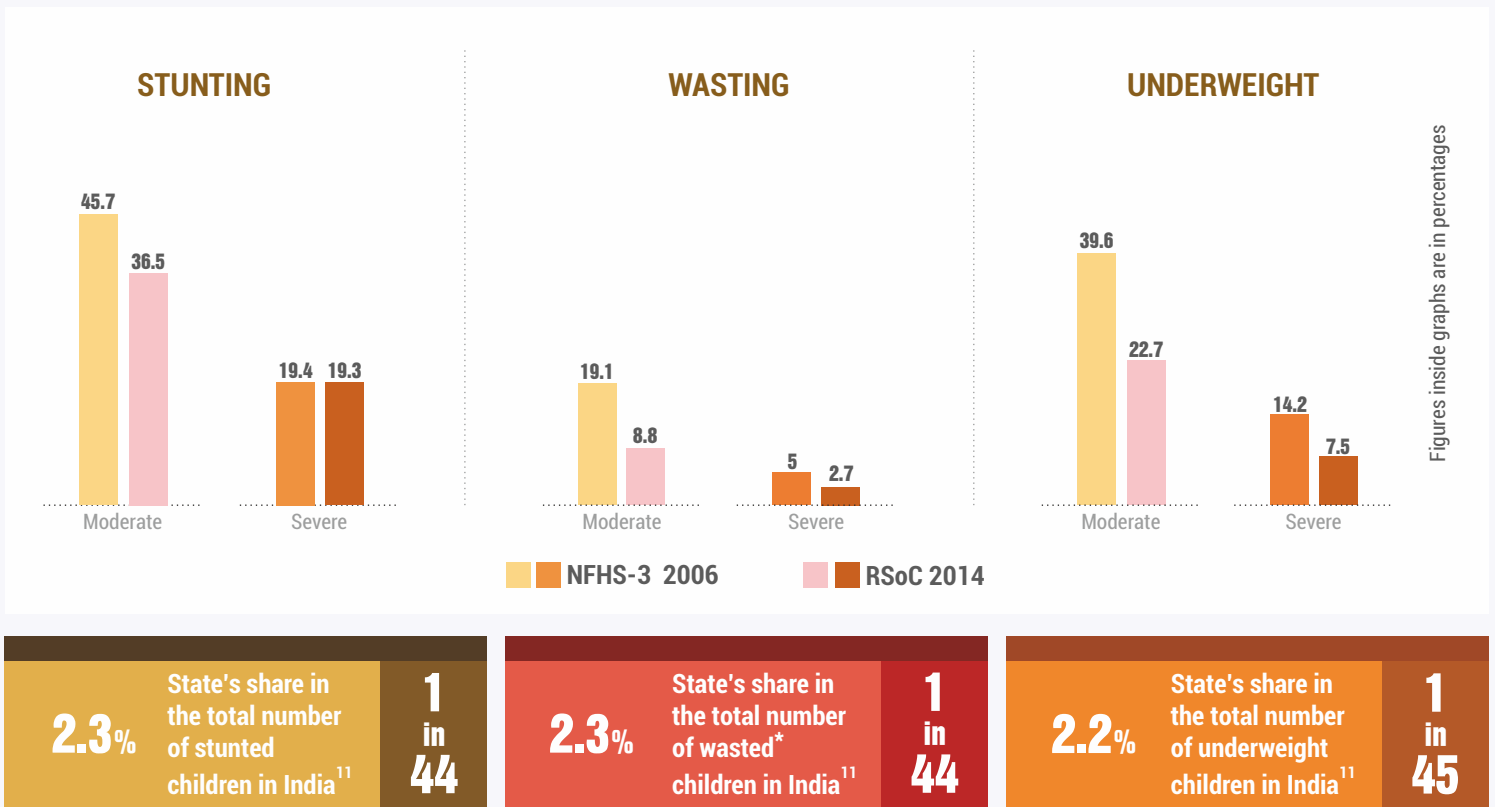
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

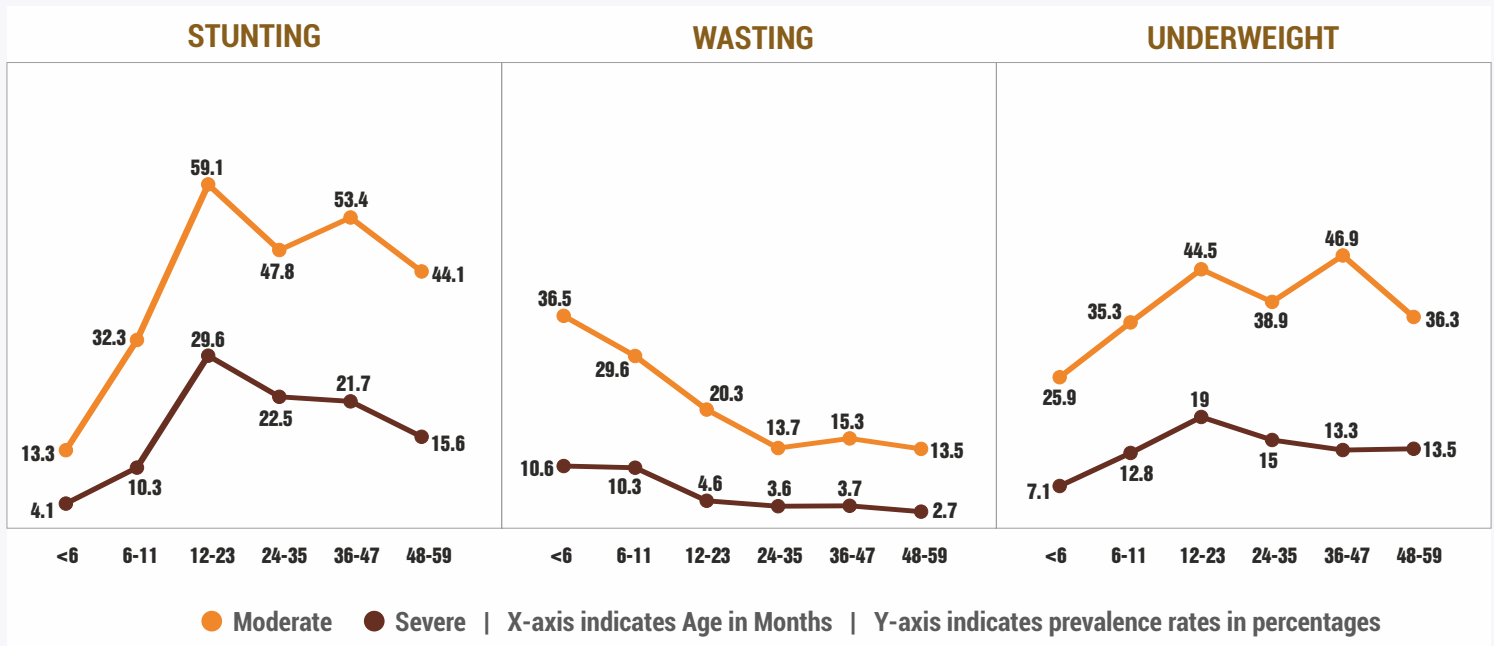


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

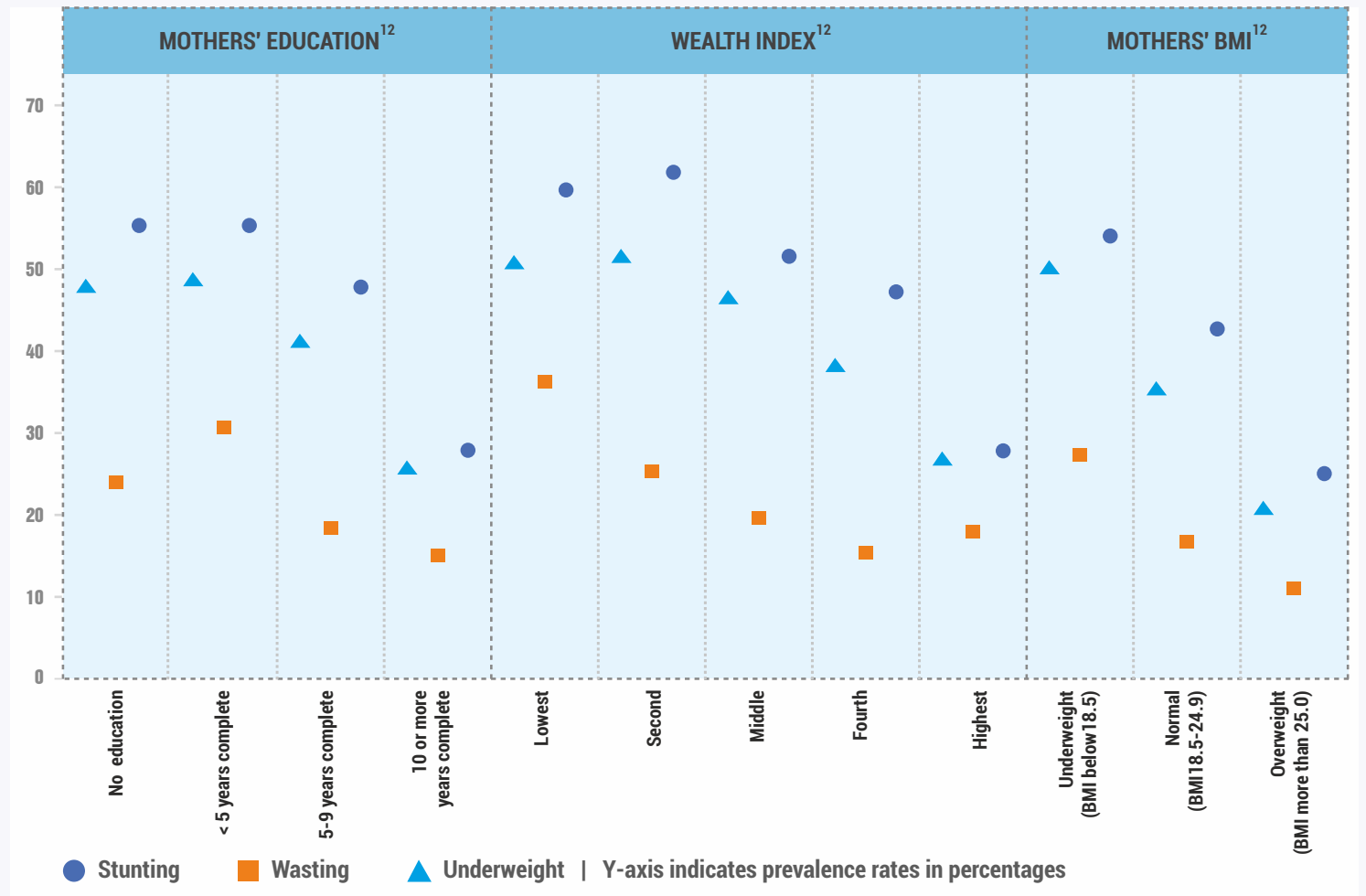
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



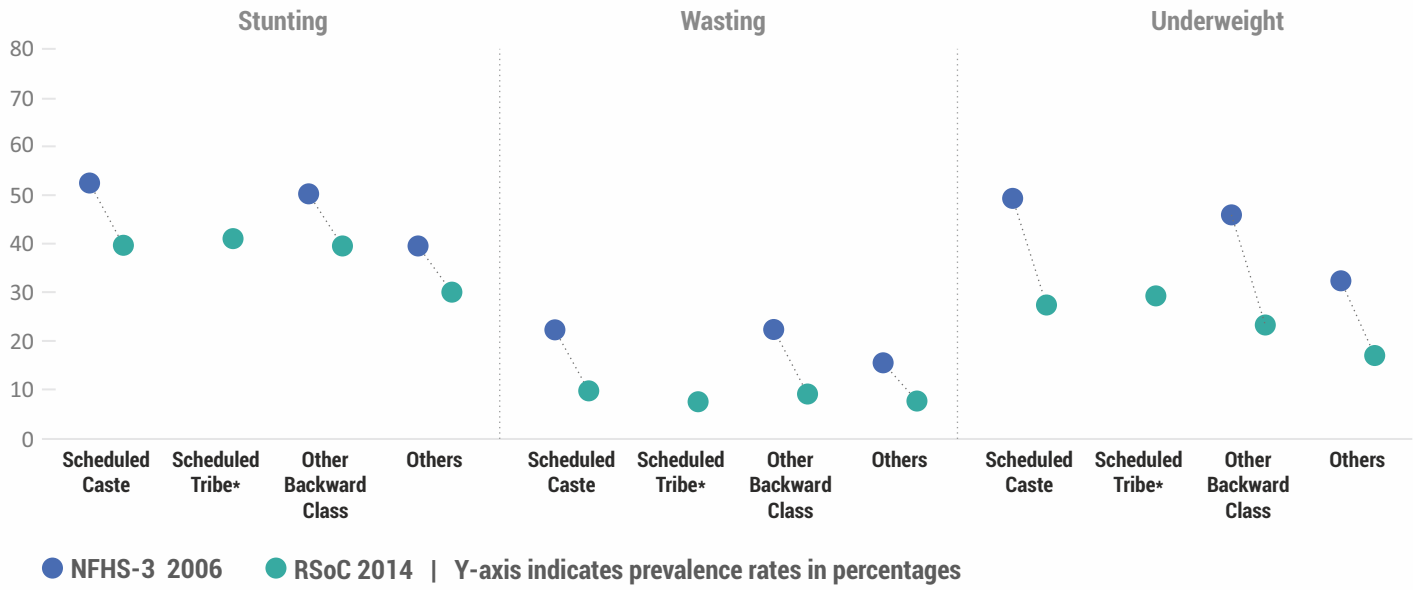
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.



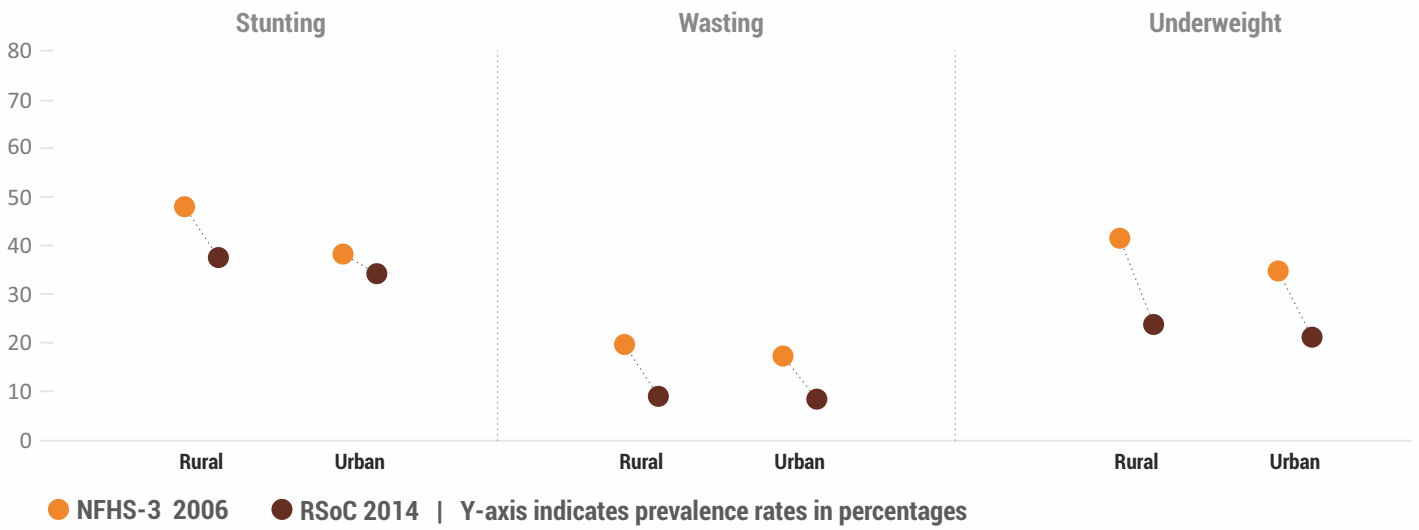
<sup>12</sup> Source : NFHS-3, 2006

CASTE



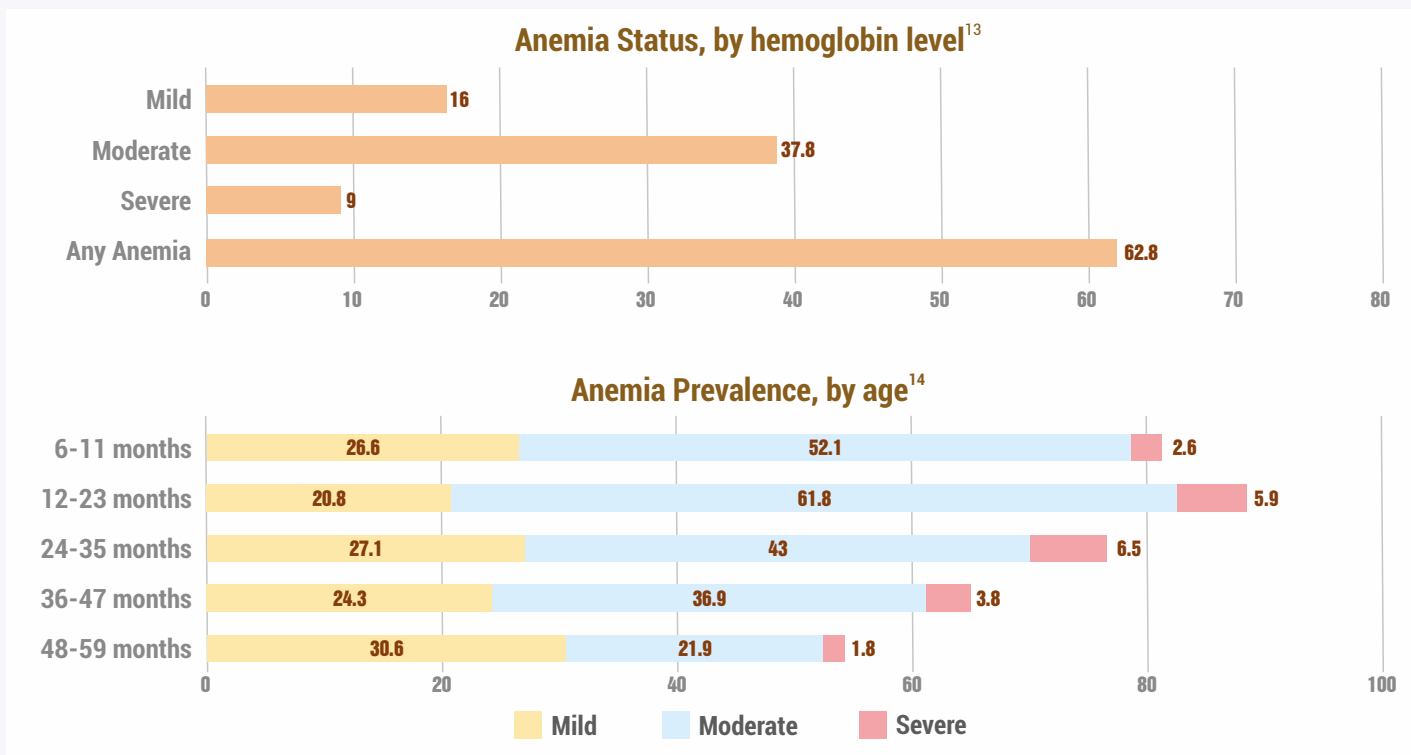
\*Data for Scheduled Tribes is not available in NFHS-3 for this state

RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 37.2% |
|  | Children aged 0-5 months who were exclusively breastfed  | 53.6% |
|   | Children aged 6-8 months who were fed complementary foods  | 28.7% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 18.8% |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 9.2%  |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 8.5%  |
| Had fever in 15 days prior to survey   | 11.9% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 10.4% |

<sup>B</sup> The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

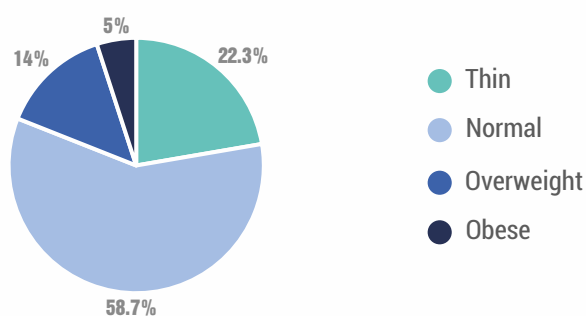
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**57.7%**

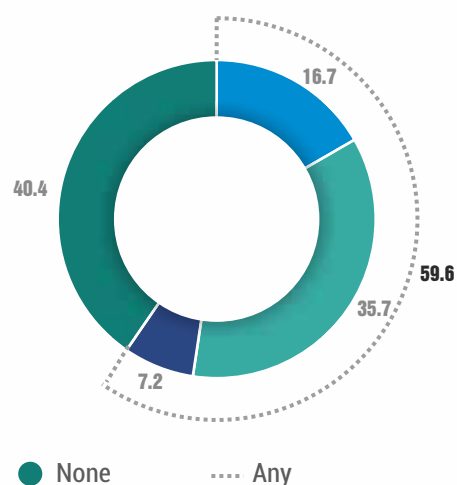
Women aged 15-49 years are anemic

**6.4%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

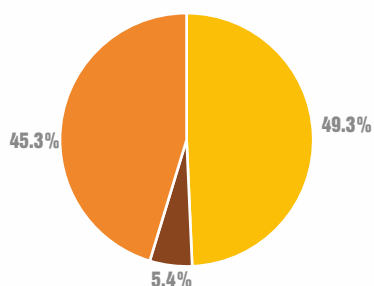
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



● Normal ● Thin ● Overweight and Obese



**57.7%**

Adolescent girls aged 15-19 years are anemic<sup>17a</sup>

**1.6%**

Adolescent girls aged 15-19 years are severely anemic<sup>17a</sup>

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **37.5%**



**18.4%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **20.7** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.5** | **0.5** National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **17.8%**

Currently married women who make decisions about<sup>23</sup>:



**39.7%** Own healthcare



**4.3%** Major household purchase



**30%** Purchases for daily household needs



**9.1%** Visits to her family/friends/relatives



**28%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**48.7%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



94.6%

Households with access to improved sources of drinking water<sup>E, 24</sup>

62.4%

Households using improved sanitation facility<sup>F, 24</sup>



25.6%

Households practicing open defecation<sup>24</sup>

12.2 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



5.3%

Growth rate of agriculture from 2007-2012<sup>26</sup>



6.9%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

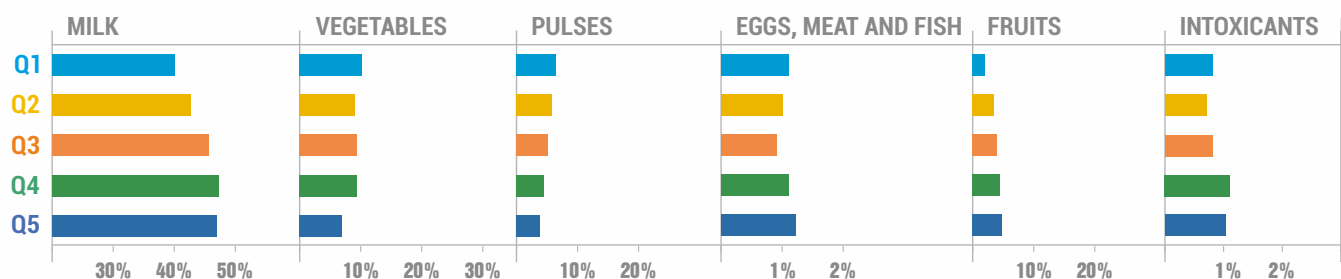
RURAL

2,441 HARYANA  
2,233 INDIA AVG

URBAN

2,443 HARYANA  
2,206 INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 17.8% |
| Children 36-71 months | 17.9% |
| Pregnant women        | 19.6% |
| Lactating mothers     | 11.8% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 35.9% |
| Children aged 36-71 months | 37.3% |
| Pregnant women             | 30.3% |
| Lactating women            | 38.7% |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



47.5%

Received 3 or more antenatal checkups prior to delivery



85.1%

Received 2 or more TT injections prior to delivery



12.3%

Consumed 100 or more IFA tablets/syrup during pregnancy



76.4%

Had Institutional delivery



78.6%

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



70.9% Rural  
70.1% Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



6.6%

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



54.6%  
Breastfeeding



37.2%  
Nutrition of mother and child



25.3%  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 4.2%     |
| AWWs living in the AWC village/ward  | 88.6%    |
| AWWs having 10 or more years of schooling  | 87.5%    |
| Median age of AWWs   | 38 years |
| AWCs serving to population more than the stipulated norm                           | 58.9%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 72.3% |
| AWCs having functional adult weighing scale | 56.3% |
| Available WHO growth chart at AWCs          | 91.8% |

<sup>H</sup> Number of AWCs surveyed for Haryana as per RSoC 2014 is 144.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-4, 2012-13

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 90.3% |
| AWWs having correct knowledge of normal birth weight of children                    | 84.7% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 96.5% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 95.8% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 97.2% |

| Health Service Delivery Personnel   | Value              |
|---|--------------------|
| ASHAs selected <sup>33</sup>  | 88%                |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 1104 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0%                 |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 51             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 48.1           | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 7.6            | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 11.7% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 14.8% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 91.9% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 31             | 47               |
| PDS <sup>41</sup>                           | 145.5          | 475.3            |
| MGNREGA <sup>42</sup>                       | 63             | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lq15/15/as216.htm](http://164.100.47.132/Annexure_New/lq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13

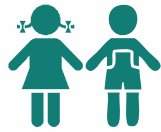


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## FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN HIMACHAL PRADESH

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**34.2%**  
Stunted<sup>1</sup>**10.1%**  
Wasted<sup>1</sup>

World Health Assembly Nutrition Targets

**55.2%**Infants 0-5 months old who are exclusively breastfed<sup>1</sup>**17.7%**Children under 3 years who have low birth weight (<2.5 kgs)<sup>1</sup>**44%**Women 15-49 years old with anemia<sup>2</sup>

Immediate Determinants

**61.8%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>1</sup>**20.8%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>1</sup>**58.6%** Children 6-59 months old with anemia<sup>2</sup>**5.5%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>1</sup>

Immediate Determinants

Underlying Determinants

**43.4%**Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>1</sup>**80.2%**Children 12-23 months old who are fully immunized<sup>1</sup>**57.8%**Mothers of children under 36 months old who received three or more antenatal checkups<sup>1</sup>**52.7%**Currently married women with 10 or more years of schooling<sup>2</sup>**9.8%**Women aged 20-24 years who were married before the age of 18<sup>1</sup>**51.6%**Adolescent girls 15-18 years old with low BMI (<18.5)<sup>1</sup>**21.8%**Households practicing open defecation<sup>1</sup>**8.1%**Population below state-specific poverty line<sup>3</sup>

Does state have a high-level nutrition mission?

**NO**

Underlying Determinants

<sup>1</sup> Source : RSoC, 2014<sup>2</sup> Source : DLHS4, 2012-13<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

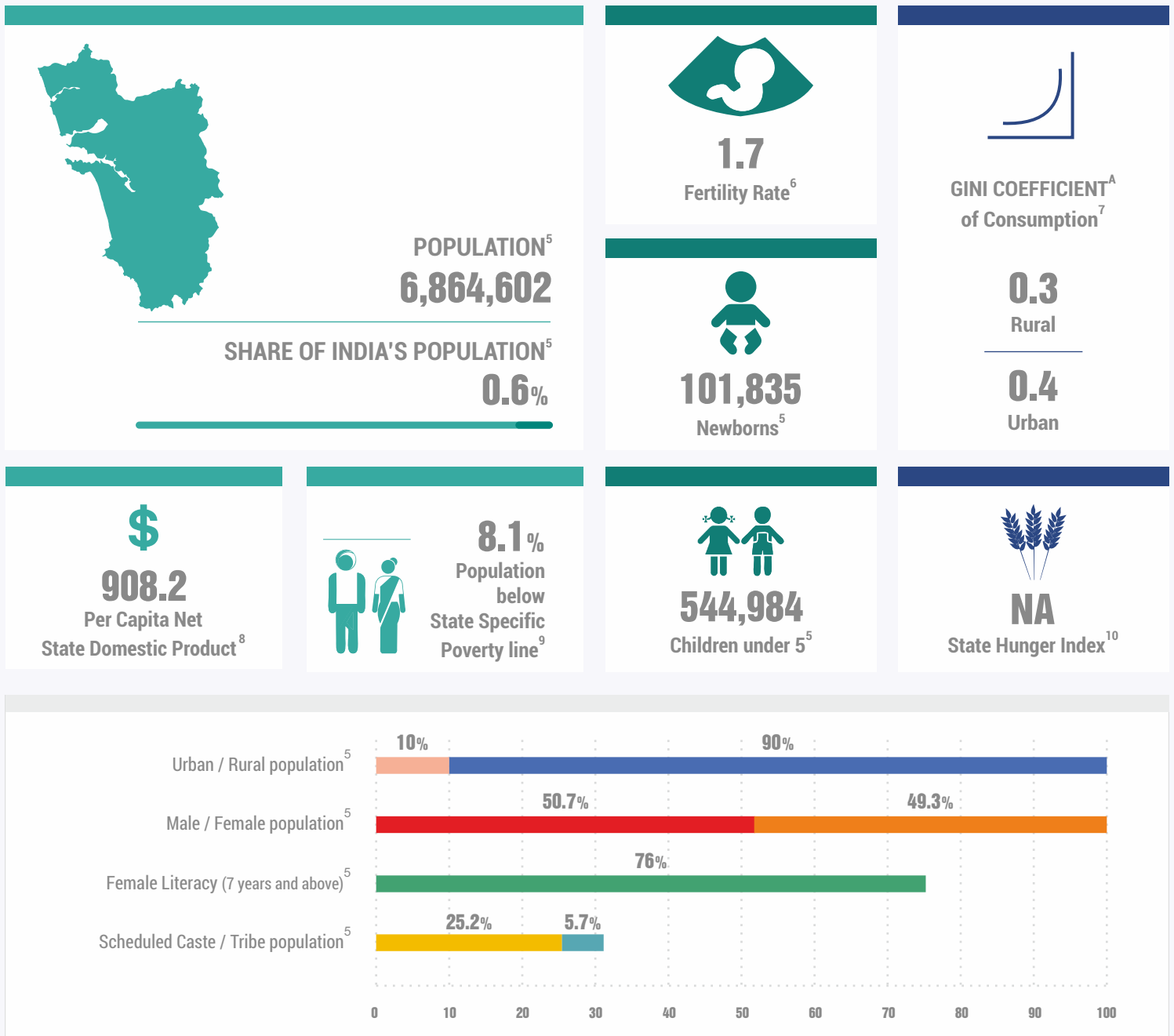


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## I. CONTEXT

### A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

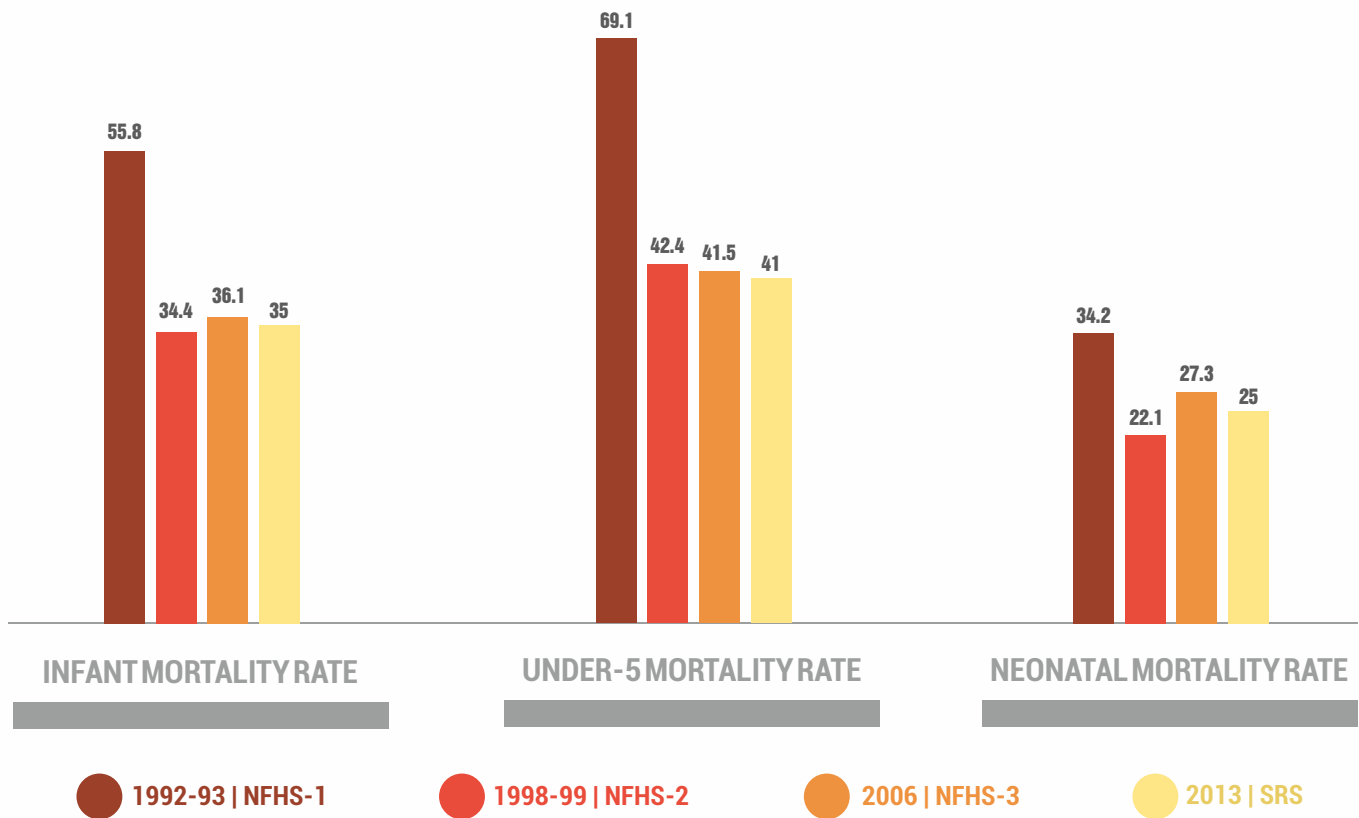
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

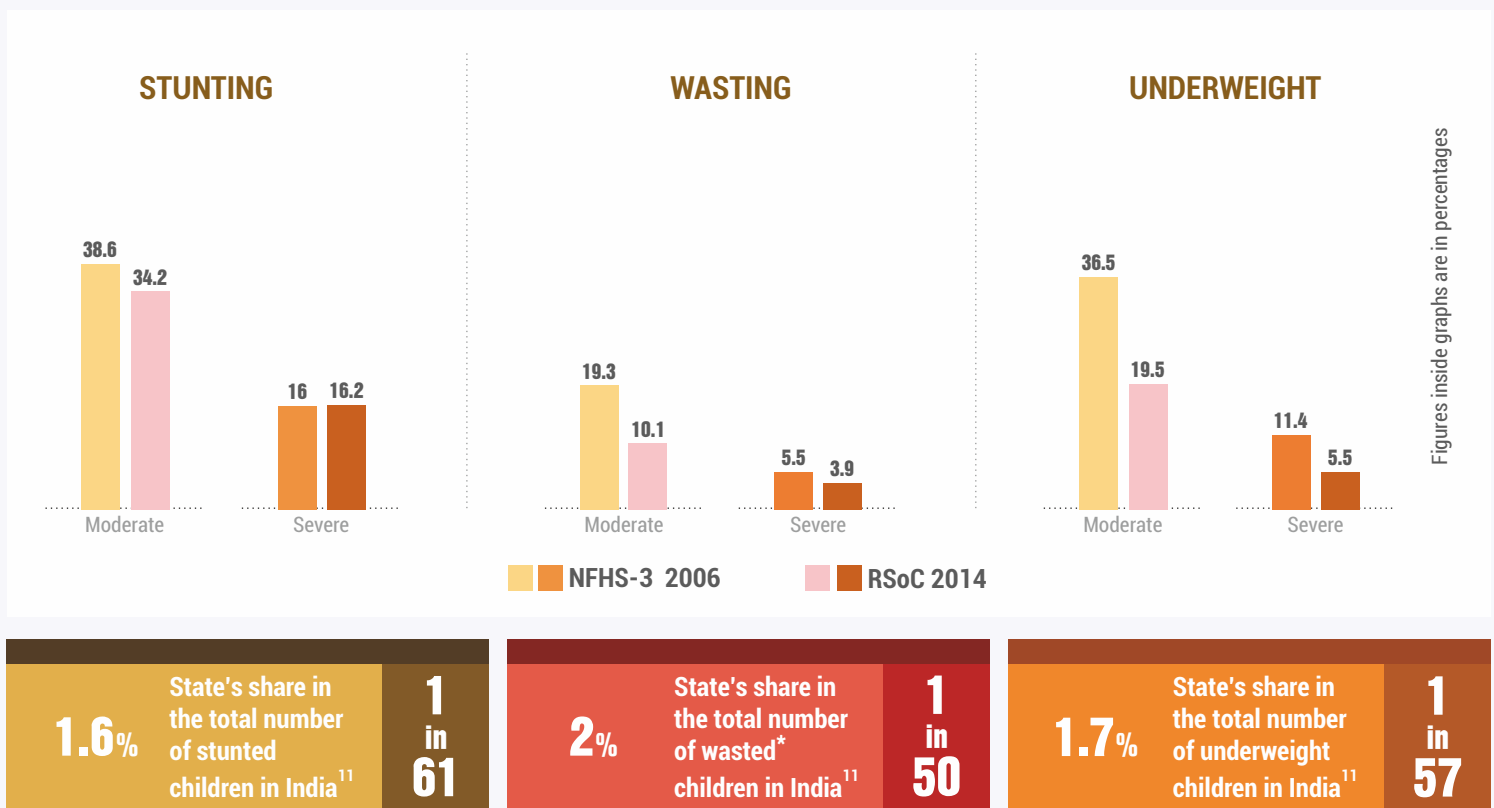
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

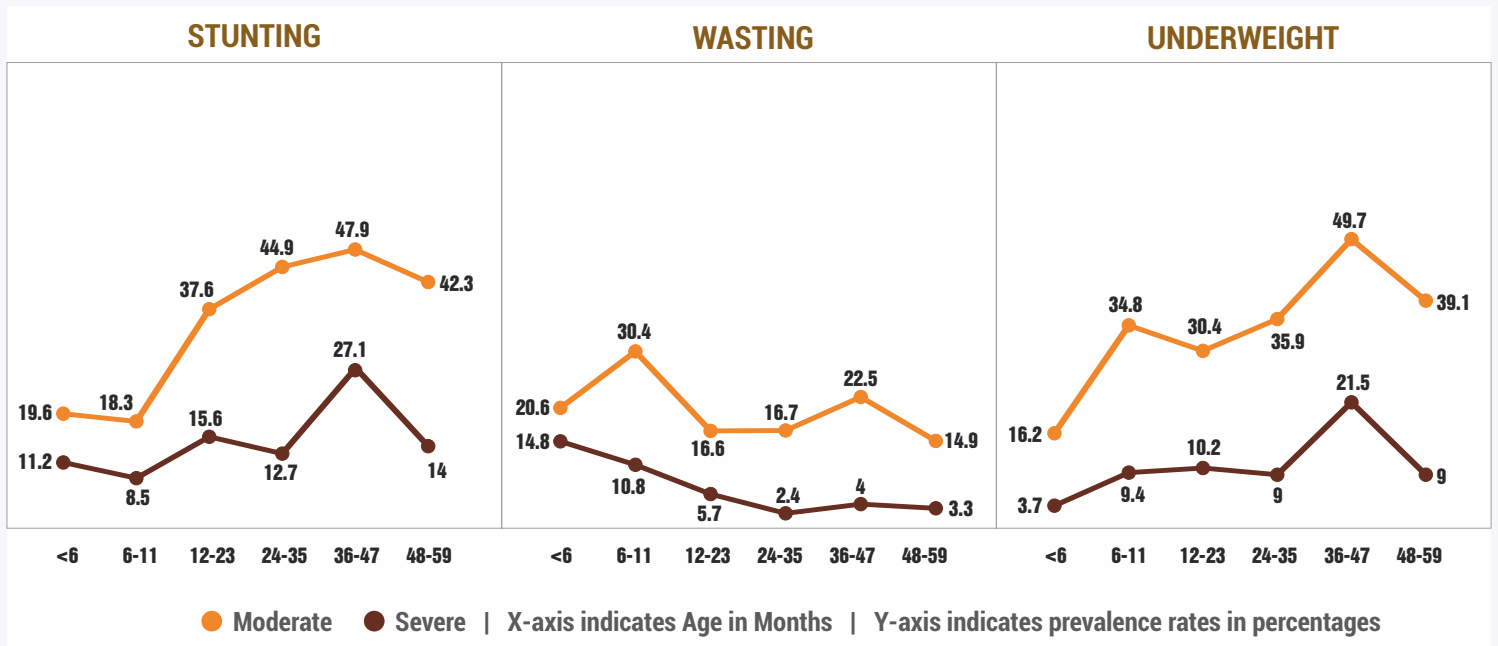


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

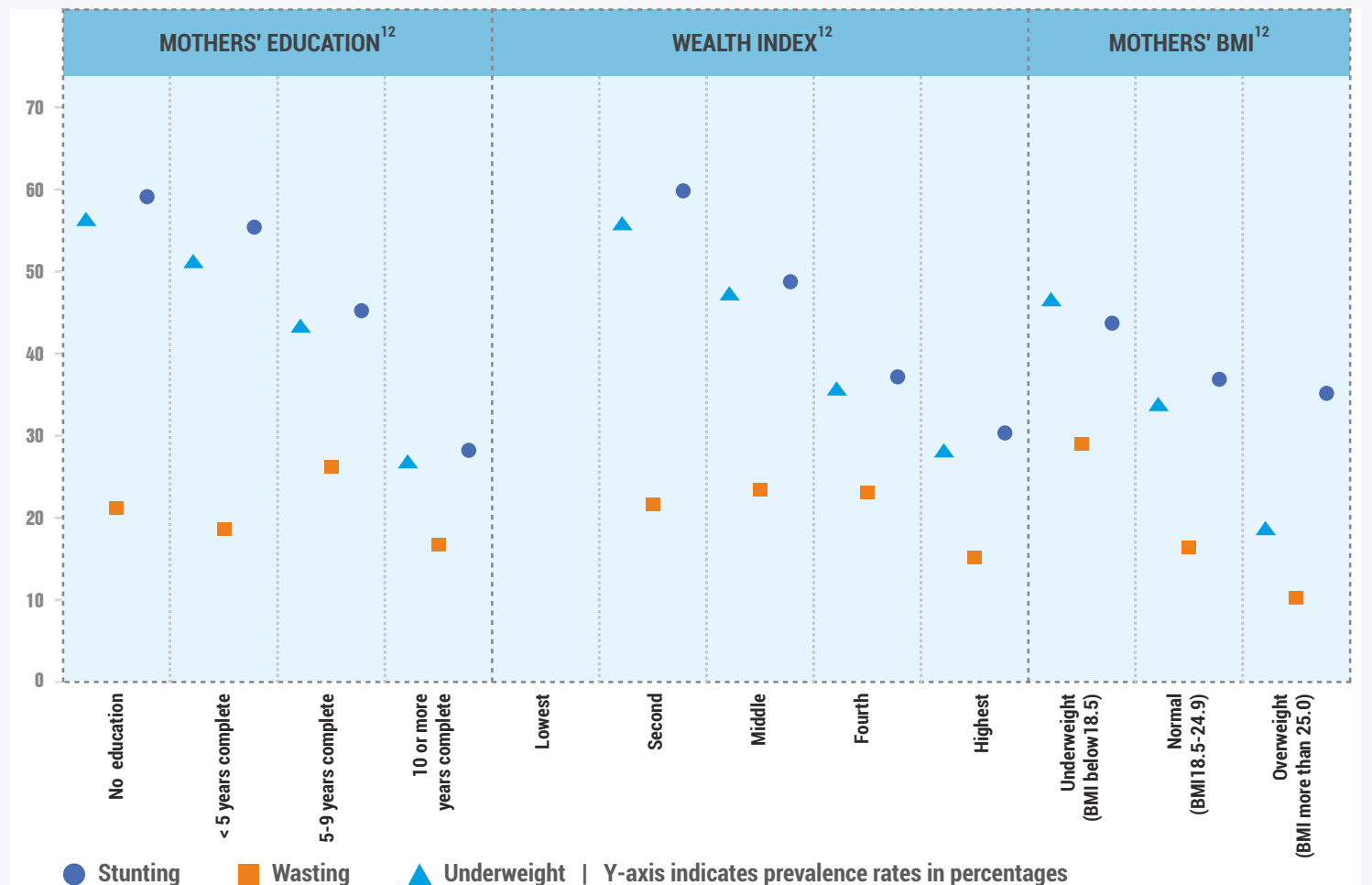
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



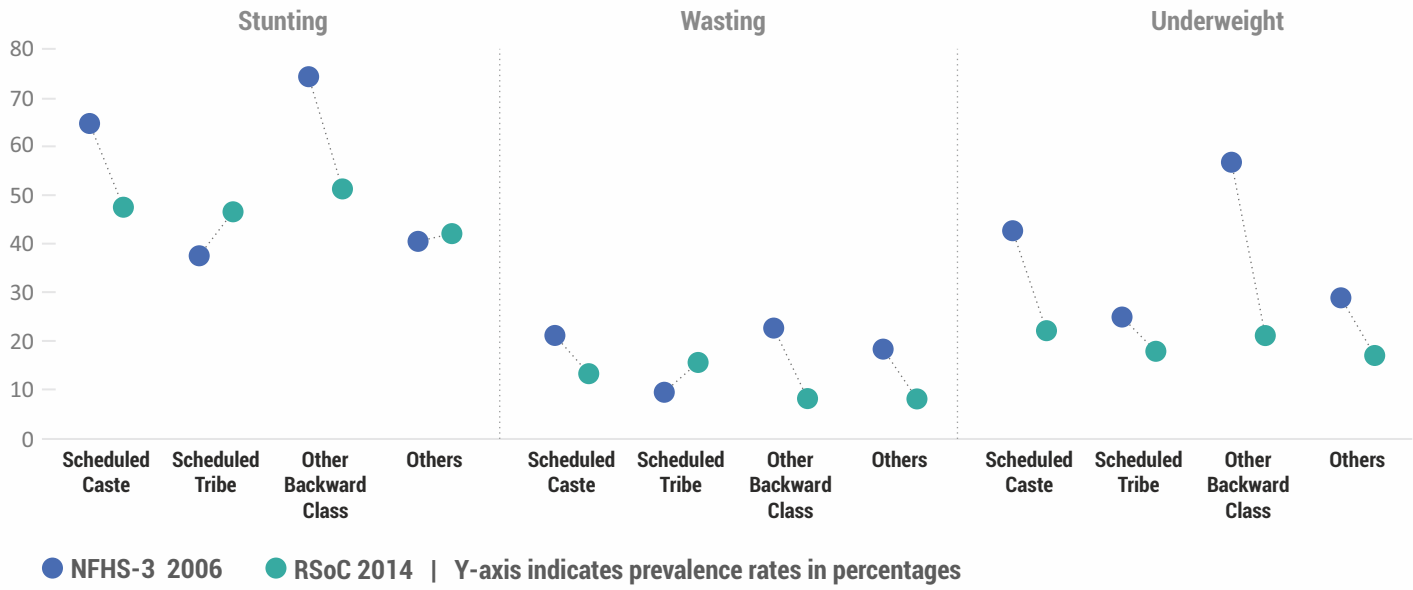
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

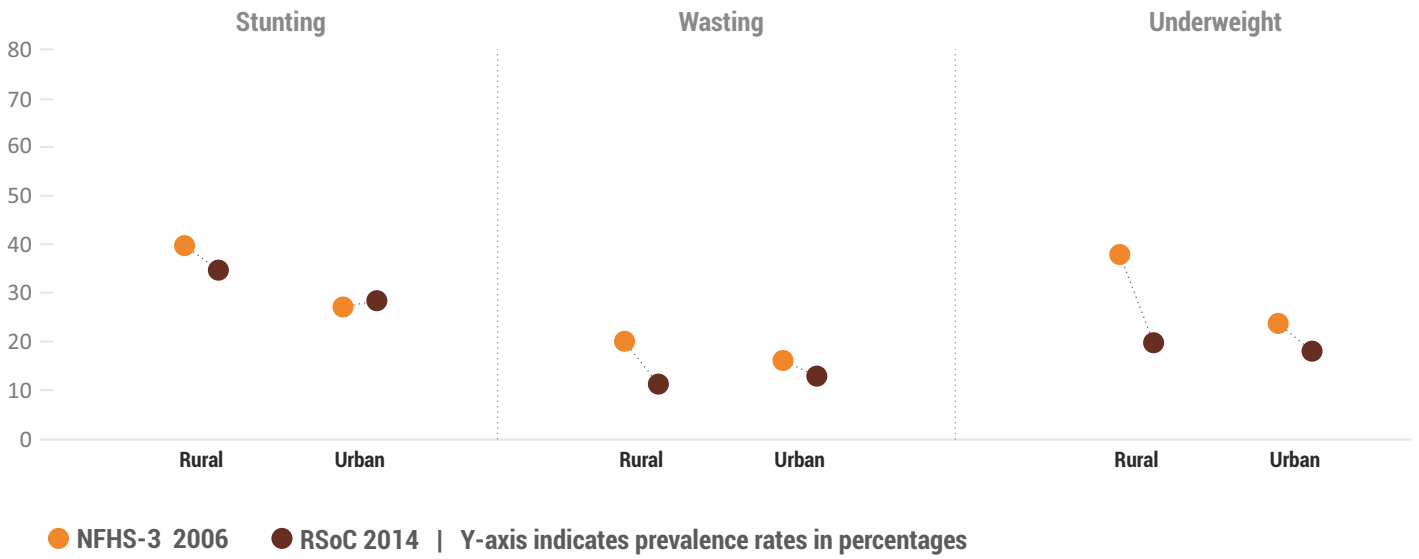


<sup>12</sup> Source : NFHS-3, 2006

CASTE

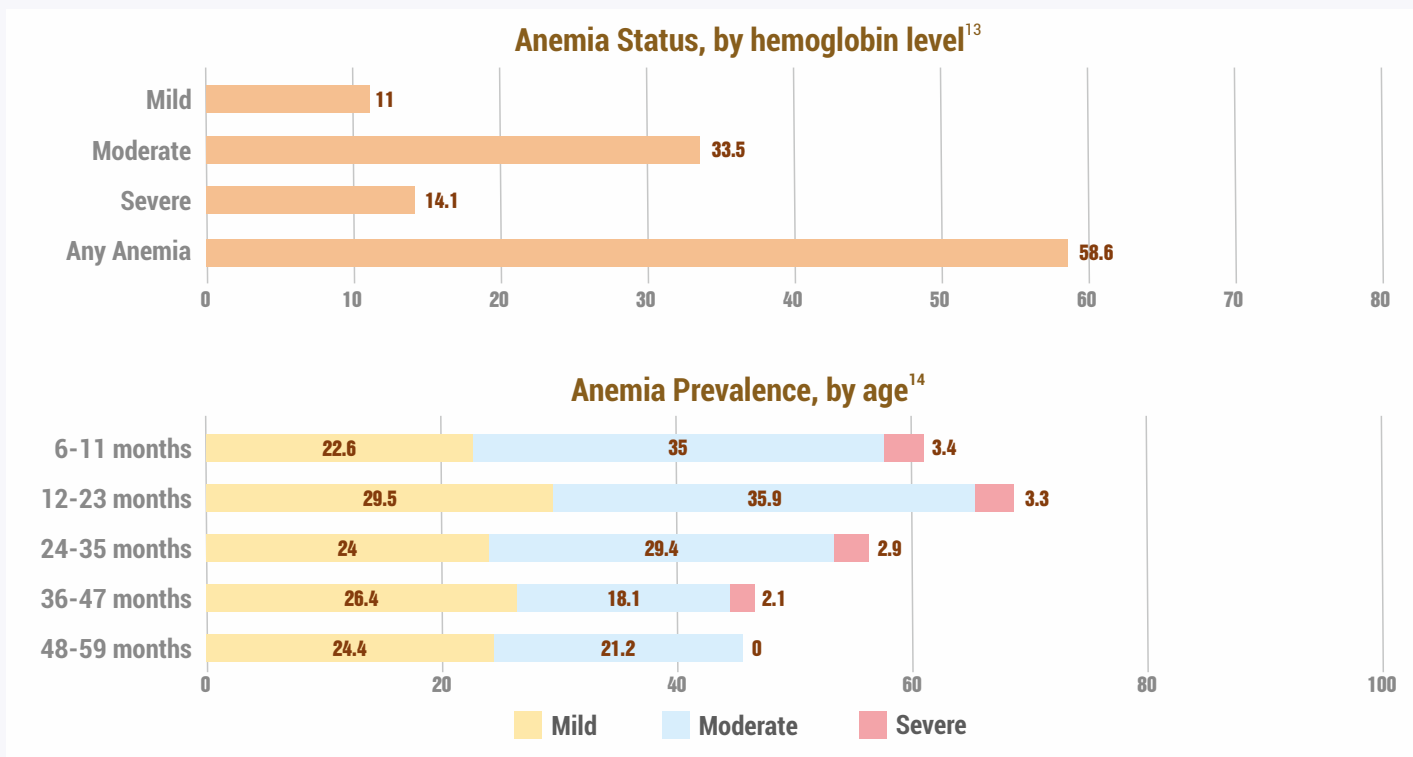


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 50.1% |
|  | Children aged 0-5 months who were exclusively breastfed  | 55.2% |
|   | Children aged 6-8 months who were fed complementary foods  | 61.8% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 46.4% |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 20.8% |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 5.5%  |
| Had fever in 15 days prior to survey   | 13.6% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 7.1%  |

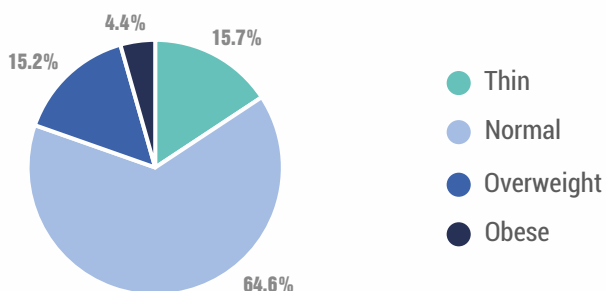
<sup>B</sup> The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



**44%**

Women aged 15-49 years are anemic

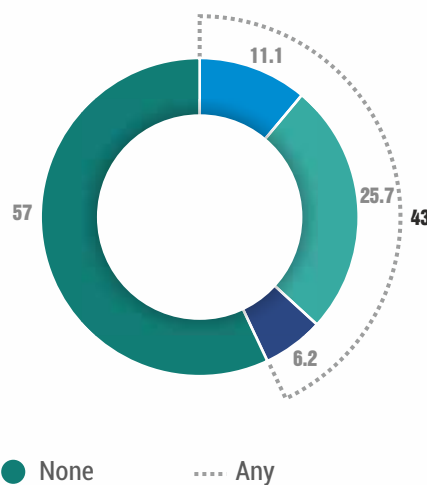
**7.3%**

Women aged 15-49 years are severely anemic

<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]

### C.2. PREGNANT WOMEN<sup>16</sup>

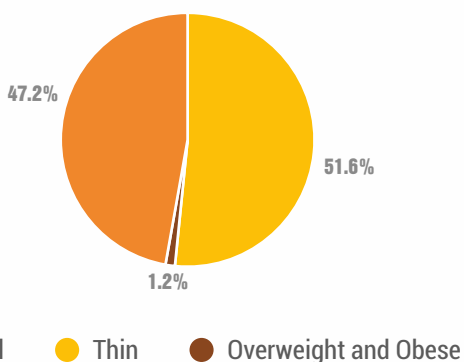
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None ---- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**42.7%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**0.7%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

● Normal ● Thin ● Overweight and Obese

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **52.7%**



**9.8%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **22.3** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.5** | **0.5** National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **44.8%**

Currently married women who make decisions about<sup>23</sup>:



**31.9%** Own healthcare



**9%** Major household purchase



**33%** Purchases for daily household needs



**16.8%** Visits to her family/friends/relatives



**6.9%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**28.6%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



97%

Households with access to improved sources of drinking water<sup>E, 24</sup>

63.5%

Households using improved sanitation facility<sup>F, 24</sup>



21.8%

Households practicing open defecation<sup>24</sup>

3 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



3%

Growth rate of agriculture from 2007-2012<sup>26</sup>



0.5%

Share in India's total foodgrain production<sup>27</sup>



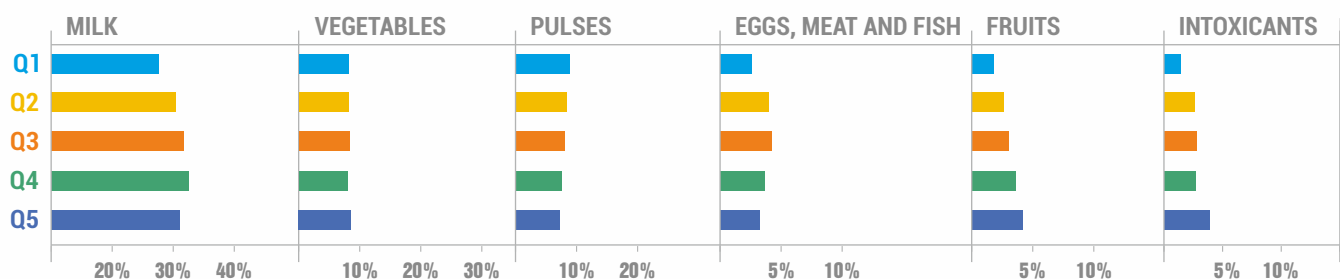
Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

RURAL

URBAN

|                  |           |                  |           |
|------------------|-----------|------------------|-----------|
| NA               | 2233      | NA               | 2206      |
| HIMACHAL PRADESH | INDIA AVG | HIMACHAL PRADESH | INDIA AVG |

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 70.3% |
| Children 36-71 months | 42.2% |
| Pregnant women        | 65.7% |
| Lactating mothers     | 65.2% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 43.4% |
| Children aged 36-71 months | 42.1% |
| Pregnant women             | 37.9% |
| Lactating women            | 44%   |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**57.8%**

Received 3 or more antenatal checkups prior to delivery



**90.5%**

Received 2 or more TT injections prior to delivery



**40%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**68.7%**

Had Institutional delivery



**71.6%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**81.5%** Rural  
**66.9%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**1.6%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



**58.4%**  
Breastfeeding



**45.5%**  
Nutrition of mother and child



**28.2%**  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup> | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers*           | 4.1%     |
| AWWs living in the AWC village/ward  | 82.2%    |
| AWWs having 10 or more years of schooling                                      | 94.2%    |
| Median age of AWWs   | 38 years |
| AWCs serving to population more than the stipulated norm                       | 2.3%     |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 87.3% |
| AWCs having functional adult weighing scale | 11.4% |
| Available WHO growth chart at AWCs          | 93.5% |

<sup>H</sup> Number of AWCs surveyed for Himachal Pradesh as per RSoC 2014 is 165.

<sup>30</sup> Source : RSoC, 2014

<sup>31</sup> Source : DLHS-4, 2012-13

\* Source : MoWCD, 2012

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 94.2% |
| AWWs having correct knowledge of normal birth weight of children                    | 89.6% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 98.5% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 96.4% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 76.8% |

| Health Service Delivery Personnel   | Value |
|---|-------|
| ASHAs selected <sup>33</sup>  | NA    |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | NA    |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | NA    |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 28             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 18.6           | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 14.9           | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 51%   |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 83.2% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 86.5% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 13             | 47               |
| PDS <sup>41</sup>                           | 170.5          | 475.3            |
| MGNREGA <sup>42</sup>                       | 83             | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lq15/15/as216.htm](http://164.100.47.132/Annexure_New/lq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13



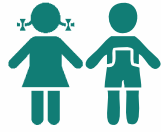
The page contains a large, faint watermark of a globe centered on the Atlantic Ocean, with the word "Globe" written across it. The globe is rendered in a light gray color and is positioned in the lower-left quadrant of the page. The rest of the page is blank white space.



# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN JAMMU & KASHMIR

World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**31.7%**  
Stunted<sup>1</sup>

**7.1%**  
Wasted<sup>1</sup>



**60.4%**

Infants 0-5 months old who are exclusively breastfed<sup>1</sup>



**16.2%**

Children under 3 years who have low birth weight (<2.5 kgs)<sup>2</sup>



**52.1%**

Women 15-49 years old with anemia<sup>1</sup>

Immediate Determinants

Immediate Determinants



**47.4%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>2</sup>

**16.9%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>2</sup>



**58.6%** Children 6-59 months old with anemia<sup>1</sup>



**4.4%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>2</sup>



**24.9%**

Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>2</sup>



**59%**

Children 12-23 months old who are fully immunized<sup>2</sup>



**57.7%**

Mothers of children under 36 months old who received three or more antenatal checkups<sup>2</sup>

Underlying Determinants

Underlying Determinants



**18.9%**

Currently married women with 10 or more years of schooling<sup>1</sup>



**16.8%**

Women aged 20-24 years who were married before the age of 18<sup>2</sup>



**30.5%**

Adolescent girls 15-18 years old with low BMI (<18.5)<sup>2</sup>



**33.1%**

Households practicing open defecation<sup>2</sup>



**10.4%**

Population below state-specific poverty line<sup>3</sup>

Does state have a high-level nutrition mission?

**NO**

<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : NFHS-3, 2006

<sup>3</sup> Source : DLHS-3, 2007-08

<sup>4</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

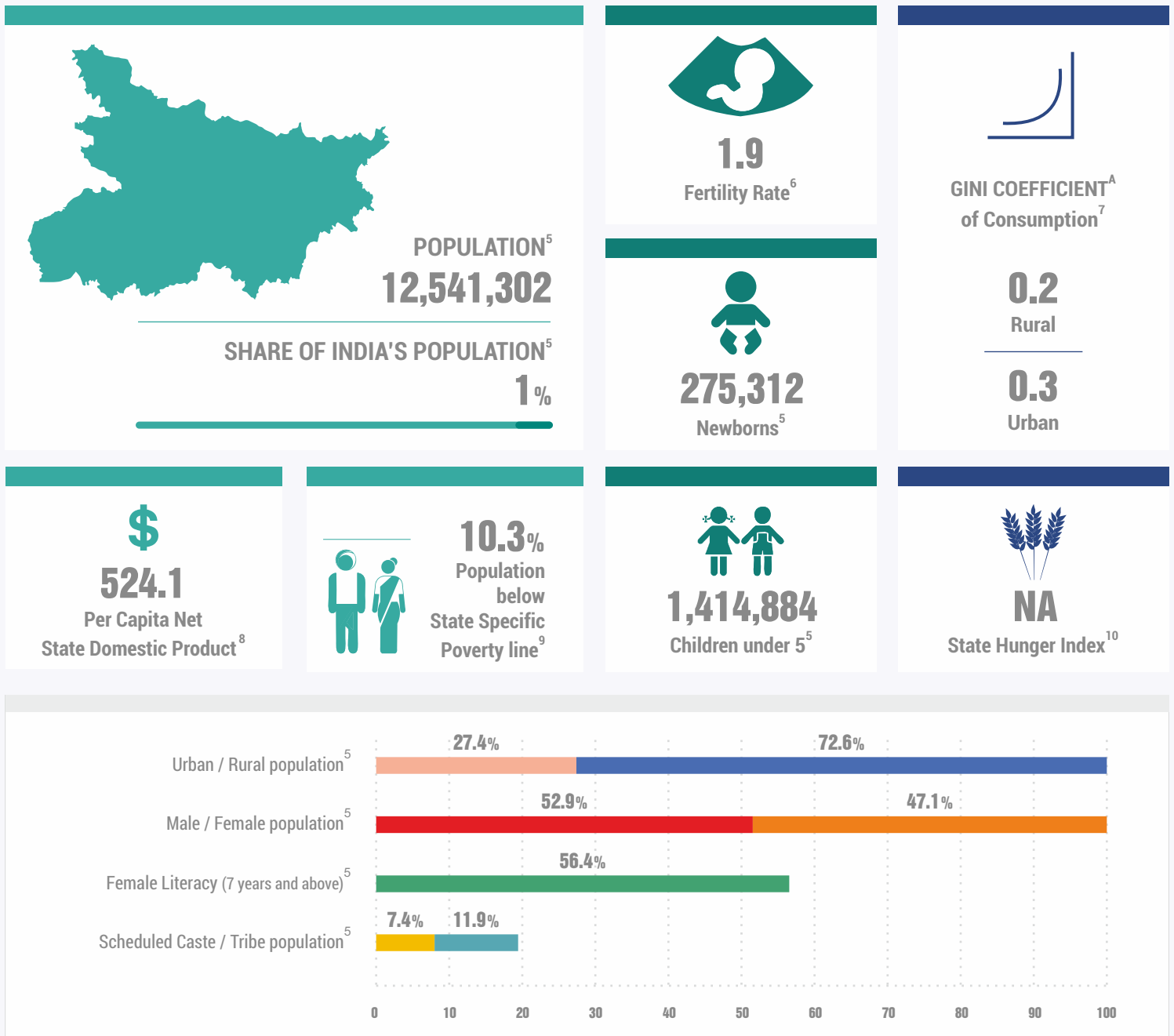


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# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

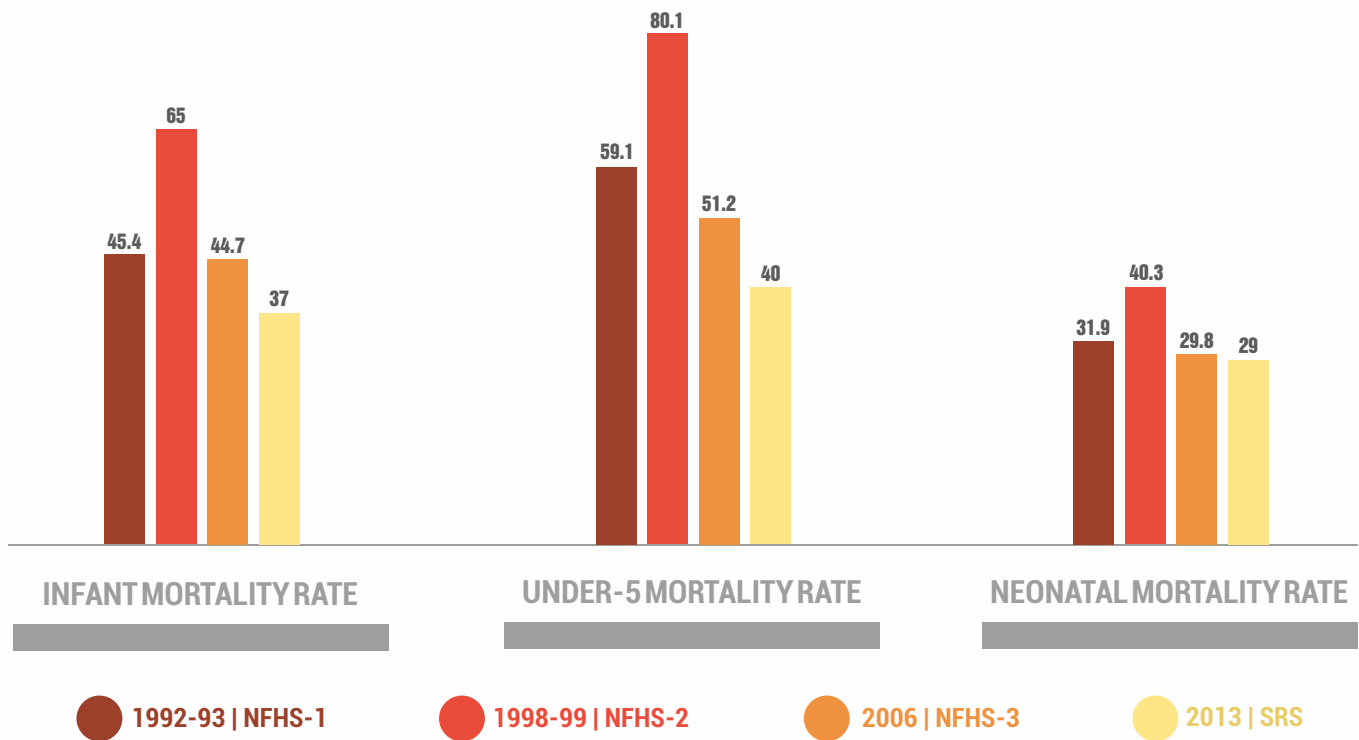
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14.; [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

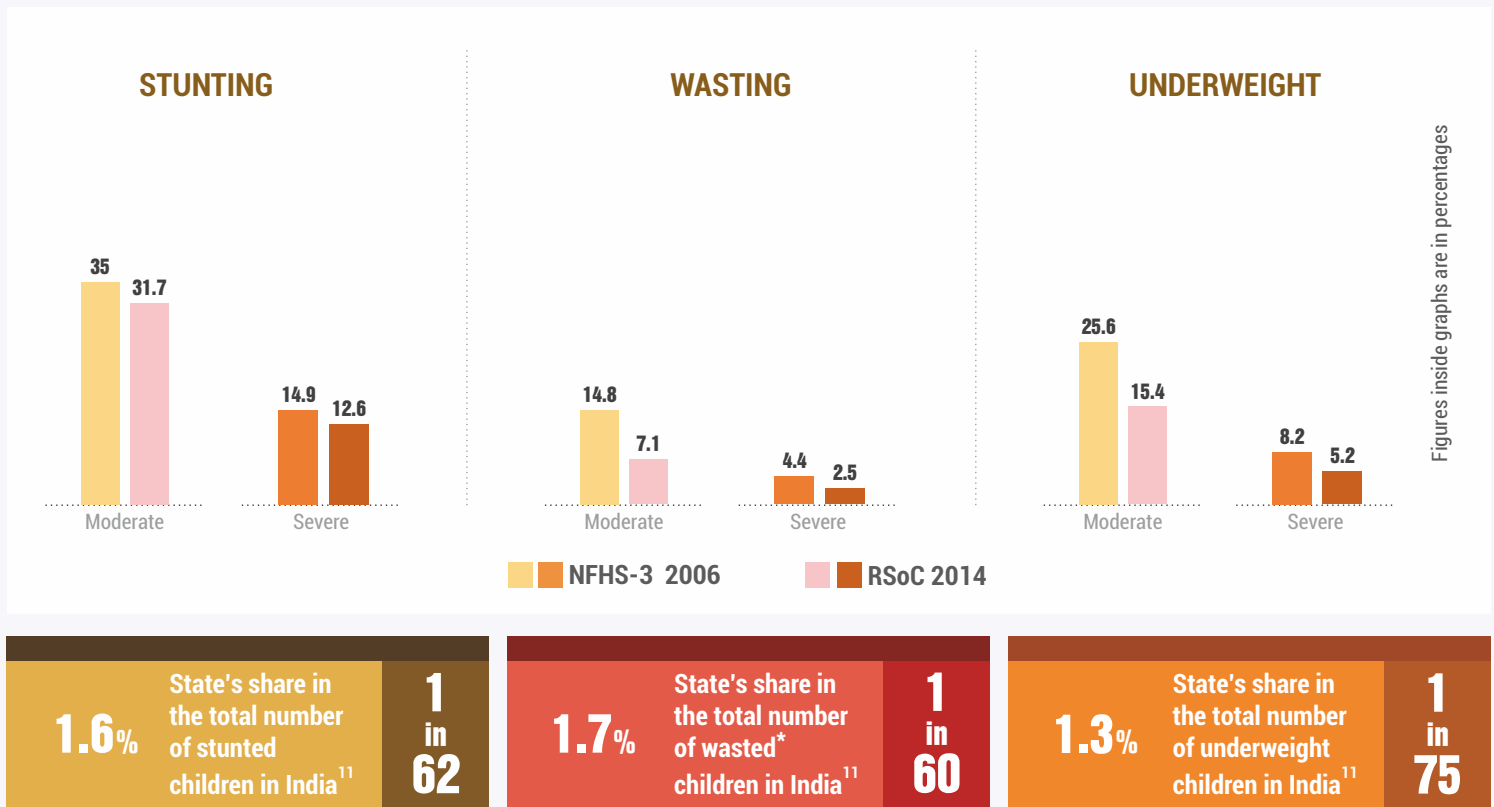
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

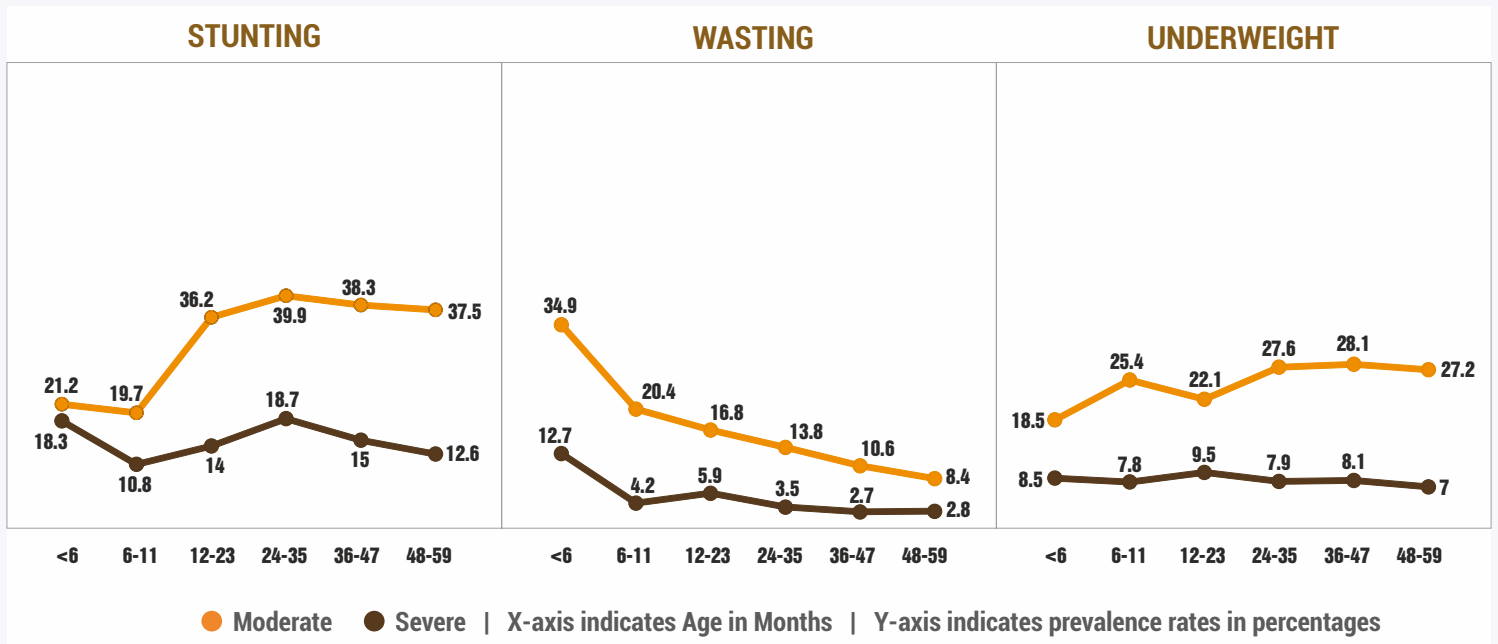


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

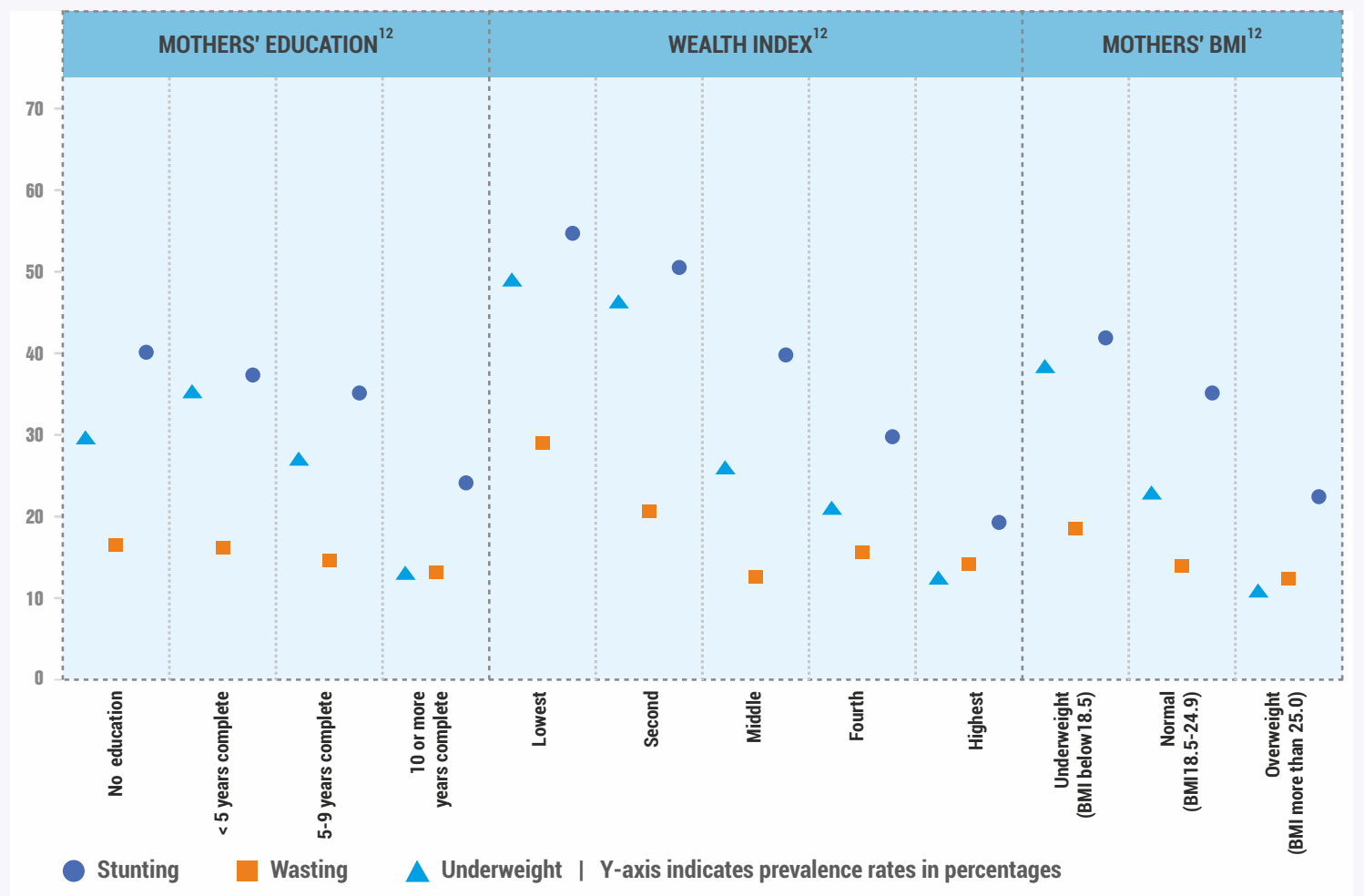
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



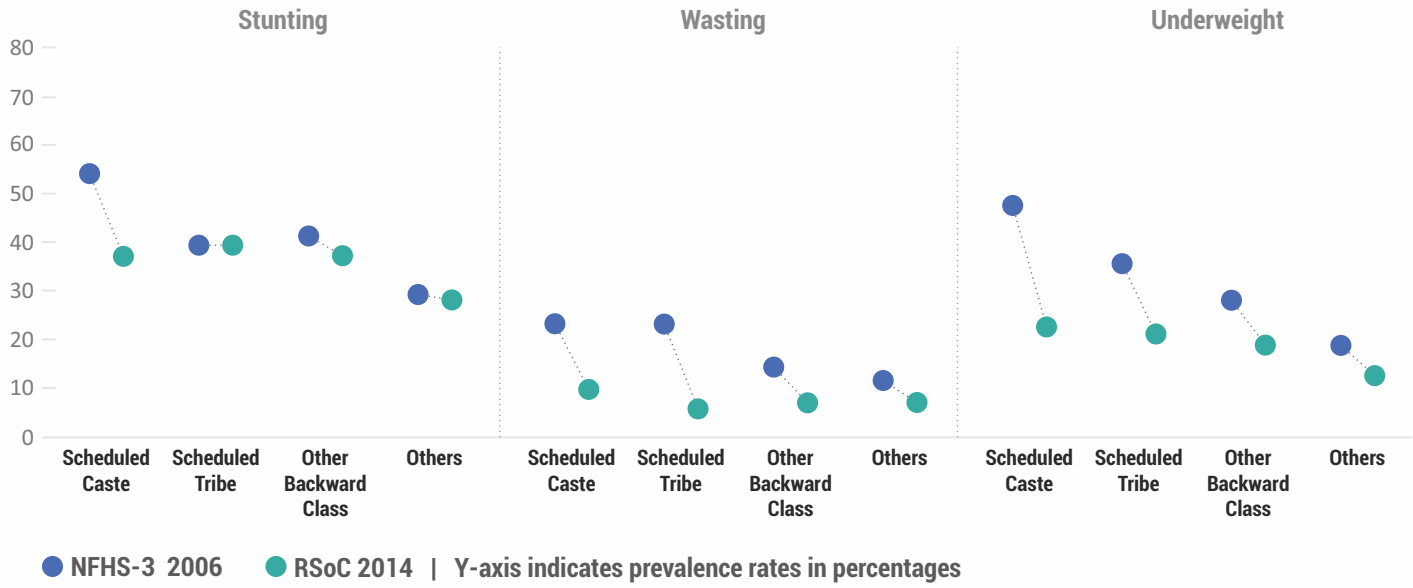
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

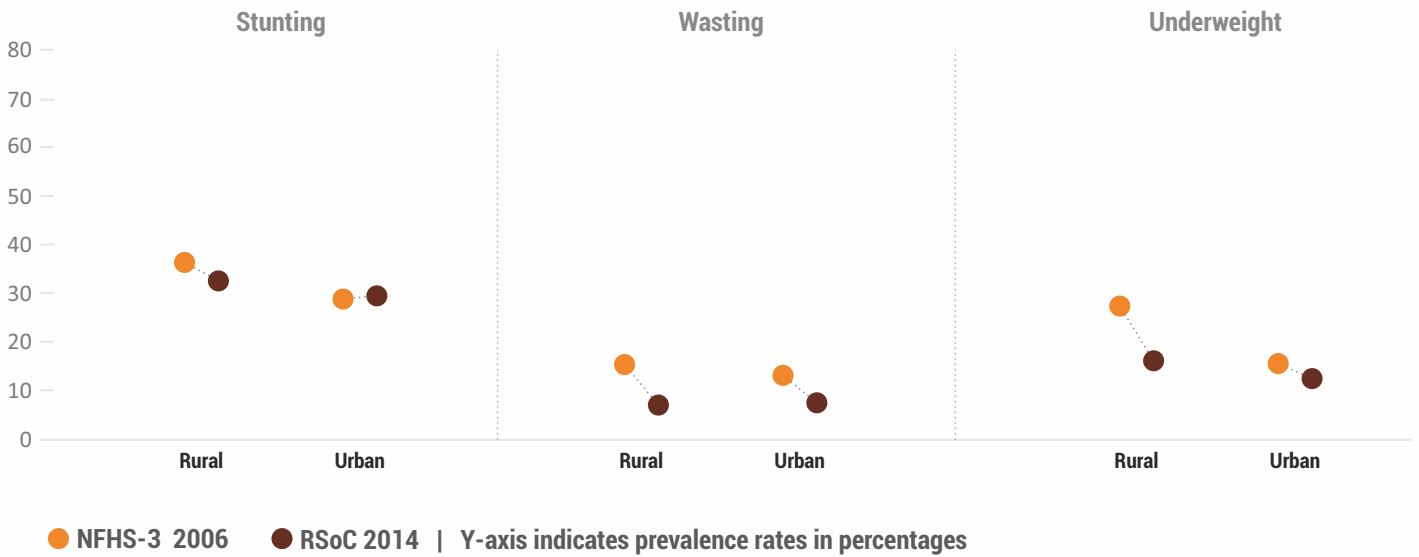


<sup>12</sup> Source : NFHS-3, 2006

CASTE

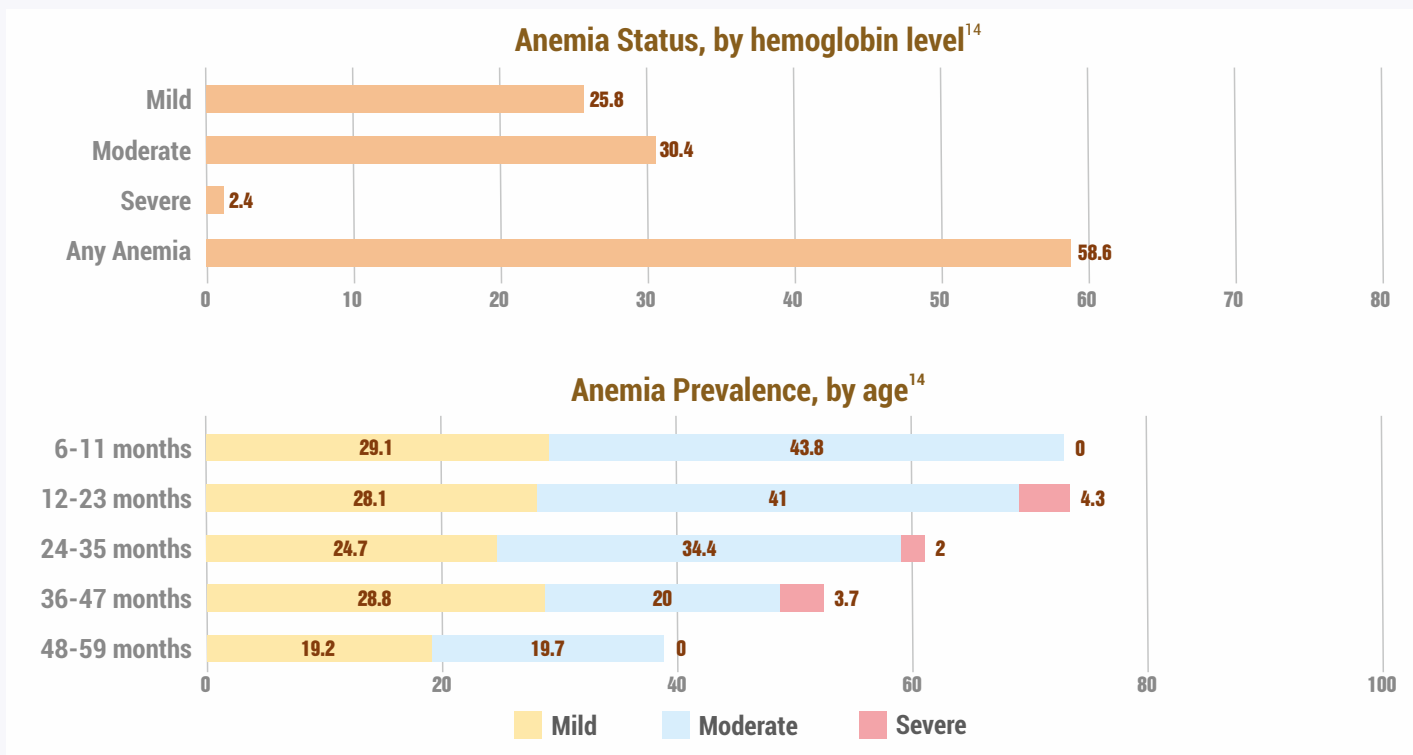


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |                         |
|---|-------------------------|
| Children aged 0-23 months breastfed immediately/within an hour of birth   | 20.8%                   |
| Children aged 0-5 months who were exclusively breastfed   | 60.4%                   |
| Children aged 6-8 months who were fed complementary foods   | 47.4%                   |
| <p>For breastfed children (6-23 months)-</p> <p>A. Fed minimum number of times.</p> <p>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old</p> <p>B. Had minimum dietary diversity</p> <p>Note : Minimum dietary diversity refers to four or more food groups<sup>B</sup> fed to children aged 6-23 months</p> | <p>41%</p> <p>16.9%</p> |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 4.4%  |
| Had fever in 15 days prior to survey   | 12.2% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 10.6% |

<sup>B</sup> The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

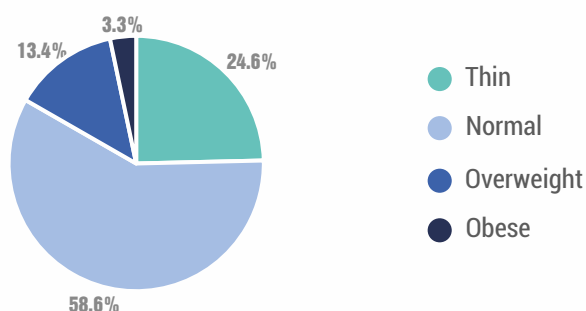
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**52.1%**

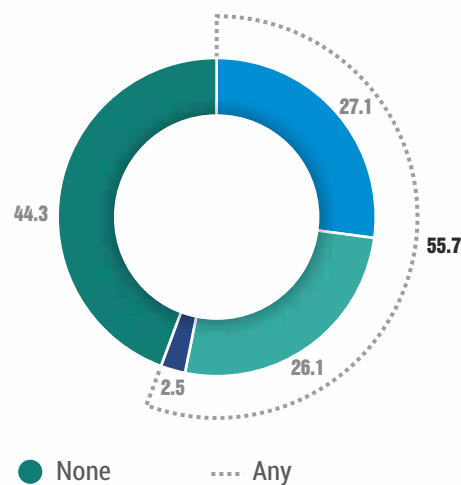
Women aged 15-49 years are anemic

**1.6%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

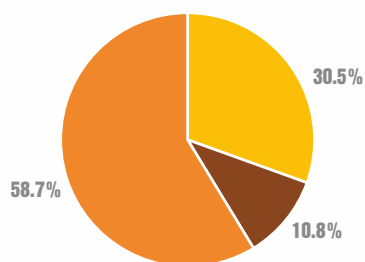
Anemia prevalence in pregnant women aged 15-49 years



● Mild    ● Moderate    ● Severe    ● None    --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



● Normal    ● Thin    ● Overweight and Obese



**53.4%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**1.2%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

<sup>16</sup> Source : NFHS-3, 2006

<sup>17</sup> Source : RSOC, 2014

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **18.9%**



**16.8%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **23.1** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.4** | **0.5** National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **19.1%**

Currently married women who make decisions about<sup>23</sup>:



**16%** Own healthcare



**6.8%** Major household purchase



**21.4%** Purchases for daily household needs



**7.3%** Visits to her family/friends/relatives



**15.1%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**65.1%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-3, 2007-08

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



86.7%

Households with access to improved sources of drinking water<sup>E, 24</sup>

44.1%

Households using improved sanitation facility<sup>F, 24</sup>



33.1%

Households practicing open defecation<sup>24</sup>

5.5 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



4.3%

Growth rate of agriculture from 2007-2012<sup>26</sup>



0.6%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

RURAL

URBAN

NA 2233

INDIA AVG

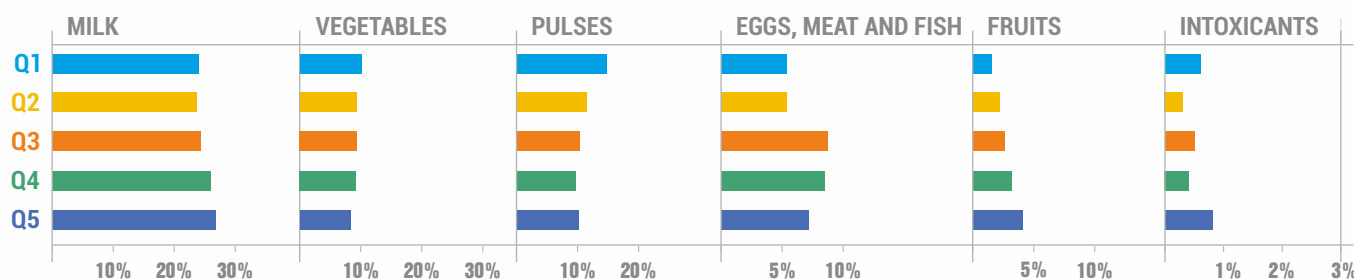
NA 2206

INDIA AVG

JAMMU & KASHMIR

JAMMU & KASHMIR

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 28.8% |
| Children 36-71 months | 28.5% |
| Pregnant women        | 14.9% |
| Lactating mothers     | 14.2% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 24.9% |
| Children aged 36-71 months | 18.9% |
| Pregnant women             | NA    |
| Lactating women            | 37%   |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



57.7%

Received 3 or more antenatal checkups prior to delivery



83.9%

Received 2 or more TT injections prior to delivery



23.1%

Consumed 100 or more IFA tablets/syrup during pregnancy



72.9%

Had Institutional delivery



74.9%

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



55.8% Rural 70.3% Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



11%

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



75.5% Breastfeeding



60.6% Nutrition



48.8% Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 0.3%     |
| AWWs living in the AWC village/ward  | 59.8%    |
| AWWs having 10 or more years of schooling  | 88.4%    |
| Median age of AWWs   | 36 years |
| AWCs serving to population more than the stipulated norm                           | 2.6%     |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 74%   |
| AWCs having functional adult weighing scale | 23.1% |
| Available WHO growth chart at AWCs          | 29.9% |

<sup>H</sup> Number of AWCs surveyed for Jammu and Kashmir as per RSoC 2014 is 209.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-3, 2007-08

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 85.3% |
| AWWs having correct knowledge of normal birth weight of children                    | 76%   |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 90.5% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 88.6% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 80.5% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 91%               |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 833 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 3.2%              |

**A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS**

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 43             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 32.1           | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 16.5           | 9.3              |

**B. NUTRITION-SENSITIVE INTERVENTIONS**

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

**B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS**

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 18.5% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 75.6% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 91.9% |

\*All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

**B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:**

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 15             | 47               |
| PDS <sup>41</sup>                           | 286            | 475.3            |
| MGNREGA <sup>42</sup>                       | 142            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

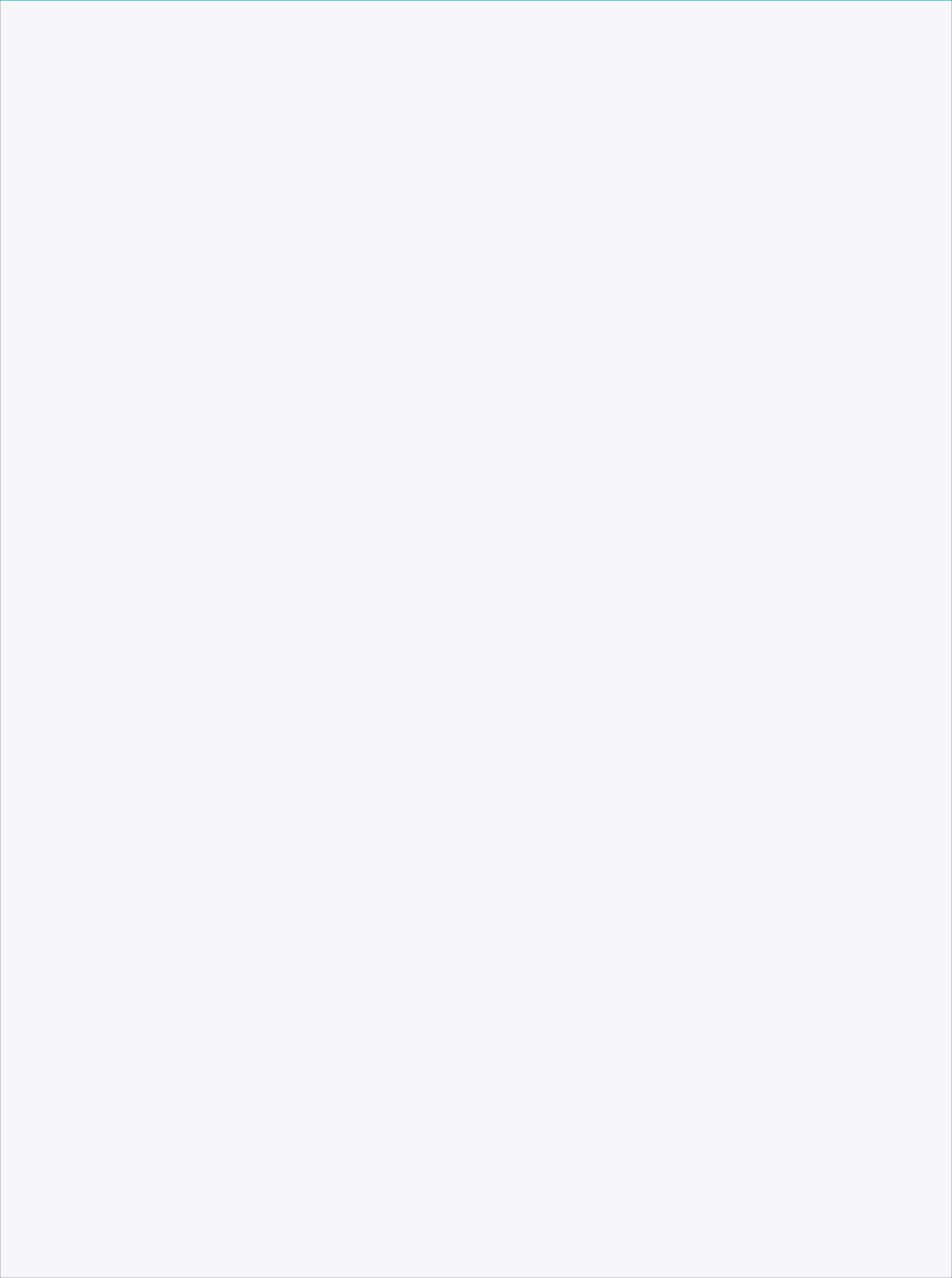
<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13

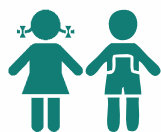




# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN JHARKHAND

World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**47.4%**  
Stunted<sup>1</sup>

**15.6%**  
Wasted<sup>1</sup>



**64.3%**

Infants 0-5 months old who are exclusively breastfed<sup>1</sup>



**14.7%**

Children under 3 years who have low birth weight (<2.5 kgs)<sup>2</sup>



**69.5%**

Women 15-49 years old with anemia<sup>1</sup>

Immediate Determinants

Immediate Determinants



**53.7%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>2</sup>

**17.8%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>2</sup>



**70.3%** Children 6-59 months old with anemia<sup>1</sup>



**5.5%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>2</sup>



**29.7%**

Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>2</sup>



**64.9%**

Children 12-23 months old who are fully immunized<sup>2</sup>



**47.3%**

Mothers of children under 36 months old who received three or more antenatal checkups<sup>2</sup>



**11.4%**

Currently married women with 10 or more years of schooling<sup>1</sup>



**33.4%**

Women aged 20-24 years who were married before the age of 18<sup>2</sup>



**43.3%**

Adolescent girls 15-18 years old with low BMI (<18.5)<sup>2</sup>

Underlying Determinants

Underlying Determinants



**75.6%**

Households practicing open defecation<sup>2</sup>



**37%**

Population below state-specific poverty line<sup>3</sup>

Does state have a high-level nutrition mission?

**YES**

<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : NFHS-3, 2006

<sup>3</sup> Source : DLHS-3, 2007-08

<sup>4</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

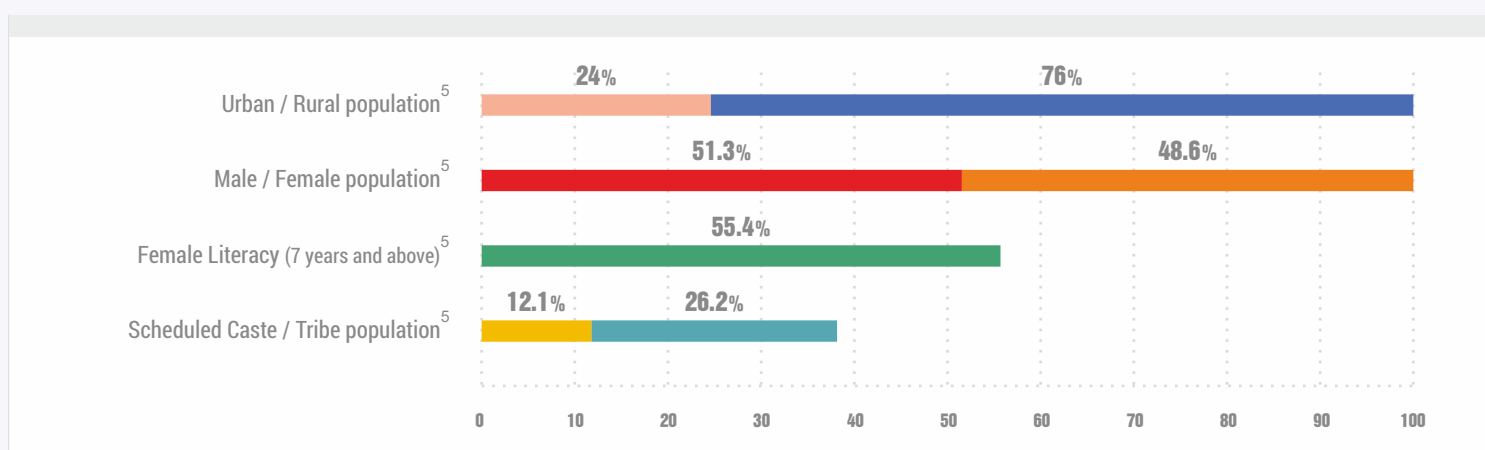
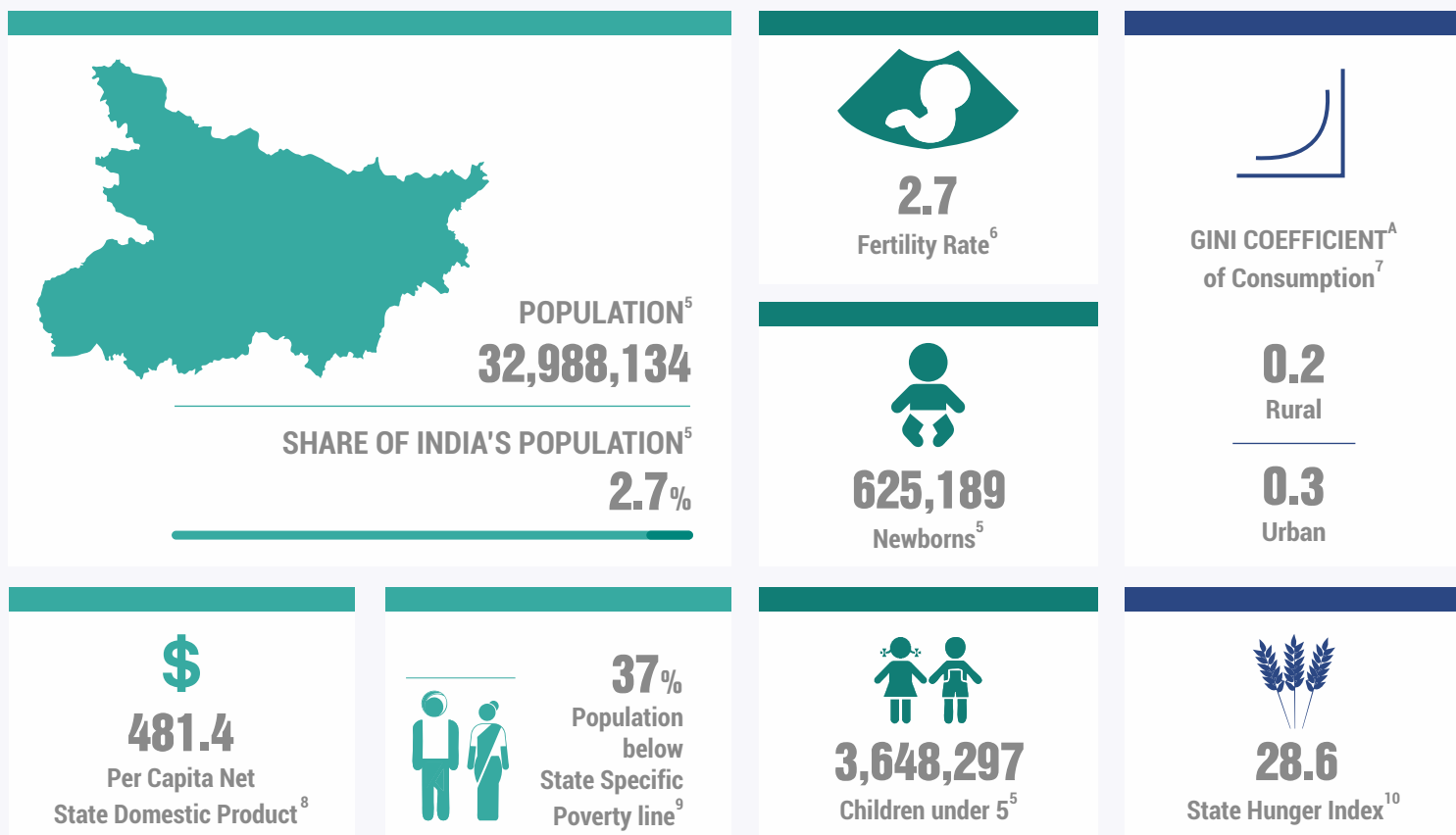


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# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

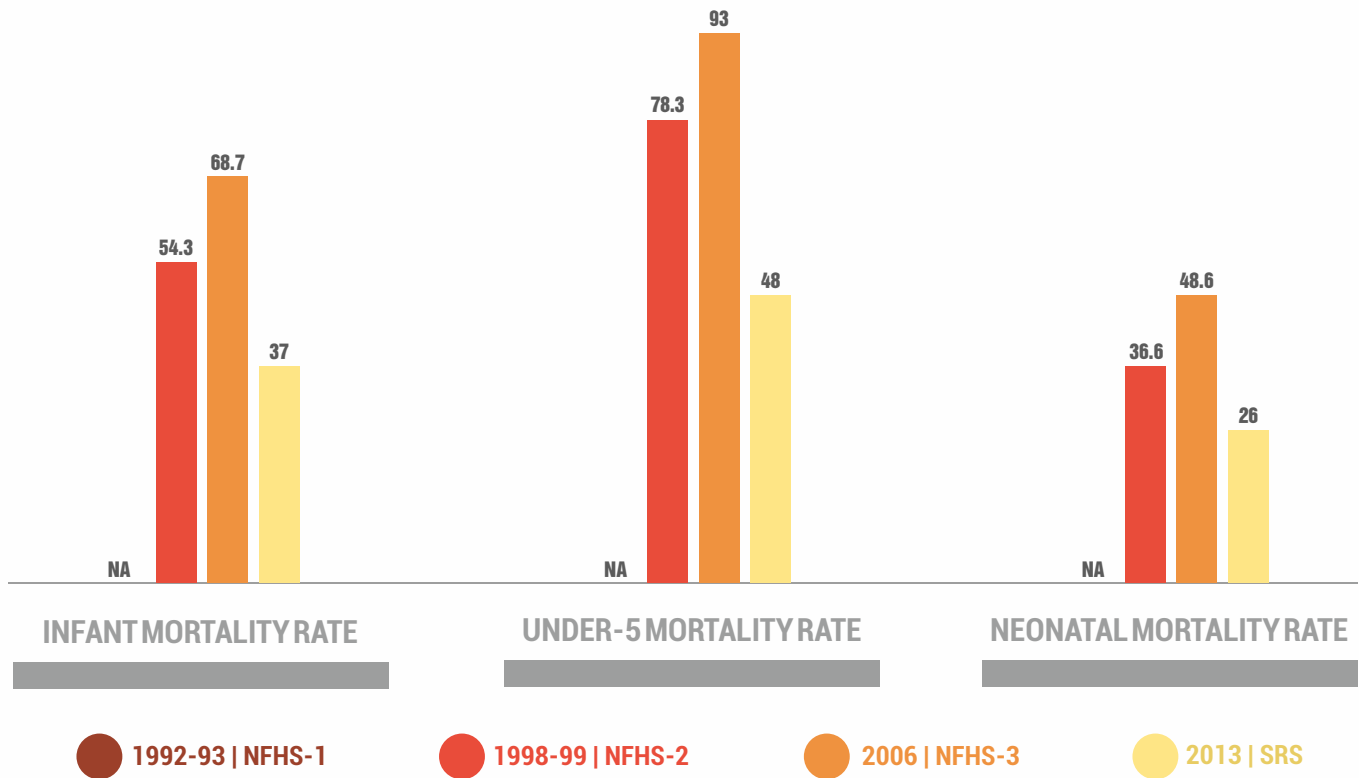
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14.; [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

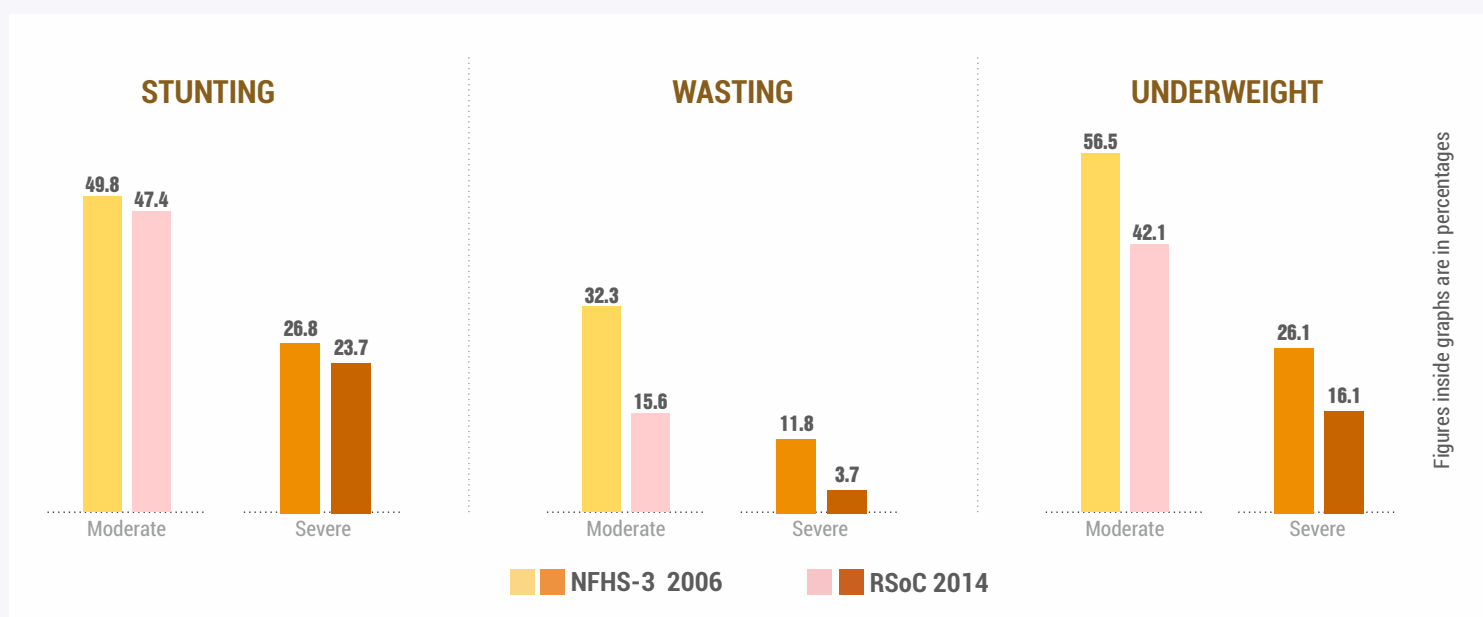
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.



**3.1%** State's share in the total number of stunted children in India<sup>11</sup>

**1 in 32**

**4.9%** State's share in the total number of wasted\* children in India<sup>11</sup>

**1 in 20**

**4.03%** State's share in the total number of underweight children in India<sup>11</sup>

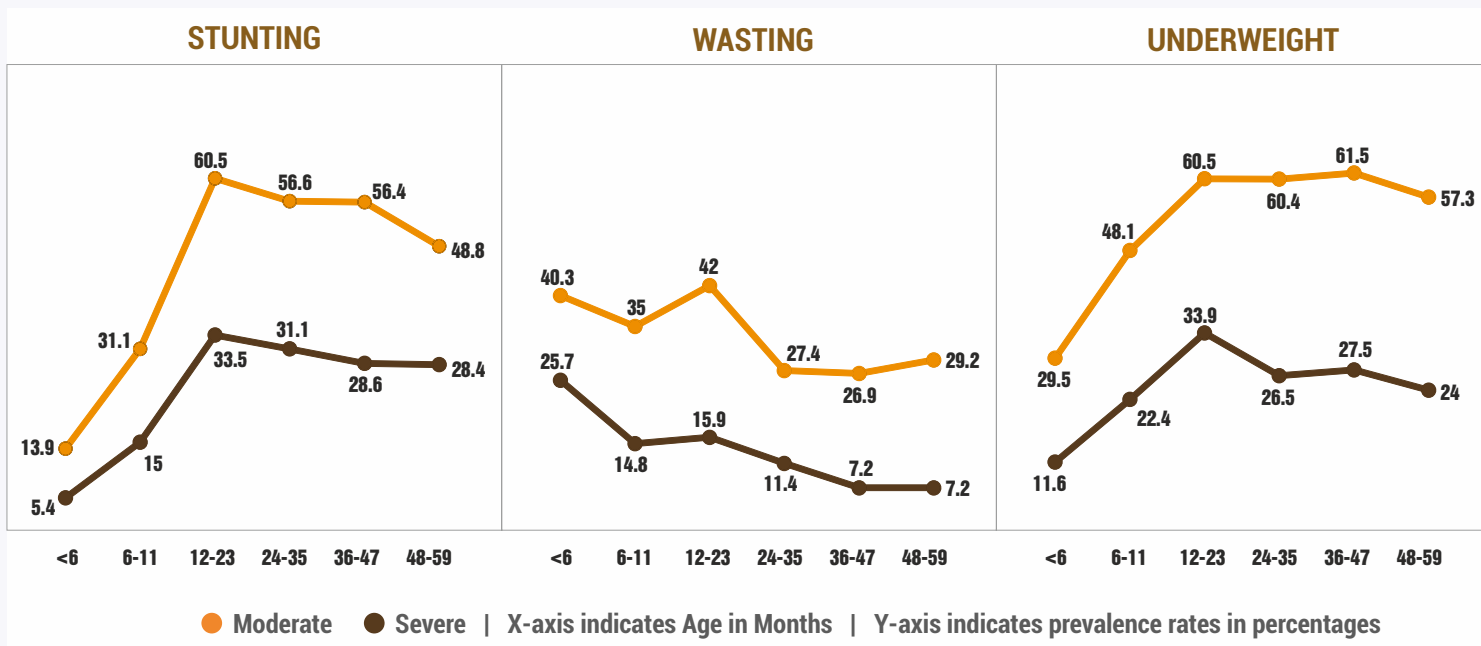
**1 in 25**

\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

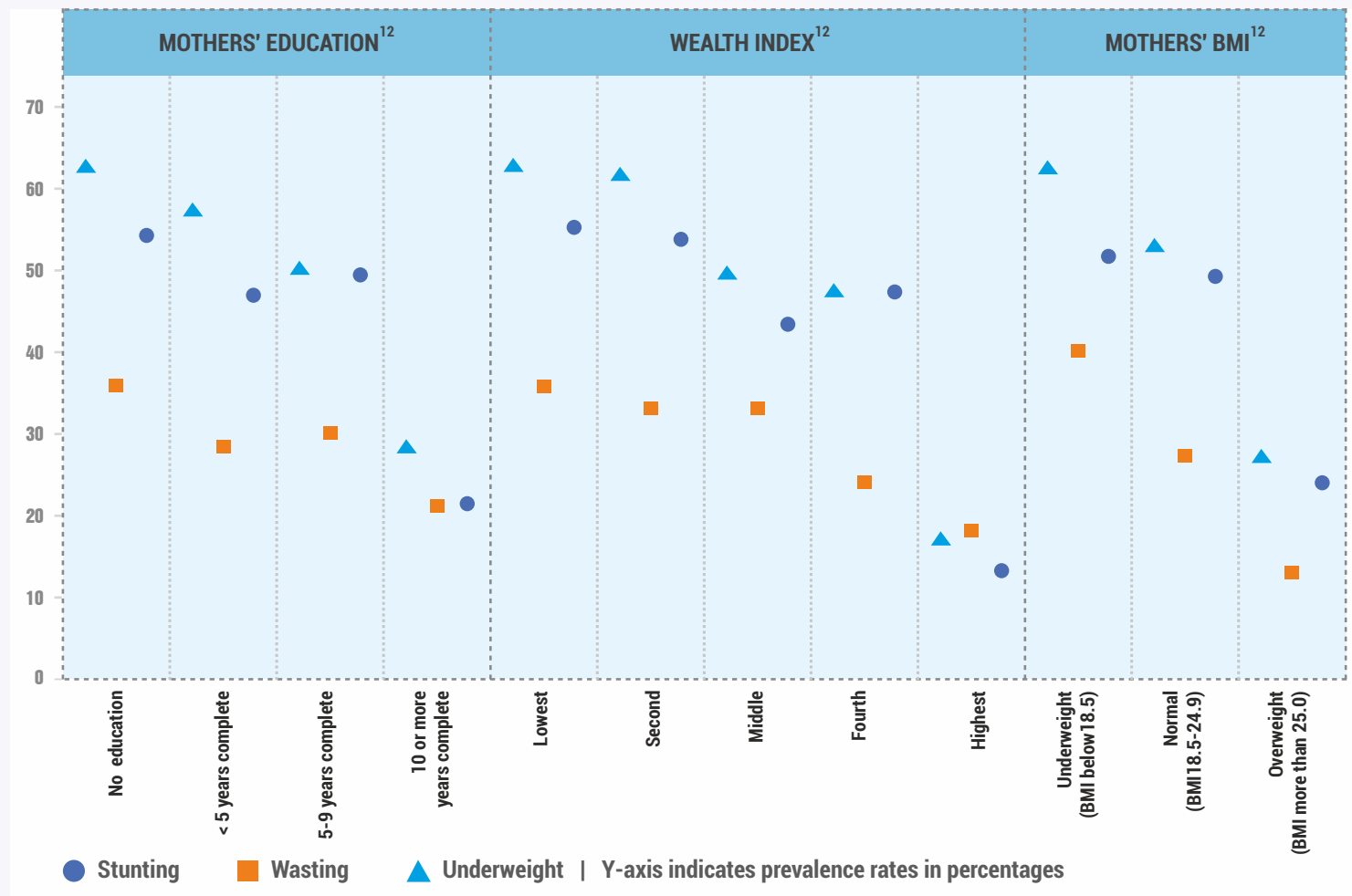
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



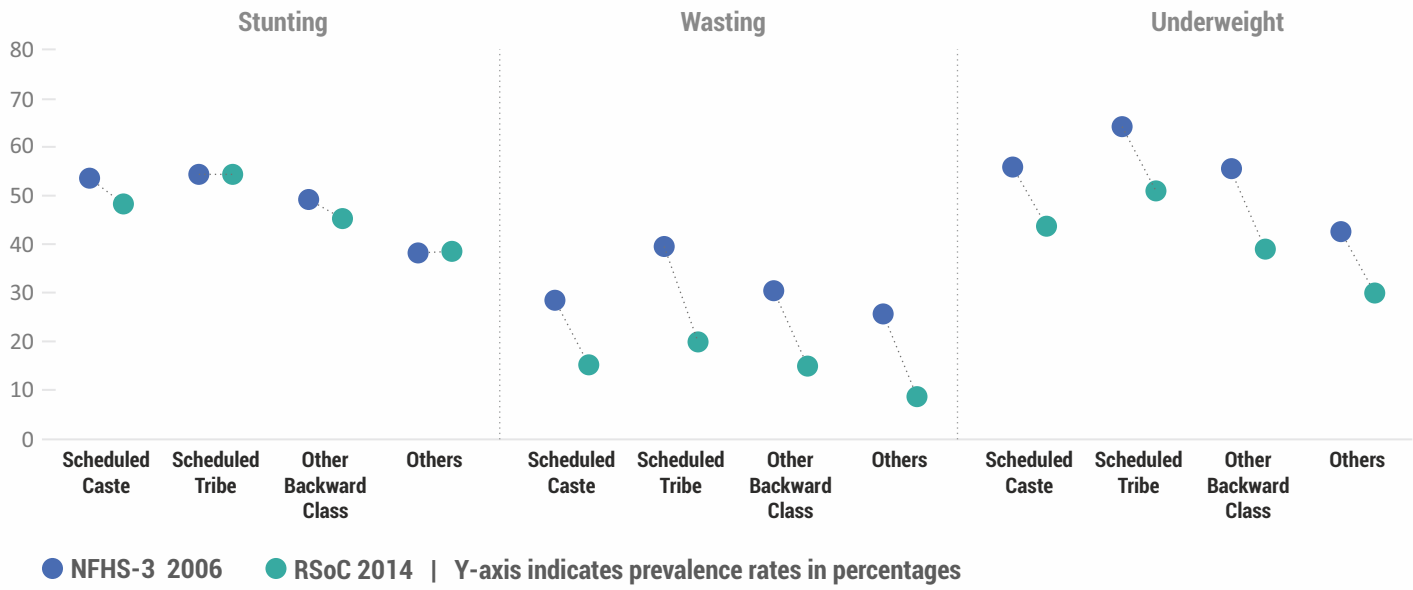
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

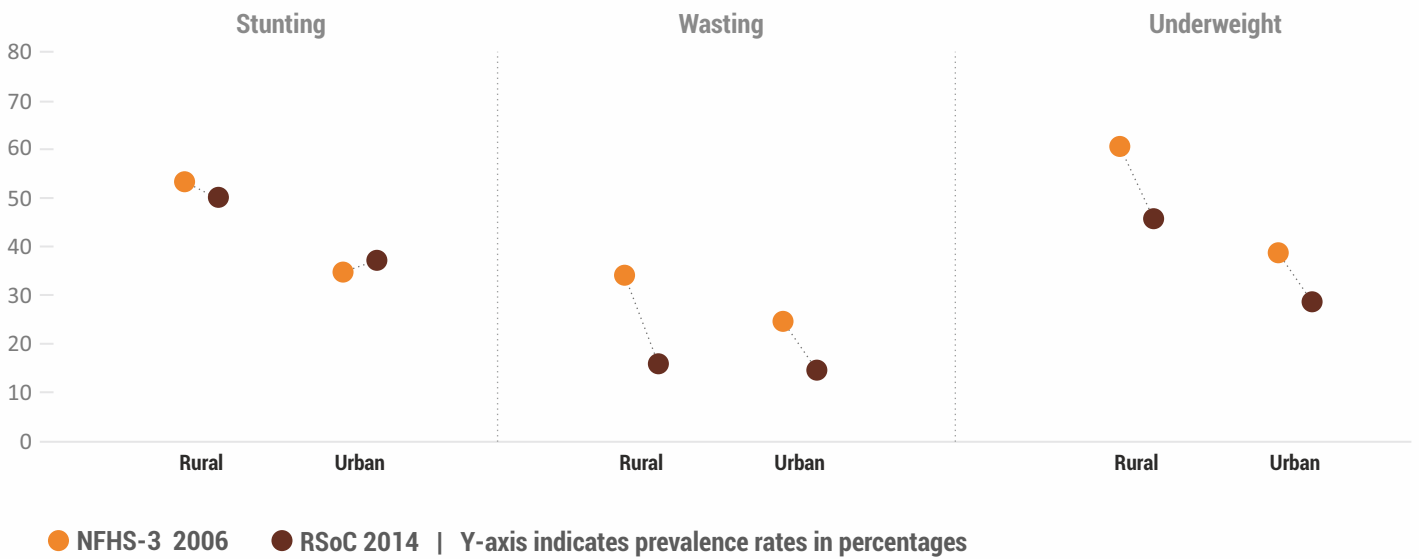


<sup>12</sup> Source : NFHS-3, 2006

CASTE

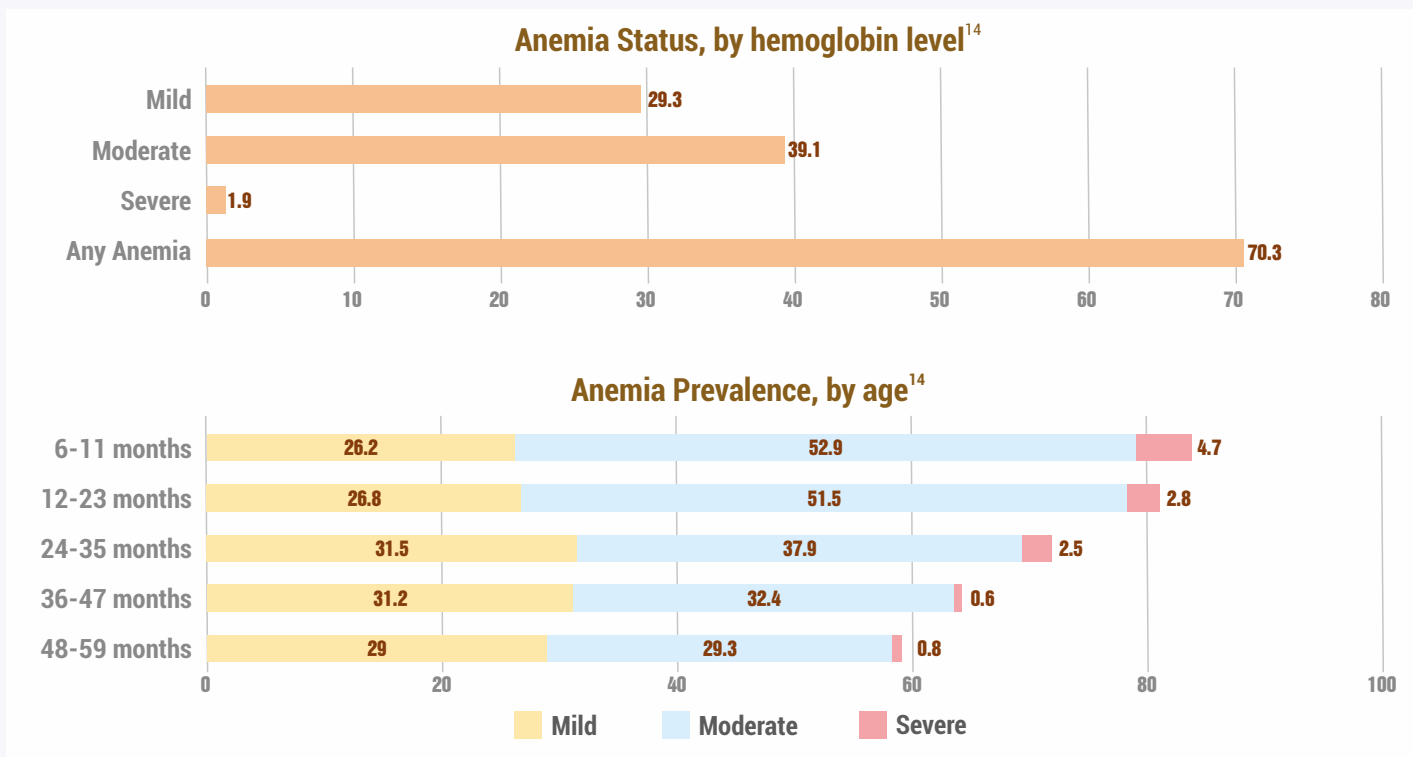


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.




<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |   |
|---|---|
| <p>Children aged 0-23 months breastfed immediately/within an hour of birth</p>  | <p><b>32.7%</b></p>                     |
|  <p>Children aged 0-5 months who were exclusively breastfed</p>  | <p><b>64.3%</b></p>                     |
| <p>Children aged 6-8 months who were fed complementary foods</p>  | <p><b>53.7%</b></p>                     |
| <p>For breastfed children (6-23 months)-<br/> <b>A. Fed minimum number of times.</b><br/>                 Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old</p> <p><b>B. Had minimum dietary diversity</b><br/>                 Note : Minimum dietary diversity refers to four or more food groups<sup>B</sup> fed to children aged 6-23 months</p> | <p><b>35.7%</b></p> <p><b>17.8%</b></p> |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|   |                     |
|---|---------------------|
| <p>Had diarrhea in 15 days prior to survey</p>                                      | <p><b>5.5%</b></p>  |
| <p>Had fever in 15 days prior to survey</p>   | <p><b>16.1%</b></p> |
| <p>Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey</p> | <p><b>13.4%</b></p> |

<sup>B</sup> The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

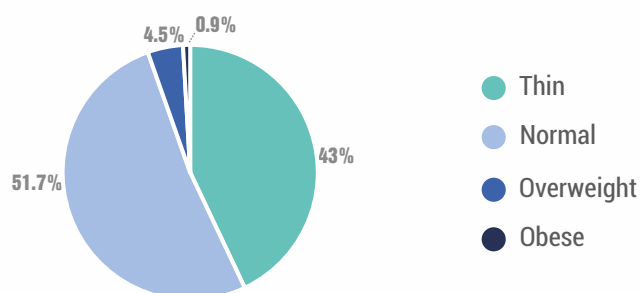
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



**69.5%**

Women aged 15-49 years are anemic

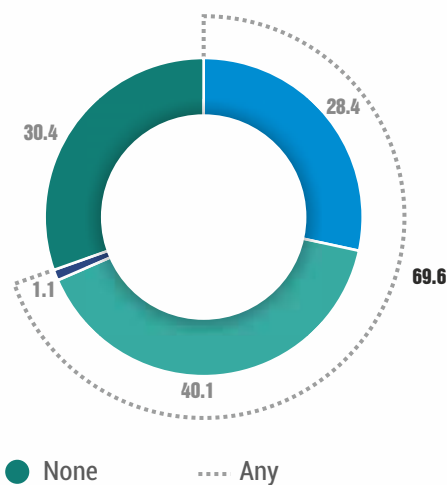
**1.3%**

Women aged 15-49 years are severely anemic

<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]

### C.2. PREGNANT WOMEN<sup>16</sup>

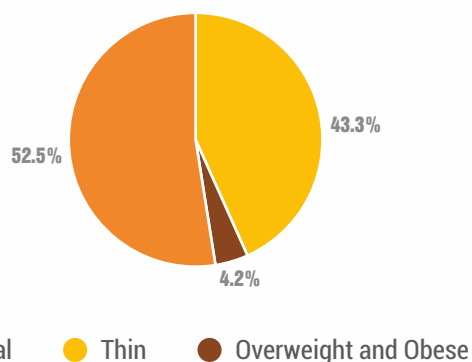
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**67.2%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**0.8%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

● Normal ● Thin ● Overweight and Obese

<sup>16</sup> Source : NFHS-3, 2006

<sup>17</sup> Source : RSOC, 2014

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **11.4%**



**33.4%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **19.8** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.4**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **29.1%**

Currently married women who make decisions about<sup>23</sup>:



**12.3%** Own healthcare



**5.1%** Major household purchase



**25.5%** Purchases for daily household needs



**8.6%** Visits to her family/friends/relatives



**40.9%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**51.4%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>0</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-3, 2007-08

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



70%

Households with access to improved sources of drinking water<sup>E, 24</sup>

15%

Households using improved sanitation facility<sup>F, 24</sup>



75.6%

Households practicing open defecation<sup>24</sup>

31.9 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



6.3%

Growth rate of agriculture from 2007-2012<sup>26</sup>



1.6%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

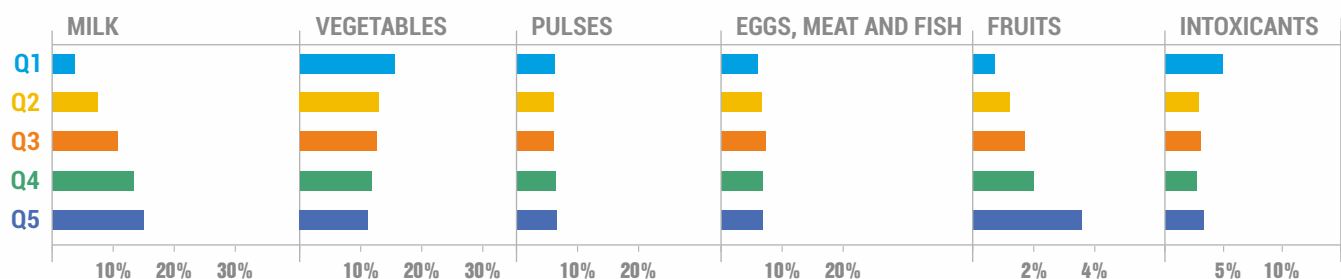
RURAL

2138 BIHAR  
2233 INDIA AVG

URBAN

2175 BIHAR  
2206 INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

| Beneficiaries who availed supplementary food under ICDS <sup>29</sup> |       |
|---|-------|
| Children 6-35 months  | 59.3% |
| Children 36-71 months   | 27%   |
| Pregnant women  | 47%   |
| Lactating mothers   | 72.9% |

| Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey |       |
|---|-------|
| Children aged 6-35 months   | 29.7% |
| Children aged 36-71 months  | 25.8% |
| Pregnant women  | 21.6% |
| Lactating women   | 28.5% |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



47.3%

Received 3 or more antenatal checkups prior to delivery



90.6%

Received 2 or more TT injections prior to delivery



10.3%

Consumed 100 or more IFA tablets/syrup during pregnancy



56.6%

Had Institutional delivery



61%

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



61.5% Rural 75.7% Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



11%

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



56.3% Breastfeeding



51.9% Nutrition



37% Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 4.8%     |
| AWWs living in the AWC village/ward  | 89%      |
| AWWs having 10 or more years of schooling  | 91.1%    |
| Median age of AWWs   | 35 years |
| AWCs serving to population more than the stipulated norm                           | 57.3%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 57.5% |
| AWCs having functional adult weighing scale | 43.7% |
| Available WHO growth chart at AWCs          | 88.4% |

<sup>H</sup> Number of AWCs surveyed for Jharkhand as per RSoC 2014 is 139.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-3, 2007-08

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 89.3% |
| AWWs having correct knowledge of normal birth weight of children                    | 80.7% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 94.6% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 92.1% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 63.8% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 100%              |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 611 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | NA                |

**A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS**

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 64             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 57.5           | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 10.6           | 9.3              |

**B. NUTRITION-SENSITIVE INTERVENTIONS**

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

**B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS**

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 56.3% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 27.8% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 71.7% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

**B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:**

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 46             | 47               |
| PDS <sup>41</sup>                           | 467.5          | 475.3            |
| MGNREGA <sup>42</sup>                       | 192            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13



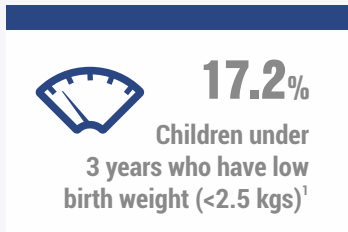
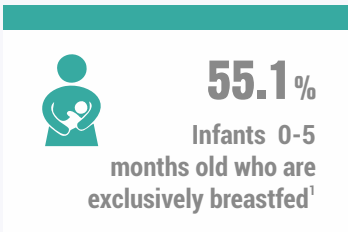
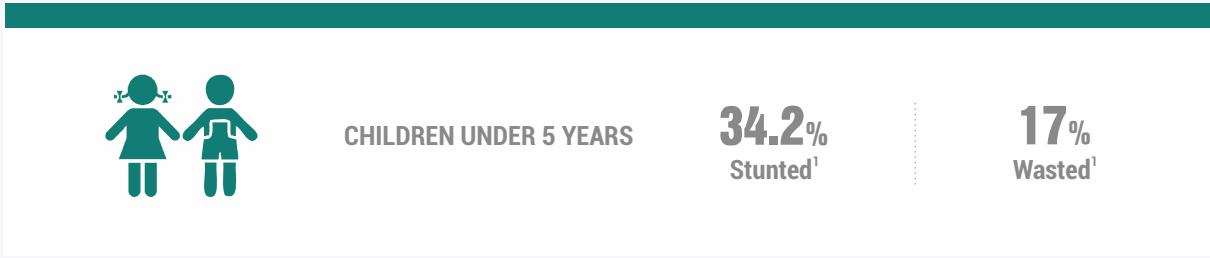
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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN KARNATAKA

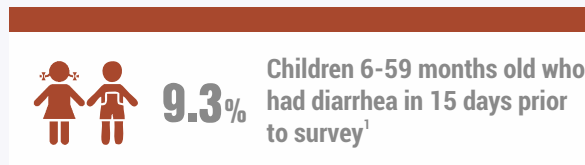
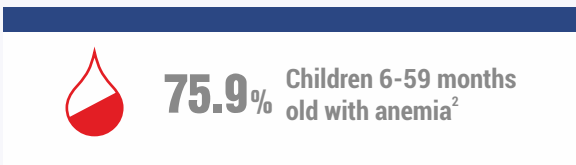
World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



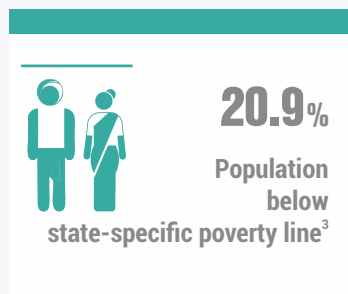
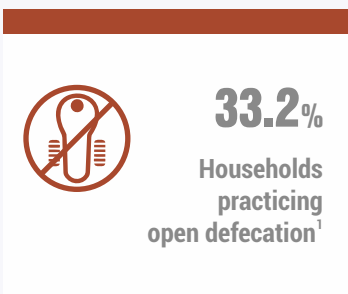
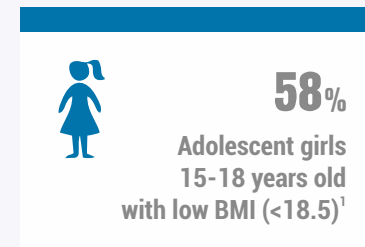
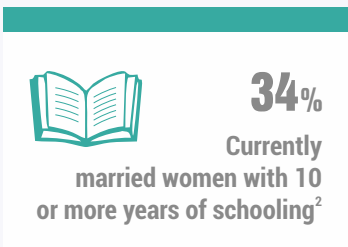
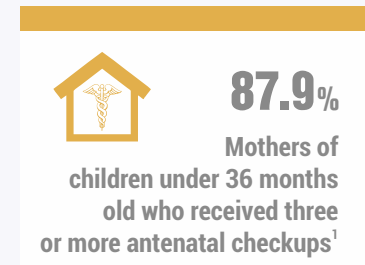
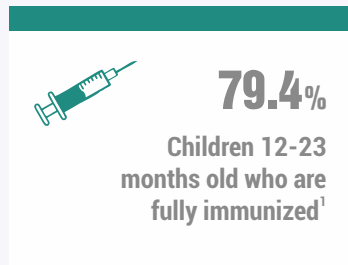
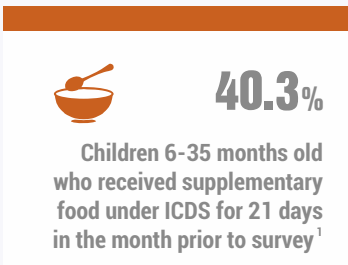
Immediate Determinants

Immediate Determinants



Underlying Determinants

Underlying Determinants



<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : DLHS4, 2012-13

<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

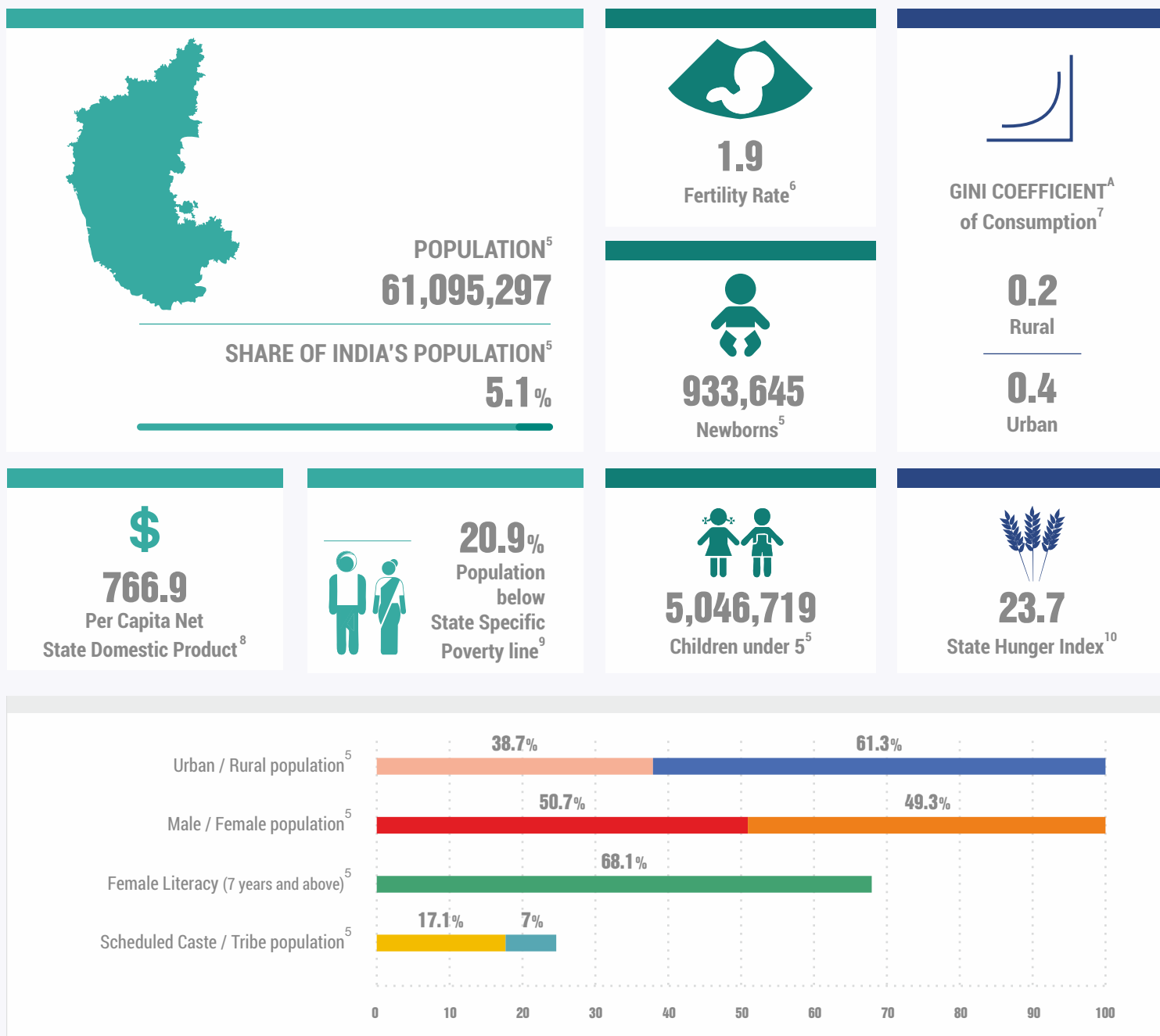


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## I. CONTEXT

### A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

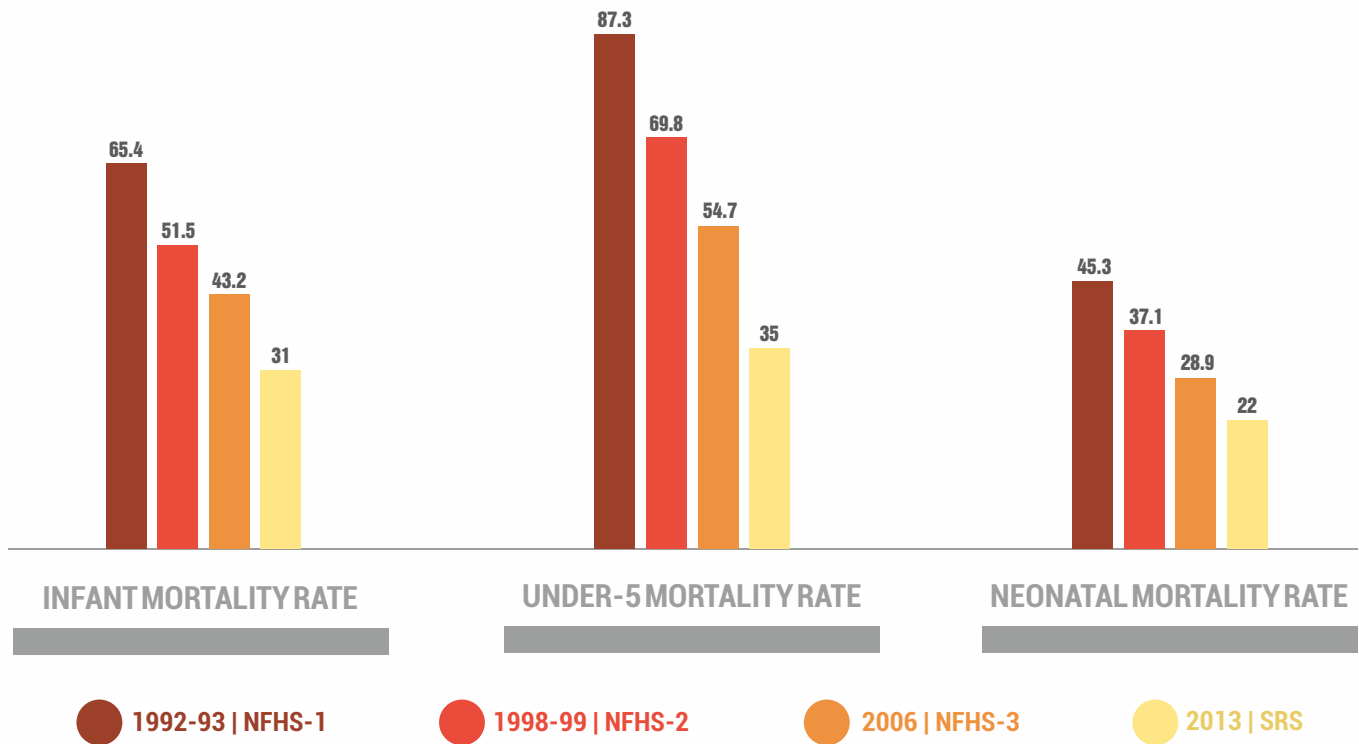
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India state hunger index, comparisons of hunger across states, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

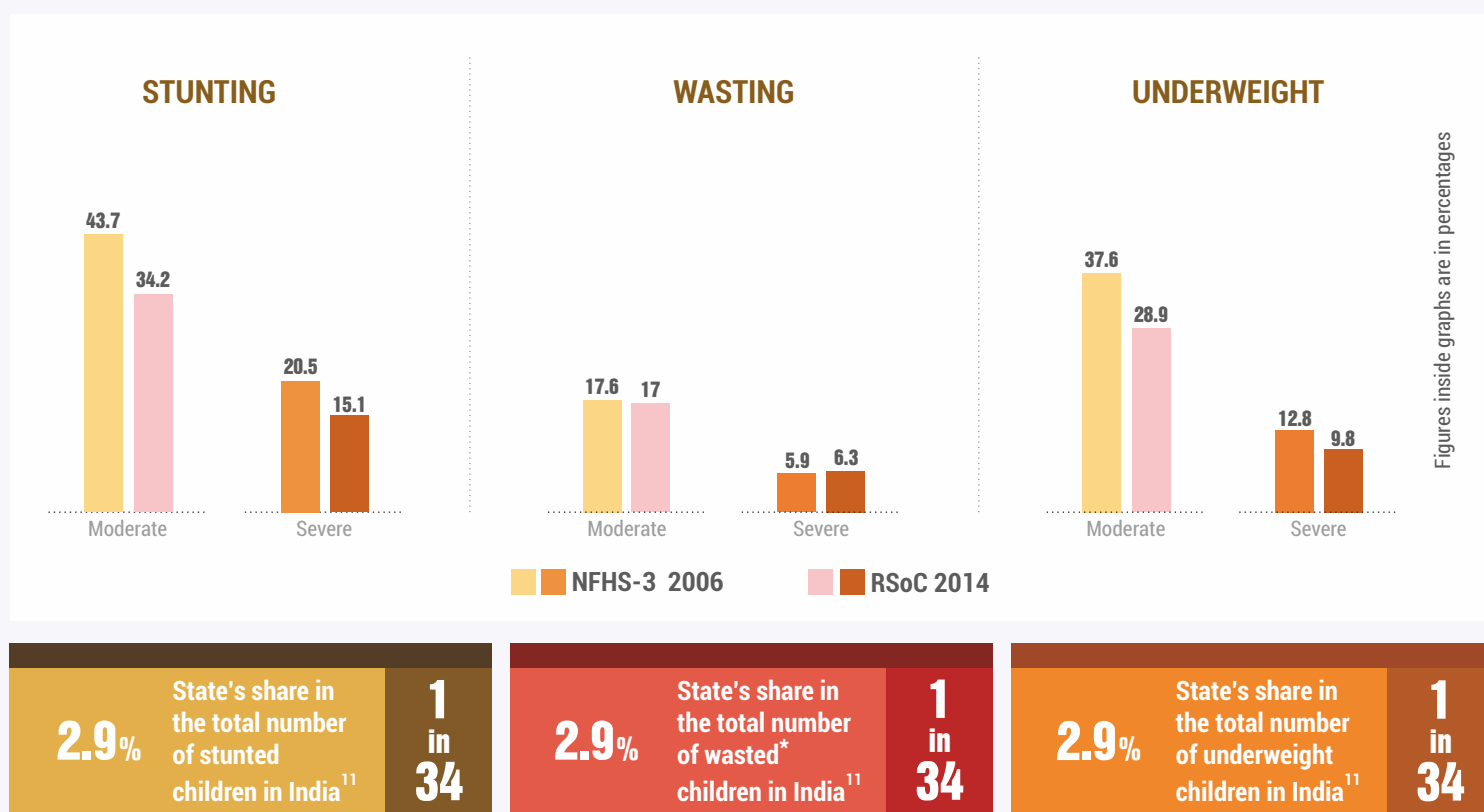
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

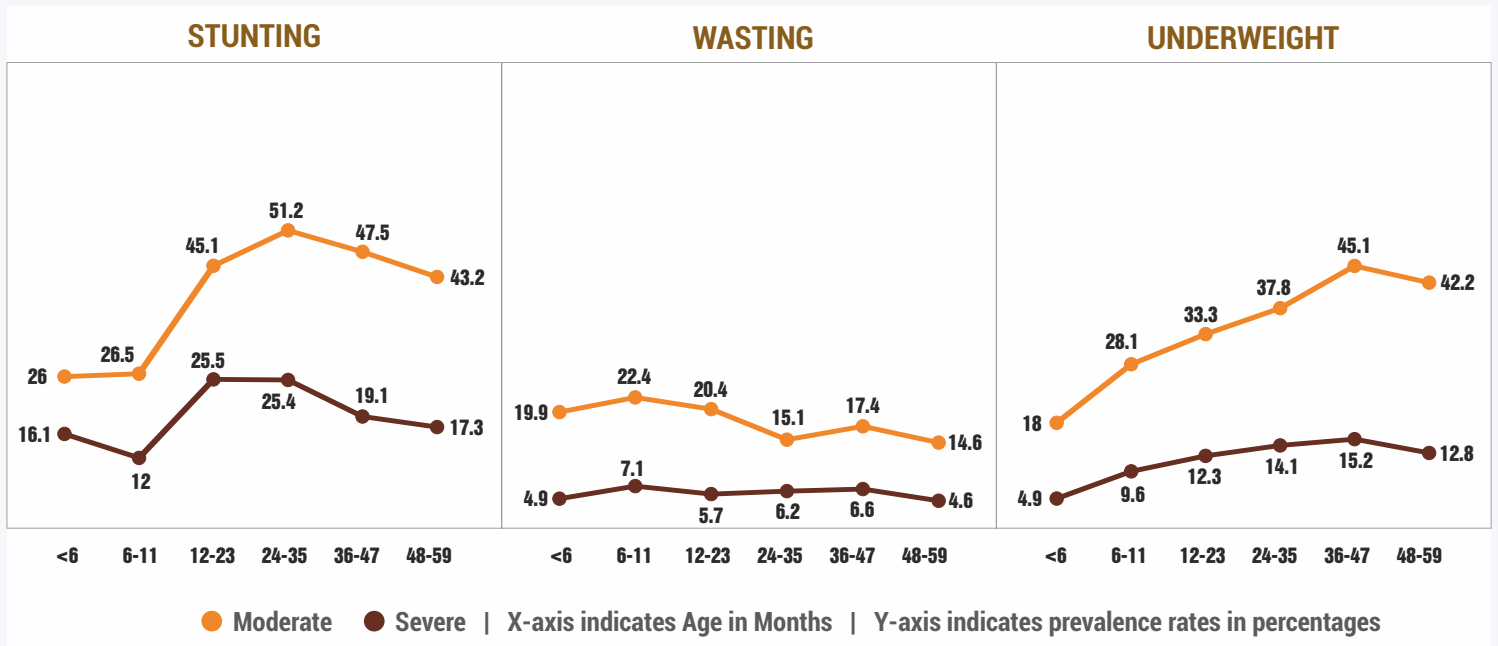


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

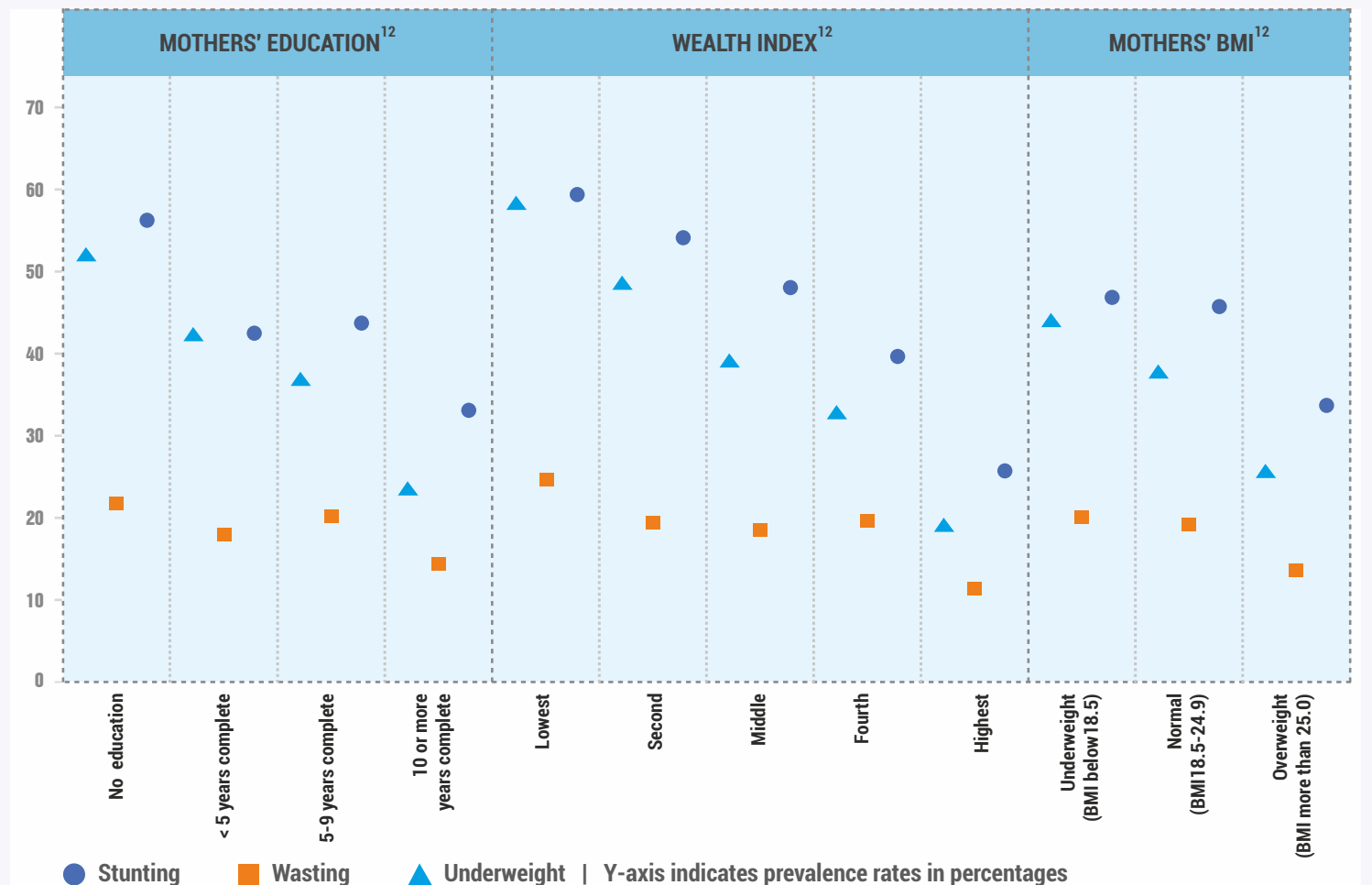
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



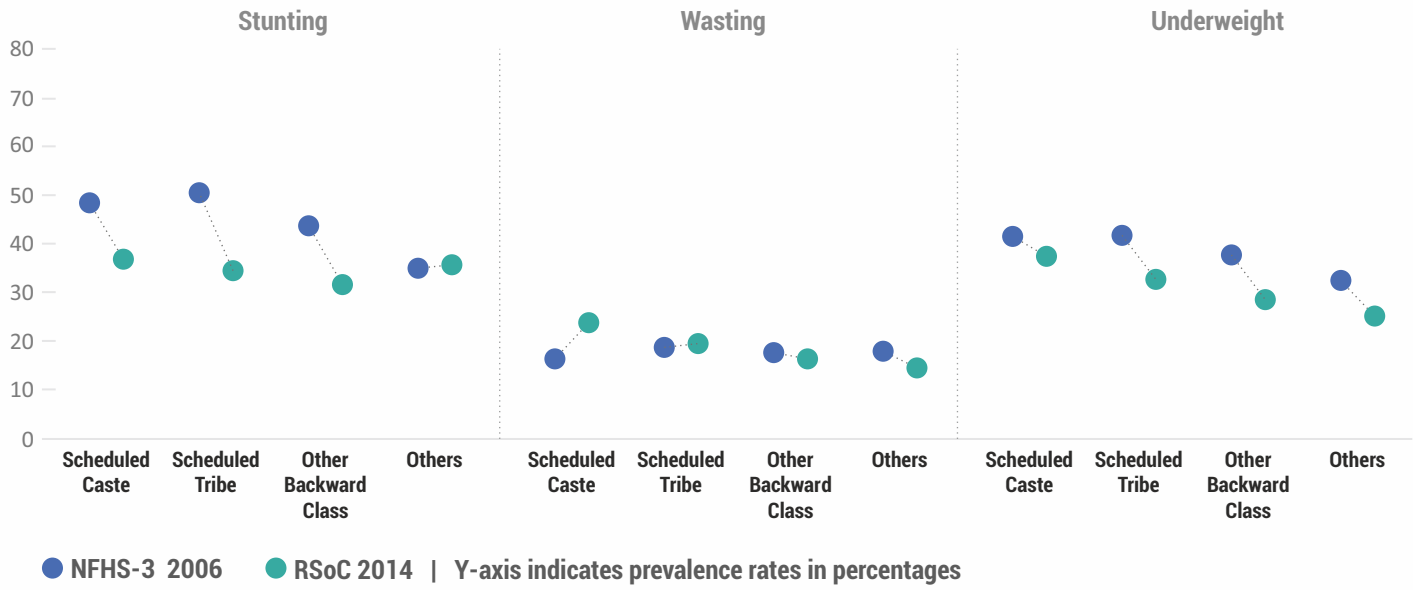
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

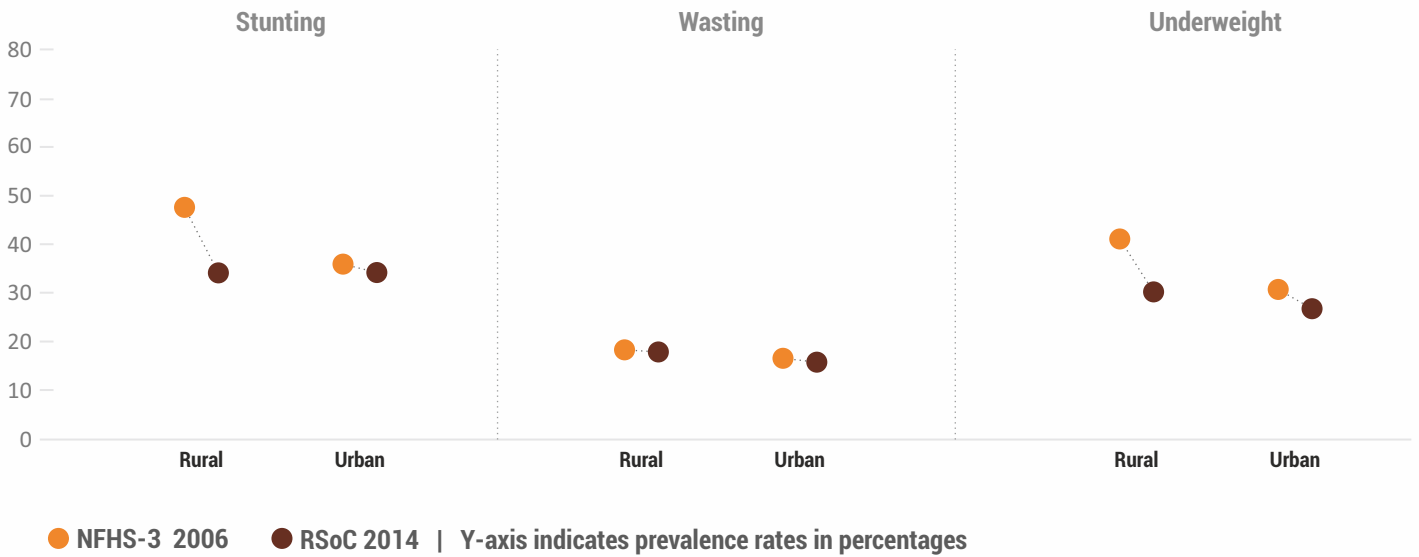


<sup>12</sup> Source : NFHS-3, 2006

CASTE

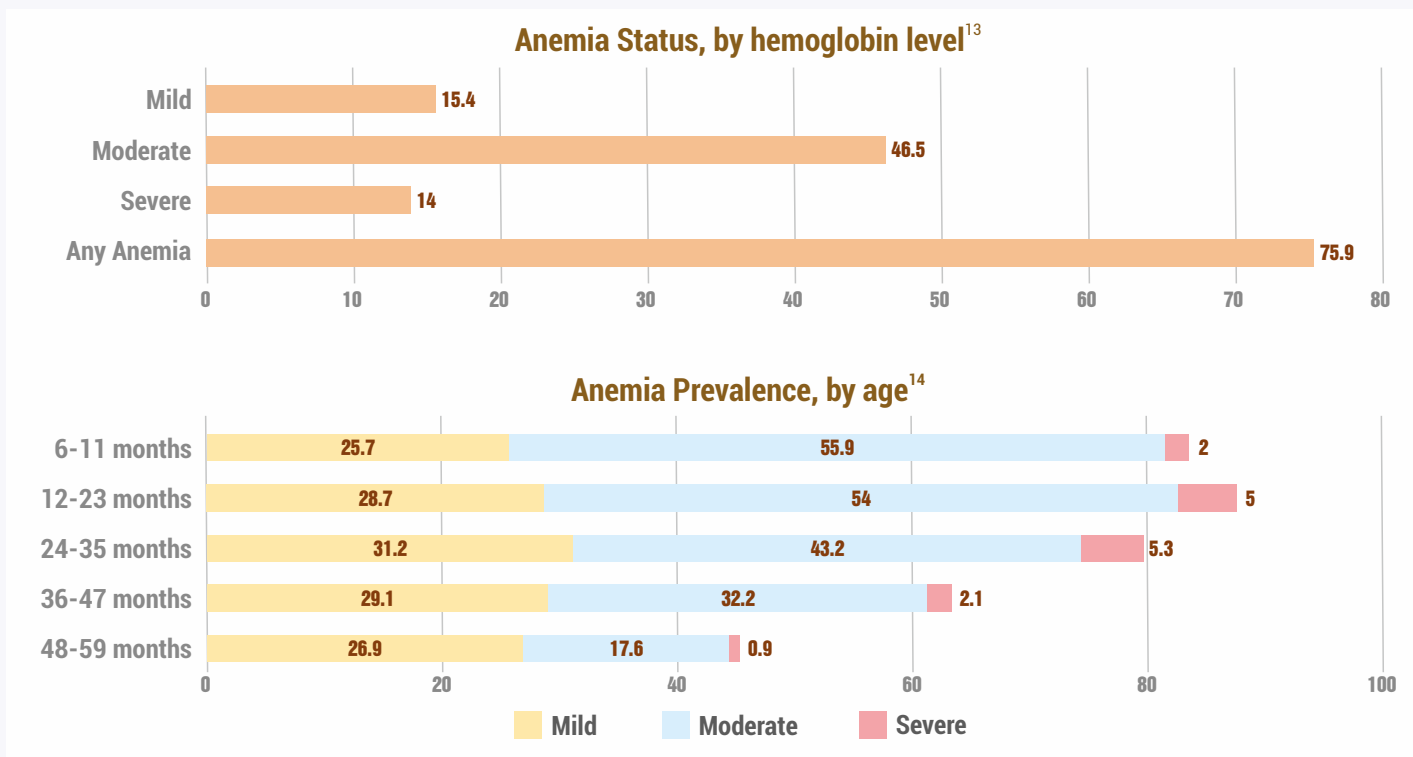


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |   |       |
|---|---|-------|
| Children aged 0-23 months breastfed immediately/within an hour of birth   | 45.4%   |       |
|    | Children aged 0-5 months who were exclusively breastfed   | 55.1% |
|   | Children aged 6-8 months who were fed complementary foods | 63.4% |
| <p>For breastfed children (6-23 months)-</p> <p>A. Fed minimum number of times.</p> <p>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old</p> | 44.3%   |       |
| <p>B. Had minimum dietary diversity</p> <p>Note : Minimum dietary diversity refers to four or more food groups<sup>B</sup> fed to children aged 6-23 months</p>   | 21.8%   |       |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 9.3%  |
| Had fever in 15 days prior to survey   | 14.6% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 5.7%  |

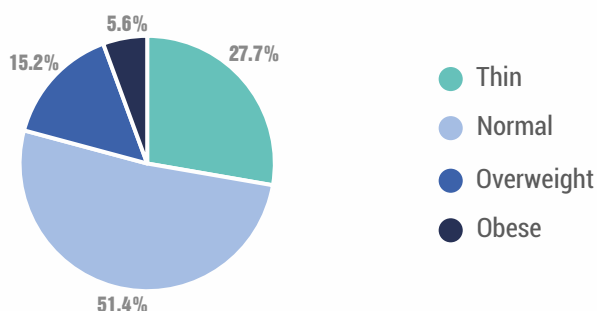
<sup>B</sup> The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**62.5%**

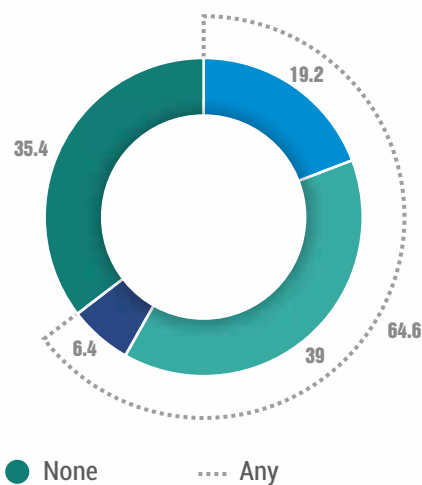
Women aged 15-49 years are anemic

**6.9%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

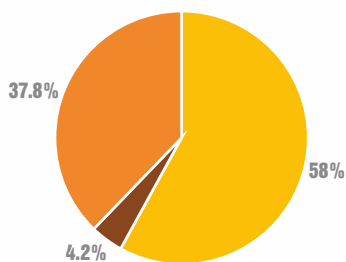
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



● Normal ● Thin ● Overweight and Obese



**51.3%**

Adolescent girls aged 15-19 years are anemic<sup>17a</sup>

**1.3%**

Adolescent girls aged 15-19 years are severely anemic<sup>17a</sup>

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **34%**



**26.3%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **22.4** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.5**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **31.9%**

Currently married women who make decisions about<sup>23</sup>:



**19.9%** Own healthcare



**12.9%** Major household purchase



**33.7%** Purchases for daily household needs



**15.3%** Visits to her family/friends/relatives



**21.5%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**68.9%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



95%

Households with access to improved sources of drinking water<sup>E, 24</sup>

55.5%

Households using improved sanitation facility<sup>F, 24</sup>



33.2%

Households practicing open defecation<sup>24</sup>

39 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



5.4%

Growth rate of agriculture from 2007-2012<sup>26</sup>



4.6%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

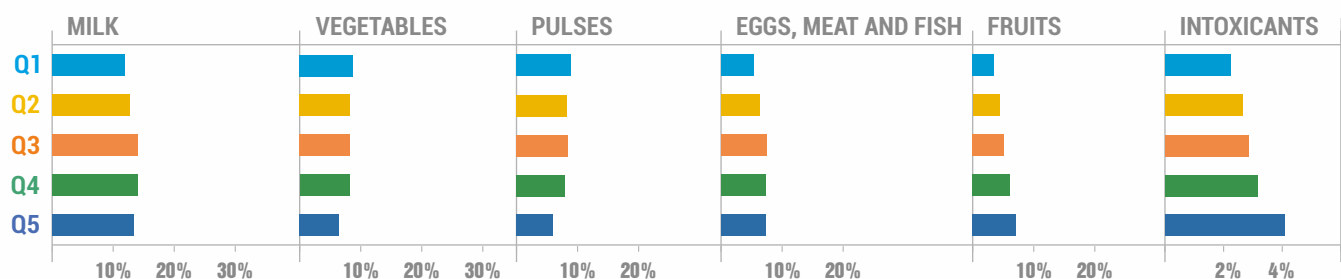
**RURAL**

2,164 KARNATAKA | 2233 INDIA AVG

**URBAN**

2,245 KARNATAKA | 2206 INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 56.3% |
| Children 36-71 months | 47.1% |
| Pregnant women        | 48.8% |
| Lactating mothers     | 52.3% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 40.3% |
| Children aged 36-71 months | 51.8% |
| Pregnant women             | 40.7% |
| Lactating women            | 37.6% |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**87.9%**

Received 3 or more antenatal checkups prior to delivery



**93.2%**

Received 2 or more TT injections prior to delivery



**34.1%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**92%**

Had Institutional delivery



**92.6%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**78.9%** Rural

**80.2%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**2.4%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



**65.3%**  
Breastfeeding



**54.3%**  
Nutrition of mother and child



**35.9%**  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 4.3%     |
| AWWs living in the AWC village/ward  | 60.8%    |
| AWWs having 10 or more years of schooling  | 92.8%    |
| Median age of AWWs   | 40 years |
| AWCs serving to population more than the stipulated norm                           | 51.7%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 90.8% |
| AWCs having functional adult weighing scale | 74.9% |
| Available WHO growth chart at AWCs          | 99.1% |

<sup>H</sup> Number of AWCs surveyed for Karnataka as per RSoC 2014 is 154.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-4, 2012-13

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 94.2% |
| AWWs having correct knowledge of normal birth weight of children                    | 87%   |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 96.4% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 93.2% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 95.4% |

| Health Service Delivery Personnel   | Value              |
|---|--------------------|
| ASHAs selected <sup>33</sup>  | 79%                |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 1212 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0%                 |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 112            | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 105.5          | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 21.4           | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 53.6% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 59.7% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 64.9% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 130            | 47               |
| PDS <sup>41</sup>                           | 996.6          | 475.3            |
| MGNREGA <sup>42</sup>                       | 241            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lq15/15/as216.htm](http://164.100.47.132/Annexure_New/lq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13

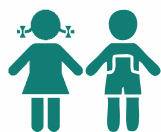


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## FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN KERALA

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**19.4%**  
Stunted<sup>1</sup>
**15.5%**  
Wasted<sup>1</sup>

World Health Assembly Nutrition Targets


**58.6%**

 Infants 0-5 months old who are exclusively breastfed<sup>1</sup>

**13%**

 Children under 3 years who have low birth weight (<2.5 kgs)<sup>1</sup>

**32.7%**

 Women 15-49 years old with anemia<sup>2</sup>

Immediate Determinants


**72.6%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>1</sup>
**36.6%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>1</sup>

**48.5%** Children 6-59 months old with anemia<sup>2</sup>

**3.6%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>1</sup>

Immediate Determinants


**24.2%**

 Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>1</sup>

**83%**

 Children 12-23 months old who are fully immunized<sup>1</sup>

**87.8%**

 Mothers of children under 36 months old who received three or more antenatal checkups<sup>1</sup>

Underlying Determinants


**70.8%**

 Currently married women with 10 or more years of schooling<sup>2</sup>

**7.1%**

 Women aged 20-24 years who were married before the age of 18<sup>1</sup>

**34.8%**

 Adolescent girls 15-18 years old with low BMI (<18.5)<sup>1</sup>

Underlying Determinants


**1.9%**

 Households practicing open defecation<sup>1</sup>

**7.1%**

 Population below state-specific poverty line<sup>3</sup>

Does state have a high-level nutrition mission?

**NO**
<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : DLHS4, 2012-13

<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

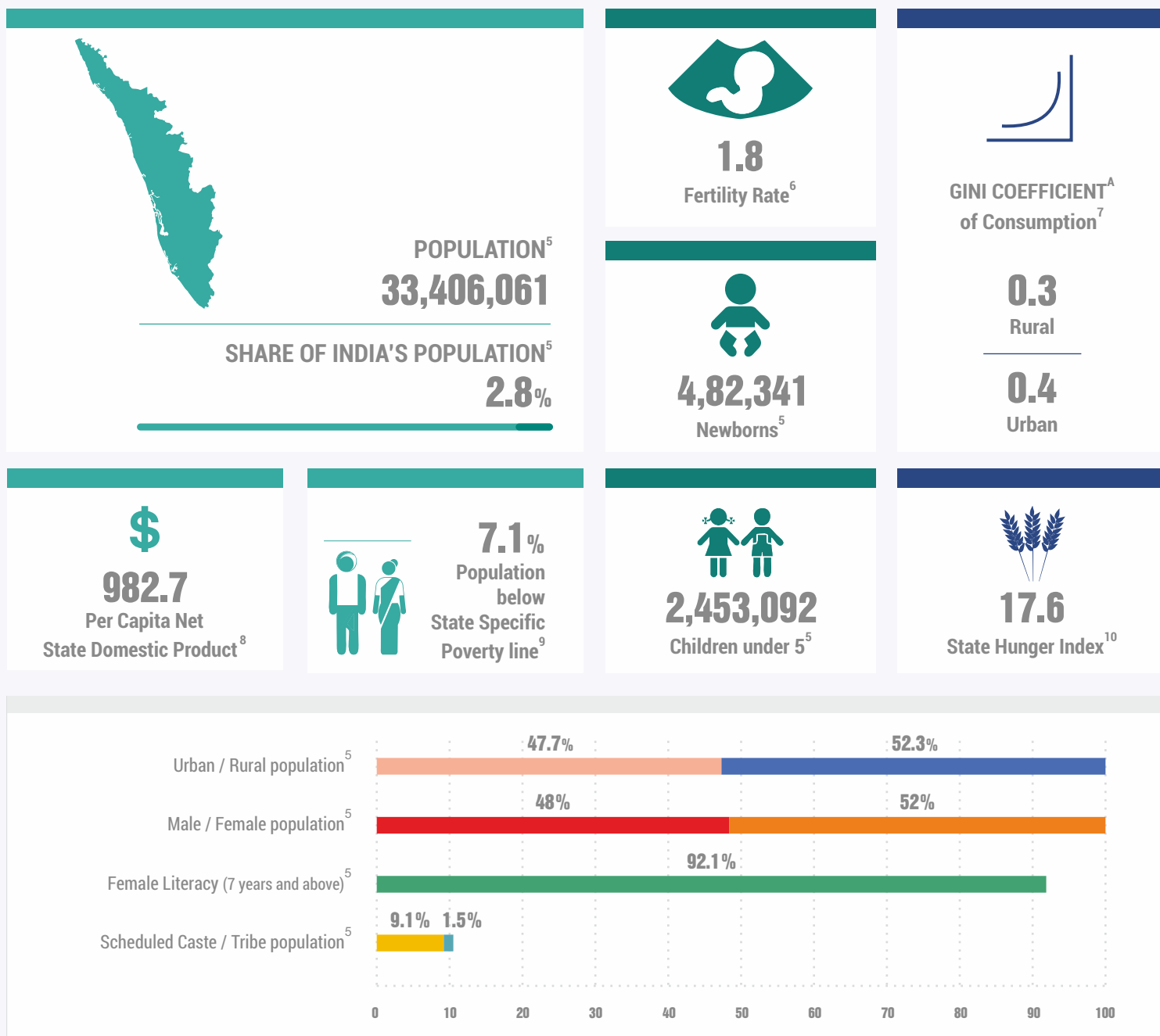


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## I. CONTEXT

### A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

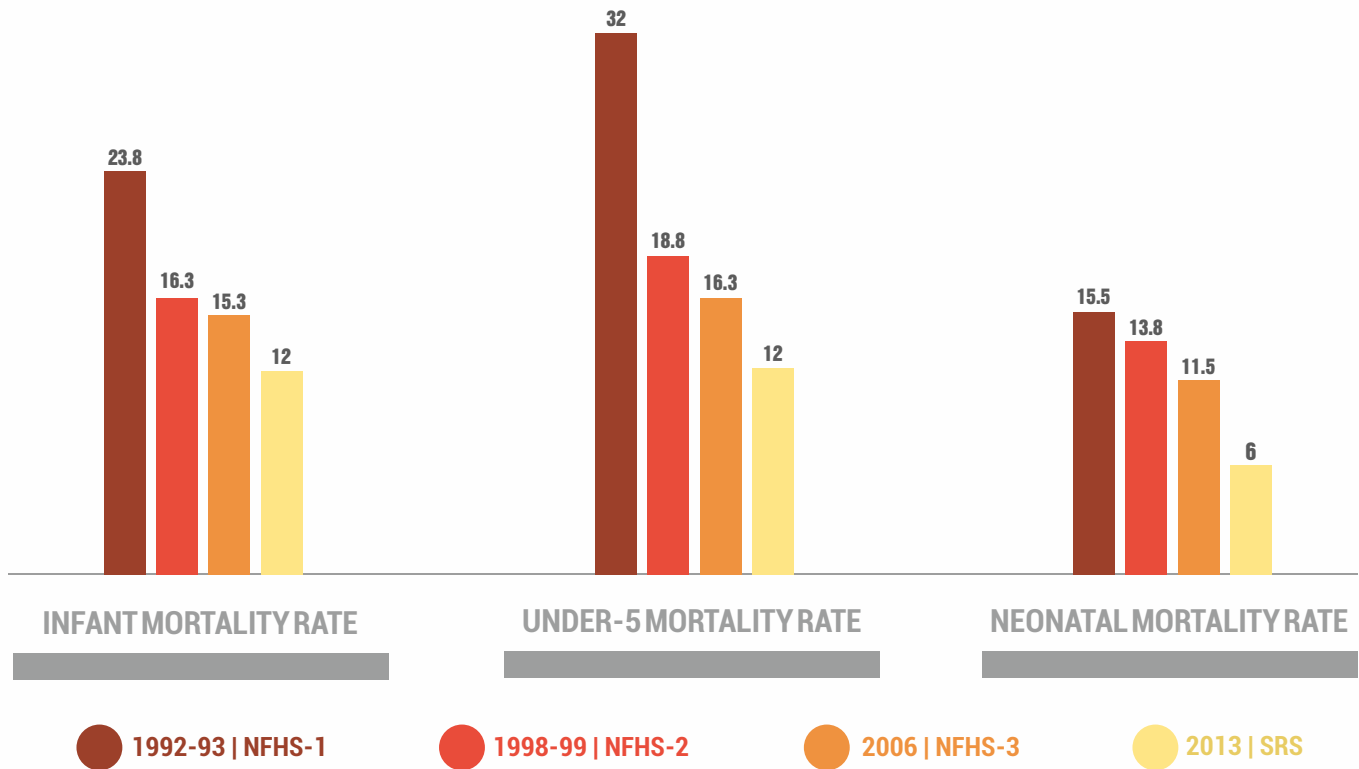
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India state hunger index, comparisons of hunger across states, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

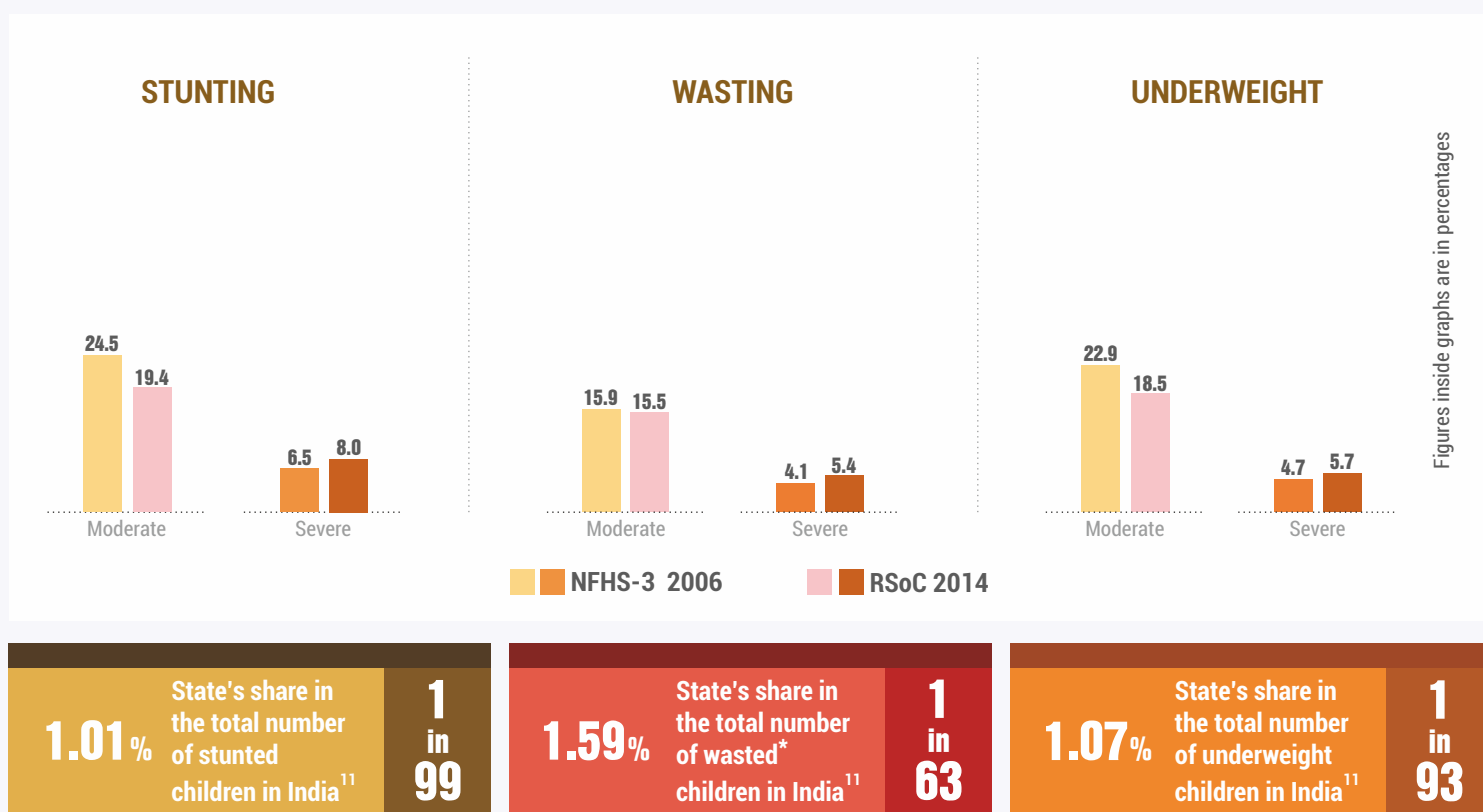
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

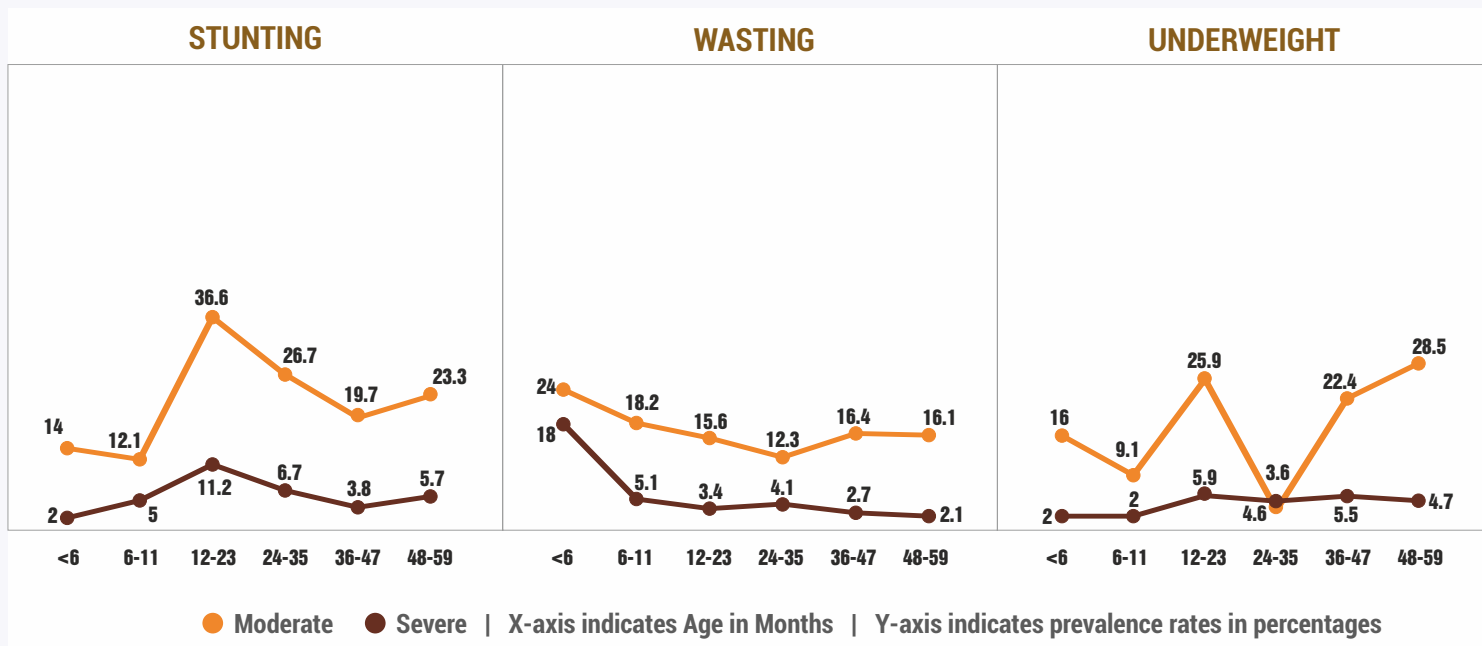


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

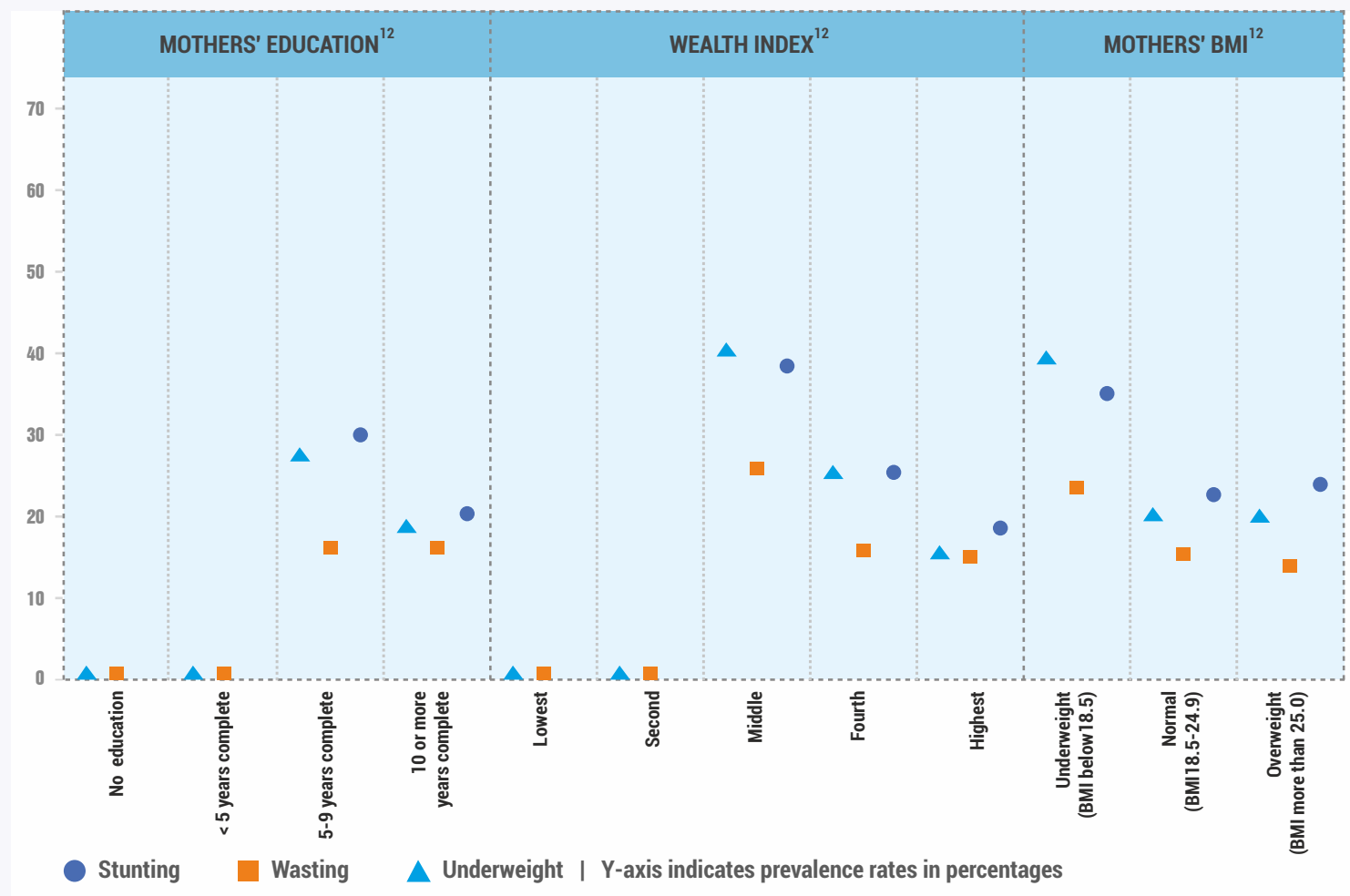
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



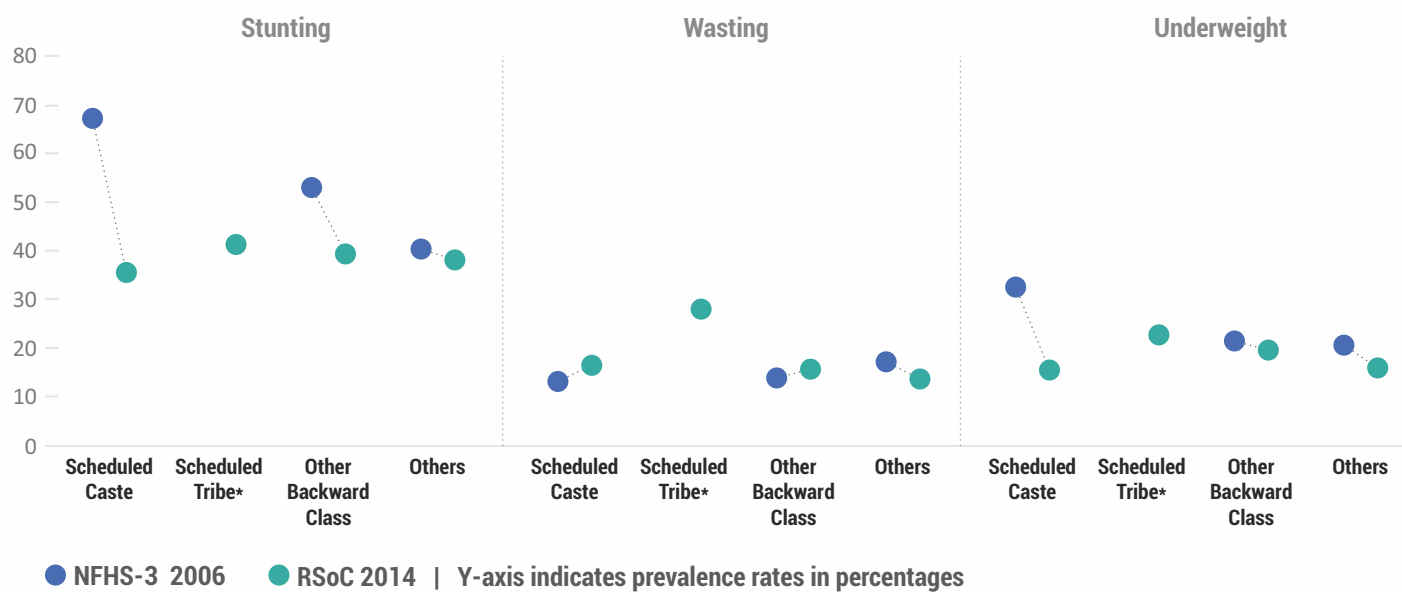
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.



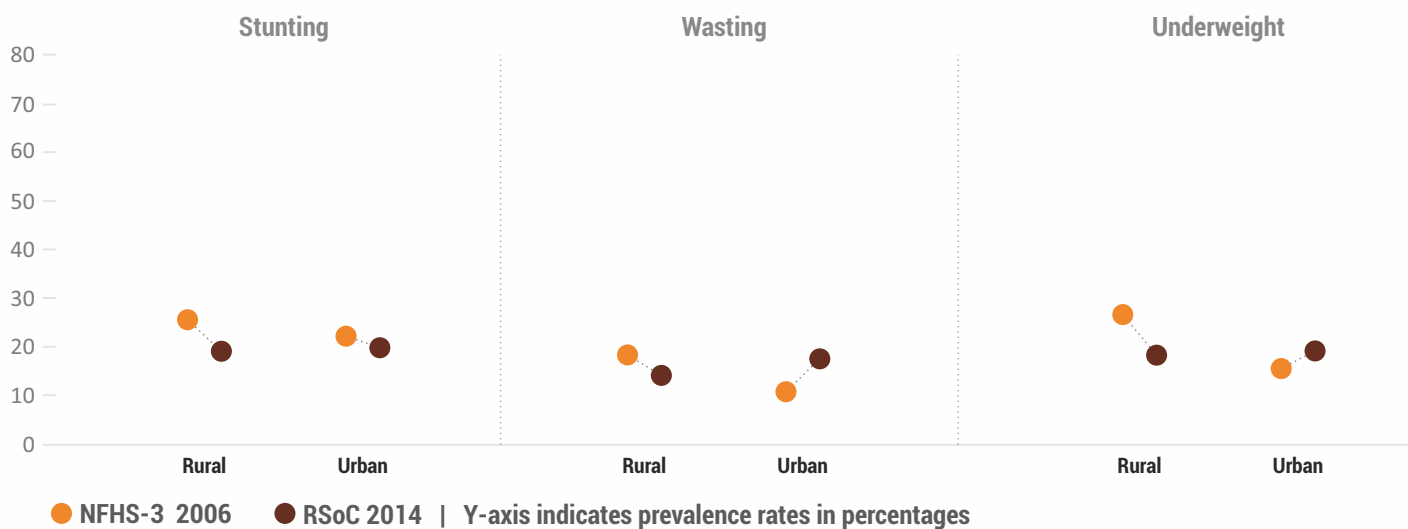
<sup>12</sup> Source : NFHS-3, 2006

## CASTE



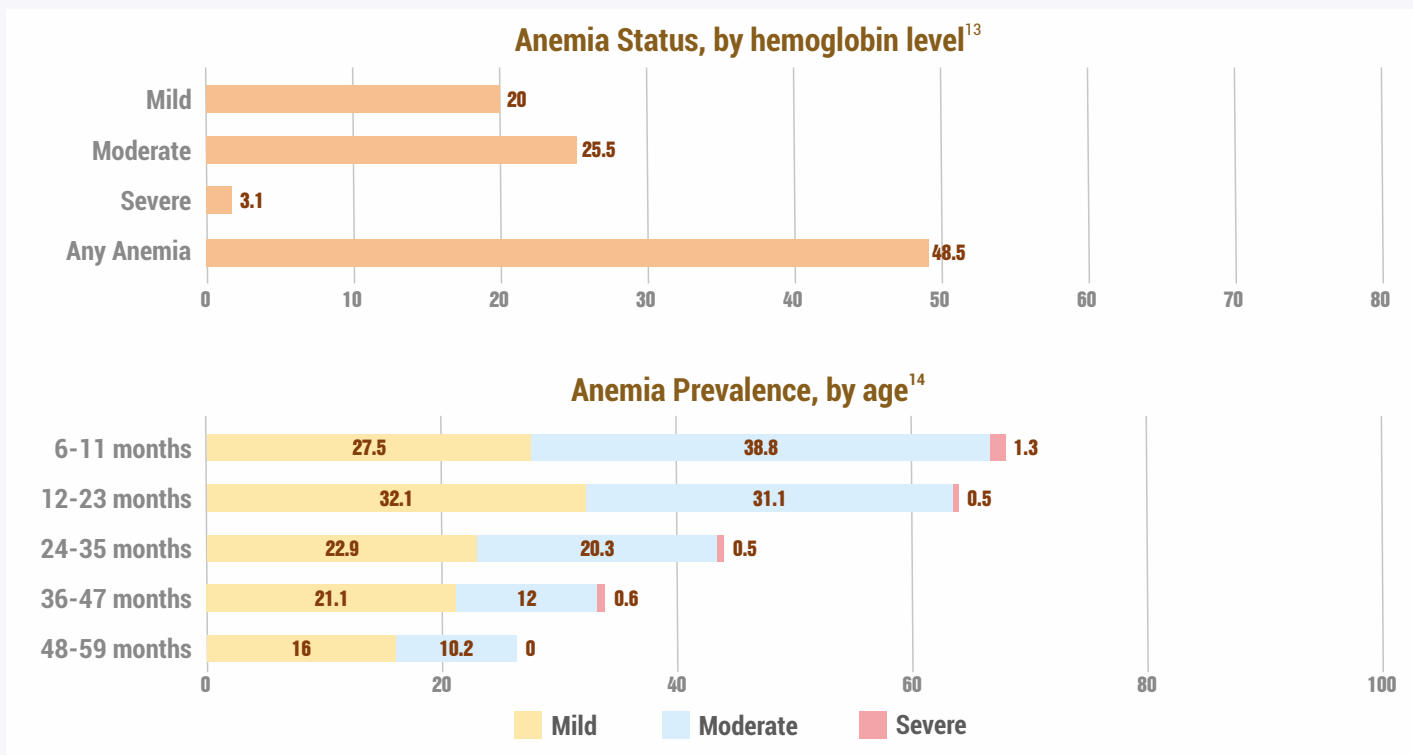
\*Data for Scheduled Tribes is not available in NFHS-3 for this state

## RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |   |       |
|---|---|-------|
| Children aged 0-23 months breastfed immediately/within an hour of birth   | 66.6%   |       |
|    | Children aged 0-5 months who were exclusively breastfed   | 58.6% |
|   | Children aged 6-8 months who were fed complementary foods | 72.6% |
| <p>For breastfed children (6-23 months)-</p> <p>A. Fed minimum number of times.</p> <p>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old</p> | 38.1%   |       |
| <p>B. Had minimum dietary diversity</p> <p>Note : Minimum dietary diversity refers to four or more food groups<sup>B</sup> fed to children aged 6-23 months</p>   | 36.6%   |       |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |      |
|--|------|
| Had diarrhea in 15 days prior to survey                                      | 3.6% |
| Had fever in 15 days prior to survey   | 9.8% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 2.5% |

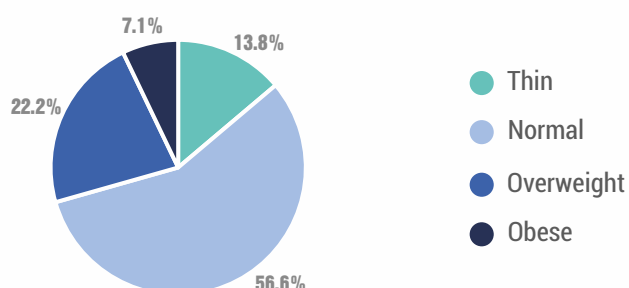
<sup>B</sup> The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**32.7%**

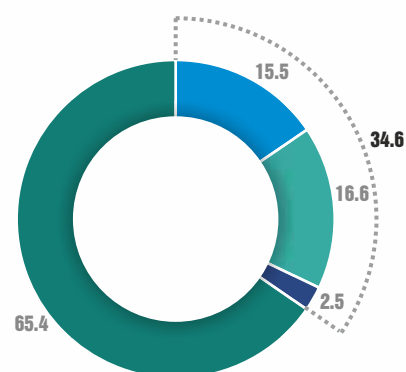
Women aged 15-49 years are anemic

**2.4%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

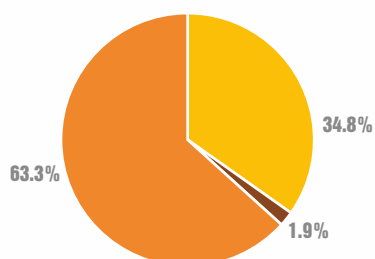
Anemia prevalence in pregnant women aged 15-49 years



● Mild    ● Moderate    ● Severe    ● None    --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



● Normal    ● Thin    ● Overweight and Obese



**34.7%**

Adolescent girls aged 15-19 years are anemic<sup>17a</sup>

**0.8%**

Adolescent girls aged 15-19 years are severely anemic<sup>17a</sup>

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **70.8%**



**7.1%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **25.1** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.5**

**0.5**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **18.2%**

Currently married women who make decisions about<sup>23</sup>:



**29.2%** Own healthcare



**13%** Major household purchase



**30.3%** Purchases for daily household needs



**13.7%** Visits to her family/friends/relatives



**19.8%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**65.8%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



51.8%

Households with access to improved sources of drinking water<sup>E, 24</sup>

91.4%

Households using improved sanitation facility<sup>F, 24</sup>



1.9%

Households practicing open defecation<sup>24</sup>

21 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



0.3%

Growth rate of agriculture from 2007-2012<sup>26</sup>



0.2%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

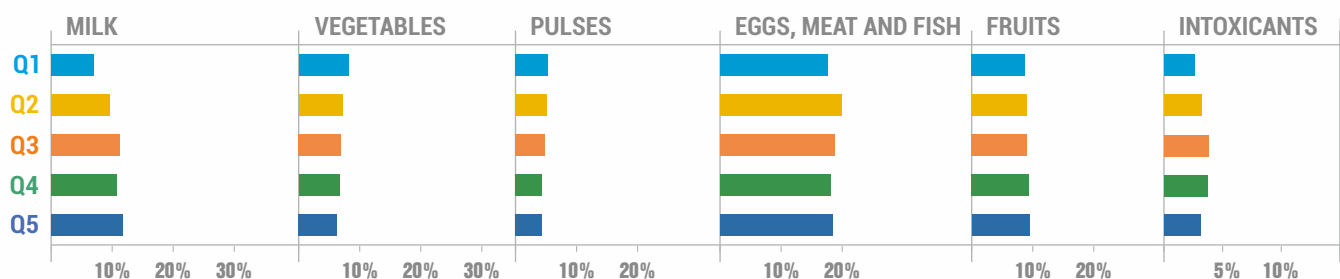
RURAL

2162 KERALA | 2233 INDIA AVG

URBAN

2198 KERALA | 2206 INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 43.2% |
| Children 36-71 months | 36.4% |
| Pregnant women        | 23%   |
| Lactating mothers     | 15%   |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 24.2% |
| Children aged 36-71 months | 33.7% |
| Pregnant women             | 28%   |
| Lactating women            | NA    |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



87.8%

Received 3 or more antenatal checkups prior to delivery



95.1%

Received 2 or more TT injections prior to delivery



59.3%

Consumed 100 or more IFA tablets/syrup during pregnancy



99.4%

Had Institutional delivery



99.5%

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



82.1% Rural

83.9% Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



0.2%

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



60.4%

Breastfeeding



67.4%

Nutrition of mother and child



51.2%

Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 0.2%     |
| AWWs living in the AWC village/ward  | 44.9%    |
| AWWs having 10 or more years of schooling  | 95%      |
| Median age of AWWs   | 46 years |
| AWCs serving to population more than the stipulated norm                           | 89.7%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 97.7% |
| AWCs having functional adult weighing scale | 85.2% |
| Available WHO growth chart at AWCs          | 99.1% |

<sup>H</sup> Number of AWCs surveyed for Kerala as per RSoC 2014 is 109.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-4, 2012-13

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 92.7% |
| AWWs having correct knowledge of normal birth weight of children                    | 83.8% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 96.8% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 86.8% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 68.5% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 97%               |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 548 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0%                |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 46             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 79.1           | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 3.8            | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 30.3% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 77.1% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 94%   |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 32             | 47               |
| PDS <sup>41</sup>                           | 605.7          | 475.3            |
| MGNREGA <sup>42</sup>                       | 236            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13

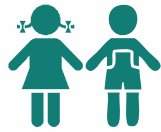


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## FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN MADHYA PRADESH

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**41.5%**  
Stunted<sup>1</sup>
**17.5%**  
Wasted<sup>1</sup>

World Health Assembly Nutrition Targets


**74.8%**

 Infants 0-5 months old who are exclusively breastfed<sup>1</sup>

**23.1%**

 Children under 3 years who have low birth weight (<2.5 kgs)<sup>2</sup>

**56%**

 Women 15-49 years old with anemia<sup>1</sup>

Immediate Determinants


**46.3%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>2</sup>
**20.9%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>2</sup>

**74.1%** Children 6-59 months old with anemia<sup>1</sup>

**5.6%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>2</sup>

Immediate Determinants

Underlying Determinants


**27.2%**

 Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>2</sup>

**53.5%**

 Children 12-23 months old who are fully immunized<sup>2</sup>

**41.7%**

 Mothers of children under 36 months old who received three or more antenatal checkups<sup>2</sup>

**10.8%**

 Currently married women with 10 or more years of schooling<sup>1</sup>

**31.5%**

 Women aged 20-24 years who were married before the age of 18<sup>2</sup>

**45.8%**

 Adolescent girls 15-18 years old with low BMI (<18.5)<sup>2</sup>

**63.4%**

 Households practicing open defecation<sup>2</sup>

**31.7%**

 Population below state-specific poverty line<sup>3</sup>

Does state have a high-level nutrition mission?

**YES**

Underlying Determinants

<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : NFHS-3, 2006

<sup>3</sup> Source : DLHS-3, 2007-08

<sup>4</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

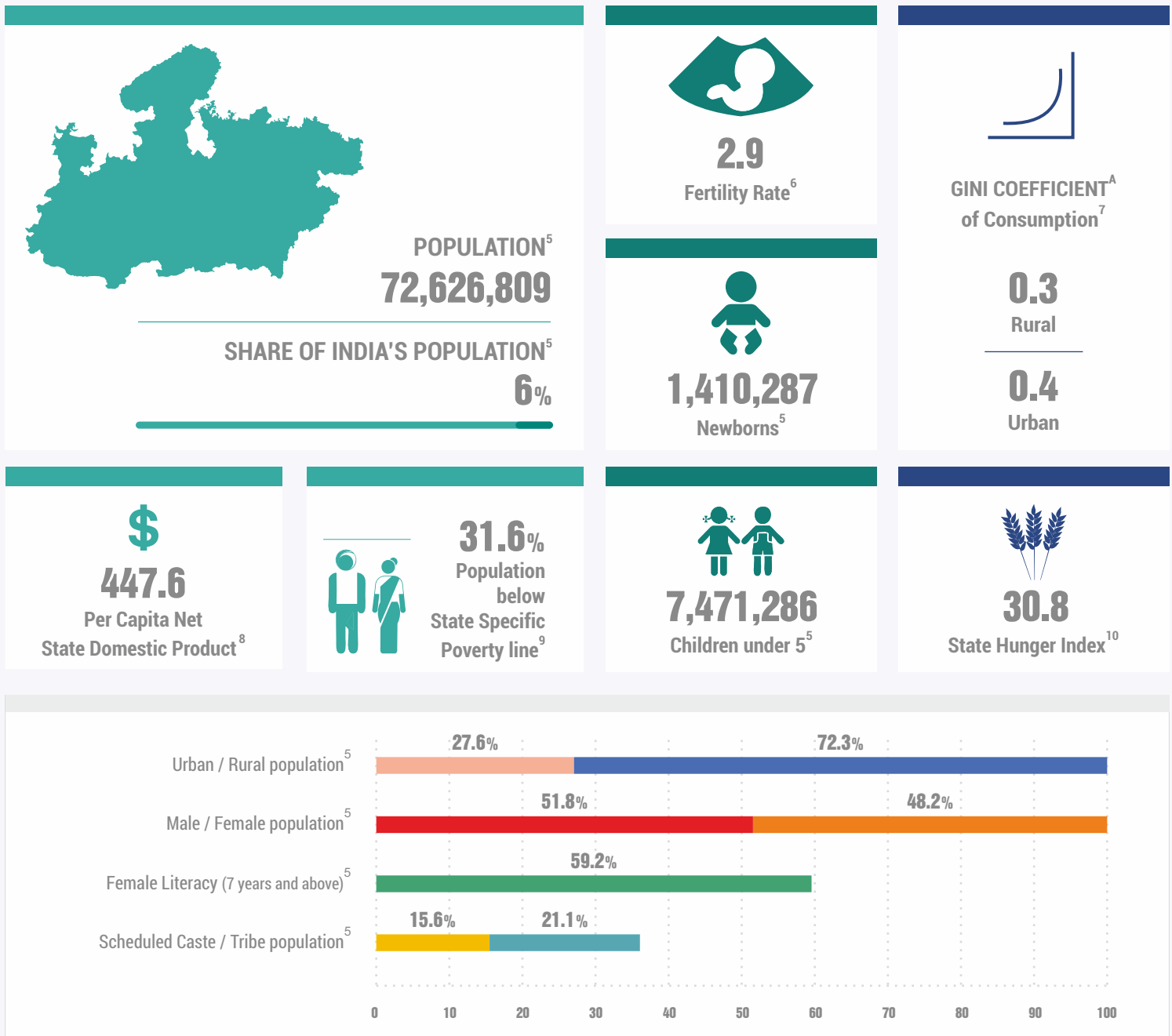


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## I. CONTEXT

### A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

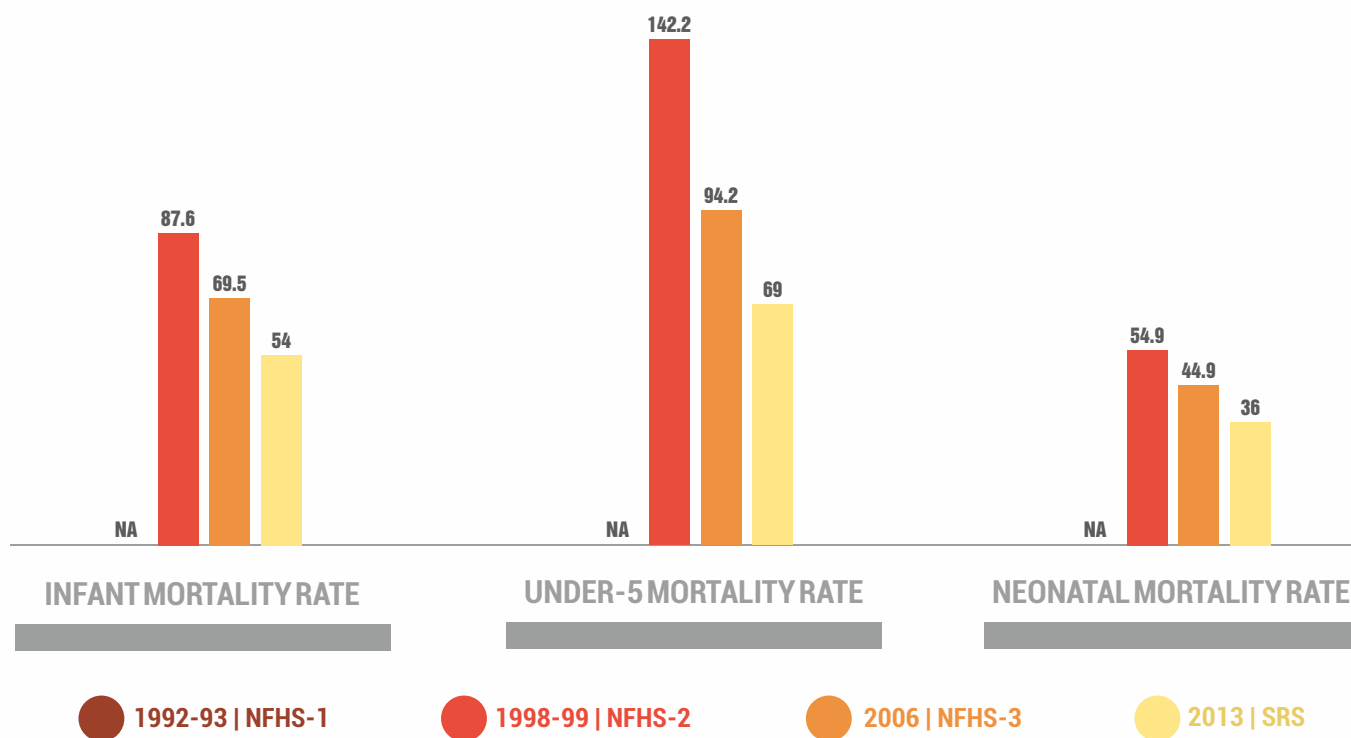
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14; [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

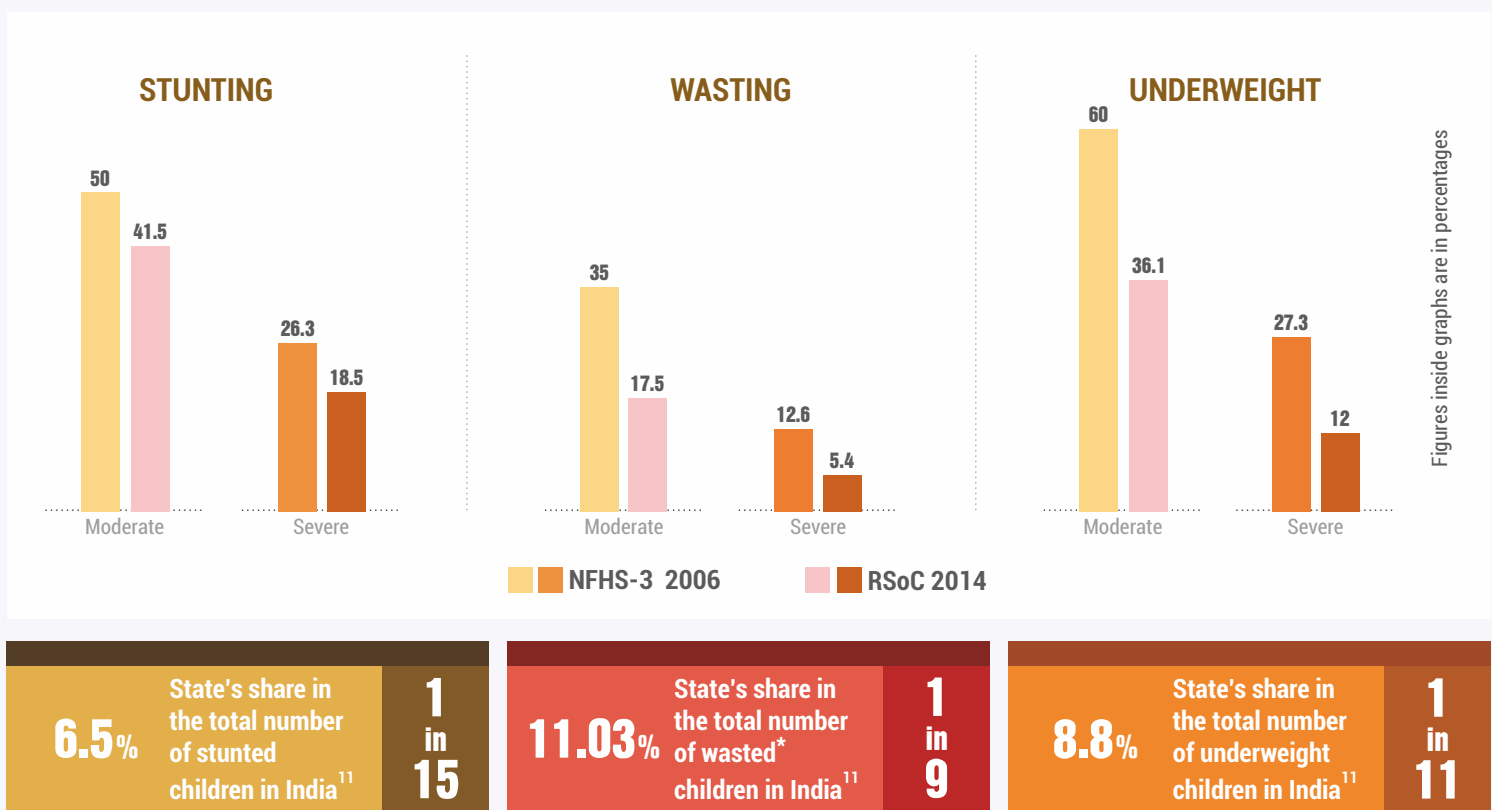
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

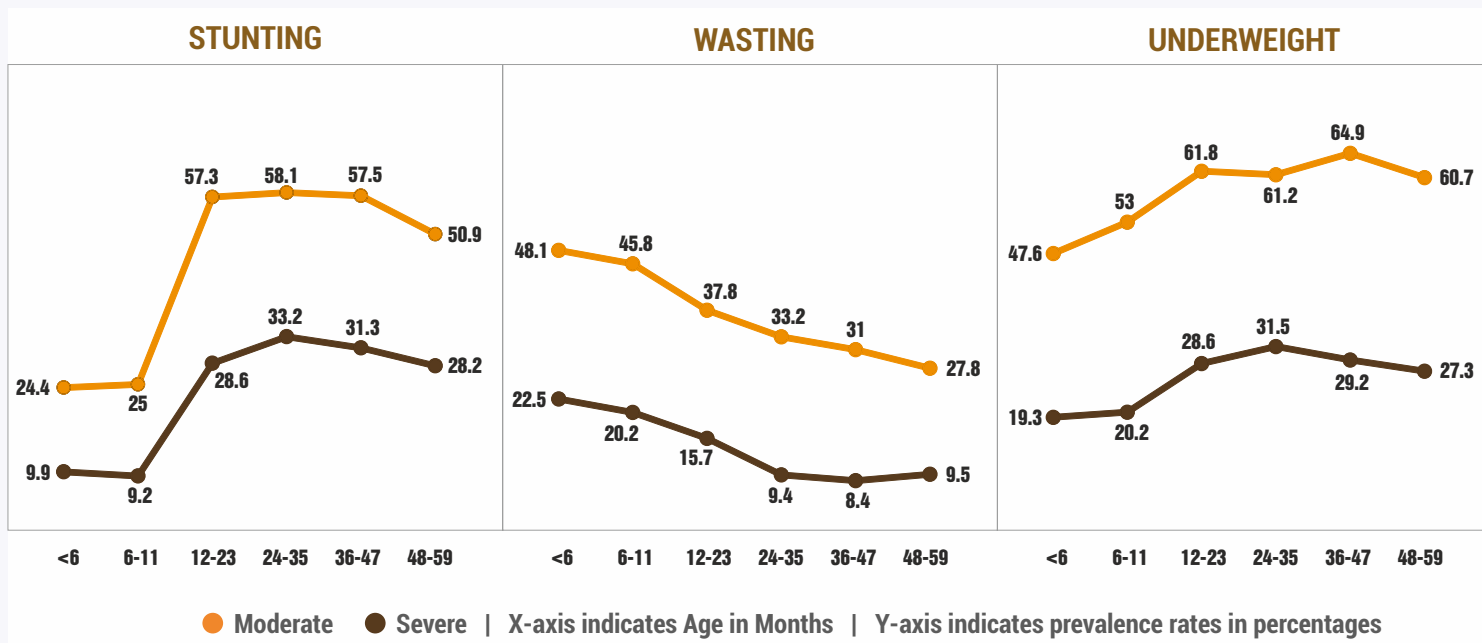


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

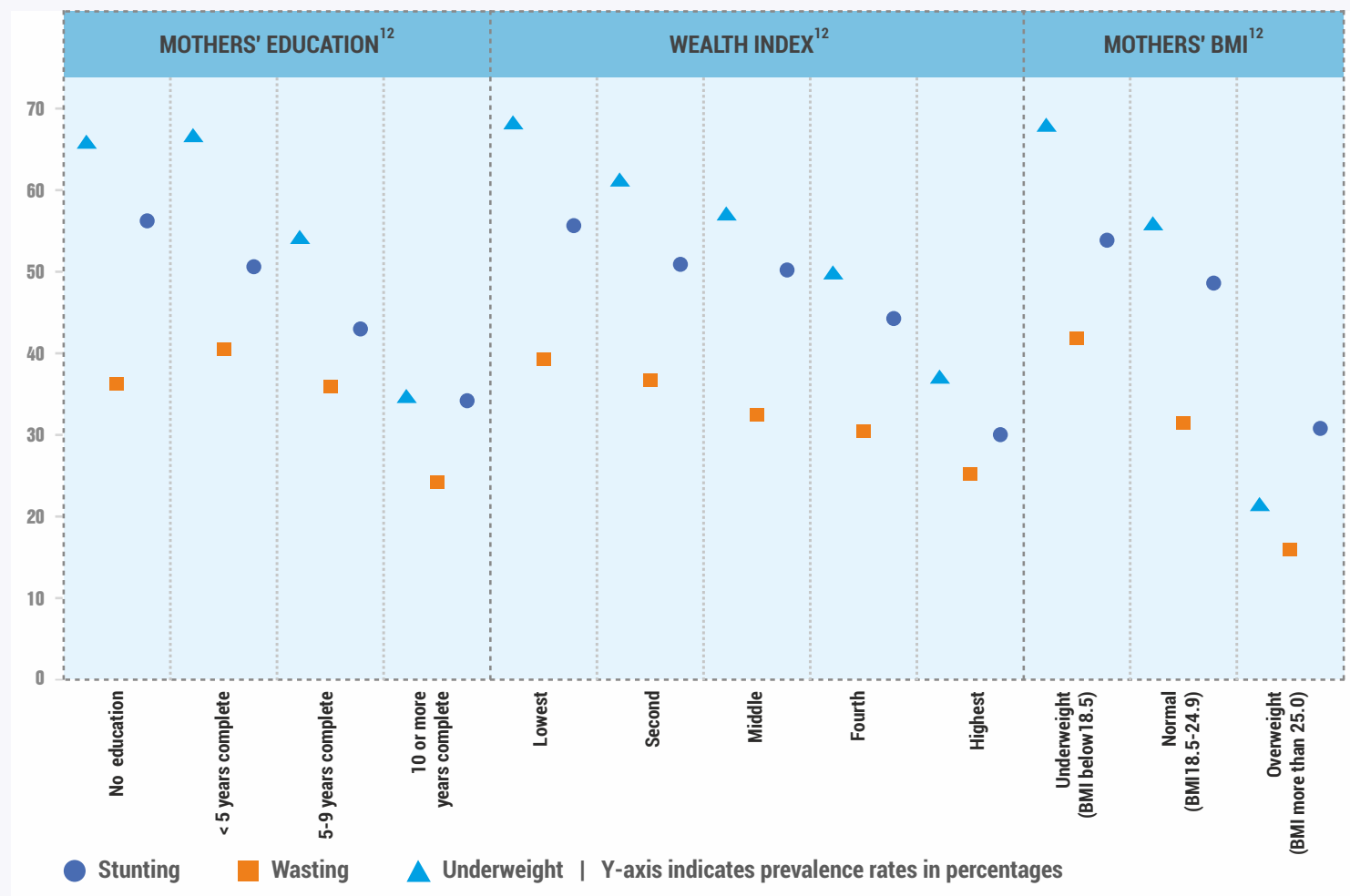
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



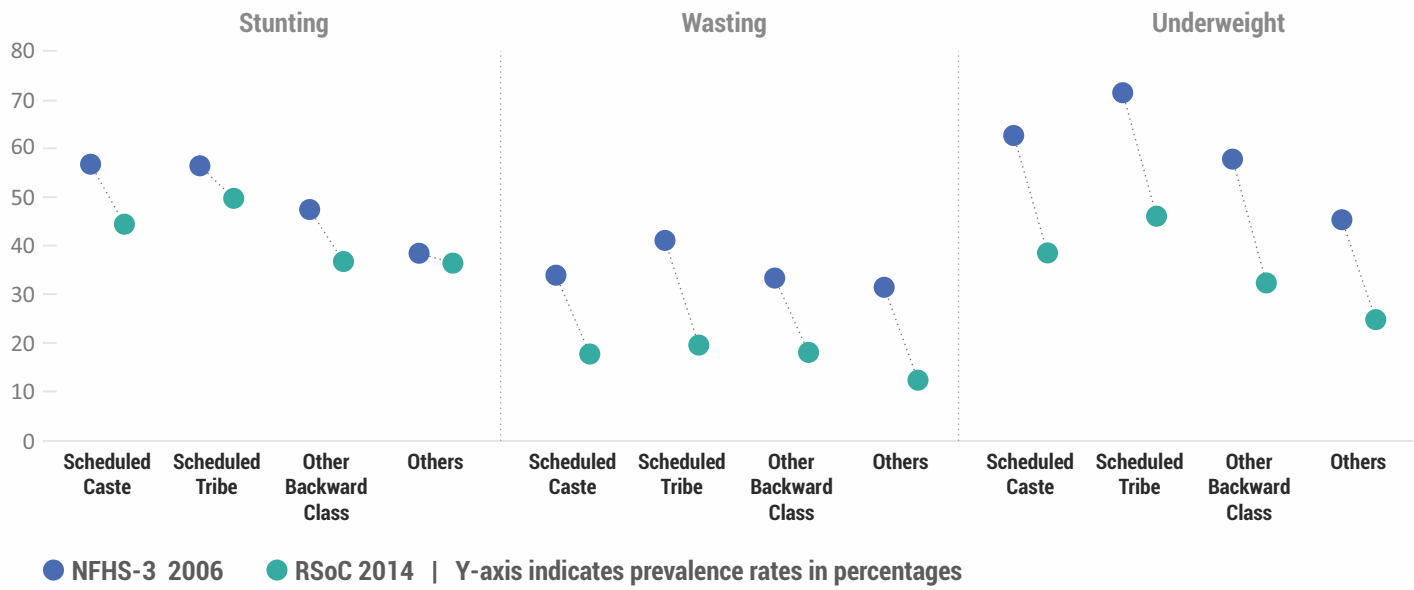
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

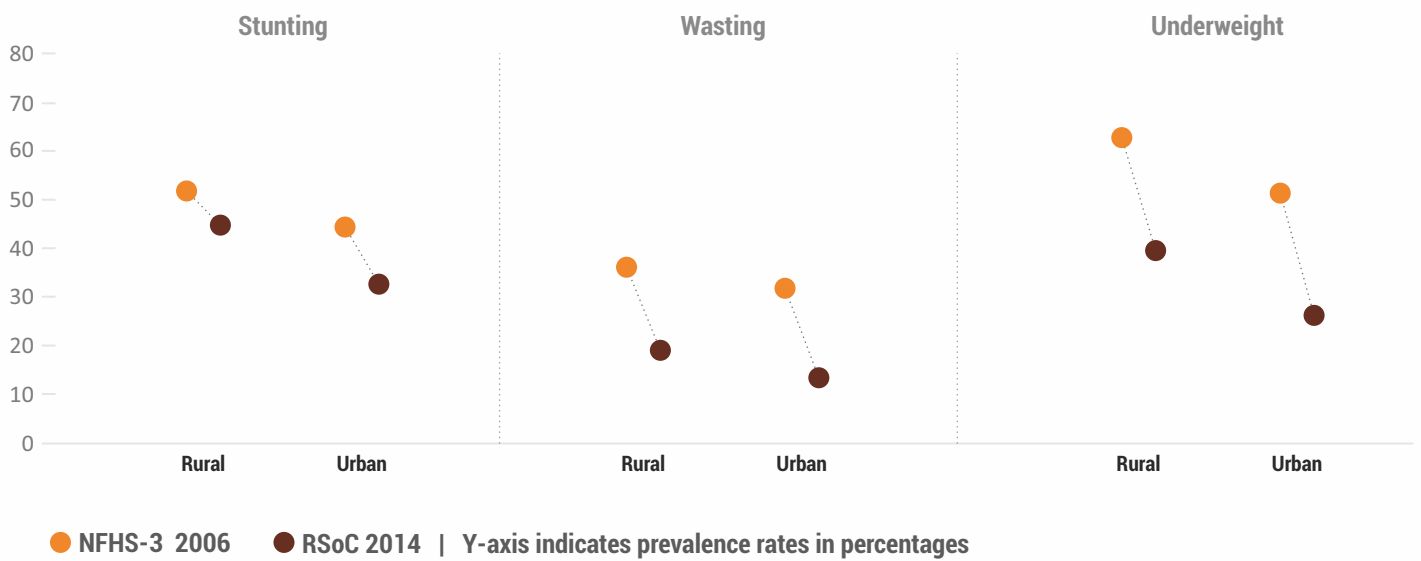


<sup>12</sup> Source : NFHS-3, 2006

CASTE

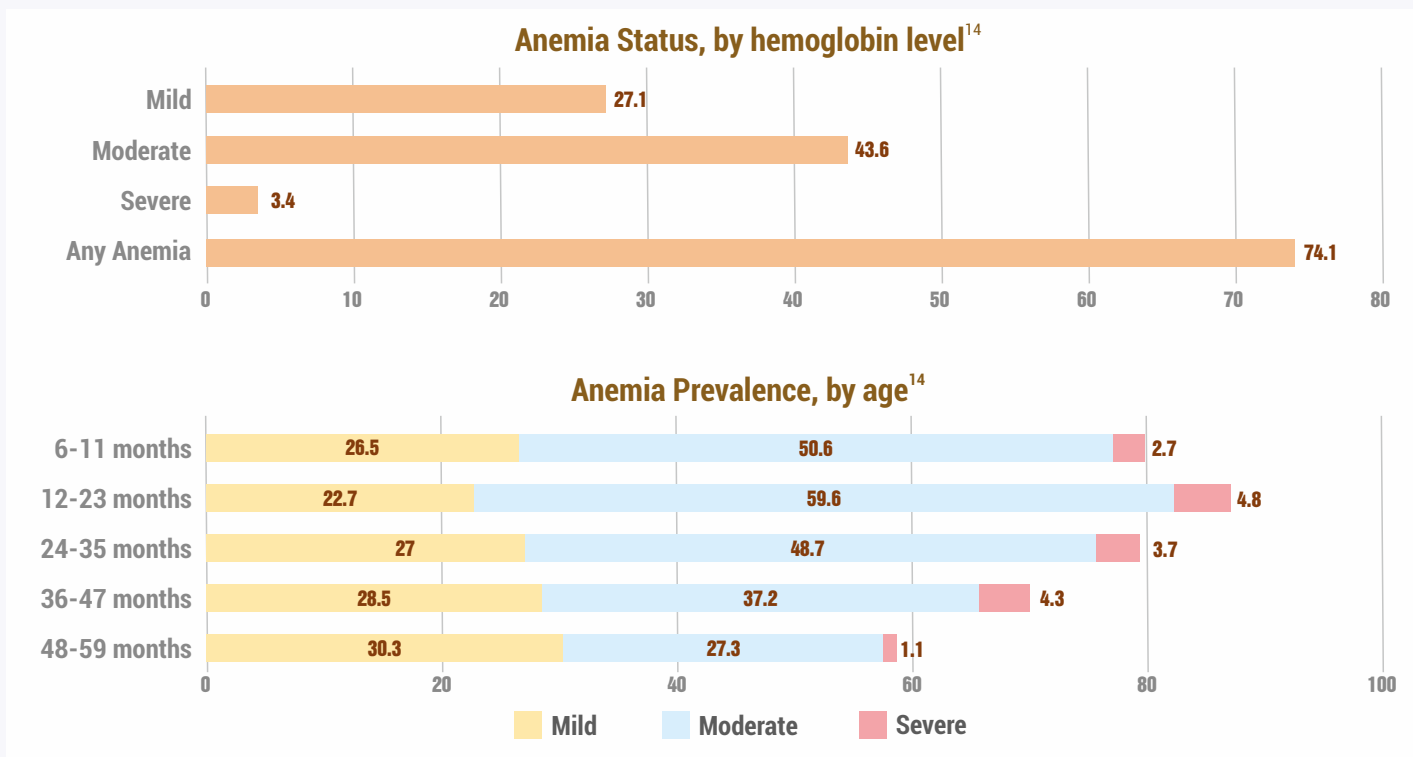


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.




<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |   |       |
|---|---|-------|
| Children aged 0-23 months breastfed immediately/within an hour of birth   | 43.1%   |       |
|    | Children aged 0-5 months who were exclusively breastfed   | 74.8% |
|   | Children aged 6-8 months who were fed complementary foods | 46.3% |
| <p>For breastfed children (6-23 months)-</p> <p>A. Fed minimum number of times.</p> <p>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old</p> | 37.8%   |       |
| <p>B. Had minimum dietary diversity</p> <p>Note : Minimum dietary diversity refers to four or more food groups<sup>B</sup> fed to children aged 6-23 months</p>   | 20.9%   |       |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 5.6%  |
| Had fever in 15 days prior to survey   | 10%   |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 10.4% |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

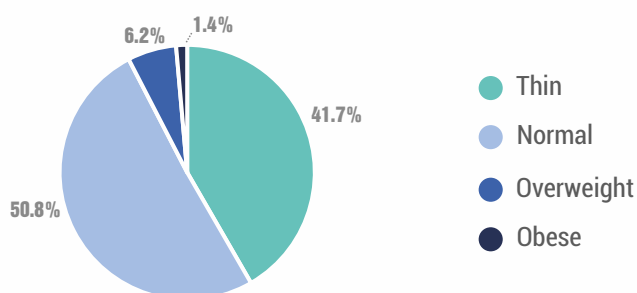
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**56%**

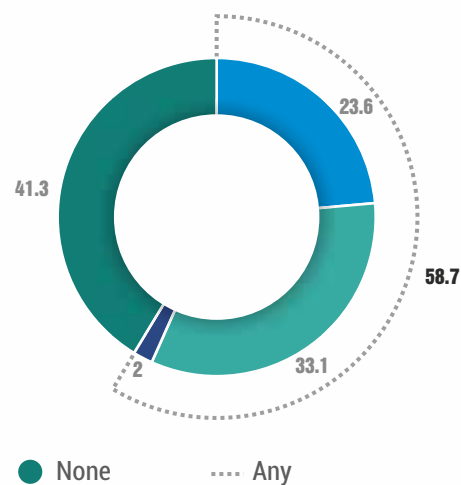
Women aged 15-49 years are anemic

**1%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

Anemia prevalence in pregnant women aged 15-49 years



● Mild

● Moderate

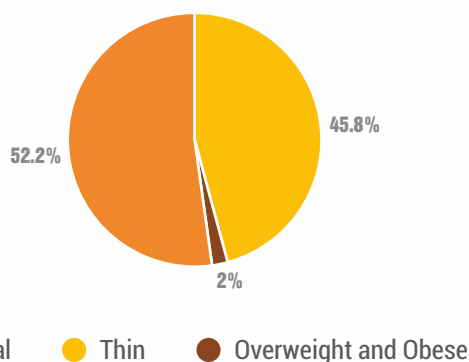
● Severe

● None

--- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**52.1%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**1.1%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

● Normal

● Thin

● Overweight and Obese

<sup>16</sup> Source : NFHS-3, 2006

<sup>17</sup> Source : RSOC, 2014

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **10.8%**



**31.5%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **21.2** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup>

**0.5**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **32.6%**

Currently married women who make decisions about<sup>23</sup>:



**21.6%** Own healthcare



**4.7%** Major household purchase



**30.4%** Purchases for daily household needs



**6.2%** Visits to her family/friends/relatives



**49.1%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**52.9%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-3, 2007-08

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



**87.7%**

Households with access to improved sources of drinking water<sup>E, 24</sup>

**29.5%**

Households using improved sanitation facility<sup>F, 24</sup>



**63.4%**

Households practicing open defecation<sup>24</sup>

**78.8 M**

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



**1,065 M**

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



**4.4%**

Growth rate of agriculture from 2007-2012<sup>26</sup>



**7.9%**

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

**RURAL**

**URBAN**

**2234**

**2233**

**2209**

**2206**

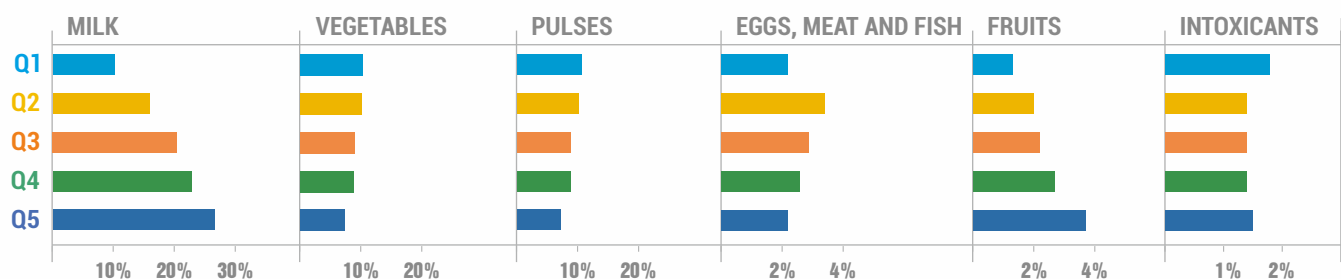
MADHYA PRADESH

INDIA AVG

MADHYA PRADESH

INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

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|-----------------------|-------|
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| Children 36-71 months | 47.5% |
| Pregnant women        | 47.7% |
| Lactating mothers     | 54%   |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 27.2% |
| Children aged 36-71 months | 20.1% |
| Pregnant women             | 24.4% |
| Lactating women            | 30.3% |

<sup>29</sup> Source : RSoC, 2014

### SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



41.7%

Received 3 or more antenatal checkups prior to delivery



88.9%

Received 2 or more TT injections prior to delivery



19.6%

Consumed 100 or more IFA tablets/syrup during pregnancy



78.1%

Had Institutional delivery



79%

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



51.4% Rural

59.4% Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



9.3%

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

### WOMEN GIVEN ADVICE ON<sup>31</sup>:



54%

Breastfeeding



44.1%

Nutrition



40.4%

Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 1.5%     |
| AWWs living in the AWC village/ward  | 80.4%    |
| AWWs having 10 or more years of schooling  | 70%      |
| Median age of AWWs   | 35 years |
| AWCs serving to population more than the stipulated norm                           | 58.1%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 78.8% |
| AWCs having functional adult weighing scale | 47.8% |
| Available WHO growth chart at AWCs          | 95.6% |

<sup>H</sup> Number of AWCs surveyed for Madhya Pradesh as per RSoC 2014 is 232.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-3, 2007-08

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 94.4% |
| AWWs having correct knowledge of normal birth weight of children                    | 86.1% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 98.4% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 98.1% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 89.8% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 99%               |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 935 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0%                |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 245            | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 152.6          | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 31.5           | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 47.4% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 36.6% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 64.8% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 130            | 47               |
| PDS <sup>41</sup>                           | 786.7          | 475.3            |
| MGNREGA <sup>42</sup>                       | 518            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lq/15/15/as216.htm](http://164.100.47.132/Annexure_New/lq/15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13



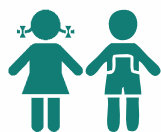
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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN MAHARASHTRA

World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**35.4%**  
Stunted<sup>1</sup>

**18.6%**  
Wasted<sup>1</sup>



**73.4%**

Infants 0-5 months old who are exclusively breastfed<sup>1</sup>



**20.6%**

Children under 3 years who have low birth weight (<2.5 kgs)<sup>1</sup>



**65.3%**

Women 15-49 years old with anemia<sup>2</sup>

Immediate Determinants

Immediate Determinants



**53.4%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>1</sup>

**19.2%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>1</sup>



**73.7%** Children 6-59 months old with anemia<sup>2</sup>



**12.5%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>1</sup>



**35.1%**

Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>1</sup>



**77.4%**

Children 12-23 months old who are fully immunized<sup>1</sup>



**73.3%**

Mothers of children under 36 months old who received three or more antenatal checkups<sup>1</sup>

Underlying Determinants

Underlying Determinants



**43.4%**

Currently married women with 10 or more years of schooling<sup>2</sup>



**20.3%**

Women aged 20-24 years who were married before the age of 18<sup>1</sup>



**54.2%**

Adolescent girls 15-18 years old with low BMI (<18.5)<sup>1</sup>



**36.5%**

Households practicing open defecation<sup>1</sup>



**17.4%**

Population below state-specific poverty line<sup>3</sup>

Does state have a high-level nutrition mission?

**YES**

<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : DLHS4, 2012-13

<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

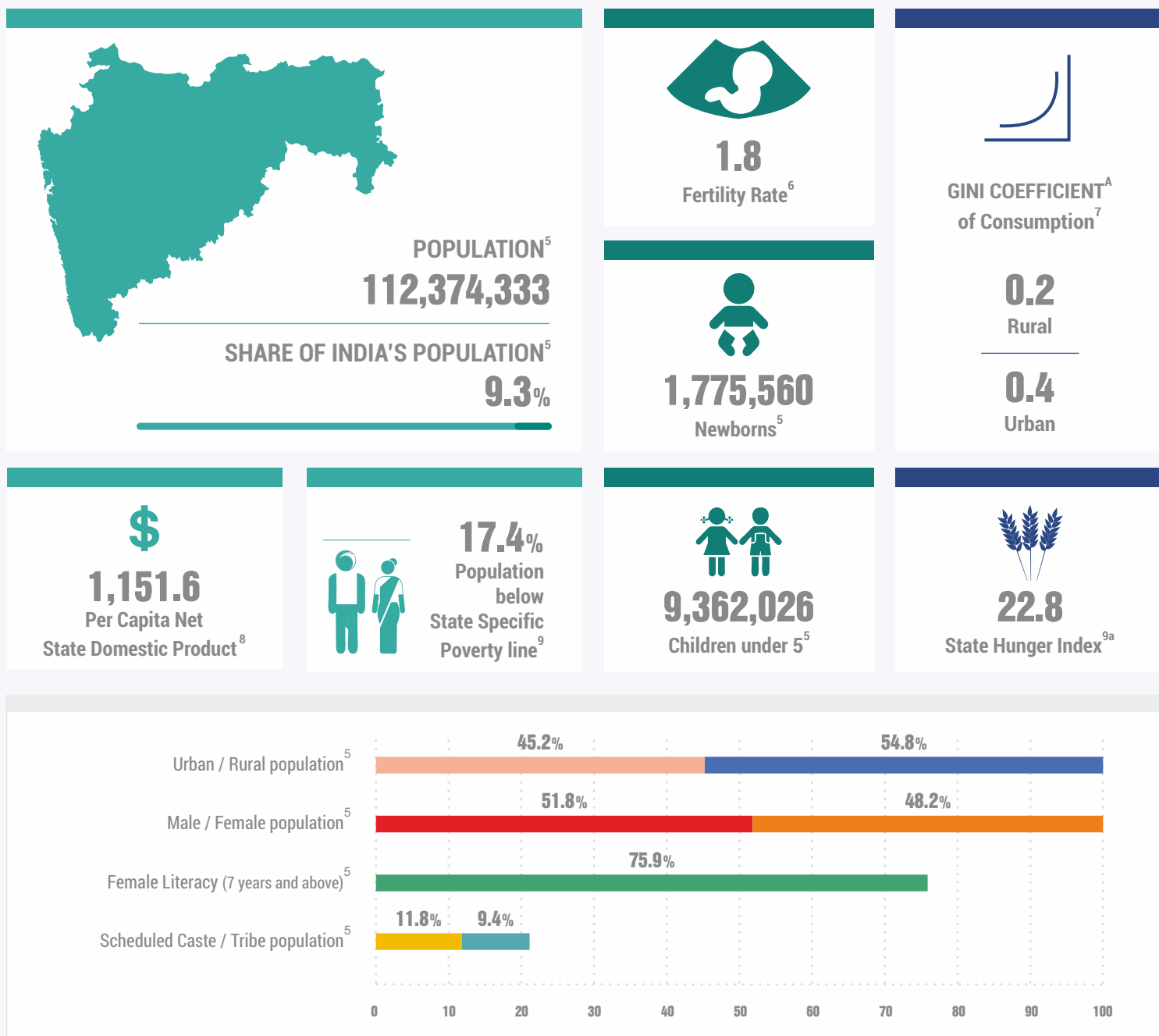


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# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

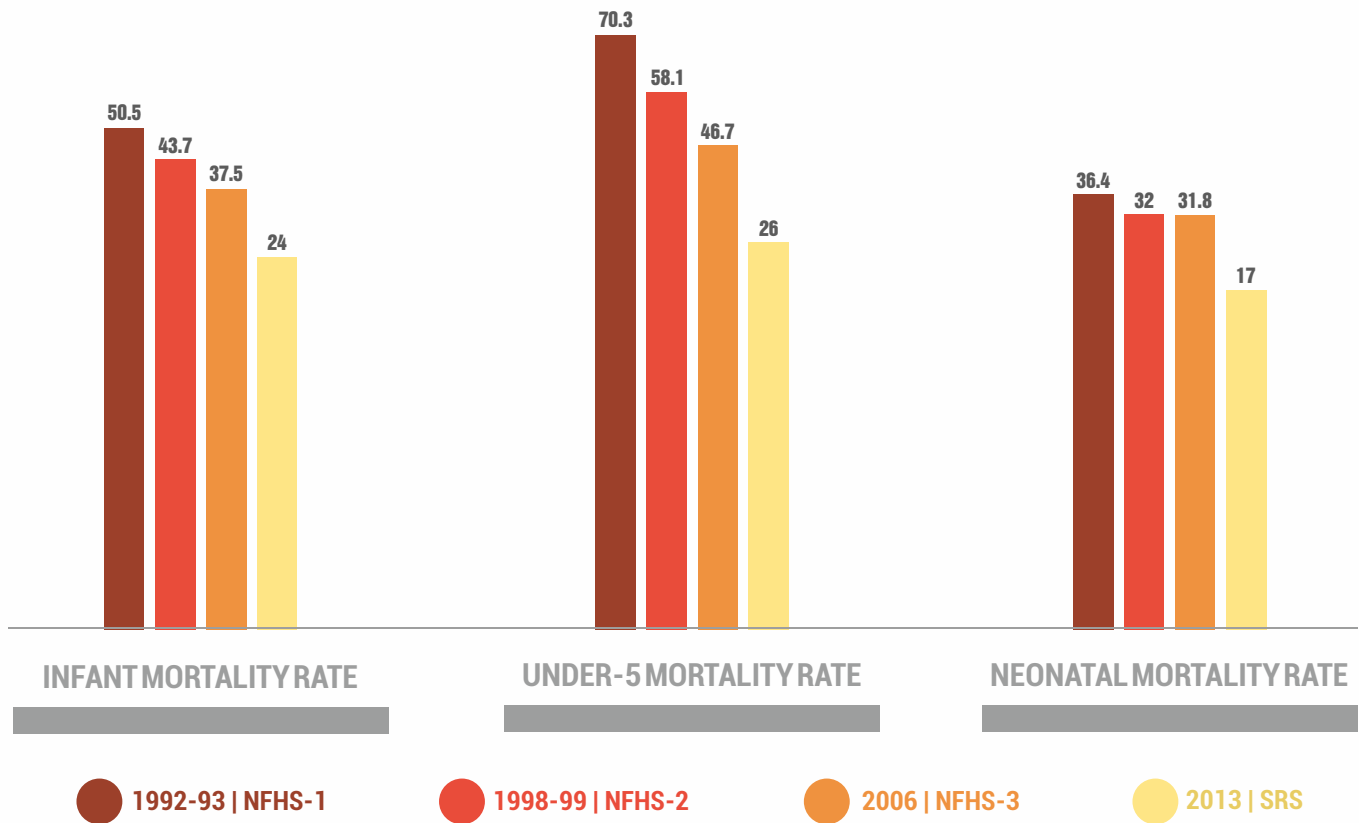
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14; [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>9a</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

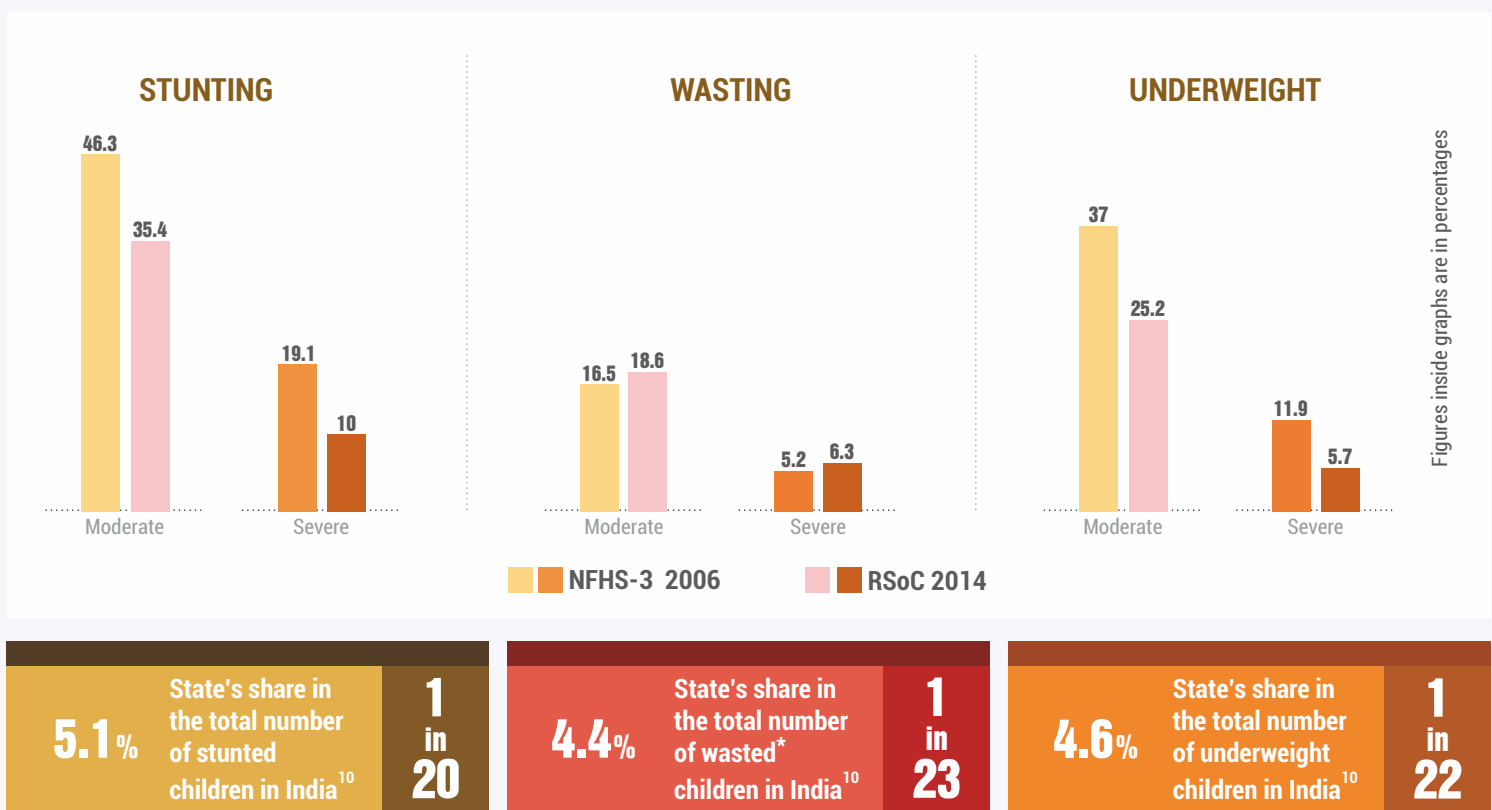
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

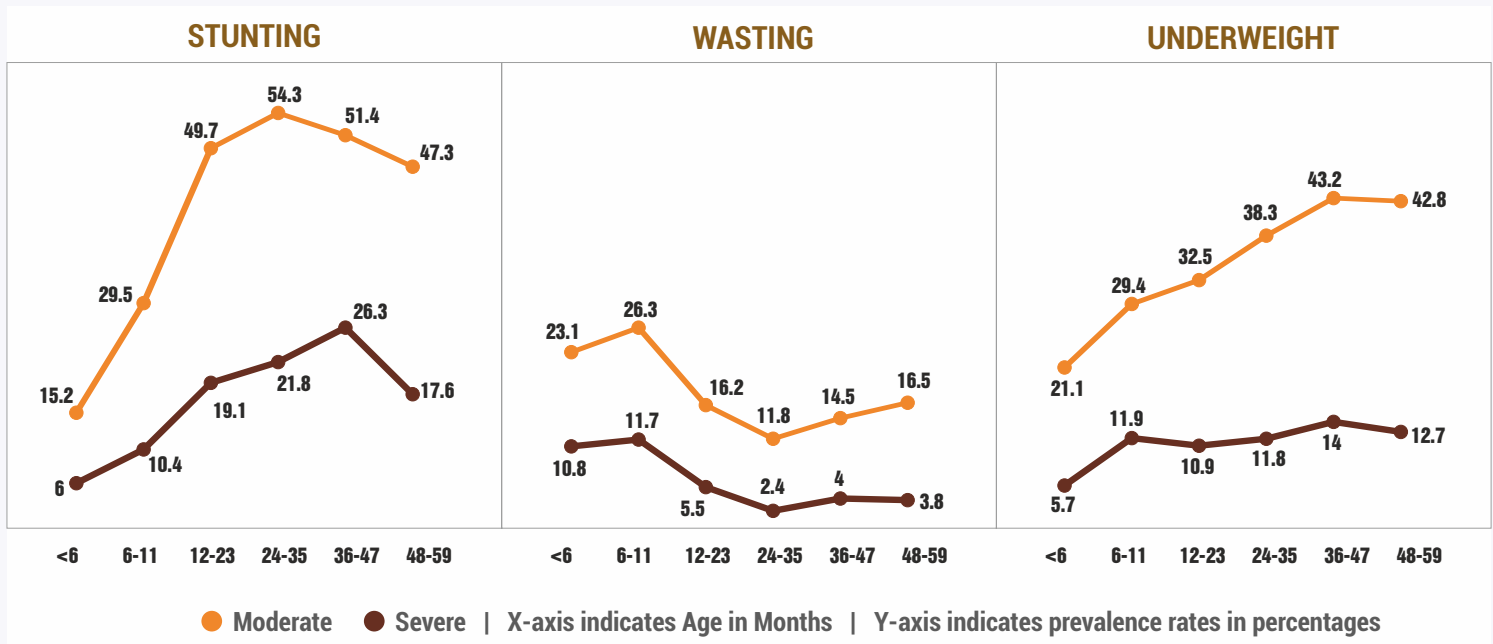


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>10</sup> Source : NFHS-3, 2006

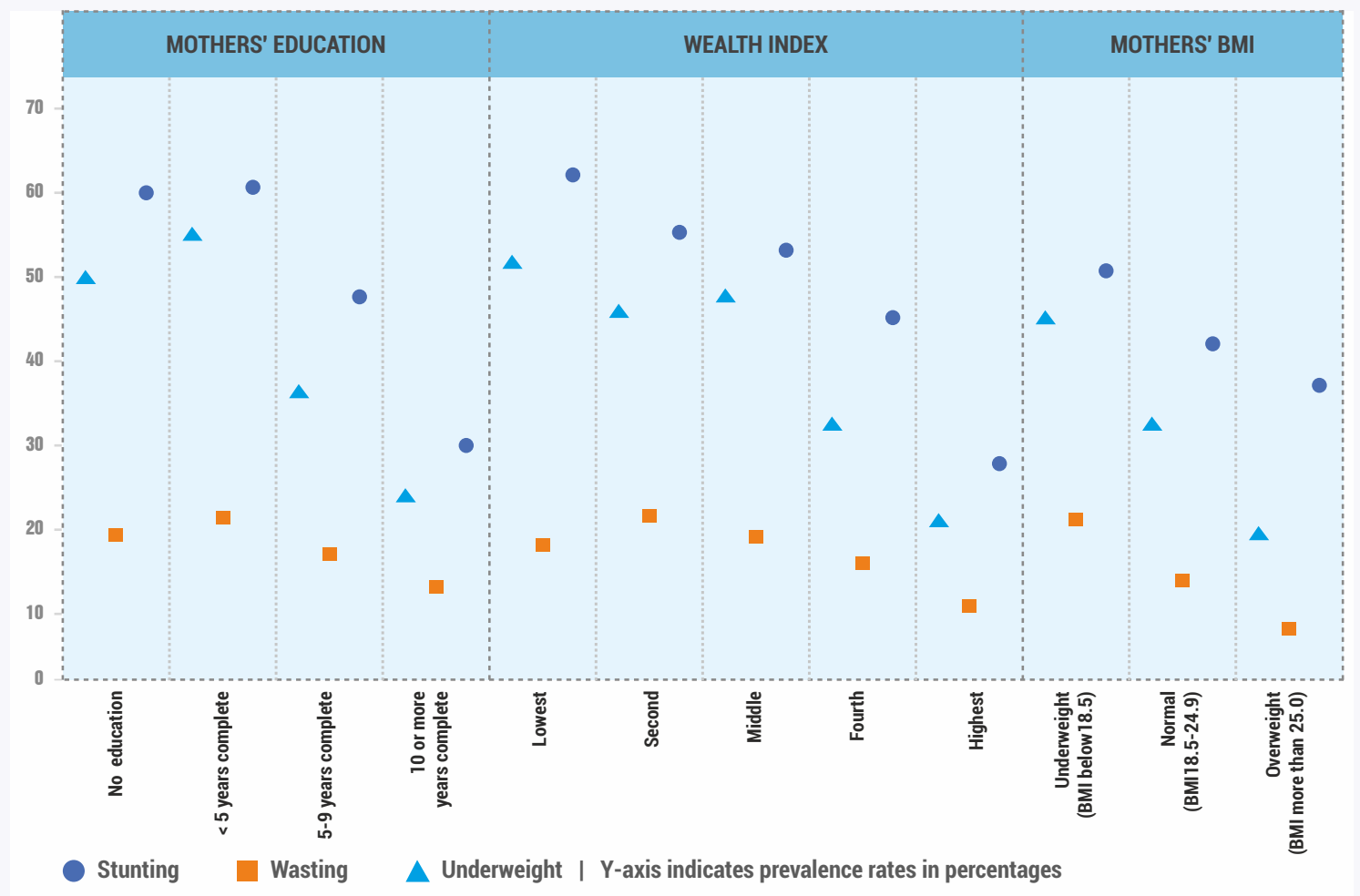
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>11</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



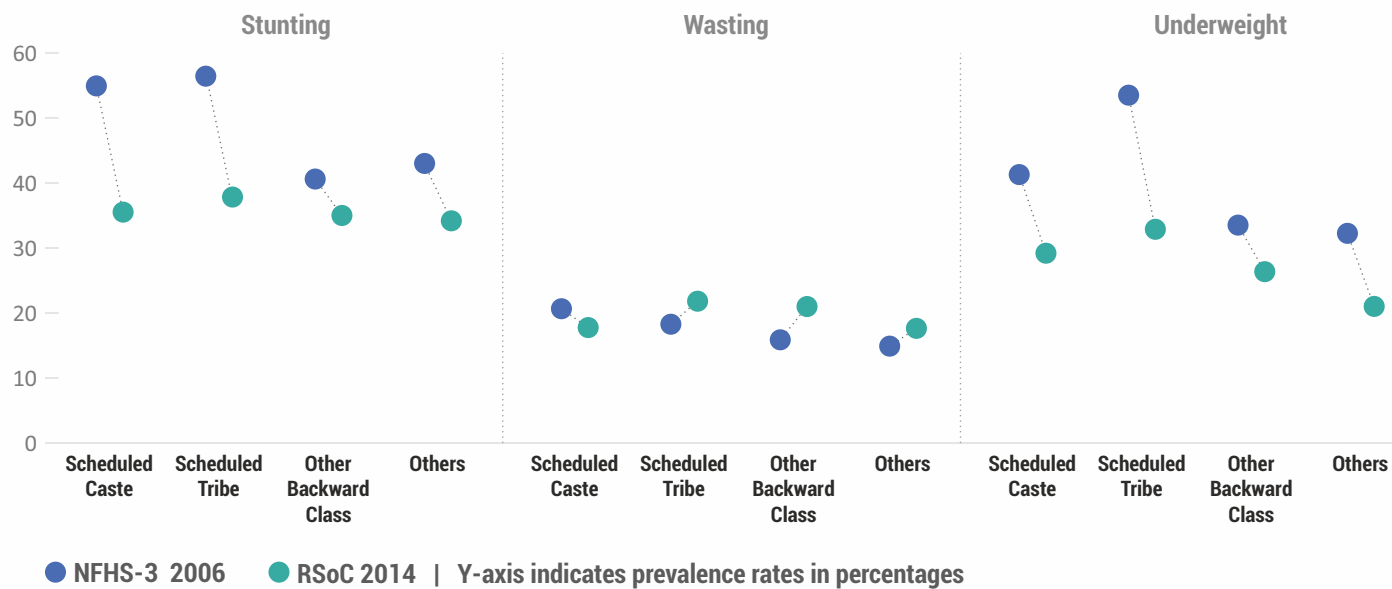
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

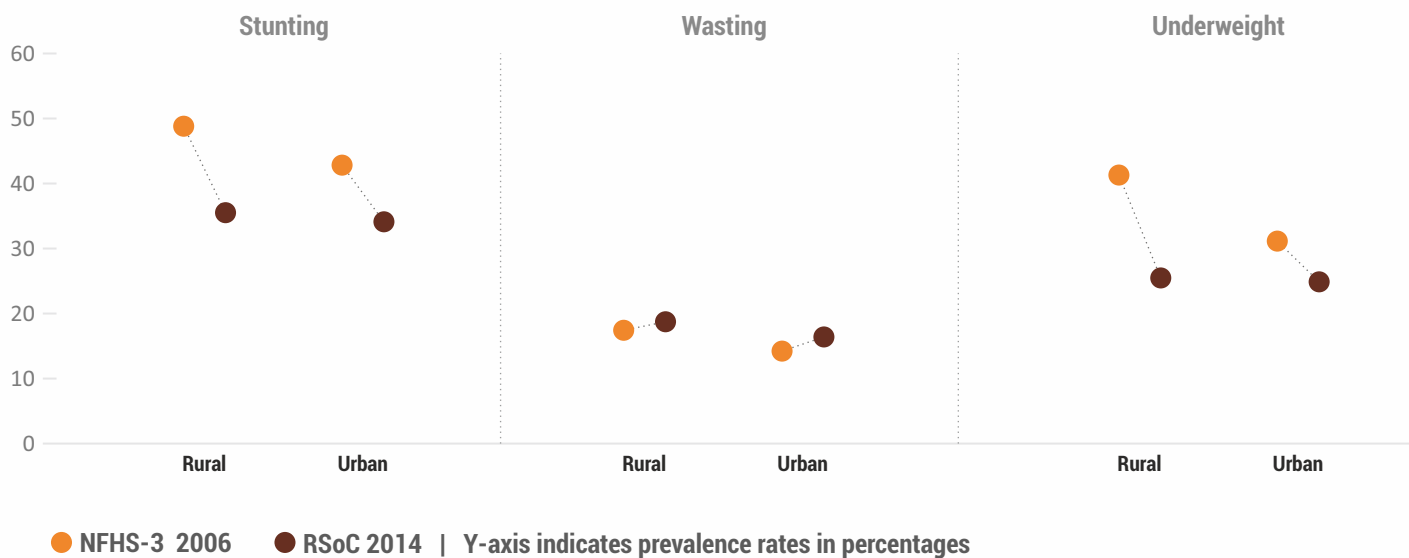


<sup>11</sup> Source : NFHS-3, 2006

CASTE

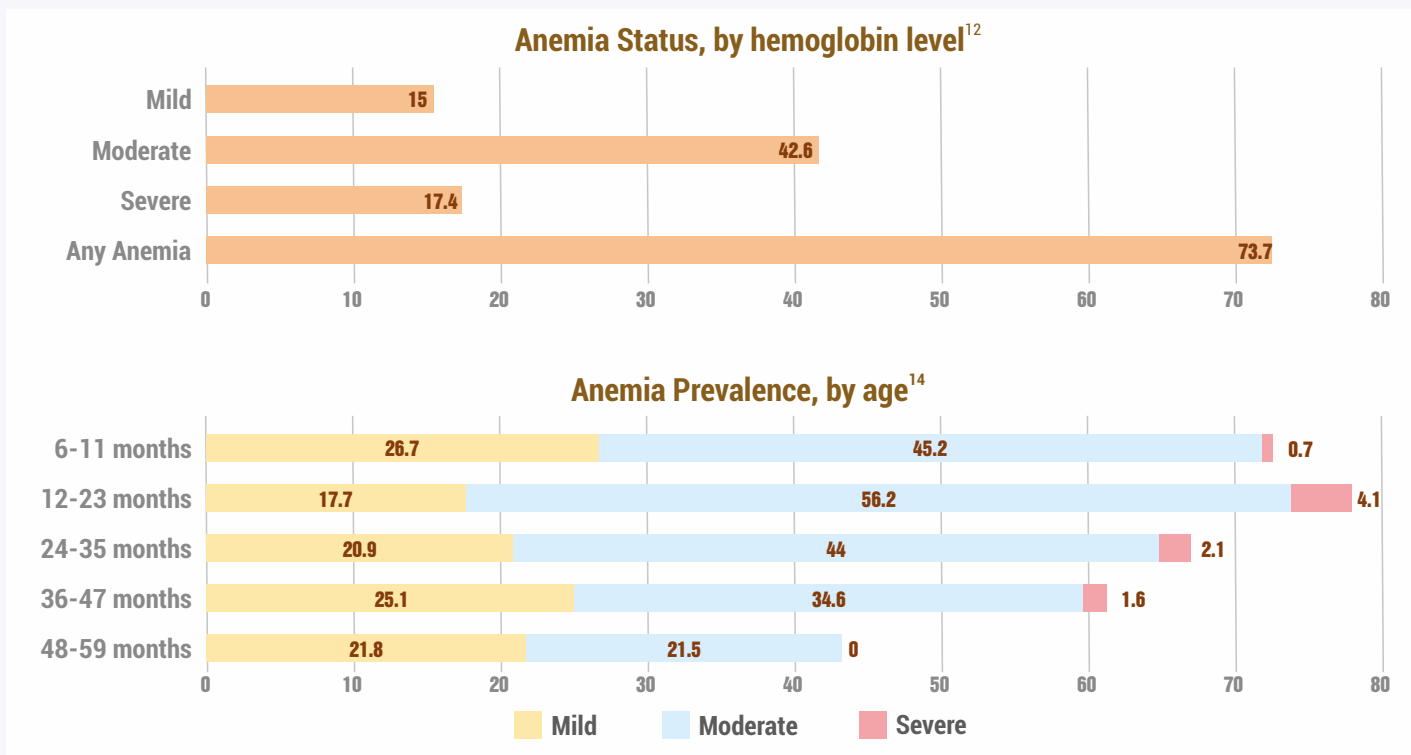


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>12</sup> Source : DLHS-4, 2012-13


<sup>13</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>14</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|  |              |
|--|--------------|
| <p>Children aged 0-23 months breastfed immediately/within an hour of birth</p>   | <p>55.9%</p> |
|  <p>Children aged 0-5 months who were exclusively breastfed</p>   | <p>73.4%</p> |
| <p>Children aged 6-8 months who were fed complementary foods</p>   | <p>53.4%</p> |
| <p>For breastfed children (6-23 months)-<br/>                 A. Fed minimum number of times.<br/>                 Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old<br/><br/>                 B. Had minimum dietary diversity<br/>                 Note : Minimum dietary diversity refers to four or more food groups<sup>B</sup> fed to children aged 6-23 months</p> | <p>34%</p>   |

#### B. CHILD HEALTH<sup>14</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|   |              |
|---|--------------|
| <p>Had diarrhea in 15 days prior to survey</p>                                      | <p>12.5%</p> |
| <p>Had fever in 15 days prior to survey</p>   | <p>17.5%</p> |
| <p>Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey</p> | <p>10.1%</p> |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

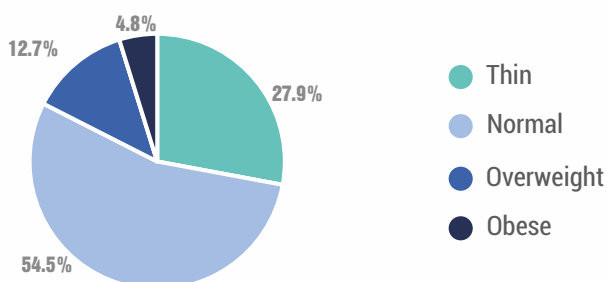
<sup>14</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>15</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



**65.3%**

Women aged 15-49 years are anemic

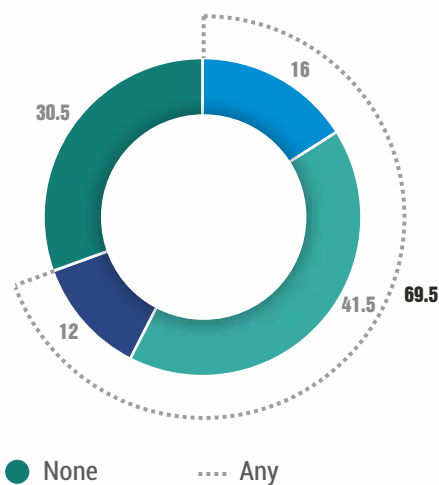
**9.9%**

Women aged 15-49 years are severely anemic

<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI<18.5=total thin, BMI 18.5-24.9=normal, BMI 25.0-29.9=Overweight, BMI>30.0=Obese [per WHO Standards]

### C.2. PREGNANT WOMEN<sup>15</sup>

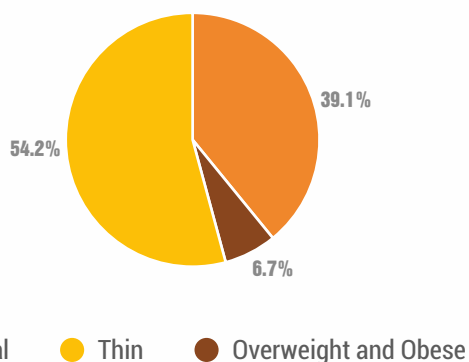
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>16</sup>



**51.7%**

Adolescent girls aged 15-19 years are anemic<sup>15a</sup>

**1.7%**

Adolescent girls aged 15-19 years are severely anemic<sup>15a</sup>

● Normal ● Thin ● Overweight and Obese

<sup>15</sup> Source : DLHS-4, 2012-13

<sup>15a</sup> Source : NFHS-3, 2006

<sup>16</sup> Source : RSoC, 2014

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>17</sup> **43.4%**



**20.3%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **22** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,19</sup>

**0.5**

**0.5**

National Average<sup>19</sup>



Female workforce participation rate<sup>22</sup> **31.1%**

Currently married women who make decisions about<sup>22</sup>:



**33.9%** Own healthcare



**5.5%** Major household purchase



**36%** Purchases for daily household needs



**12.7%** Visits to her family/friends/relatives



**33.4%** Women who have experienced any form of physical/sexual/emotional violence<sup>22</sup>

**53%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>22</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



95.1%

Households with access to improved sources of drinking water<sup>E, 23</sup>

43.5%

Households using improved sanitation facility<sup>F, 23</sup>



36.5%

Households practicing open defecation<sup>23</sup>

51.4 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 24</sup>



1065 M

National Average<sup>24</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



4.4%

Growth rate of agriculture from 2007-2012<sup>25</sup>



4.8%

Share in India's total foodgrain production<sup>26</sup>



Mean Calorie intake per person per day (in Kcal)<sup>27</sup>

RURAL

URBAN

2260

2233

2227

2206

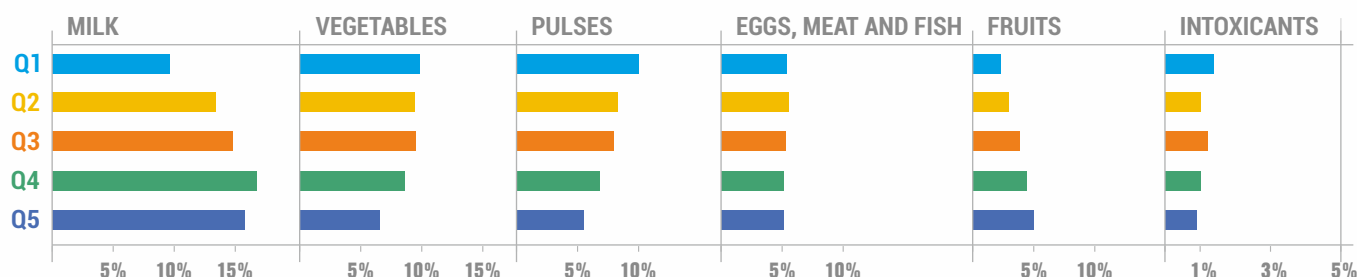
MAHARASHTRA

INDIA AVG

MAHARASHTRA

INDIA AVG

### Expenditure on food items by income quintiles<sup>27</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>23</sup> Source : RSoC, 2014

<sup>24</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>25</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>26</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>27</sup> Source : NSS 68th Round 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 51.4% |
| Children 36-71 months | 60.7% |
| Pregnant women        | 47.4% |
| Lactating mothers     | 42%   |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 35.1% |
| Children aged 36-71 months | 39.2% |
| Pregnant women             | 19%   |
| Lactating women            | 27.3% |

<sup>28</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**73.3%**

Received 3 or more antenatal checkups prior to delivery



**89.9%**

Received 2 or more TT injections prior to delivery



**28.7%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**90.3%**

Had Institutional delivery



**93%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>29</sup>



**75.6%** Rural  
**79.6%** Urban

Children aged 12-23 months who are fully immunised<sup>29</sup>



**1.4%**

Children aged 12-23 months who have not received any immunisation<sup>29</sup>

## WOMEN GIVEN ADVICE ON<sup>30</sup>:



**45.1%**  
Breastfeeding



**27%**  
Nutrition of mother and child



**19.2%**  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 29</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>29a</sup> | 7.7%     |
| AWWs living in the AWC village/ward  | 78.9%    |
| AWWs having 10 or more years of schooling  | 87.2%    |
| Median age of AWWs   | 40 years |
| AWCs serving to population more than the stipulated norm                           | 43.5%    |

| Growth Monitoring <sup>29</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 89.2% |
| AWCs having functional adult weighing scale | 67.7% |
| Available WHO growth chart at AWCs          | 98.7% |

<sup>H</sup> Number of AWCs surveyed for Maharashtra as per RSoC 2014 is 237.

<sup>29</sup> Source : RSoC, 2014

<sup>29a</sup> Source : MoWCD, 2012

<sup>30</sup> Source : DLHS-4, 2012-13

| Training and Comprehensive Knowledge <sup>31</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 98.3% |
| AWWs having correct knowledge of normal birth weight of children                    | 76.5% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 95.9% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 100%  |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 98.8% |

| Health Service Delivery Personnel   | Value              |
|---|--------------------|
| ASHAs selected <sup>32</sup>  | 99.9%              |
| Current density of ASHA as per Census 2011 rural population <sup>32</sup> | 1 per 1045 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>33</sup>          | 0%                 |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>34</sup> | 233            | 75               |
| NRHM expenditure (Central Government) <sup>35</sup>                     | 228.7          | 68.8             |
| NRHM expenditure (State Government) <sup>35</sup>                       | 40.6           | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 41.8% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 31%   |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 41.8% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 157            | 47               |
| PDS <sup>41</sup>                           | 1517           | 475.3            |
| MGNREGA <sup>42</sup>                       | 362            | 214              |

<sup>31</sup> Source : RSoC, 2014

<sup>32</sup> Source : NRHM, 2013

<sup>33</sup> Source : MoHFW, 2013

<sup>34</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>35</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>36</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lq/15/15/as216.htm](http://164.100.47.132/Annexure_New/lq/15/15/as216.htm) 2011-12

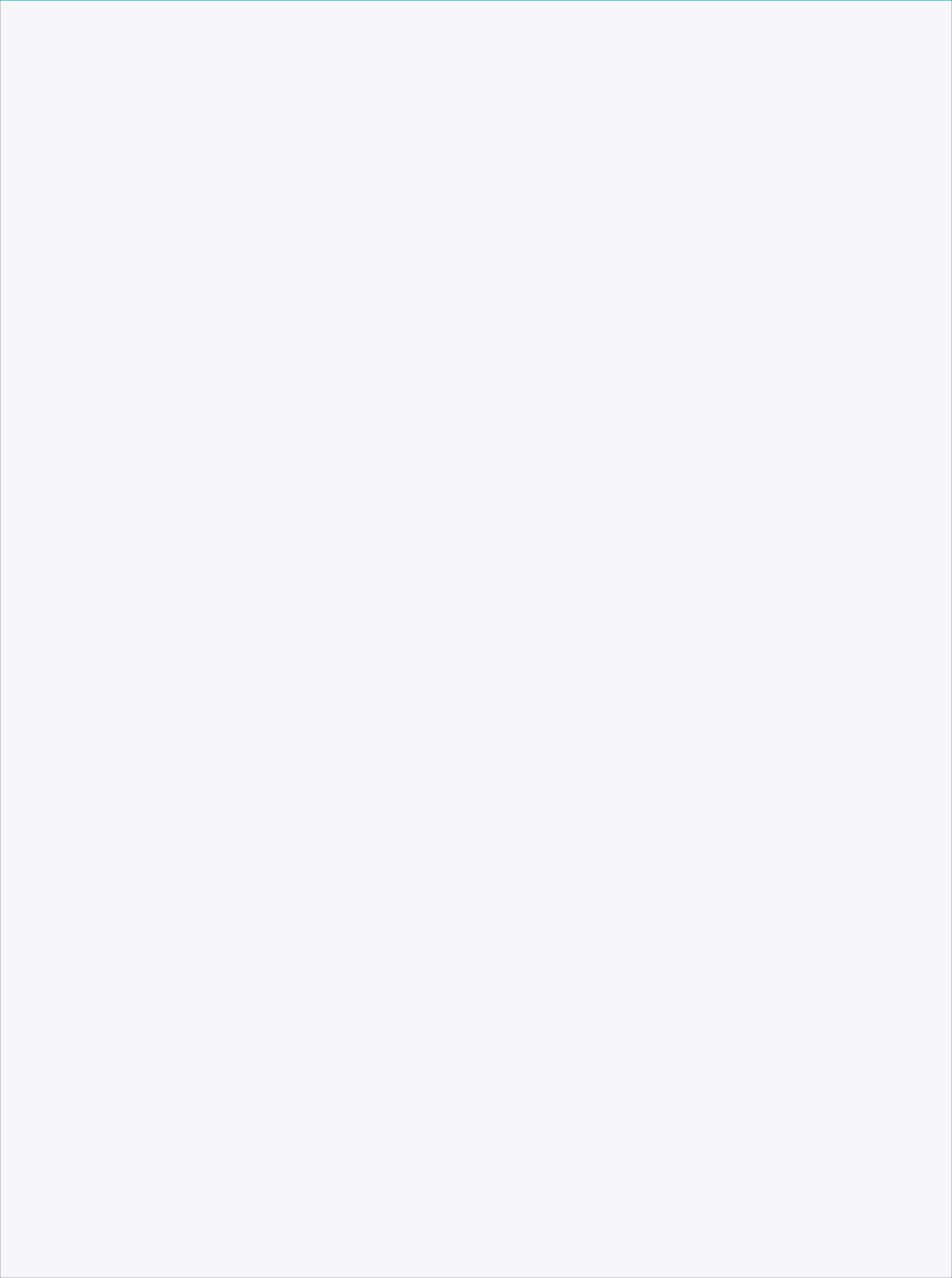
<sup>37</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>38</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>40</sup> Source : Food Corporation of India 2013, 2012-13

<sup>41</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13

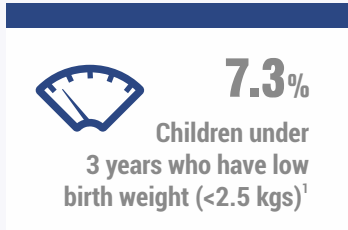
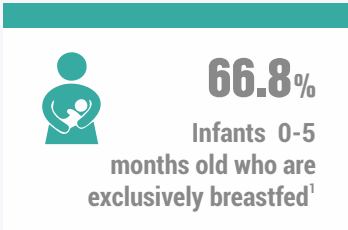




# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN MANIPUR

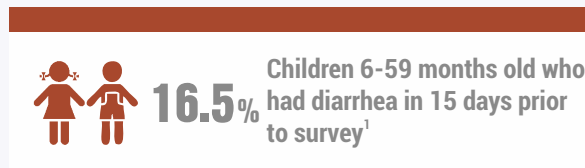
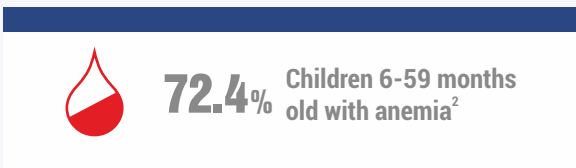
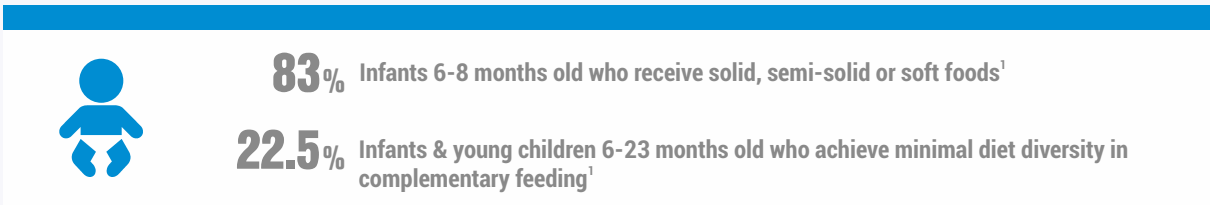
World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



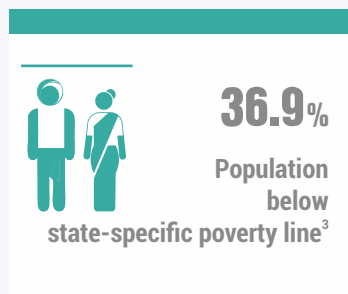
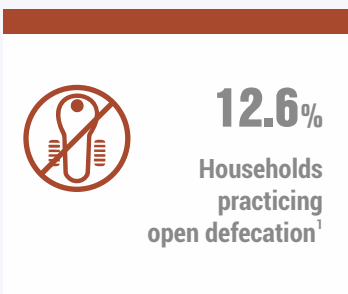
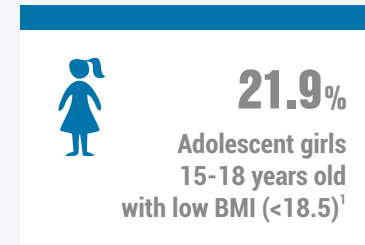
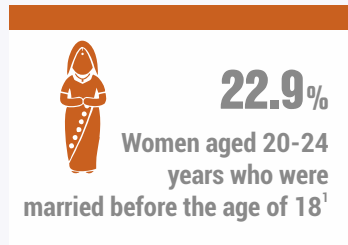
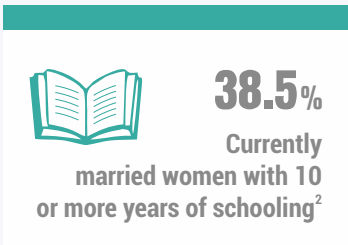
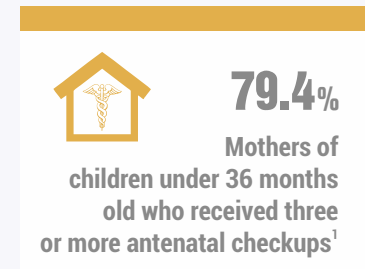
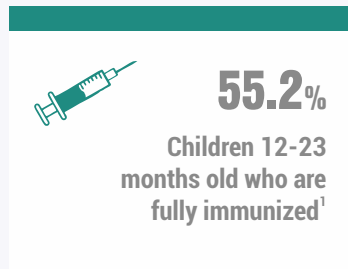
Immediate Determinants

Immediate Determinants



Underlying Determinants

Underlying Determinants



<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : DLHS4, 2012-13

<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

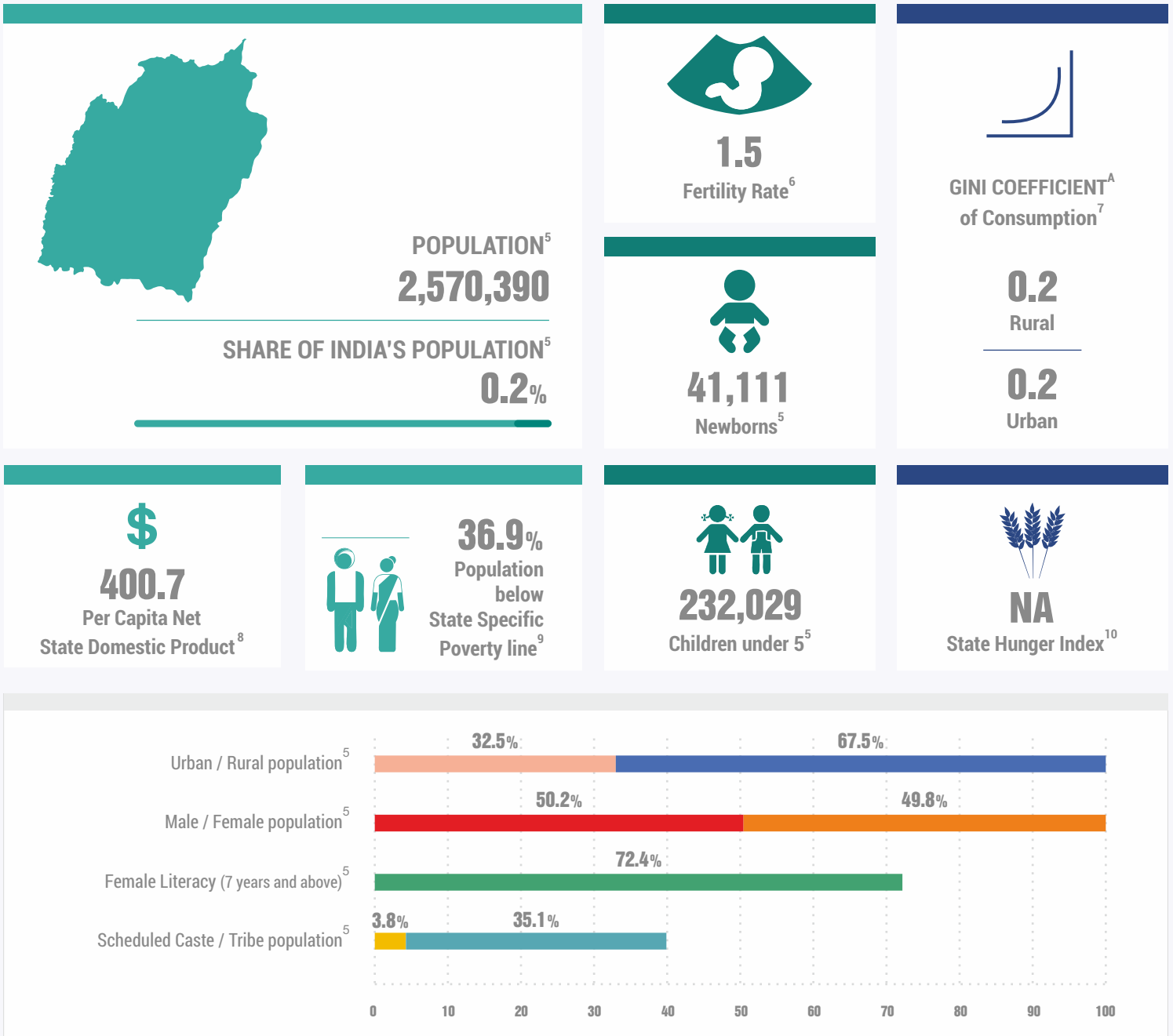


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# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2009

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

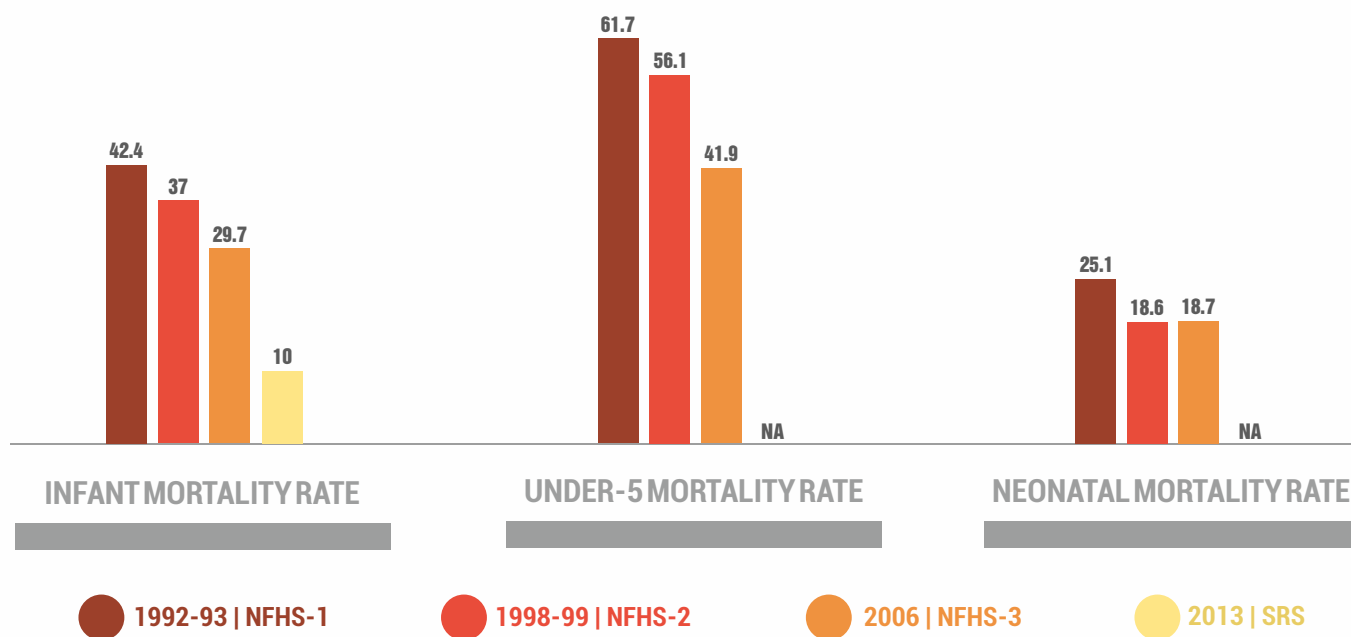
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

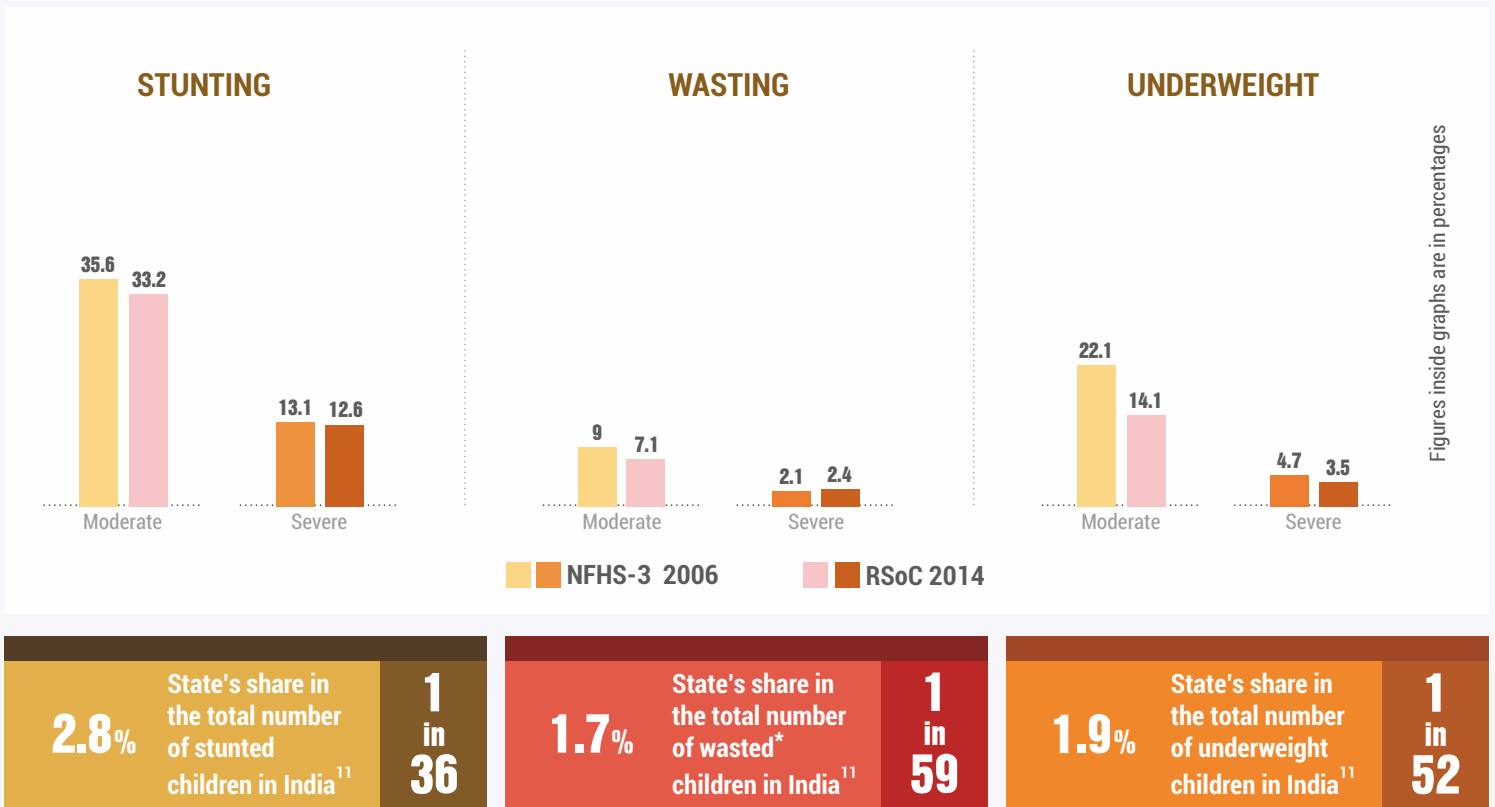
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

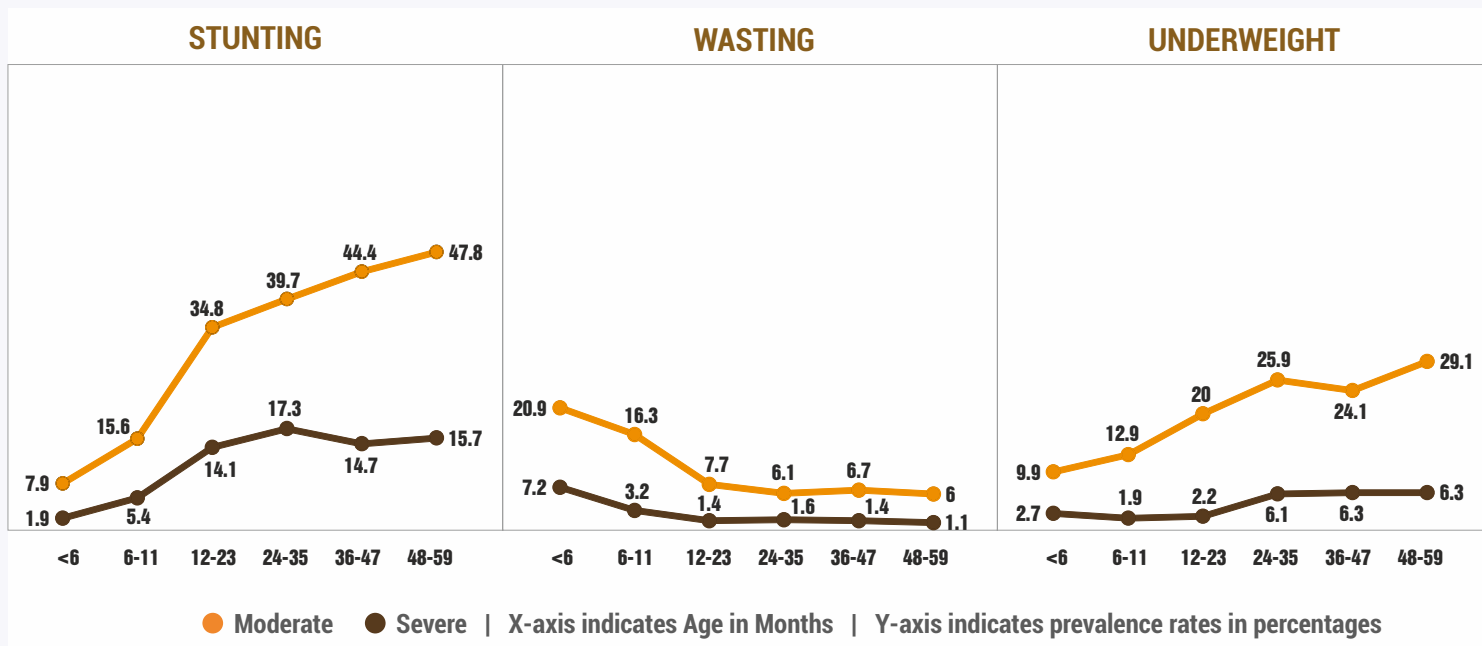


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

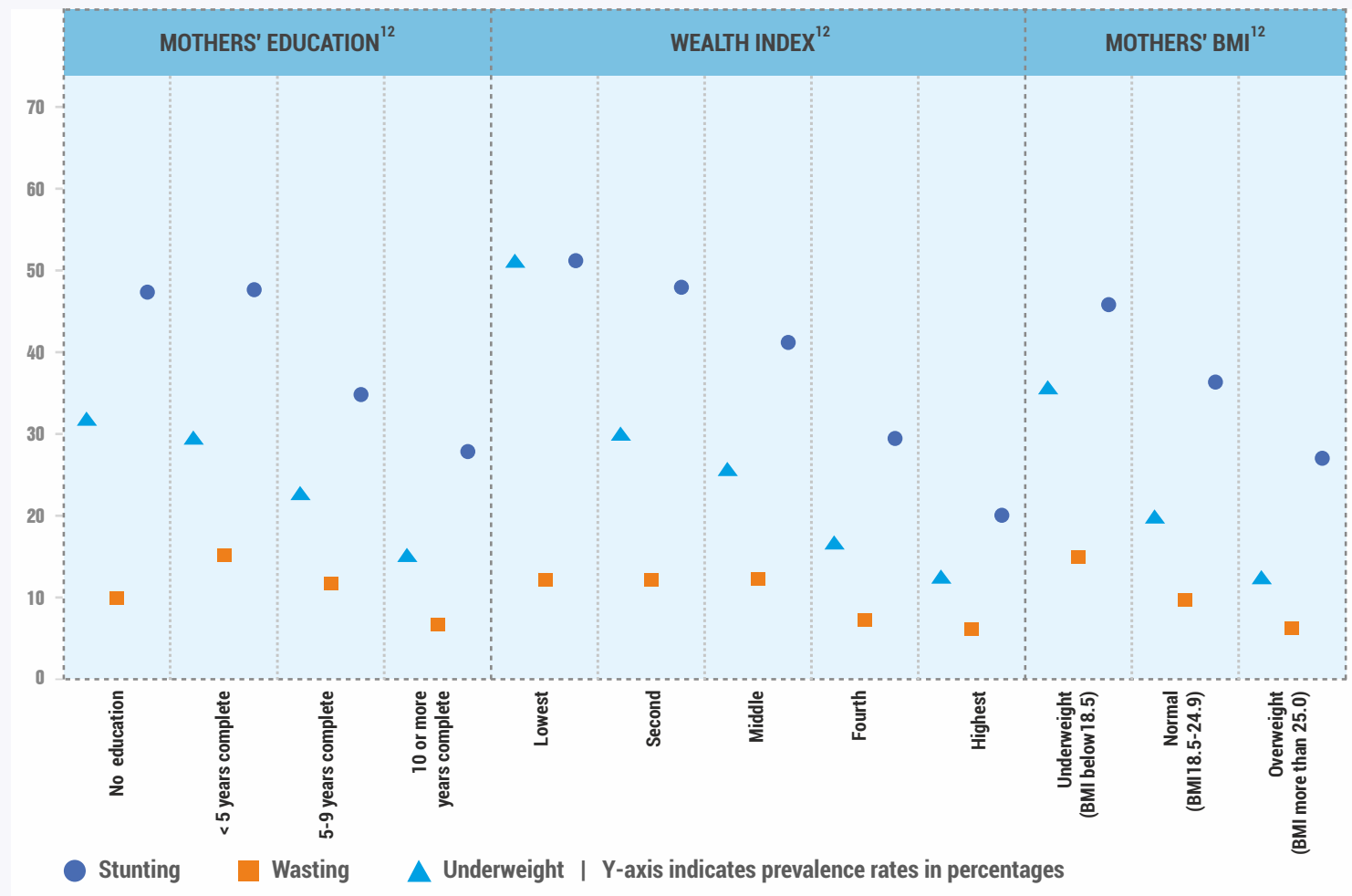
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



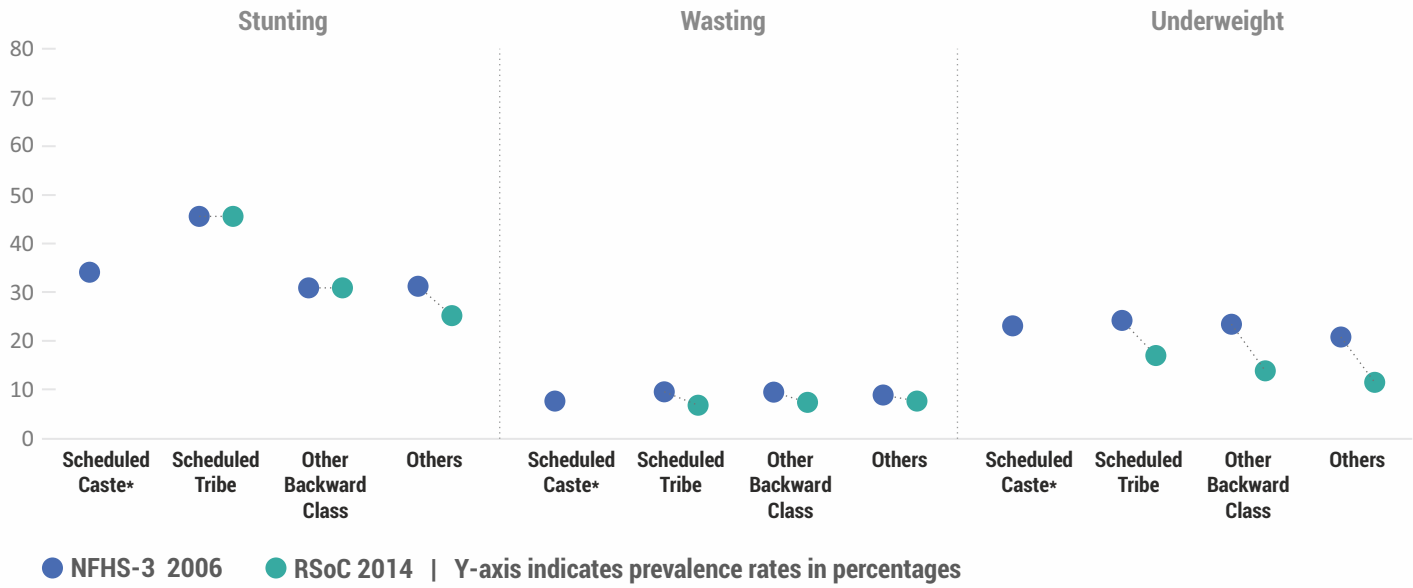
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.



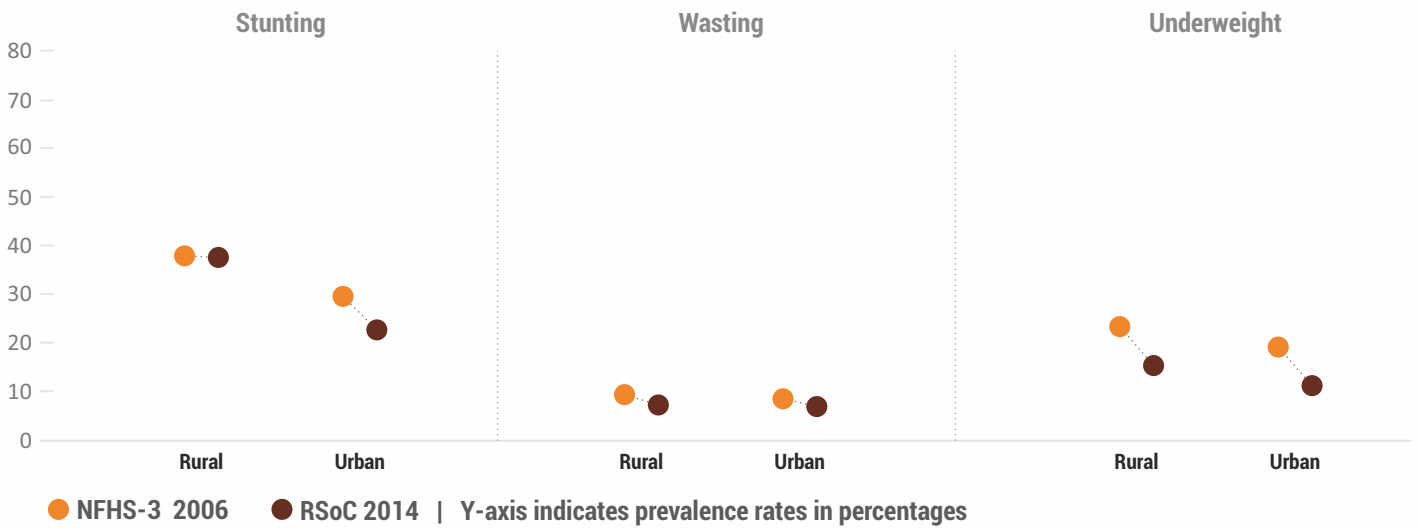
<sup>12</sup> Source : NFHS-3, 2006

CASTE



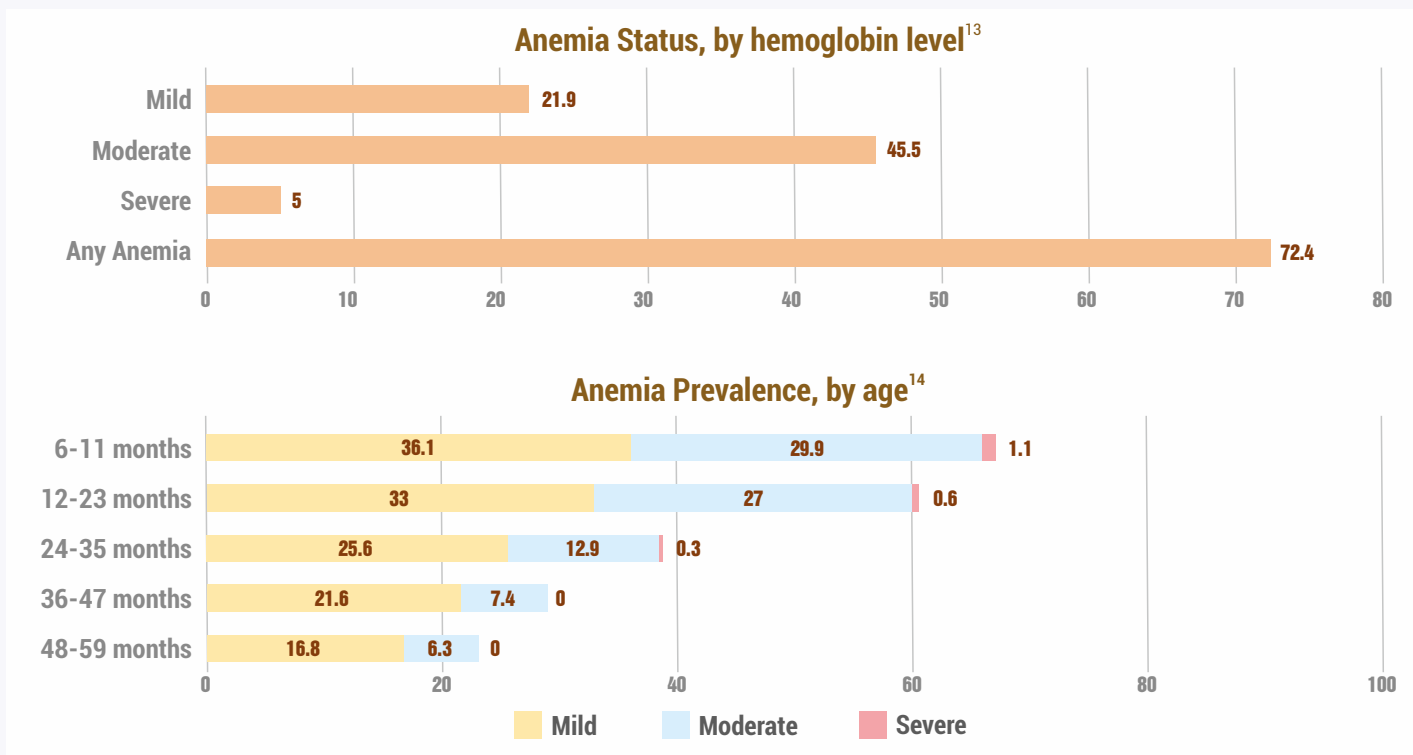
\*Data for Scheduled Caste is not available in RSoC for this state

RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |   |       |
|---|---|-------|
| Children aged 0-23 months breastfed immediately/within an hour of birth   | 58.2%   |       |
|    | Children aged 0-5 months who were exclusively breastfed   | 66.8% |
|   | Children aged 6-8 months who were fed complementary foods | 83%   |
| <p>For breastfed children (6-23 months)-</p> <p>A. Fed minimum number of times.</p> <p>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old</p> | 29.7%   |       |
| <p>B. Had minimum dietary diversity</p> <p>Note : Minimum dietary diversity refers to four or more food groups<sup>B</sup> fed to children aged 6-23 months</p>   | 22.5%   |       |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 16.5% |
| Had fever in 15 days prior to survey   | 15%   |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 6.7%  |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

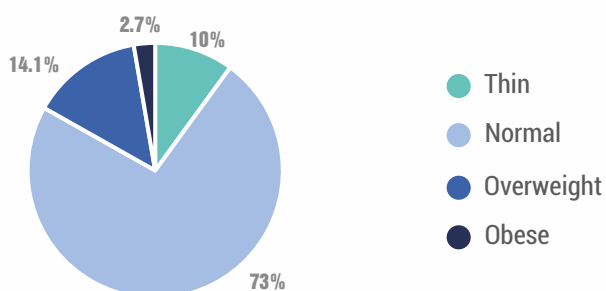
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



**65.3%**

Women aged 15-49 years are anemic

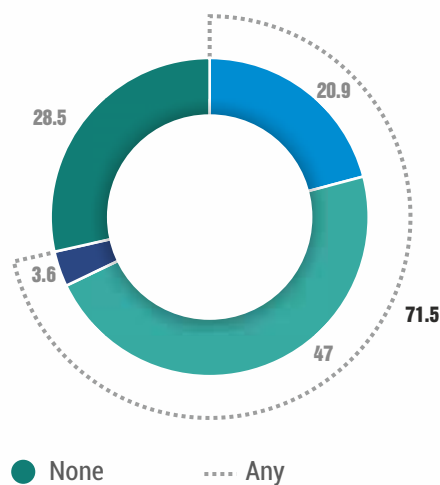
**2.8%**

Women aged 15-49 years are severely anemic

<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]

### C.2. PREGNANT WOMEN<sup>16</sup>

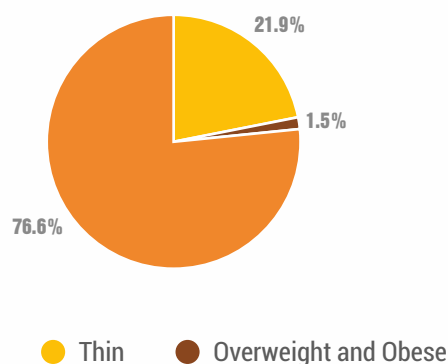
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**30.4%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**0%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

● Normal ● Thin ● Overweight and Obese

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **38.5%**



**22.9%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **24** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.4**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **38.6%**

Currently married women who make decisions about<sup>23</sup>:



**17.6%** Own healthcare



**2.9%** Major household purchase



**55.7%** Purchases for daily household needs



**15.9%** Visits to her family/friends/relatives



**46.2%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**89%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



48.1%

Households with access to improved sources of drinking water<sup>E, 24</sup>

41.5%

Households using improved sanitation facility<sup>F, 24</sup>



12.6%

Households practicing open defecation<sup>24</sup>

1.9 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



1.2%

Growth rate of agriculture from 2007-2012<sup>26</sup>



0.3%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

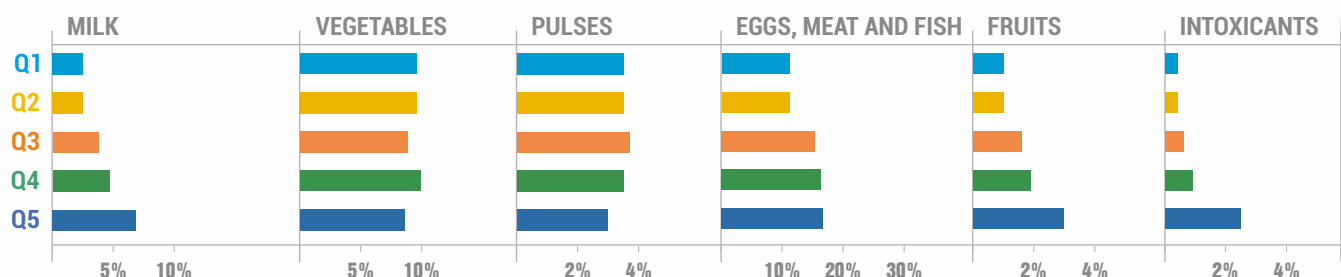
RURAL

NA 2233  
MANIPUR INDIA AVG

URBAN

NA 2206  
MANIPUR INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 44.3% |
| Children 36-71 months | 70.6% |
| Pregnant women        | 44.3% |
| Lactating mothers     | 25.8% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |      |
|----------------------------|------|
| Children aged 6-35 months  | 0%   |
| Children aged 36-71 months | 5.9% |
| Pregnant women             | 5%   |
| Lactating women            | 0%   |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**79.4%**

Received 3 or more antenatal checkups prior to delivery



**90%**

Received 2 or more TT injections prior to delivery



**27.5%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**68.5%**

Had Institutional delivery



**73.5%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**49.9%** Rural  
**64.2%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**8.8%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



**36.6%**  
Breastfeeding



**24.6%**  
Nutrition of mother and child



**22.8%**  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup> | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers*           | 10.7%    |
| AWWs living in the AWC village/ward  | 95.5%    |
| AWWs having 10 or more years of schooling                                      | 91.4%    |
| Median age of AWWs   | 43 years |
| AWCs serving to population more than the stipulated norm                       | 1.3%     |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 3.6%  |
| AWCs having functional adult weighing scale | 0%    |
| Available WHO growth chart at AWCs          | 61.3% |

<sup>H</sup> Number of AWCs surveyed for Manipur as per RSoC 2014 is 232.

<sup>30</sup> Source : RSoC, 2014

<sup>31</sup> Source : DLHS-4, 2012-13

\* Source : MoWCD, 2012

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 95.4% |
| AWWs having correct knowledge of normal birth weight of children                    | 84.7% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 97%   |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 85.8% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 92.7% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 100%              |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 490 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 8.5%              |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 13             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 4.2            | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 6.6            | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 7.9%  |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 5.6%  |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 98.9% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 3              | 47               |
| PDS <sup>41</sup>                           | 65.7           | 475.3            |
| MGNREGA <sup>42</sup>                       | 100            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13

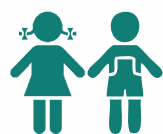


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## FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN MEGHALAYA

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

42.9%  
Stunted<sup>1</sup>13.1%  
Wasted<sup>1</sup>

World Health Assembly Nutrition Targets



54.9%

Infants 0-5  
months old who are  
exclusively breastfed<sup>1</sup>

10.4%

Children under  
3 years who have low  
birth weight (<2.5 kgs)<sup>1</sup>

53.9%

Women  
15-49 years old  
with anemia<sup>2</sup>

Immediate Determinants

65.2% Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>1</sup>28.7% Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>1</sup>

Immediate Determinants

70.7% Children 6-59 months  
old with anemia<sup>2</sup>3.1% Children 6-59 months old who  
had diarrhea in 15 days prior  
to survey<sup>1</sup>

Underlying Determinants



77%

Children 6-35 months old  
who received supplementary  
food under ICDS for 21 days  
in the month prior to survey<sup>1</sup>

44.6%

Children 12-23  
months old who are  
fully immunized<sup>1</sup>

70.6%

Mothers of  
children under 36 months  
old who received three  
or more antenatal checkups<sup>1</sup>

21.1%

Currently  
married women with 10  
or more years of schooling<sup>2</sup>

23.3%

Women aged 20-24  
years who were  
married before the age of 18<sup>1</sup>

19.7%

Adolescent girls  
15-18 years old  
with low BMI (<18.5)<sup>1</sup>

30.6%

Households  
practicing  
open defecation<sup>1</sup>

11.9%

Population  
below  
state-specific poverty line<sup>3</sup>Does state have a  
high-level nutrition mission?

NO

Underlying Determinants

<sup>1</sup> Source : RSoC, 2014<sup>2</sup> Source : DLHS4, 2012-13<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

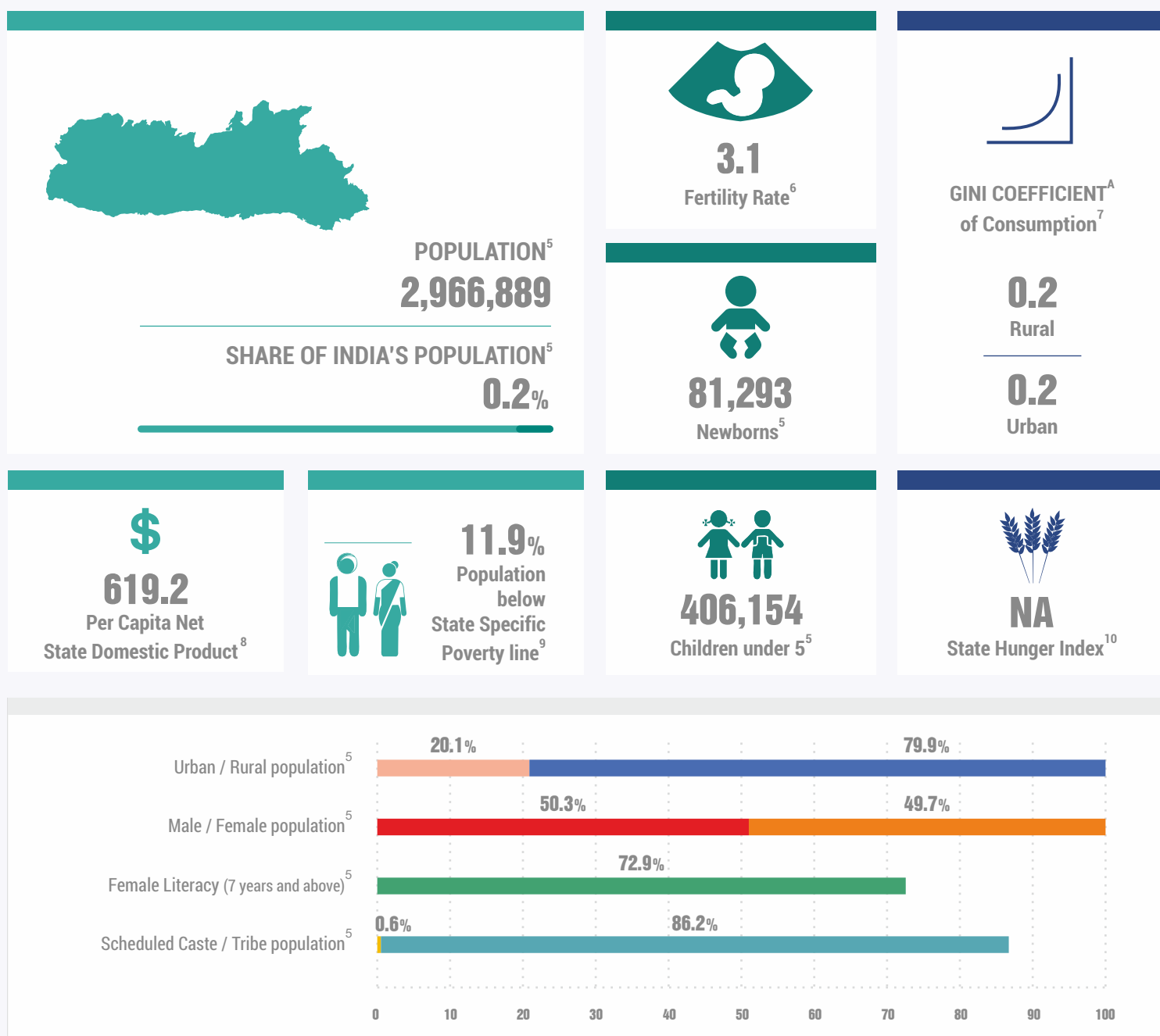


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## I. CONTEXT

### A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2009

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

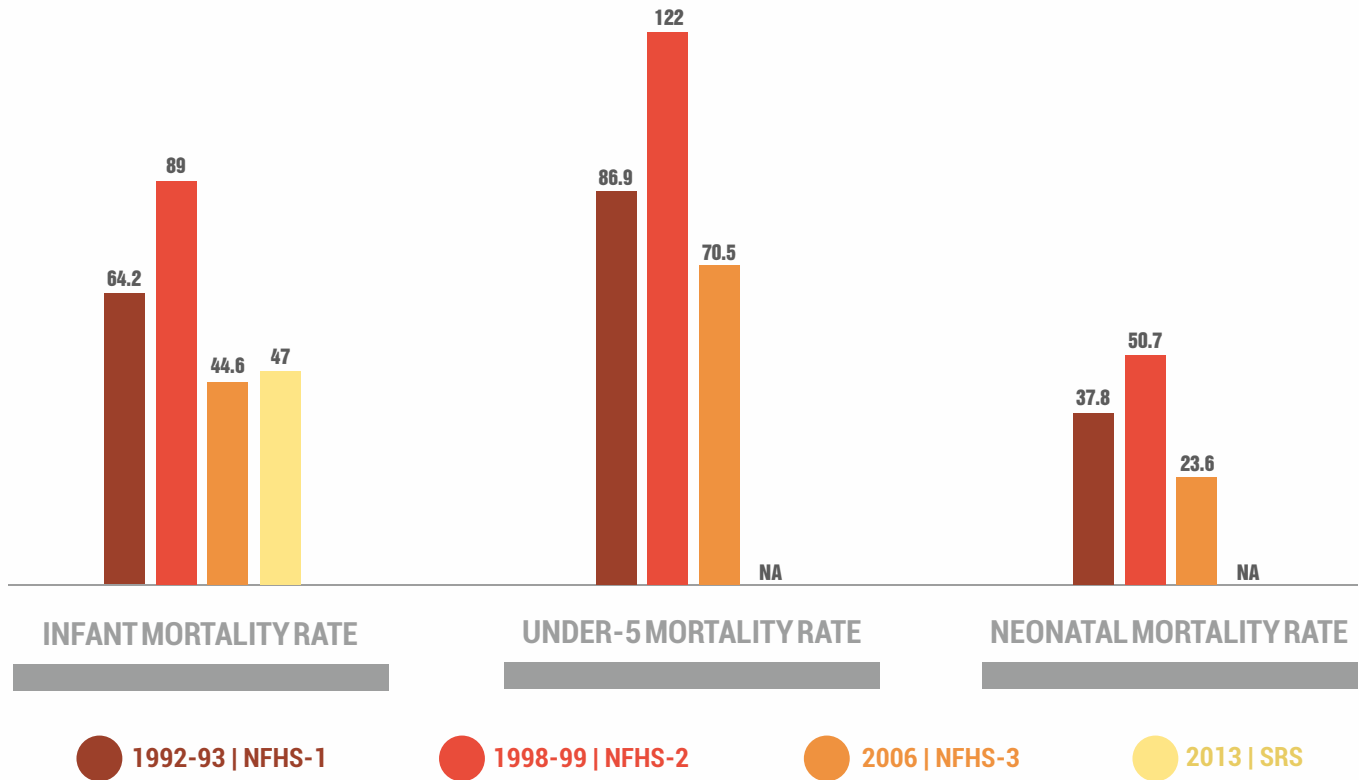
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

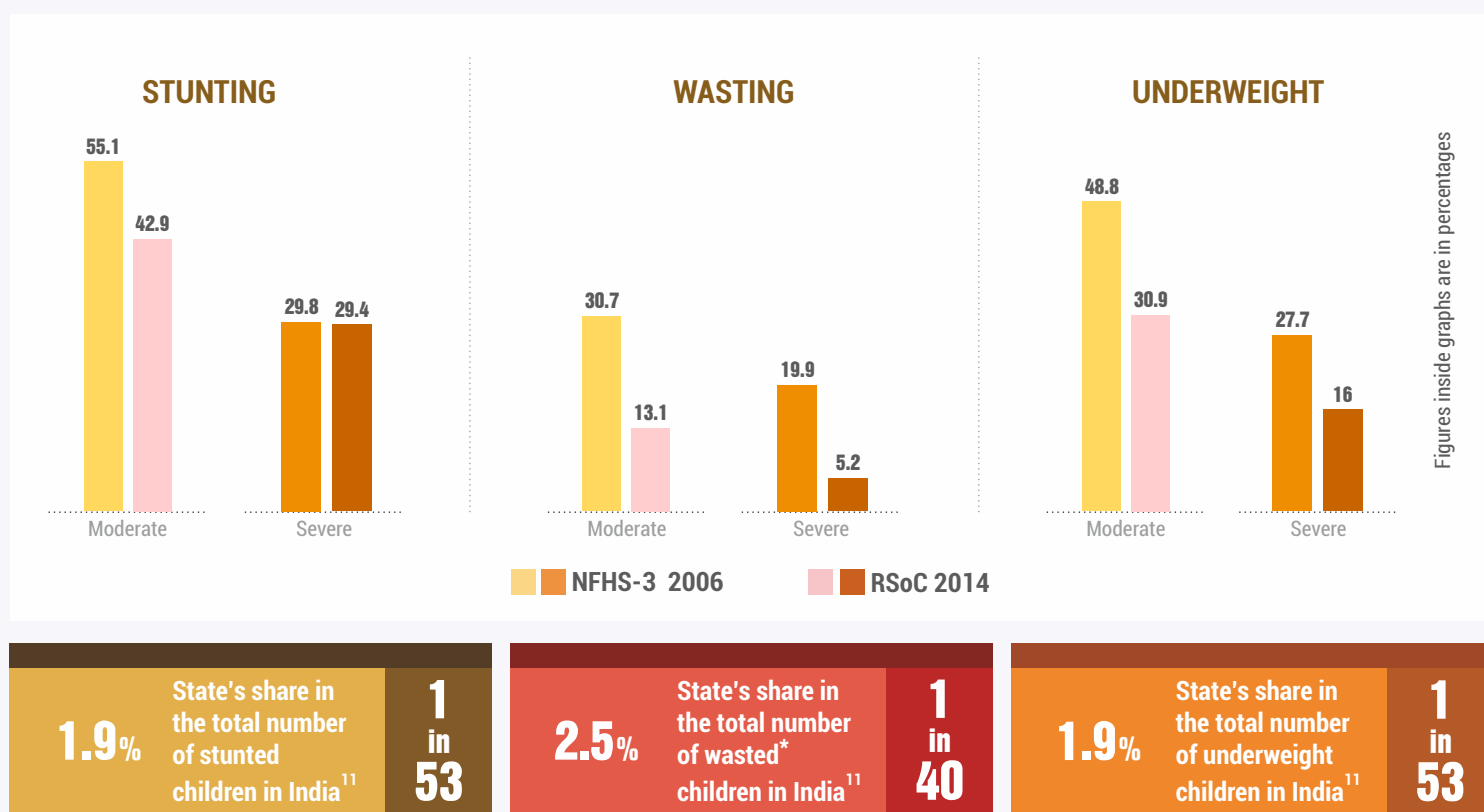
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

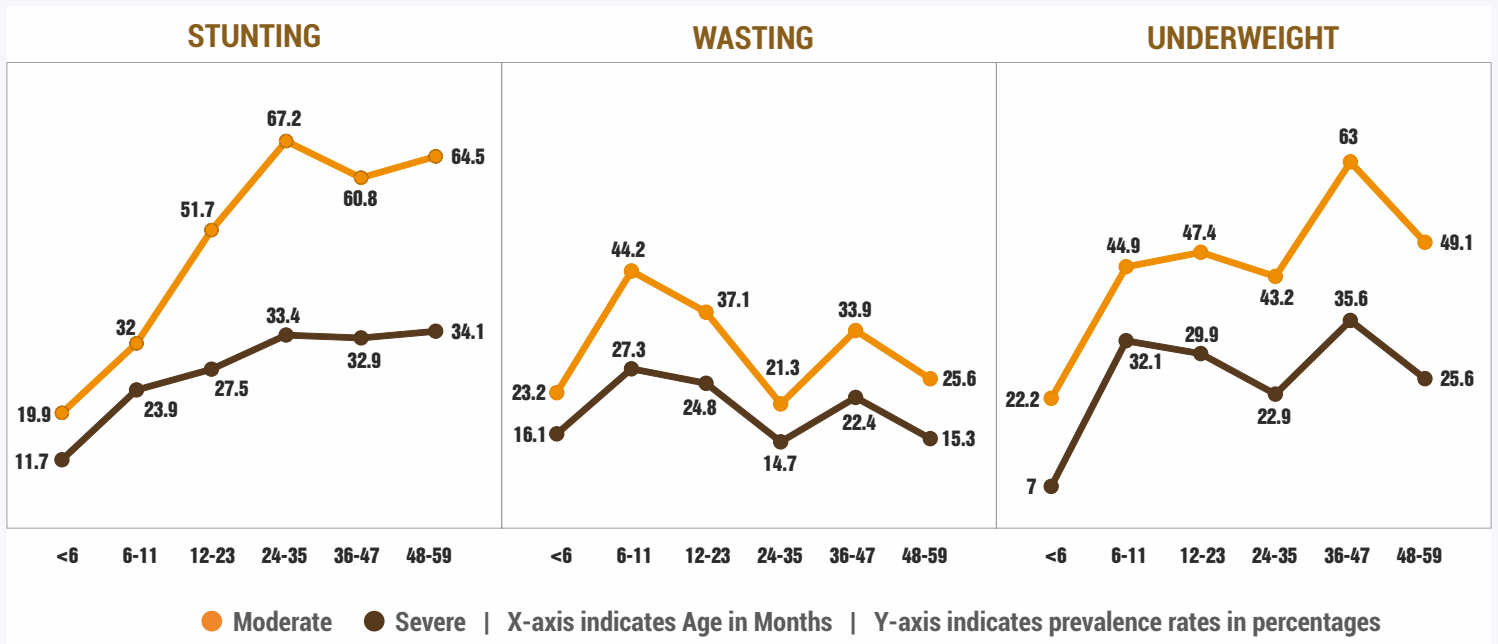


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

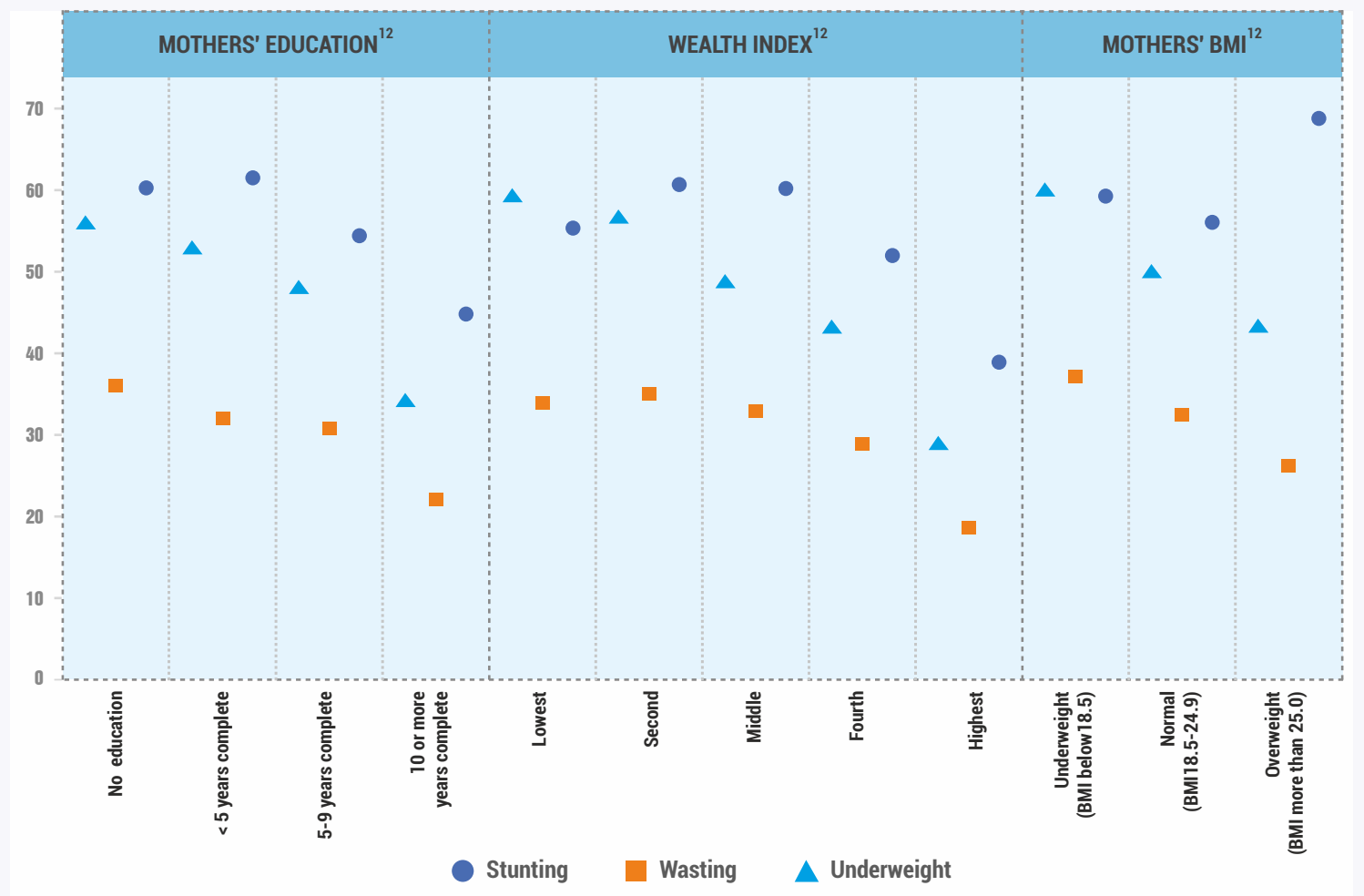
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



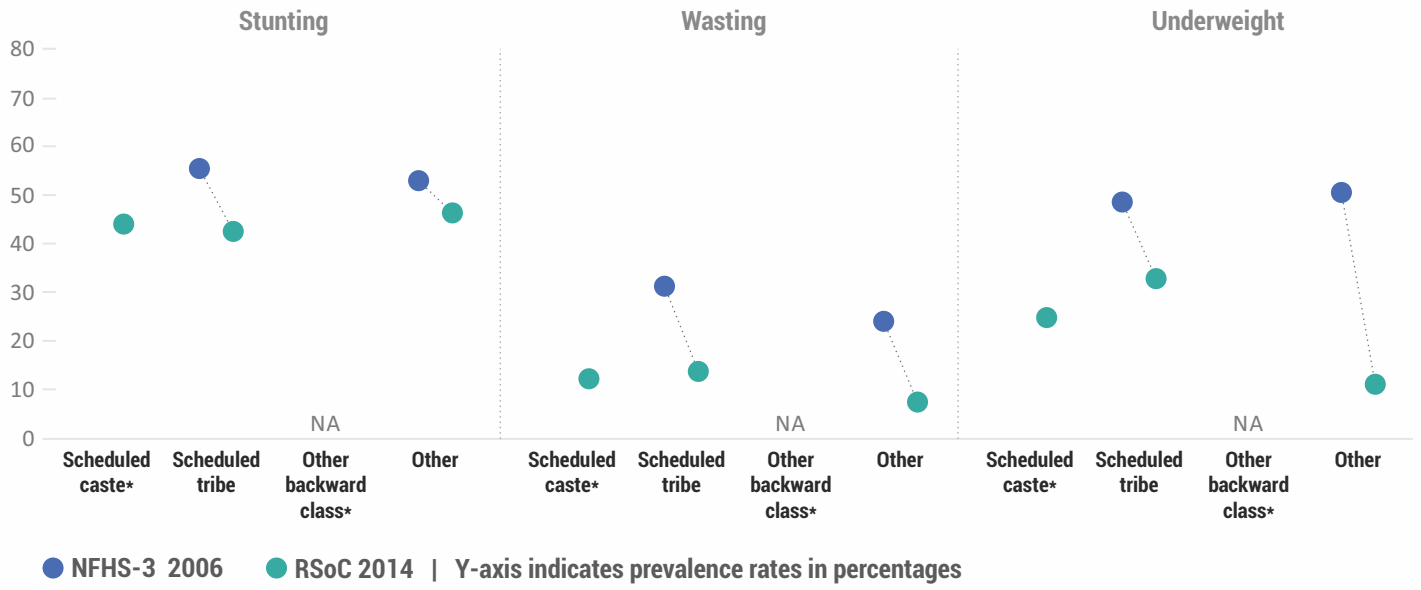
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.



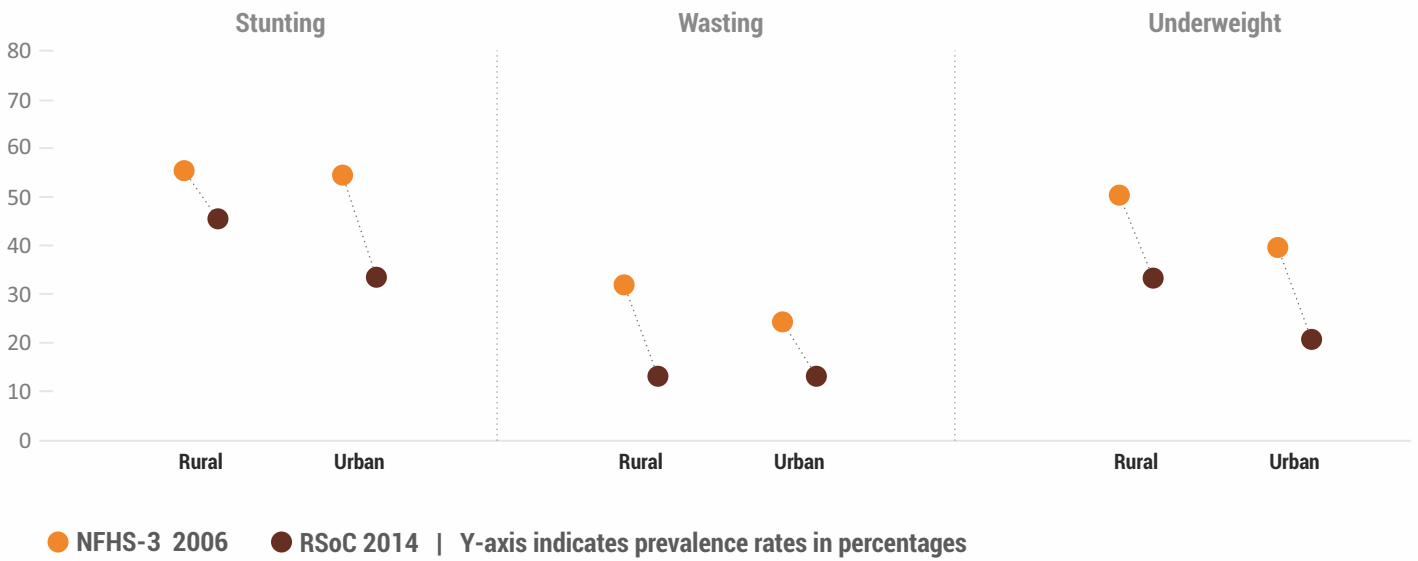
<sup>12</sup> Source : NFHS 3, 2006

CASTE



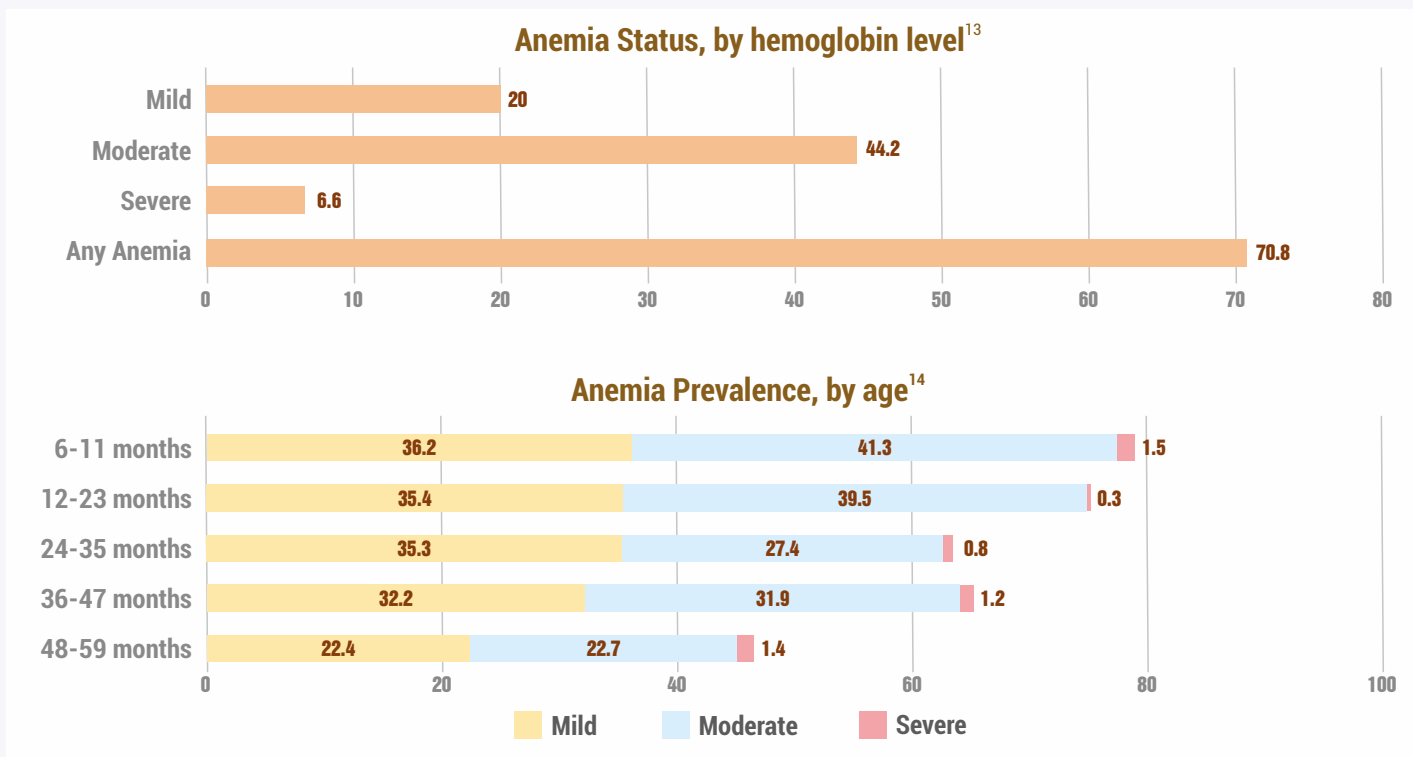
\*Data for Scheduled Caste and Other Backward Class is not available in NFHS-3 for this state

RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 65.1% |
|  | Children aged 0-5 months who were exclusively breastfed  | 54.9% |
|   | Children aged 6-8 months who were fed complementary foods  | 65.2% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 36.3% |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 28.7% |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |      |
|--|------|
| Had diarrhea in 15 days prior to survey                                      | 3.1% |
| Had fever in 15 days prior to survey   | 8.1% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 1.9% |

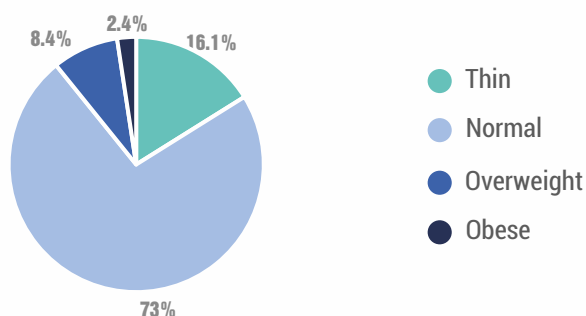
<sup>B</sup> The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**53.9%**

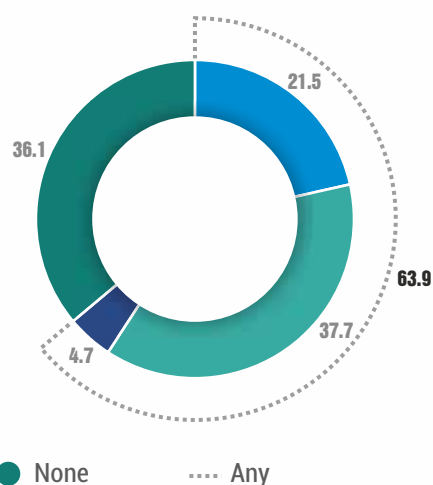
Women aged 15-49 years are anemic

**3.7%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

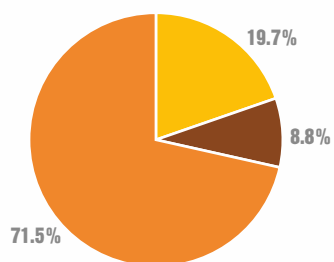
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



● Normal ● Thin ● Overweight and Obese



**46.5%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**1.2%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **21.1%**



**23.3%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **21.6** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.3**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **40.7%**

Currently married women who make decisions about<sup>23</sup>:



**23.8%** Own healthcare



**16%** Major household purchase



**36.1%** Purchases for daily household needs



**8.2%** Visits to her family/friends/relatives



**15%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**55.9%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



60.1%

Households with access to improved sources of drinking water<sup>E, 24</sup>

45.1%

Households using improved sanitation facility<sup>F, 24</sup>



30.6%

Households practicing open defecation<sup>24</sup>

5.01 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



4.7%

Growth rate of agriculture from 2007-2012<sup>26</sup>



0.09%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

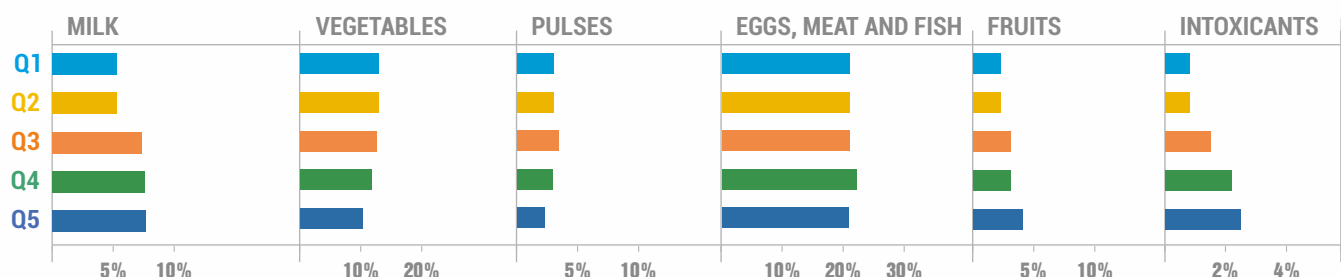
RURAL

NA 2233  
MEGHALAYA INDIA AVG

URBAN

NA 2206  
MEGHALAYA INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 90.7% |
| Children 36-71 months | 93.1% |
| Pregnant women        | 84.6% |
| Lactating mothers     | 92.9% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |     |
|----------------------------|-----|
| Children aged 6-35 months  | 77% |
| Children aged 36-71 months | NA  |
| Pregnant women             | 98% |
| Lactating women            | 99% |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**70.6%**

Received 3 or more antenatal checkups prior to delivery



**73.7%**

Received 2 or more TT injections prior to delivery



**25.2%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**66.5%**

Had Institutional delivery



**68.6%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**43.9%** Rural  
**47.5%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**17.5%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



**42.3%**  
Breastfeeding



**25.3%**  
Nutrition of mother and child



**23.8%**  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup> | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers*           | 23.9%    |
| AWWs living in the AWC village/ward  | 93.3%    |
| AWWs having 10 or more years of schooling                                      | 52.8%    |
| Median age of AWWs   | 33 years |
| AWCs serving to population more than the stipulated norm                       | 19.9%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 38.3% |
| AWCs having functional adult weighing scale | 26.4% |
| Available WHO growth chart at AWCs          | 29.7% |

<sup>H</sup> Number of AWC surveyed for Meghalaya as per RSoC 2014 is 90.

<sup>30</sup> Source : RSoC, 2014

<sup>31</sup> Source : DLHS-4, 2012-13

\* Source : MoWCD, 2012

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 30.9% |
| AWWs having correct knowledge of normal birth weight of children                    | 64.4% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 84.9% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 73.8% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 55.8% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 100%              |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 379 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0%                |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 18             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 17.5           | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | -1.9           | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 33.4% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 59.2% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 93.5% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 25             | 47               |
| PDS <sup>41</sup>                           | 78.9           | 475.3            |
| MGNREGA <sup>42</sup>                       | 44             | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13

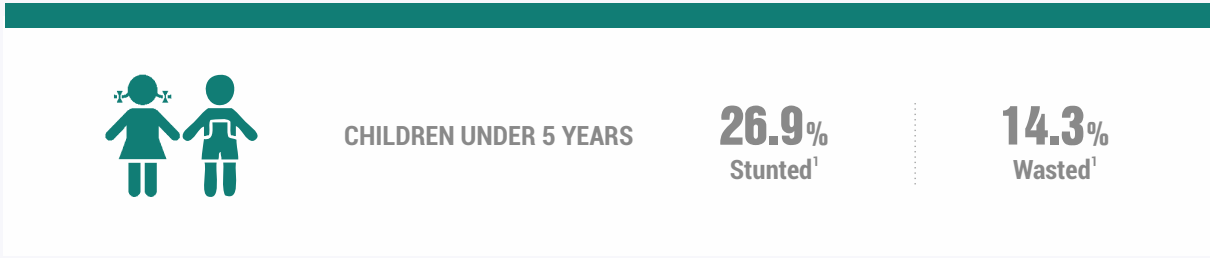


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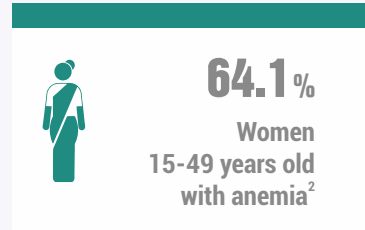
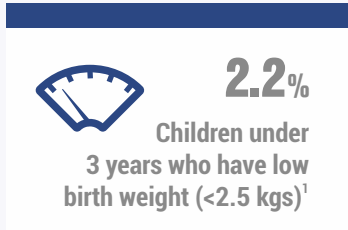
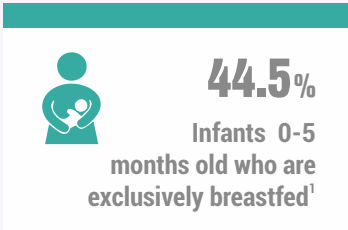


# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN MIZORAM

World Health Assembly Nutrition Targets



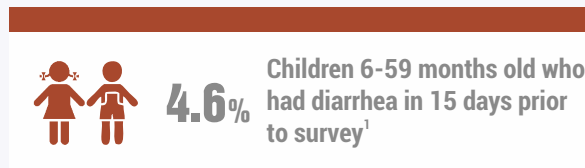
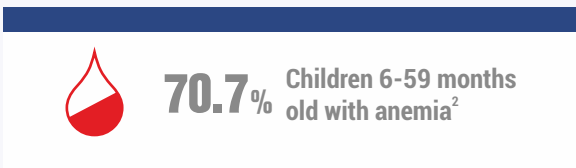
World Health Assembly Nutrition Targets



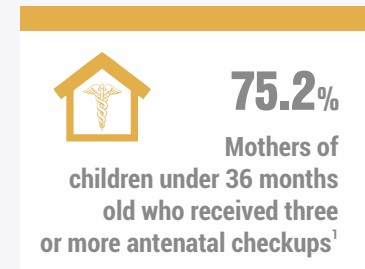
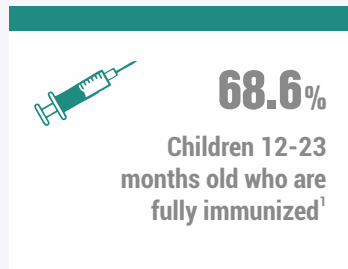
Immediate Determinants



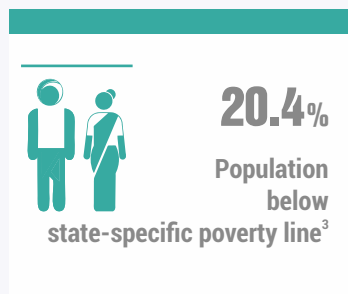
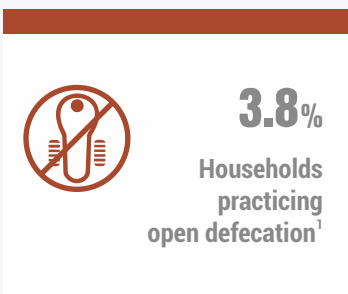
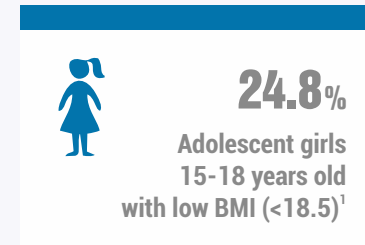
Immediate Determinants



Underlying Determinants



Underlying Determinants



<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : DLHS4, 2012-13

<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

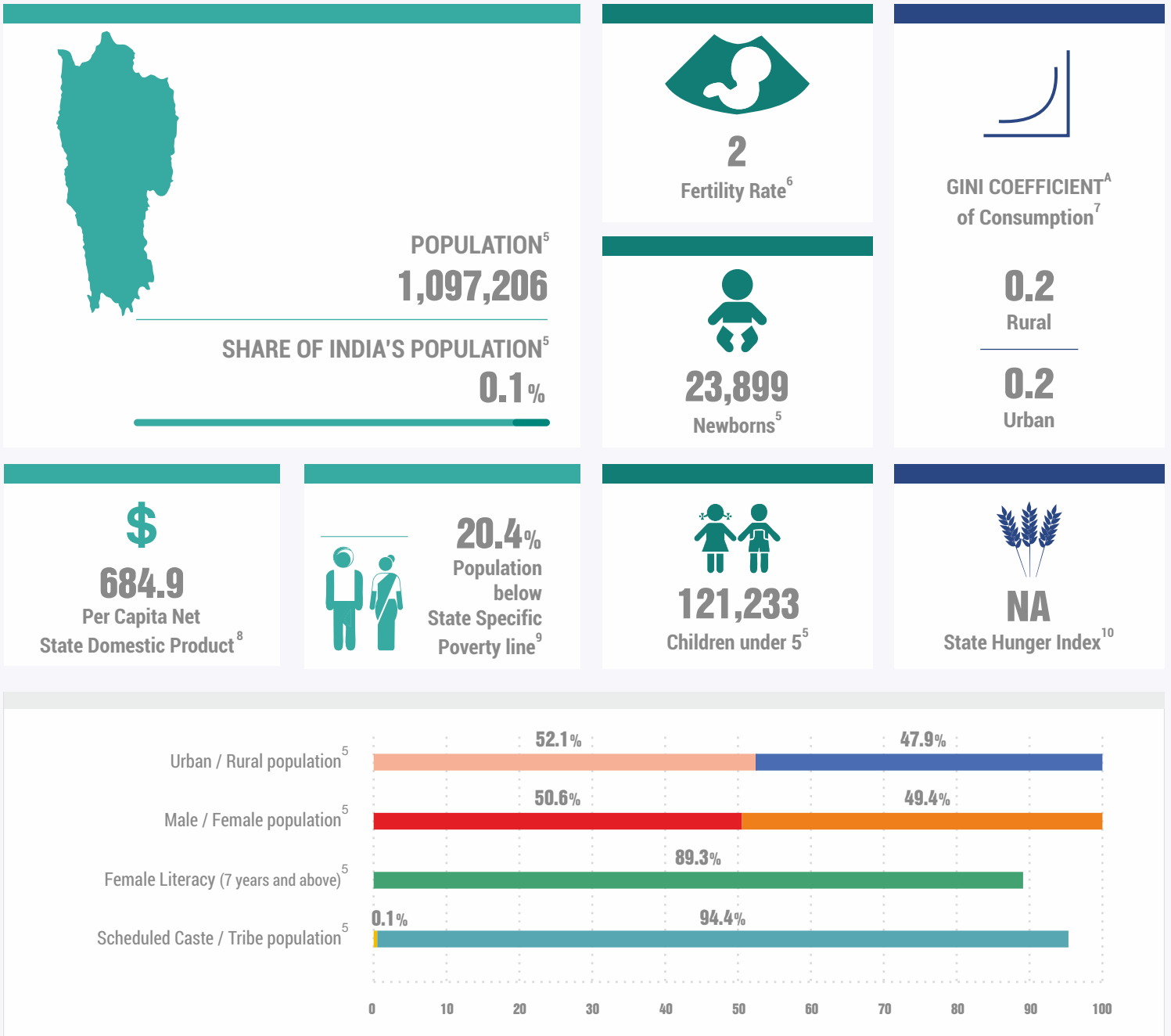


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# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2009

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

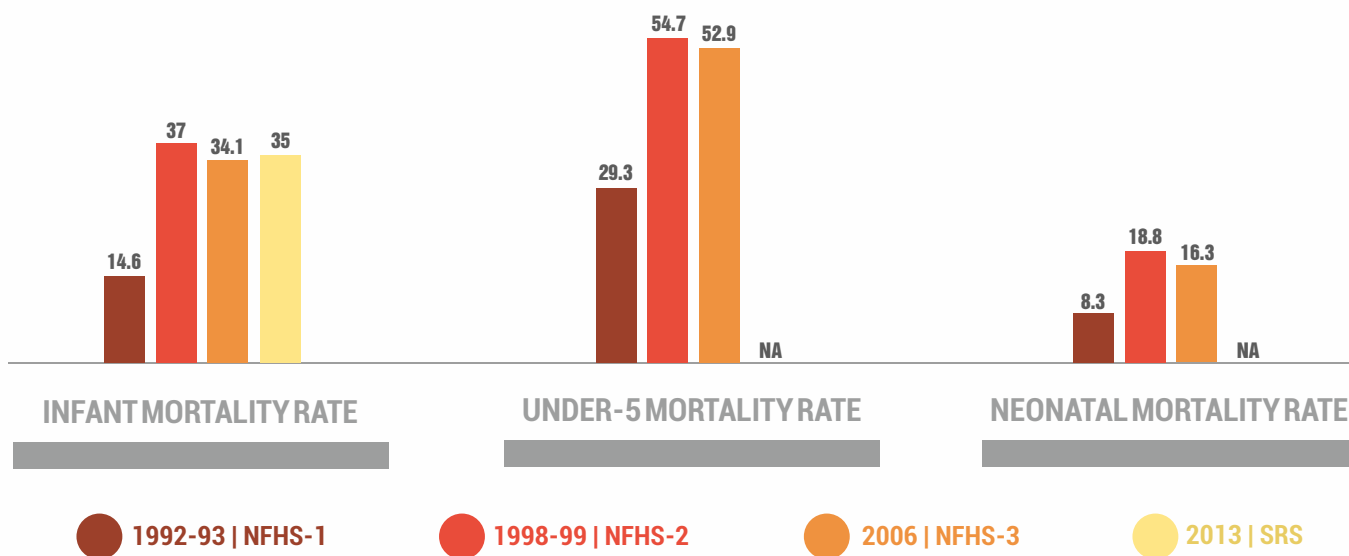
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

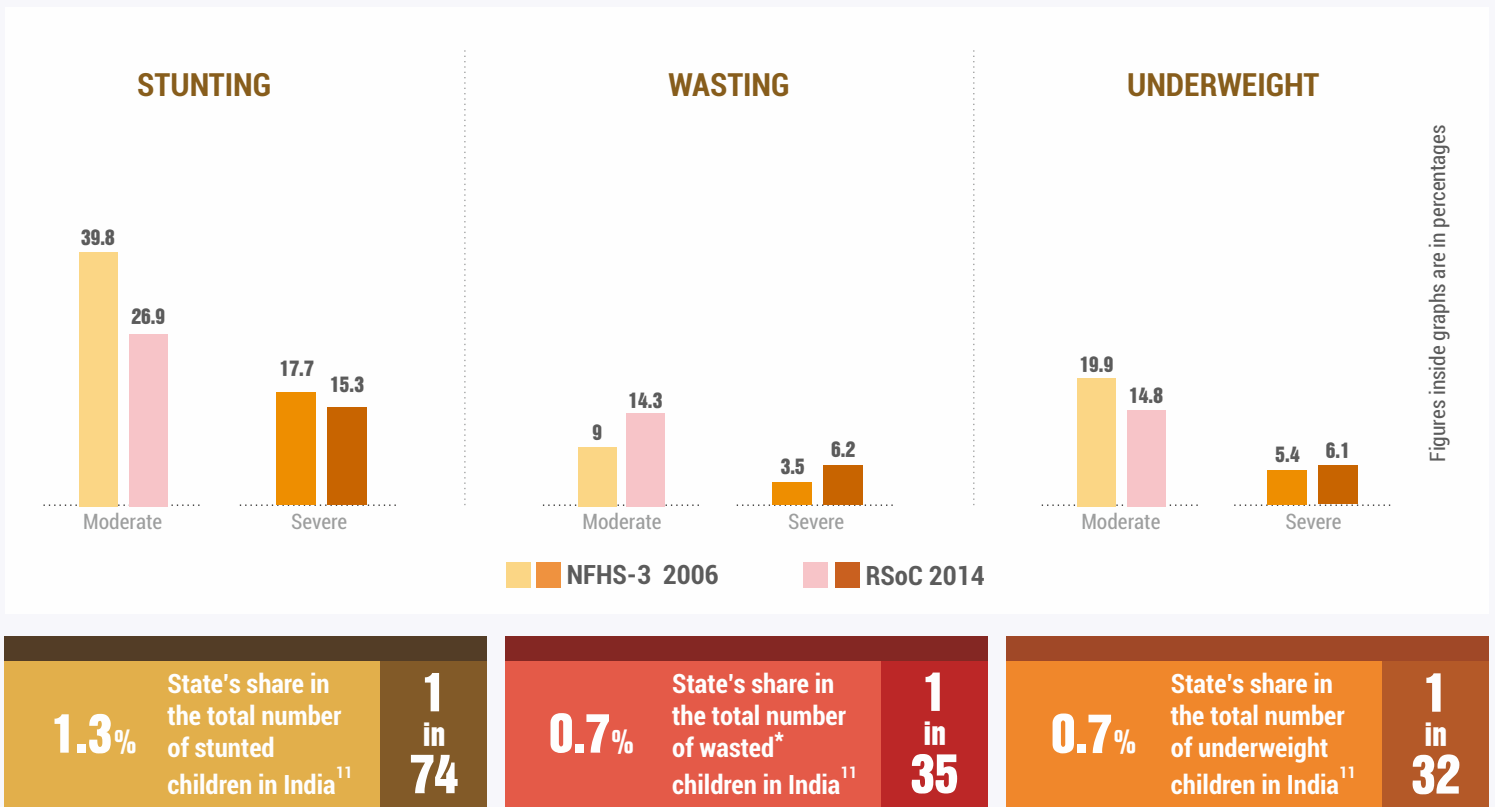
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

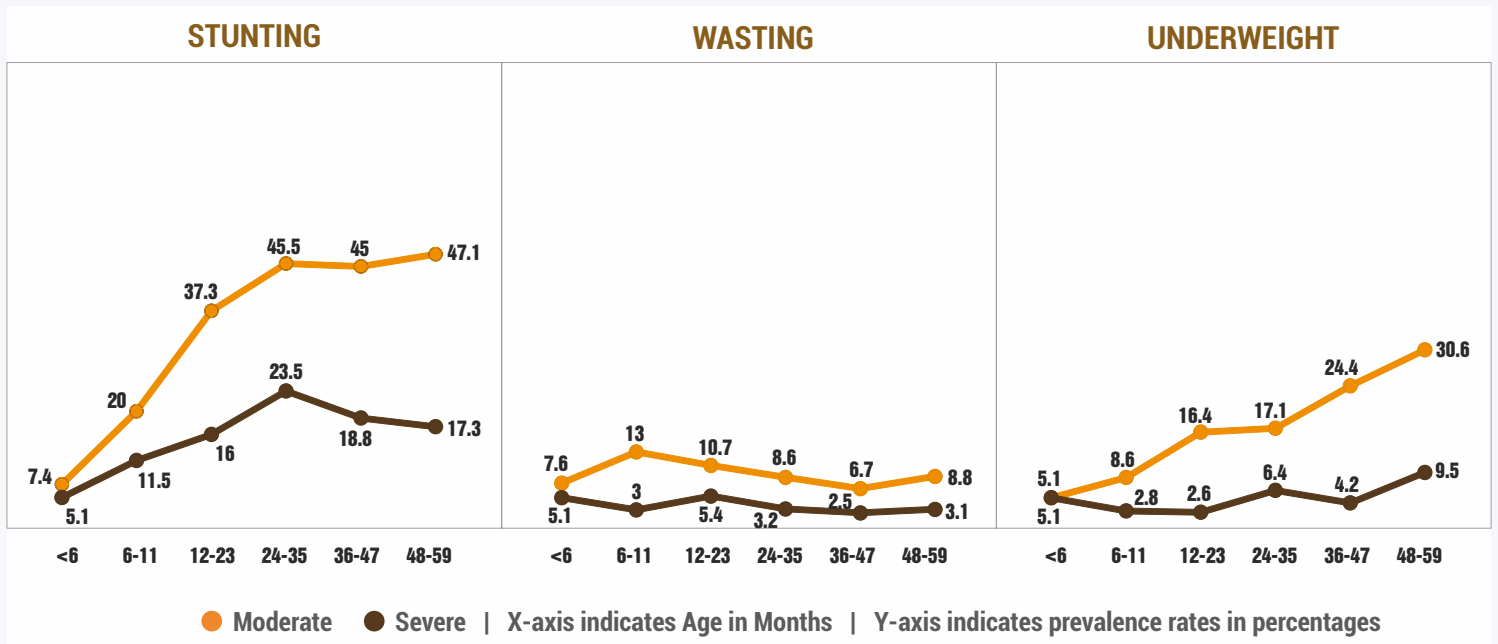


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

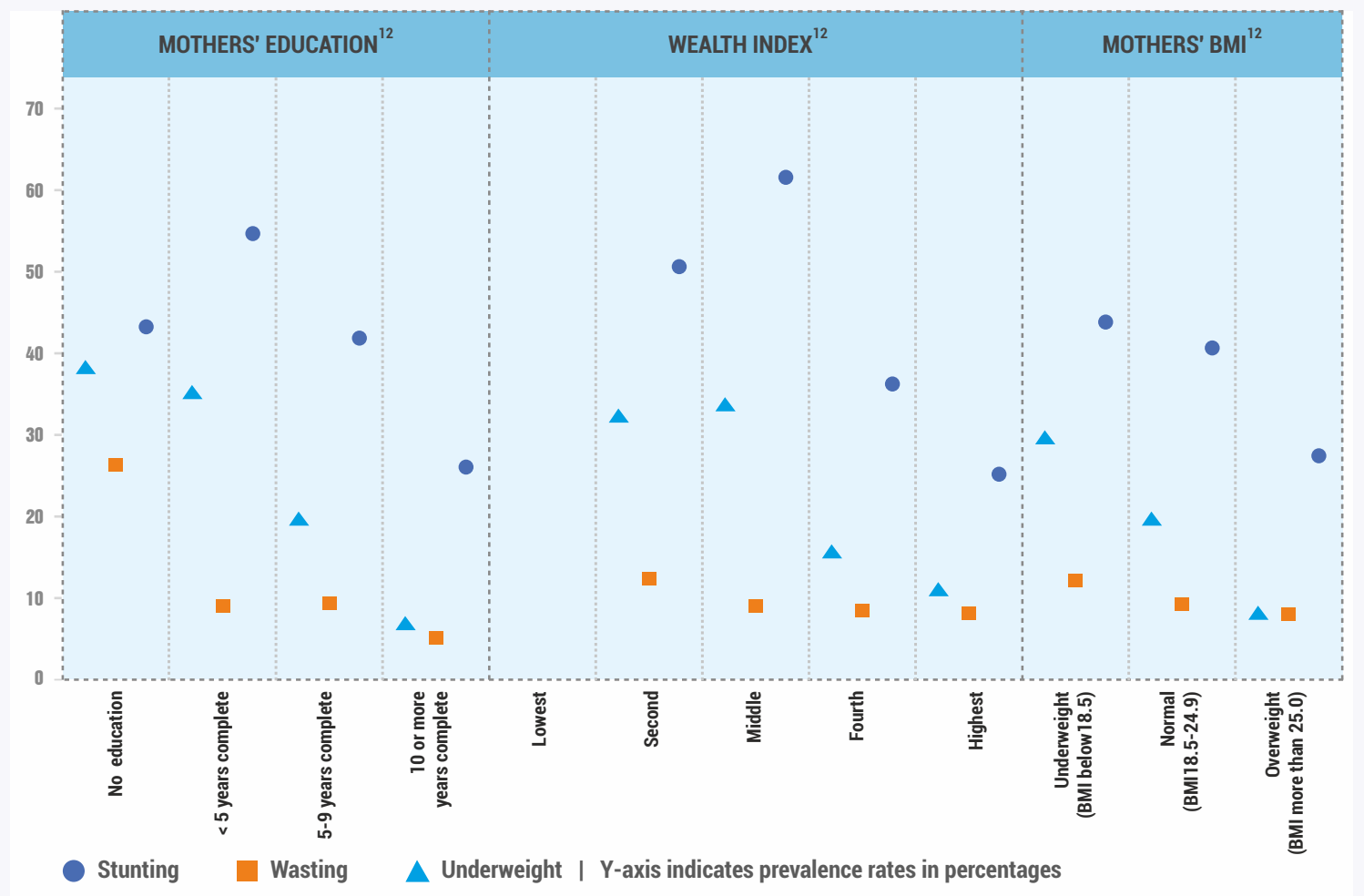
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



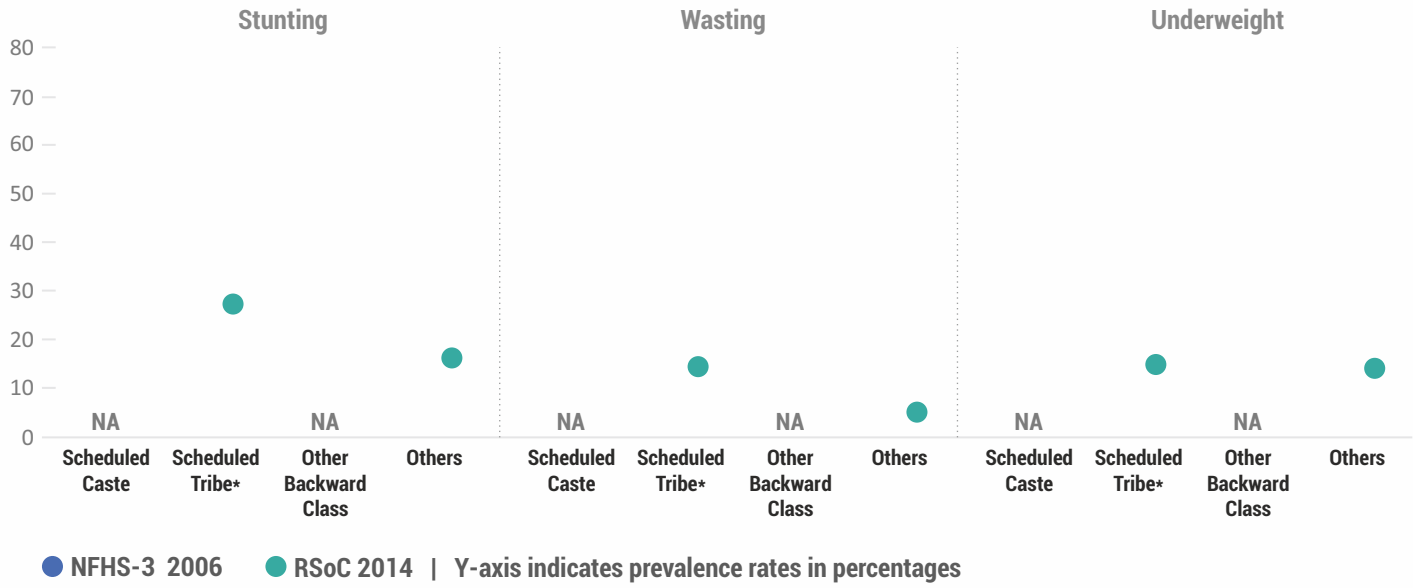
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.



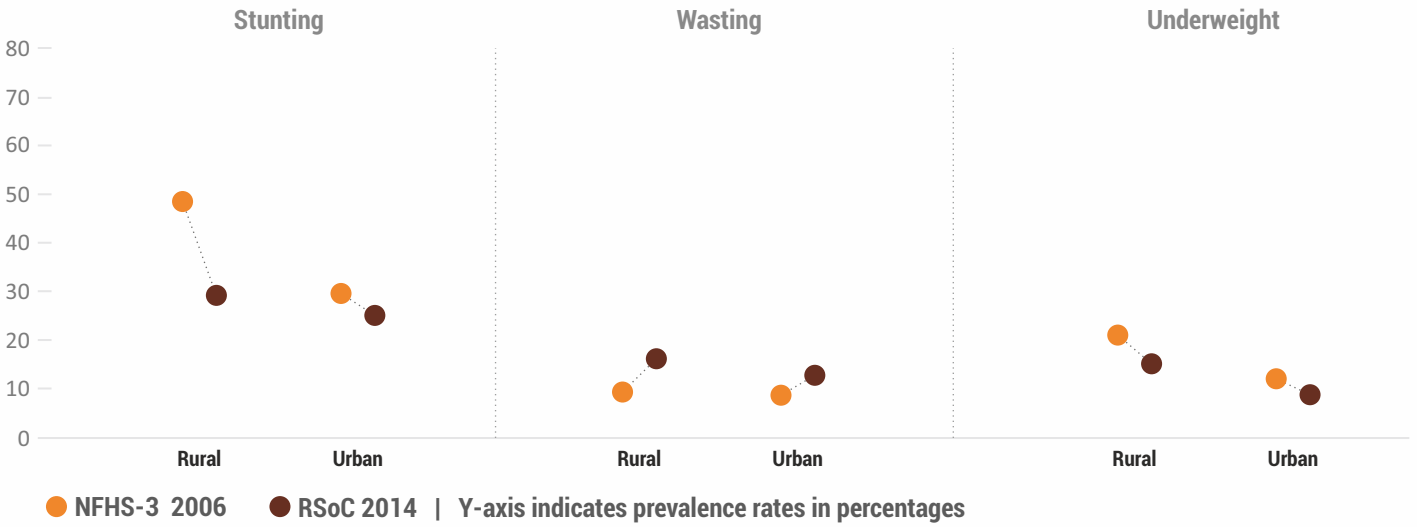
<sup>12</sup> Source : NFHS-3, 2006

CASTE



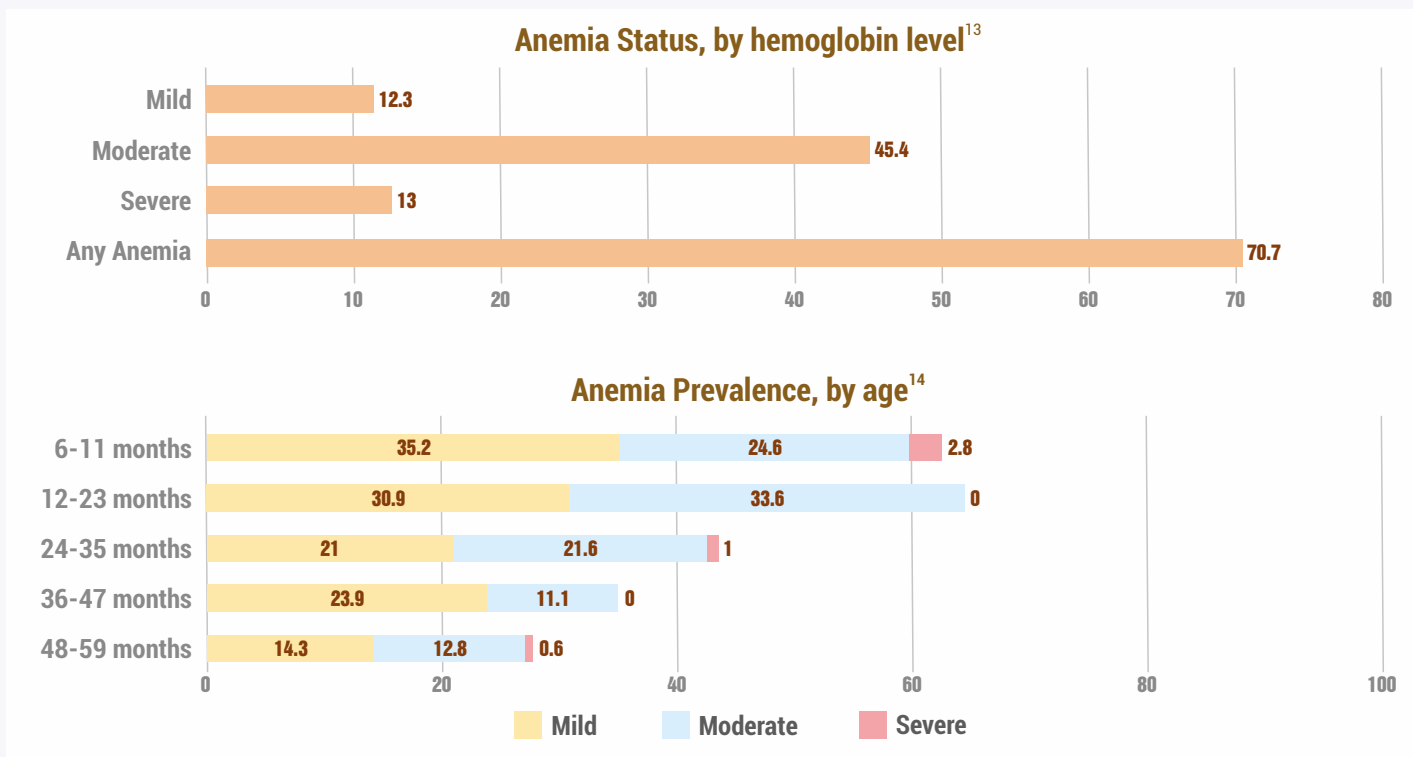
\*Data for Scheduled Tribe and Others is not available in NFHS-3 for this state

RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 84.8% |
|  | Children aged 0-5 months who were exclusively breastfed  | 44.5% |
|   | Children aged 6-8 months who were fed complementary foods  | 60.9% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 20%   |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 10.5% |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |      |
|--|------|
| Had diarrhea in 15 days prior to survey                                      | 4.6% |
| Had fever in 15 days prior to survey   | 6.3% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 2%   |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

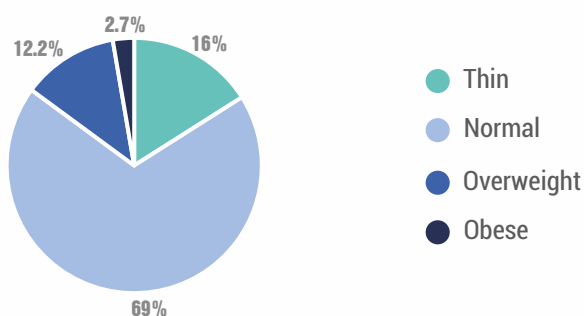
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**64.1%**

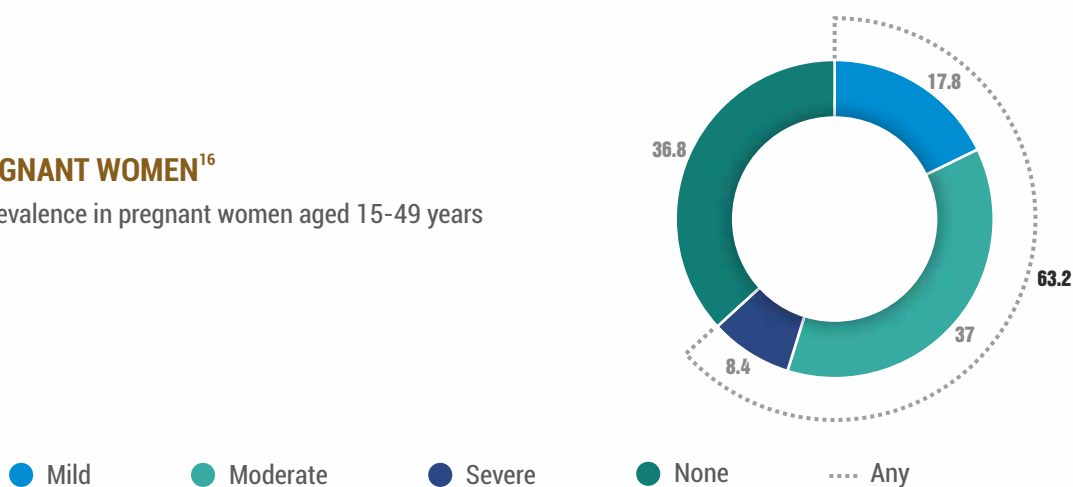
Women aged 15-49 years are anemic

**8.4%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

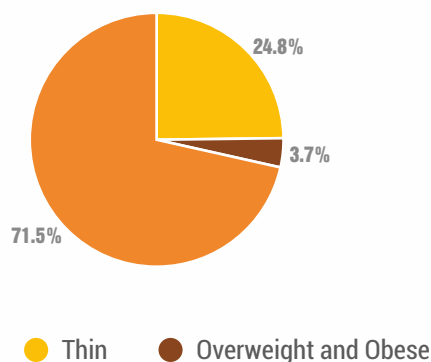
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**39.4%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**1.3%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

● Normal ● Thin ● Overweight and Obese

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **31.5%**



**9.1%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **24.6** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.4** | **0.5** National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **36.2%**

Currently married women who make decisions about<sup>23</sup>:



**33.7%** Own healthcare



**14.6%** Major household purchase



**55.6%** Purchases for daily household needs



**16.7%** Visits to her family/friends/relatives



**25.1%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**82.4%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



72%

Households with access to improved sources of drinking water<sup>E, 24</sup>

92.9%

Households using improved sanitation facility<sup>F, 24</sup>



3.8%

Households practicing open defecation<sup>24</sup>

1.92 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



1.6%

Growth rate of agriculture from 2007-2012<sup>26</sup>



0.03%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

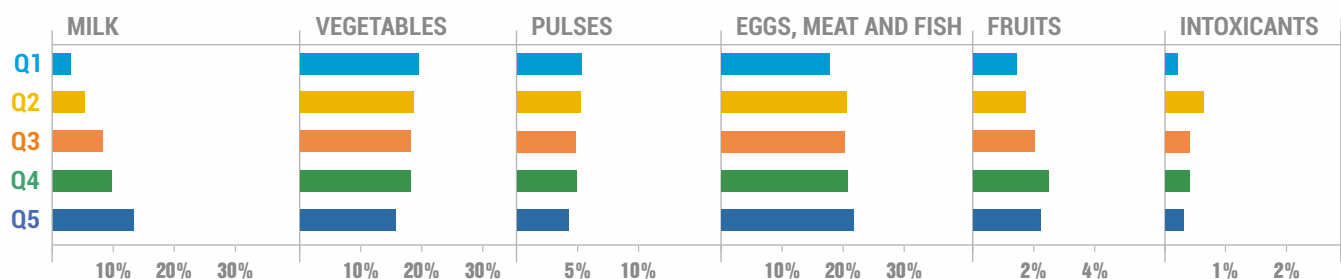
RURAL

NA 2233  
MIZORAM INDIA AVG

URBAN

NA 2206  
MIZORAM INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 63.4% |
| Children 36-71 months | 68.9% |
| Pregnant women        | 44.1% |
| Lactating mothers     | 46.4% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 0%    |
| Children aged 36-71 months | 16.3% |
| Pregnant women             | NA    |
| Lactating women            | 0%    |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**75.2%**

Received 3 or more antenatal checkups prior to delivery



**83.8%**

Received 2 or more TT injections prior to delivery



**52%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**94.1%**

Had Institutional delivery



**96%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**65%** Rural  
**70.9%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**4.6%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



**57.4%**  
Breastfeeding



**49.1%**  
Nutrition of mother and child



**49%**  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup> | Value           |
|--|-----------------|
| Pending or vacant Anganwadi workers to sanctioned number of workers*           | <b>0%</b>       |
| AWWs living in the AWC village/ward  | <b>95.8%</b>    |
| AWWs having 10 or more years of schooling                                      | <b>52.1%</b>    |
| Median age of AWWs   | <b>39 years</b> |
| AWCs serving to population more than the stipulated norm                       | <b>6.5%</b>     |

| Growth Monitoring <sup>30</sup>             | Value        |
|---|--------------|
| AWCs having functional baby weighing scale  | <b>80.2%</b> |
| AWCs having functional adult weighing scale | <b>64.8%</b> |
| Available WHO growth chart at AWCs          | <b>78.2%</b> |

<sup>H</sup> Number of AWCs surveyed for Mizoram as per RSoC 2014 is 91.

<sup>30</sup> Source : RSoC, 2014

<sup>31</sup> Source : DLHS-4, 2012-13

\* Source : MoWCD, 2012

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 87.3% |
| AWWs having correct knowledge of normal birth weight of children                    | 78.6% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 100%  |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 89.7% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 82.9% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 100%              |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 536 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0%                |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 9              | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 11             | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 2.4            | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 52.8% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 92.4% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 98.8% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 6              | 47               |
| PDS <sup>41</sup>                           | 26.3           | 475.3            |
| MGNREGA <sup>42</sup>                       | 48             | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13



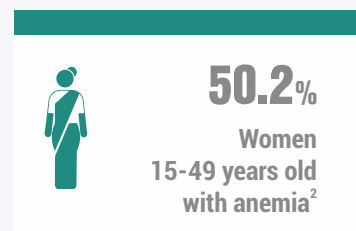
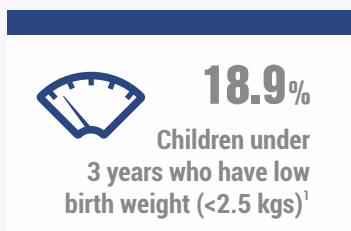
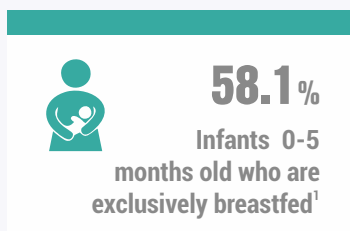
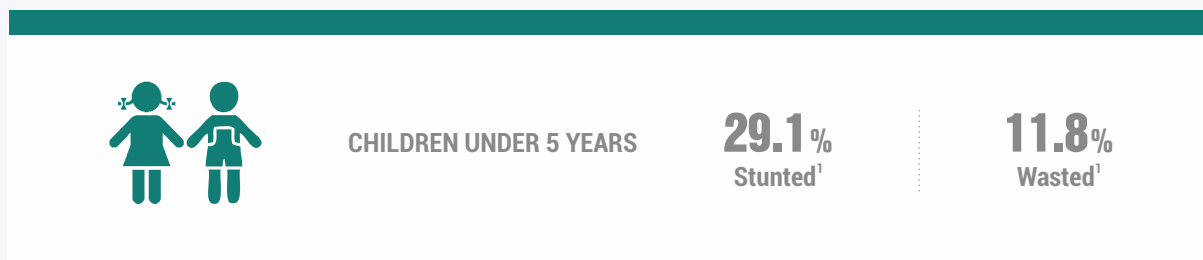
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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN NAGALAND

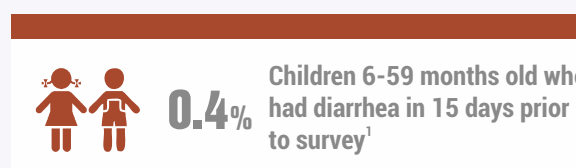
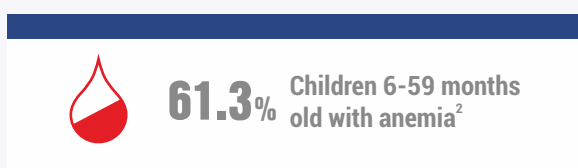
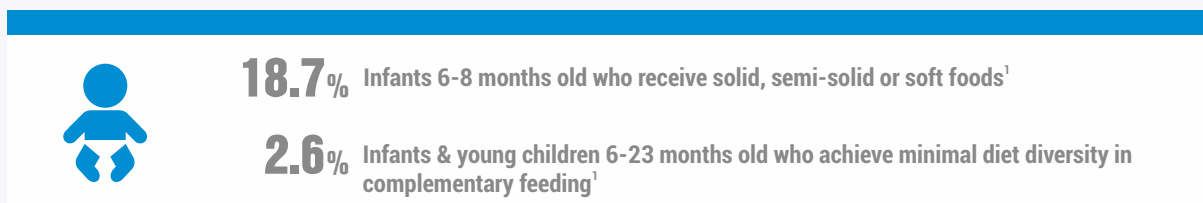
World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



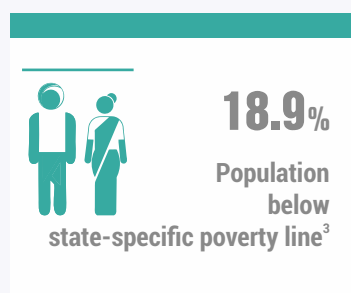
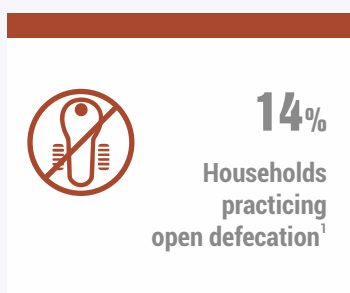
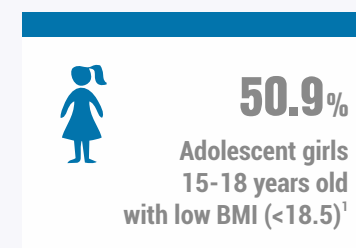
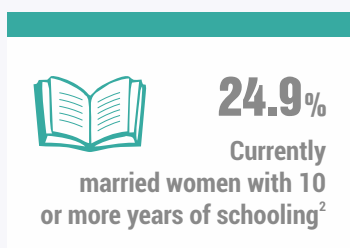
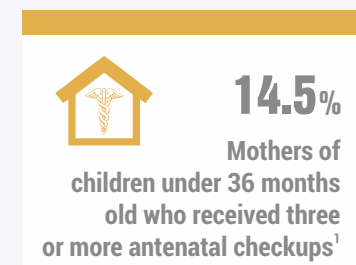
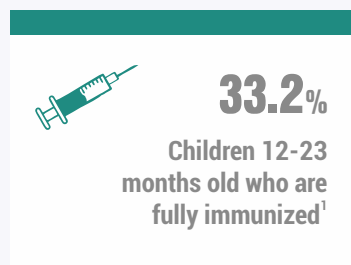
Immediate Determinants

Immediate Determinants



Underlying Determinants

Underlying Determinants



<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : DLHS4, 2012-13

<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

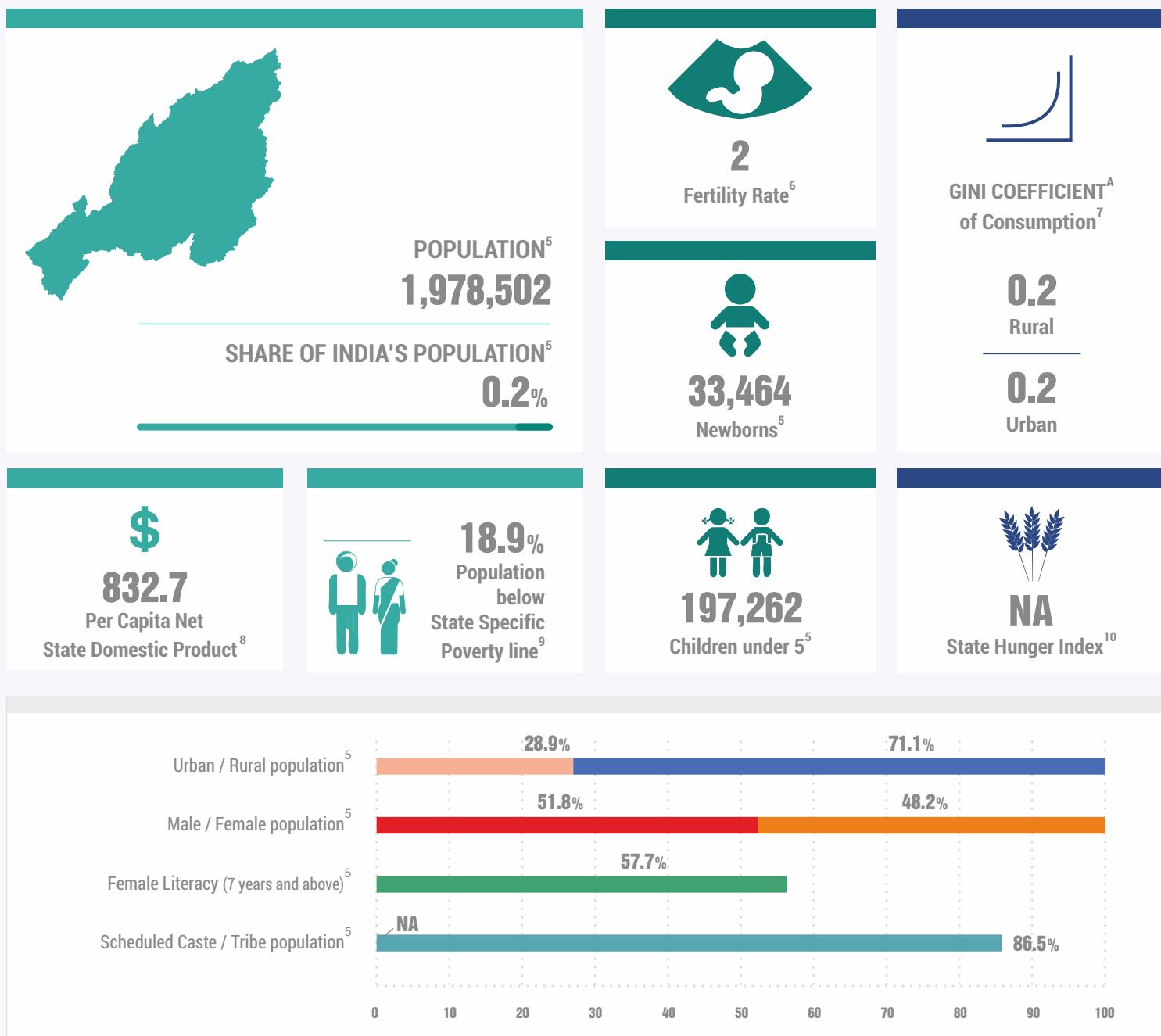


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# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2009

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

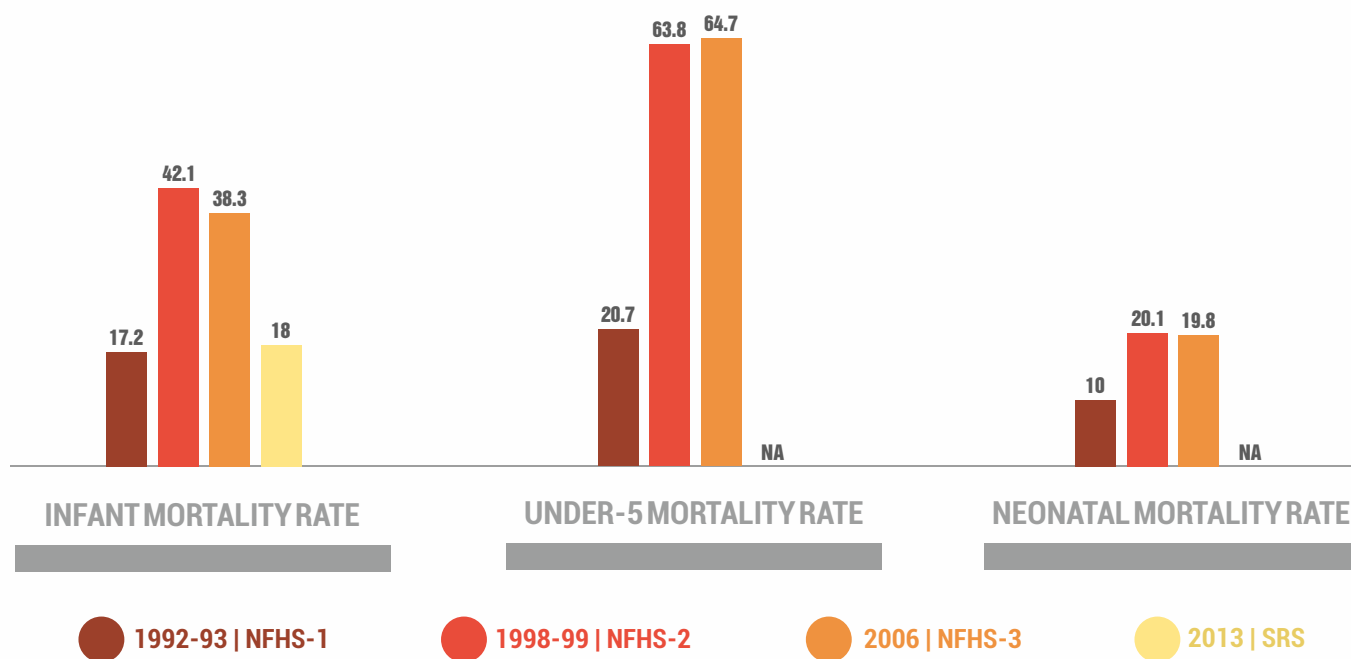
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

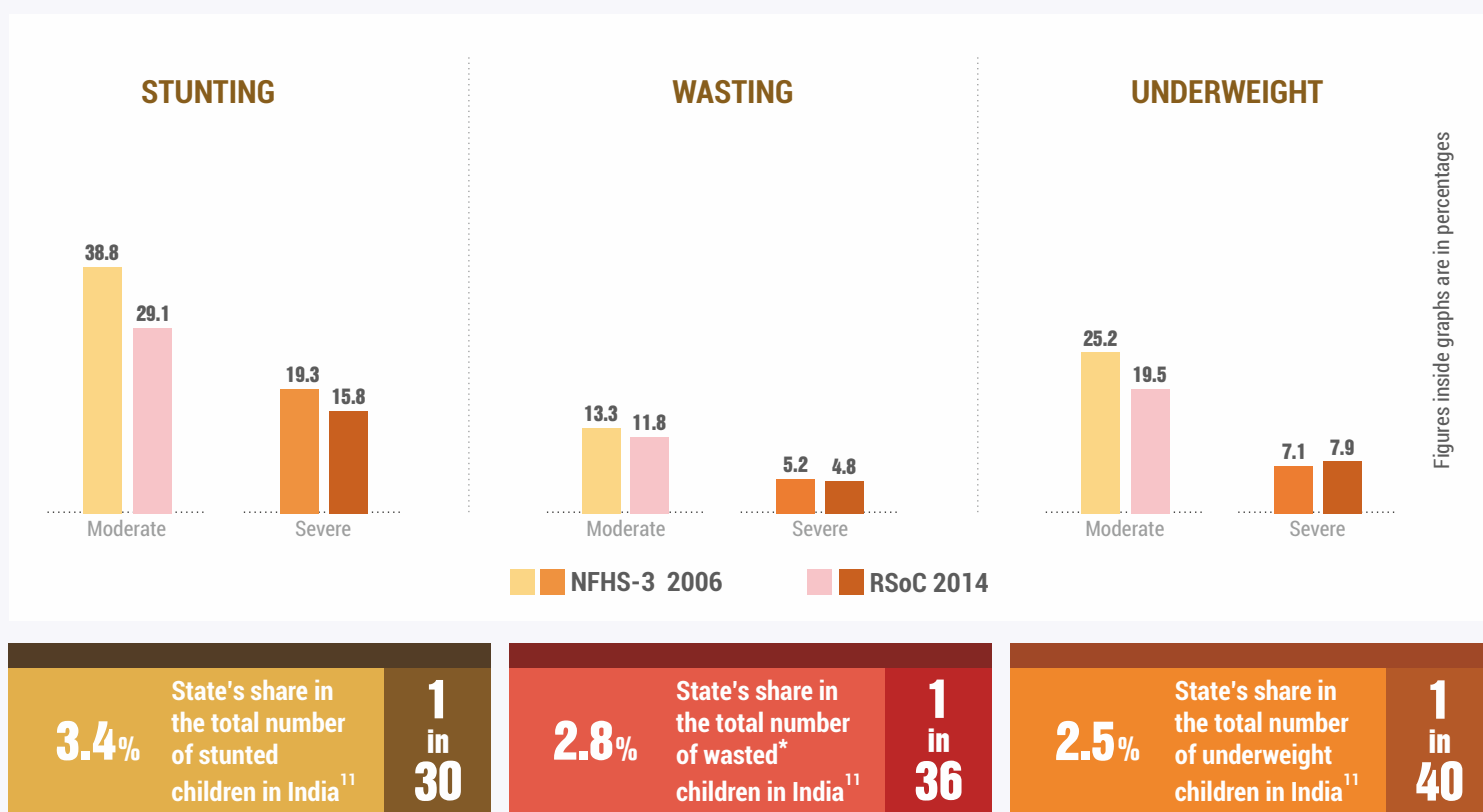
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

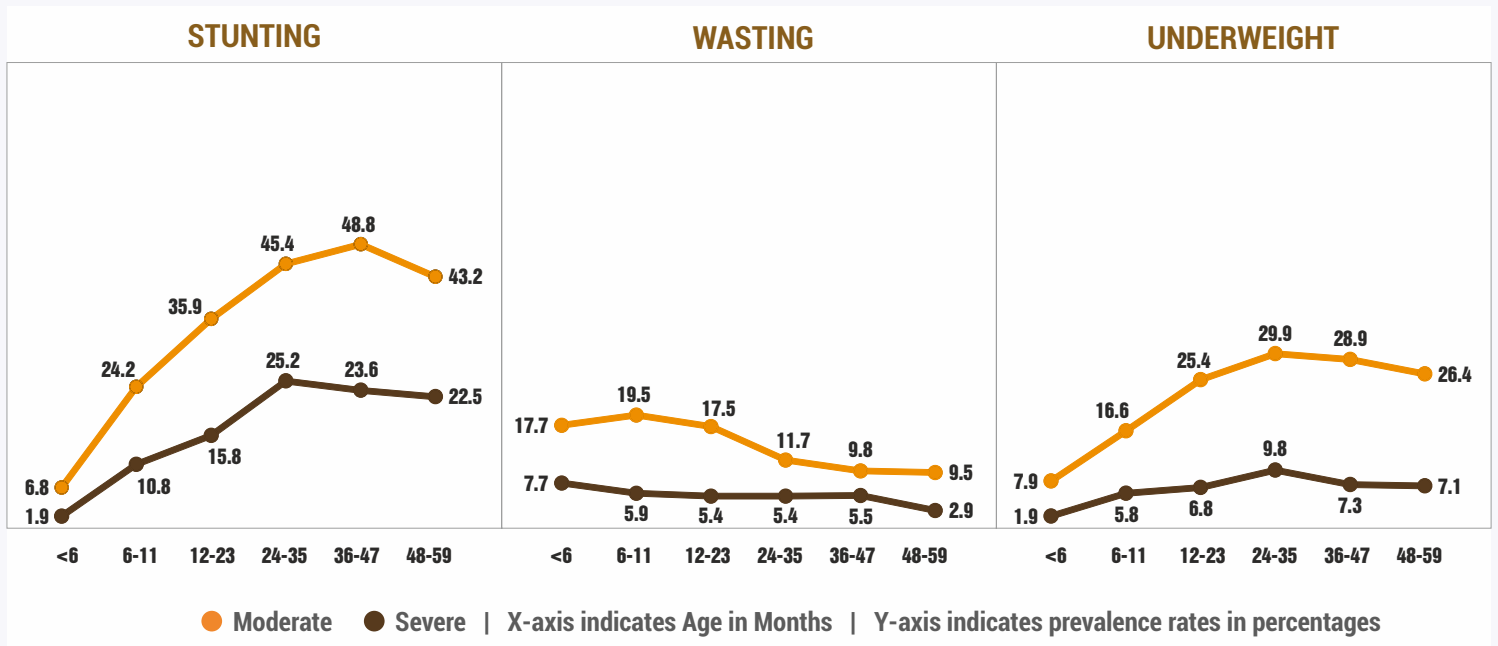


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

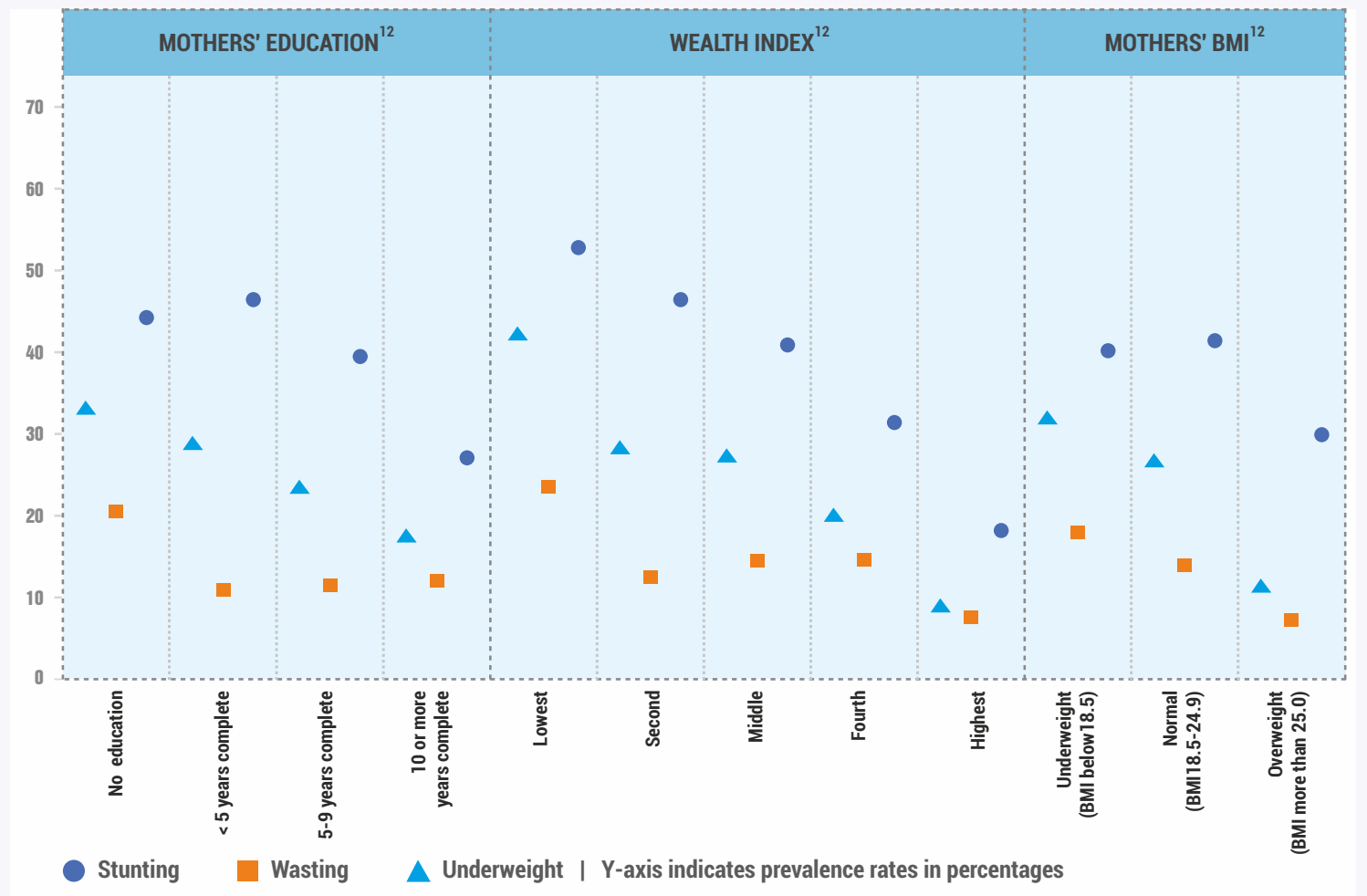
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.

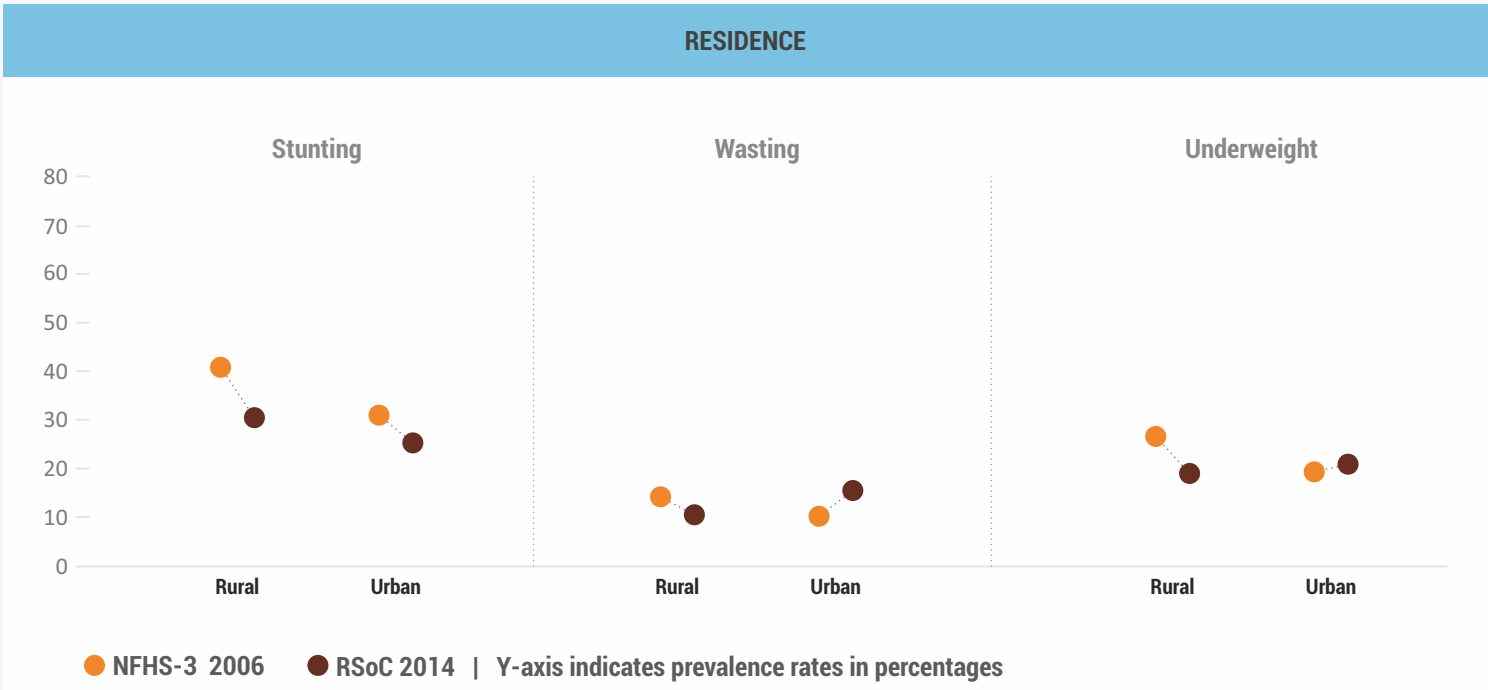
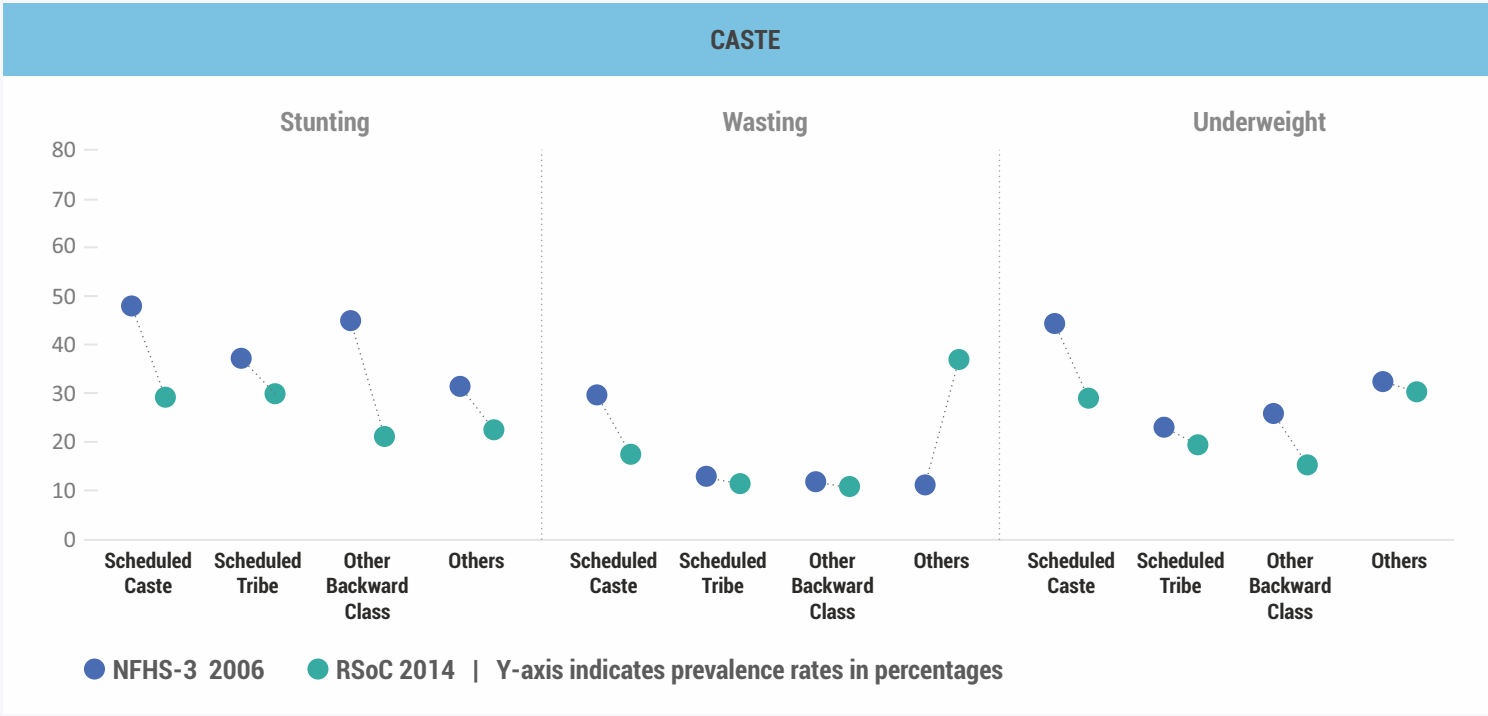


## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

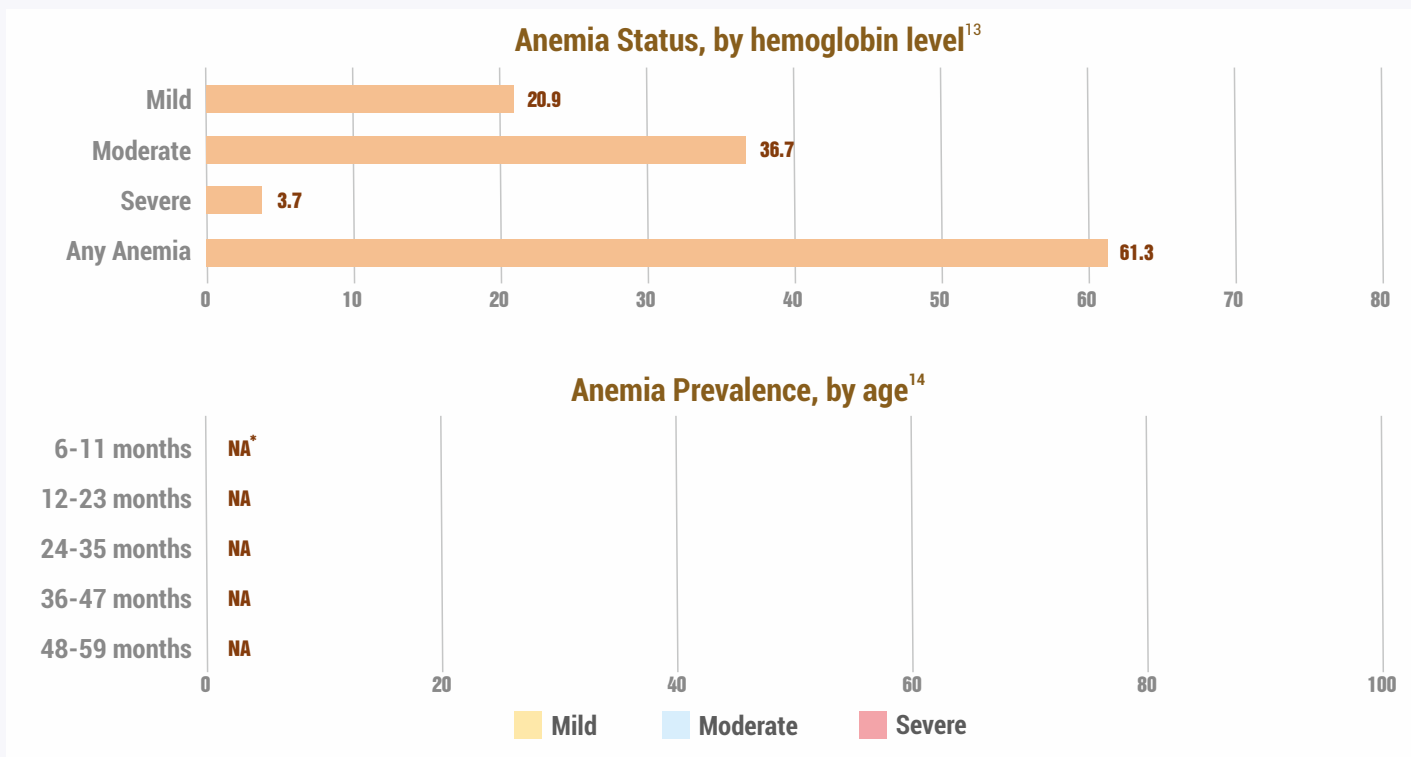


<sup>12</sup> Source : NFHS-3, 2006



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



\*NA-In Nagaland, local opposition prevented the NFHS-3 teams from collecting blood for any purpose. Hence, neither haemoglobin measurement nor HIV testing could be done in this one state.

<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 68.5% |
|  | Children aged 0-5 months who were exclusively breastfed  | 58.1% |
|   | Children aged 6-8 months who were fed complementary foods  | 18.7% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 12.6% |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 2.6%  |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |      |
|--|------|
| Had diarrhea in 15 days prior to survey                                      | 0.4% |
| Had fever in 15 days prior to survey   | 0.5% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 0.3% |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

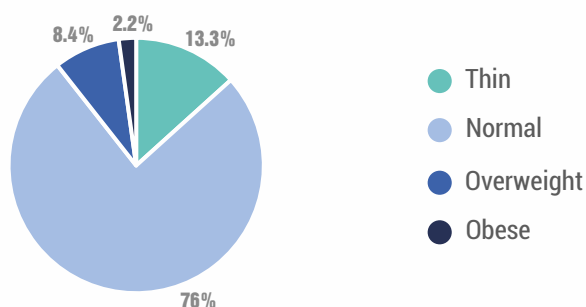
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**50.2%**

Women aged 15-49 years are anemic

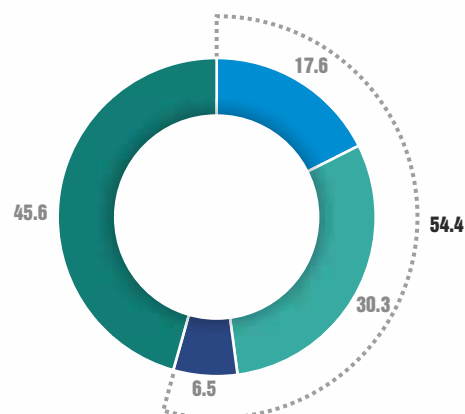
**5.2%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

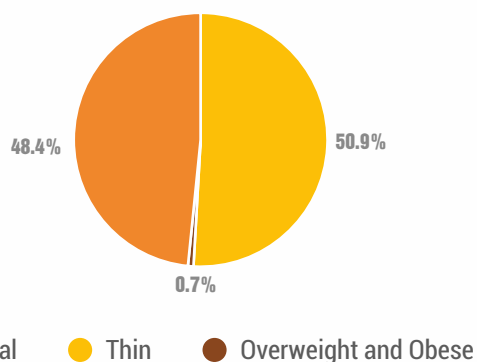
Anemia prevalence in pregnant women aged 15-49 years

● Mild ● Moderate ● Severe ● None --- Any



### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**NA\***

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**NA**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

NA-Nagaland, local opposition prevented the NFHS-3 teams from collecting blood for any purpose. Hence, neither haemoglobin measurement nor HIV testing could be done in this one state.

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **24.9%**



**10.4%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **20.8** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.3**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **44.7%**

Currently married women who make decisions about<sup>23</sup>:



**20.1%** Own healthcare



**9.8%** Major household purchase



**56.7%** Purchases for daily household needs



**8.4%** Visits to her family/friends/relatives



**21.3%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**79%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>0</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



62%

Households with access to improved sources of drinking water<sup>E, 24</sup>

77.7%

Households using improved sanitation facility<sup>F, 24</sup>



14%

Households practicing open defecation<sup>24</sup>

3.7 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



8.4%

Growth rate of agriculture from 2007-2012<sup>26</sup>



0.2%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

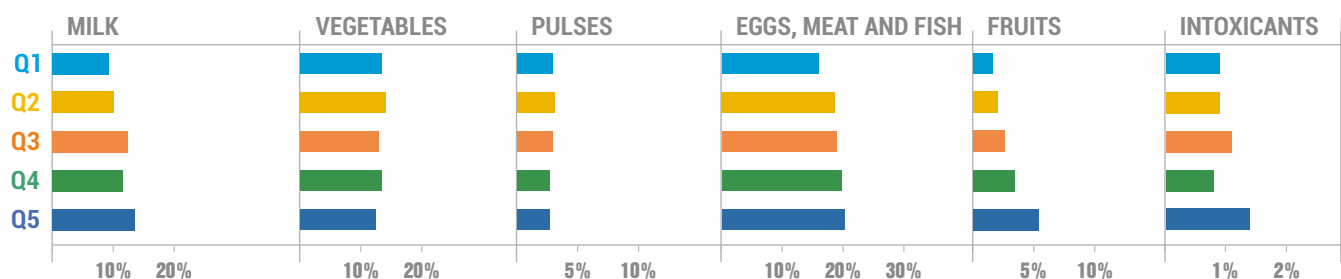
RURAL

NA 2233  
NAGALAND INDIA AVG

URBAN

NA 2206  
NAGALAND INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 9%    |
| Children 36-71 months | 13.8% |
| Pregnant women        | 0%    |
| Lactating mothers     | 3%    |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |    |
|----------------------------|----|
| Children aged 6-35 months  | 0% |
| Children aged 36-71 months | 0% |
| Pregnant women             | NA |
| Lactating women            | NA |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



14.5%

Received 3 or more antenatal checkups prior to delivery



68.6%

Received 2 or more TT injections prior to delivery



3.7%

Consumed 100 or more IFA tablets/syrup during pregnancy



18.6%

Had Institutional delivery



20.5%

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



33.4% Rural

32.8% Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



39.4%

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



30.9%

Breastfeeding



28.6%

Nutrition of mother and child



24.4%

Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup> | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers*           | 1.7%     |
| AWWs living in the AWC village/ward  | 97%      |
| AWWs having 10 or more years of schooling                                      | 34.8%    |
| Median age of AWWs   | 37 years |
| AWCs serving to population more than the stipulated norm                       | 20.2%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 45.8% |
| AWCs having functional adult weighing scale | 42.3% |
| Available WHO growth chart at AWCs          | 46.4% |

<sup>H</sup> Number of AWCs surveyed for Nagaland as per RSoC 2014 is 118.

<sup>30</sup> Source : RSoC, 2014

<sup>31</sup> Source : DLHS-4, 2012-13

\* Source : MoWCD, 2012

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 82.2% |
| AWWs having correct knowledge of normal birth weight of children                    | 52.9% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 90.7% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 76.3% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 48.7% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 98%               |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 758 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0%                |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 14             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 15.3           | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 1.1            | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 1.8%  |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 14.8% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 97.4% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 5              | 47               |
| PDS <sup>41</sup>                           | 48.6           | 475.3            |
| MGNREGA <sup>42</sup>                       | 71             | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lq15/15/as216.htm](http://164.100.47.132/Annexure_New/lq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13

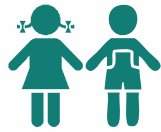


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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN ODISHA

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**38.2%**  
Stunted<sup>1</sup>
**18.3%**  
Wasted<sup>1</sup>

World Health Assembly Nutrition Targets


**68.5%**

 Infants 0-5 months old who are exclusively breastfed<sup>1</sup>

**18.9%**

 Children under 3 years who have low birth weight (<2.5 kgs)<sup>2</sup>

**61.2%**

 Women 15-49 years old with anemia<sup>1</sup>

Immediate Determinants


**55.5%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>2</sup>
**25.8%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>2</sup>

**65%** Children 6-59 months old with anemia<sup>1</sup>

**9.2%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>2</sup>

Immediate Determinants

Underlying Determinants


**0%**

 Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>2</sup>

**62%**

 Children 12-23 months old who are fully immunized<sup>2</sup>

**75.3%**

 Mothers of children under 36 months old who received three or more antenatal checkups<sup>2</sup>

**13%**

 Currently married women with 10 or more years of schooling<sup>1</sup>

**33.3%**

 Women aged 20-24 years who were married before the age of 18<sup>2</sup>

**51.8%**

 Adolescent girls 15-18 years old with low BMI (<18.5)<sup>2</sup>

Underlying Determinants


**77.7%**

 Households practicing open defecation<sup>2</sup>

**32.6%**

 Population below state-specific poverty line<sup>3</sup>

Does state have a high-level nutrition mission?

**NO**
<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : NFHS-3, 2006

<sup>3</sup> Source : DLHS-3, 2007-08

<sup>4</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

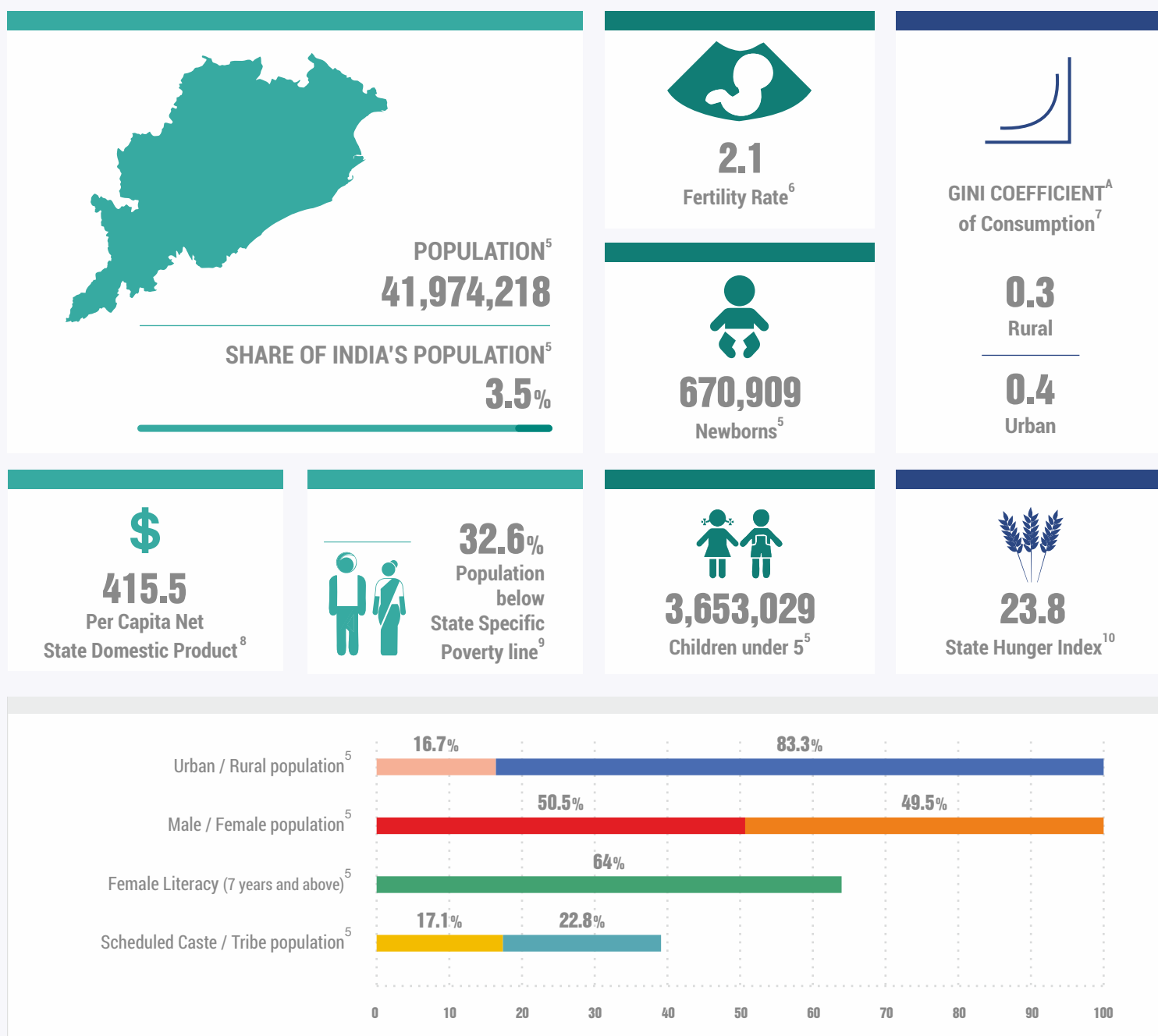


The page contains a large, faint watermark of a globe centered on the Atlantic Ocean, with the word "Globe" written across it. The globe is rendered in a light gray color and is positioned in the lower-left quadrant of the page. The rest of the page is blank white space.

## I. CONTEXT

### A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

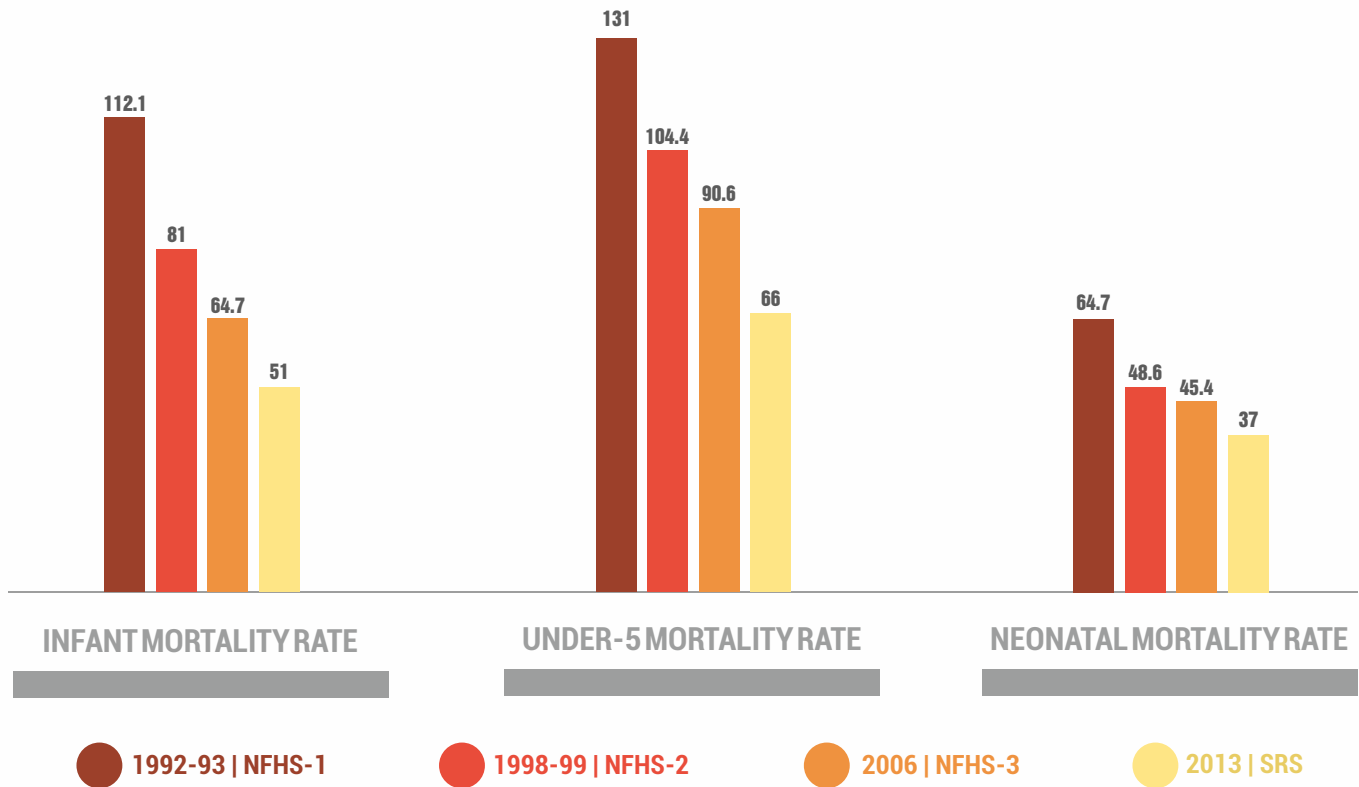
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

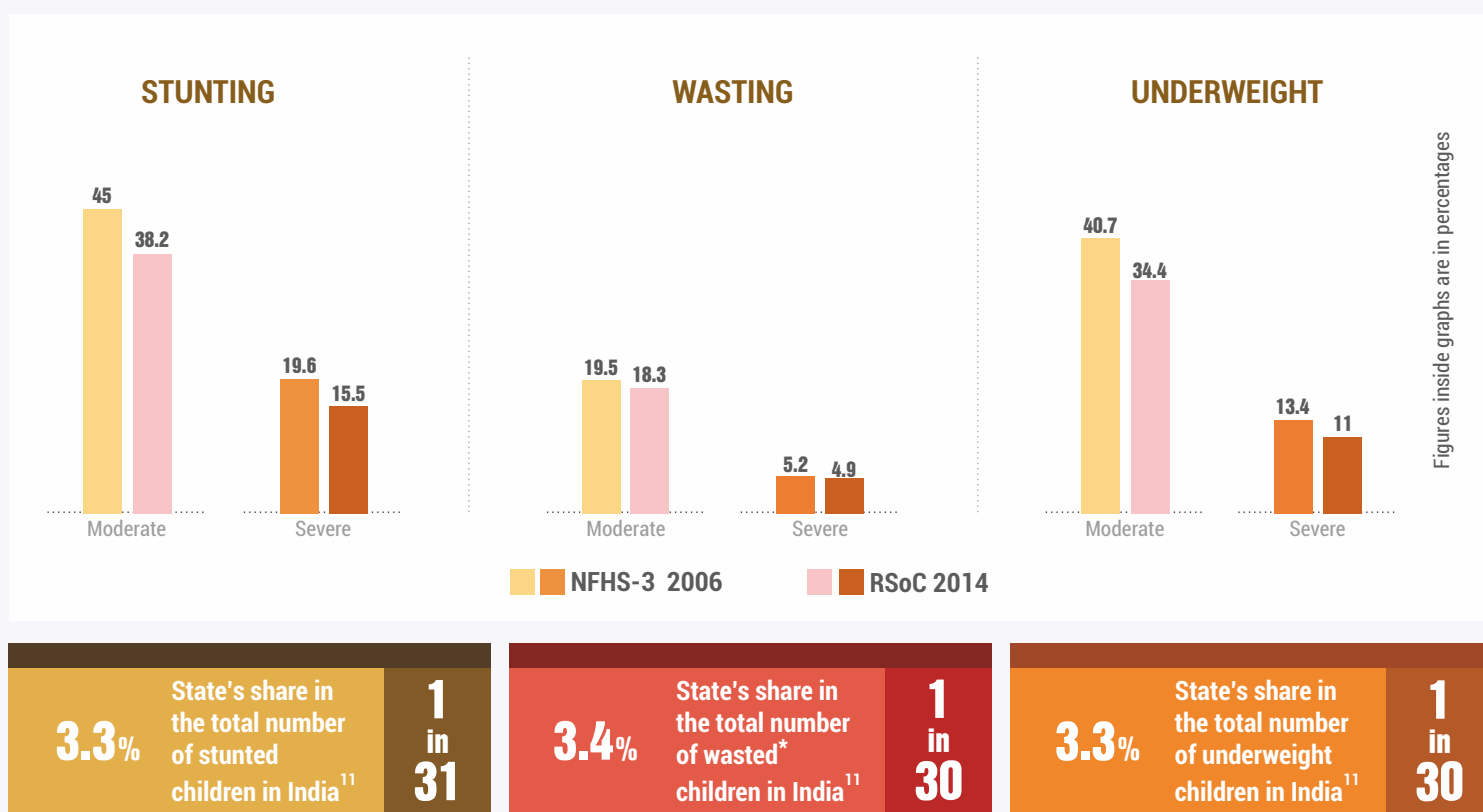
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

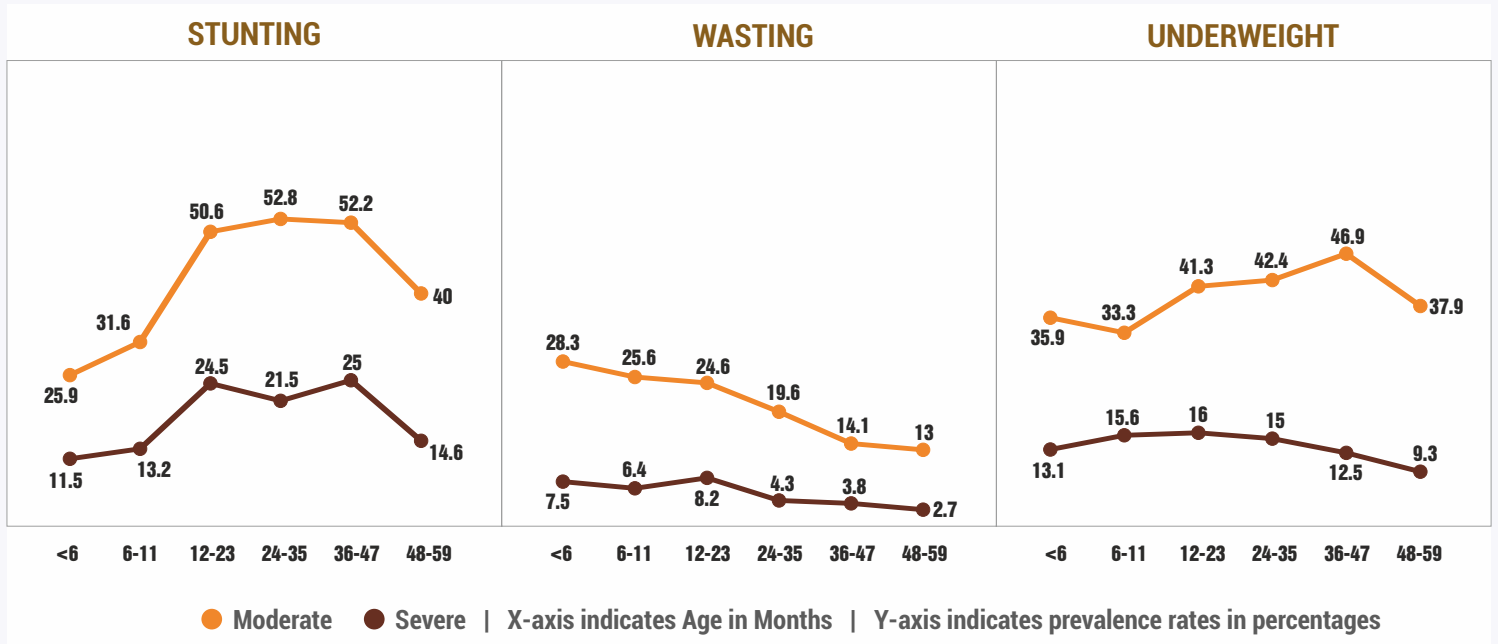


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

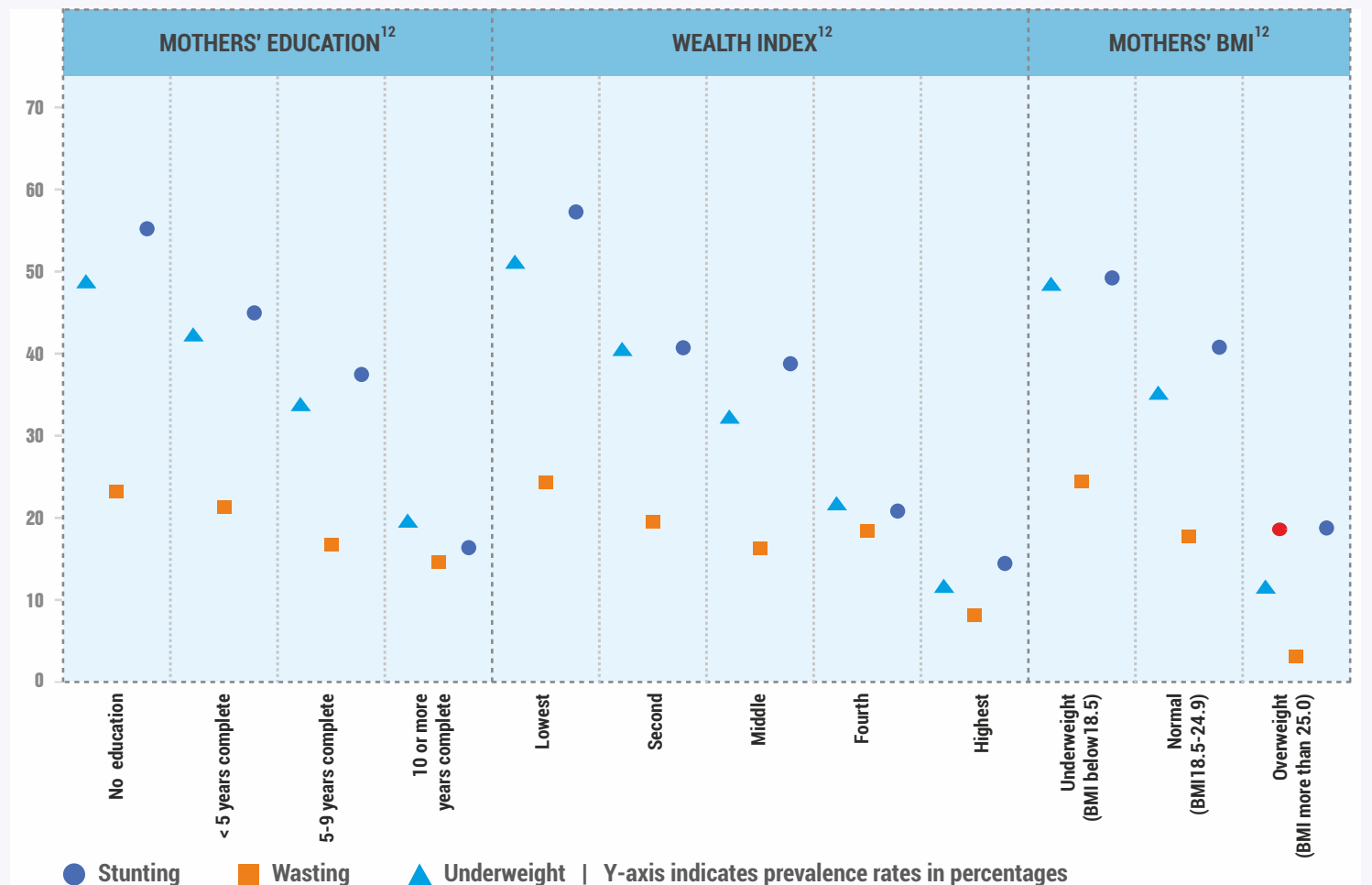
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.

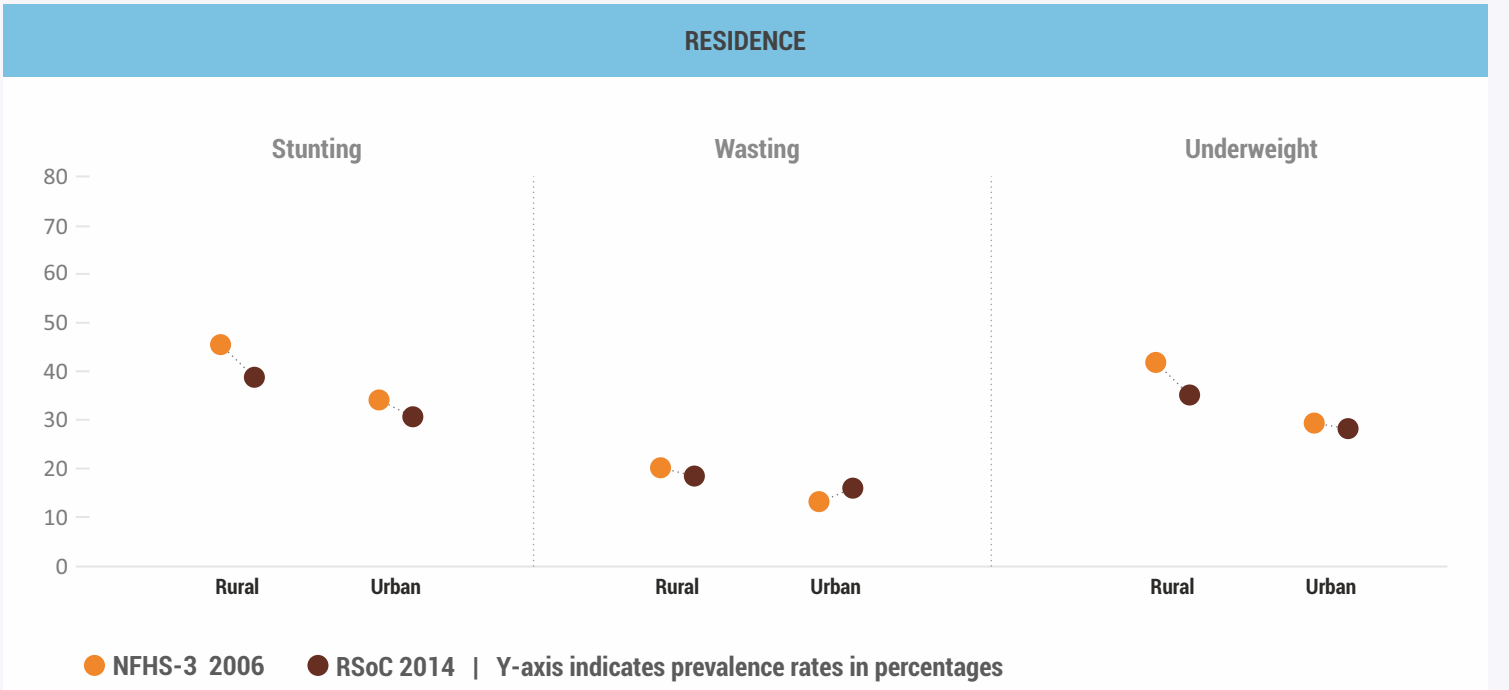
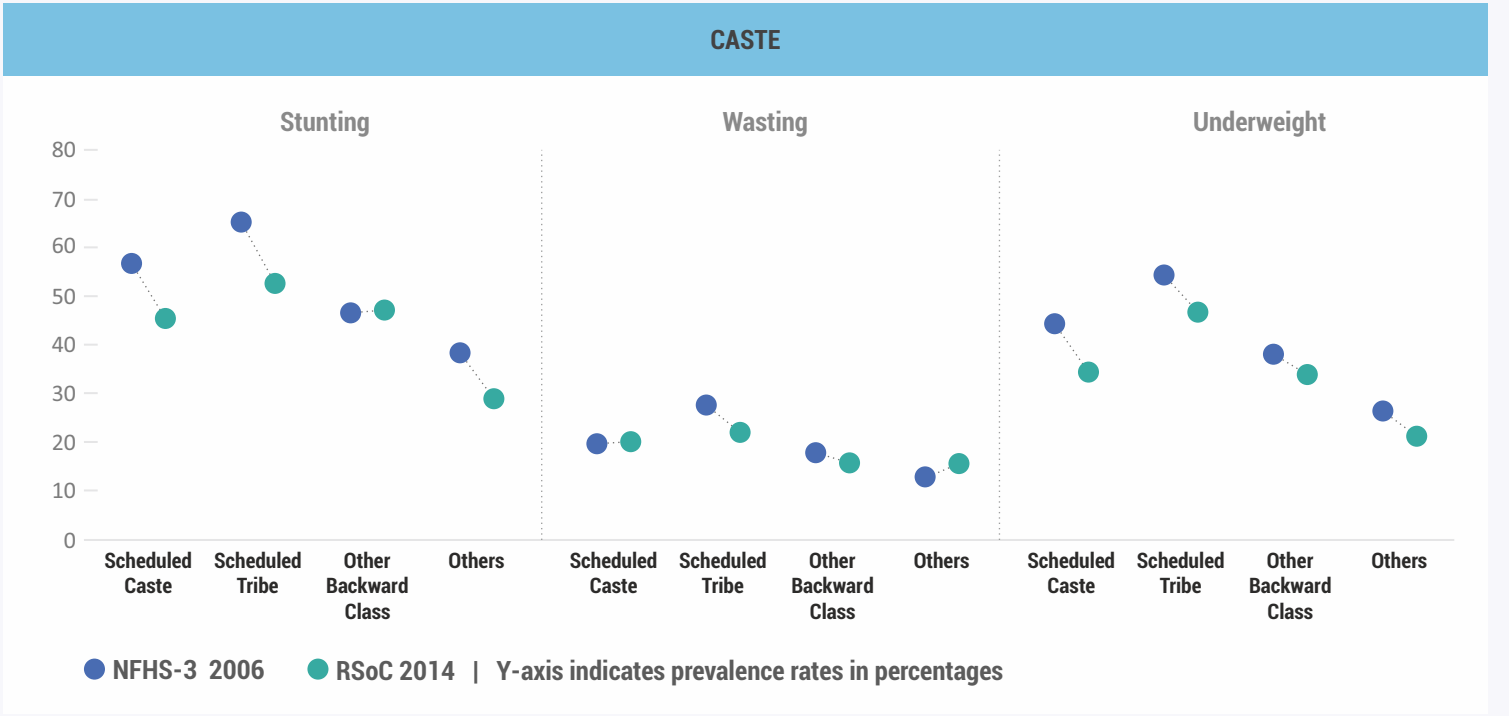


## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

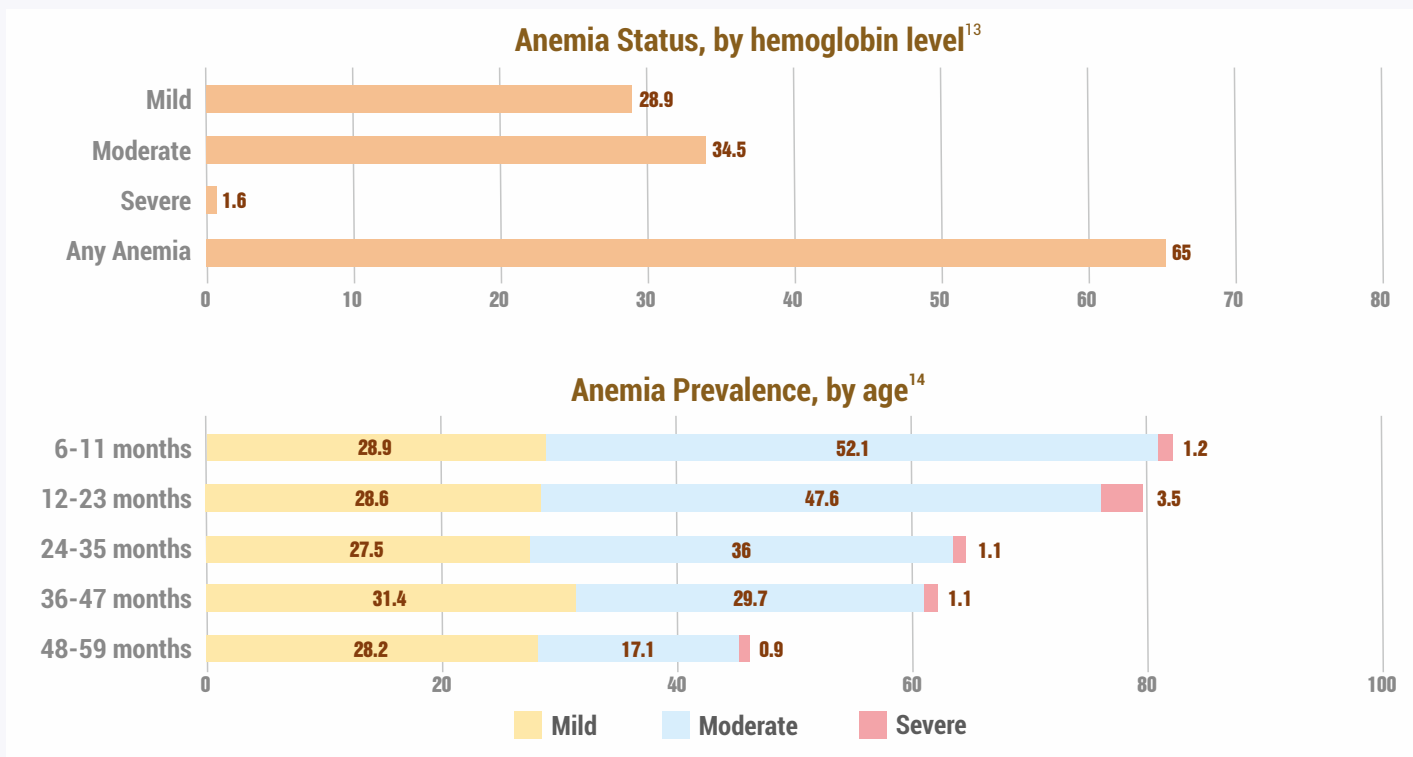


<sup>12</sup> Source : NFHS-3, 2006



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.




<sup>13</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |                           |
|---|---------------------------|
| Children aged 0-23 months breastfed immediately/within an hour of birth   | 73.3%                     |
|  Children aged 0-5 months who were exclusively breastfed   | 68.5%                     |
| Children aged 6-8 months who were fed complementary foods   | 55.5%                     |
| <p>For breastfed children (6-23 months)-<br/>           A. Fed minimum number of times.<br/>           Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old</p> <p>B. Had minimum dietary diversity<br/>           Note : Minimum dietary diversity refers to four or more food groups<sup>B</sup> fed to children aged 6-23 months</p> | <p>41.9%</p> <p>25.8%</p> |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 9.2%  |
| Had fever in 15 days prior to survey   | 13.7% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 9%    |

<sup>B</sup> The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

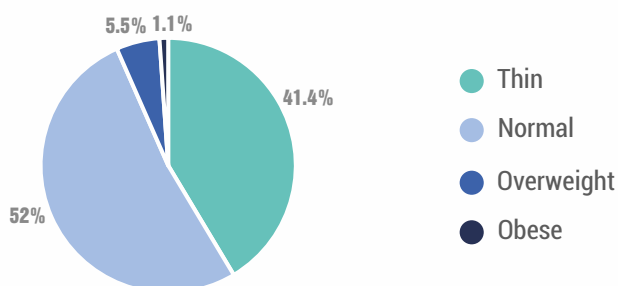
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



**61.2%**

Women aged 15-49 years are anemic

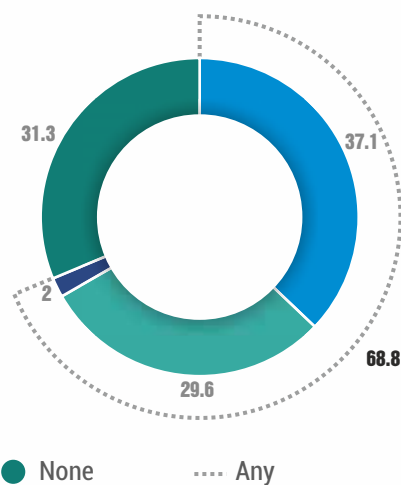
**1.5%**

Women aged 15-49 years are severely anemic

<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]

### C.2. PREGNANT WOMEN<sup>16</sup>

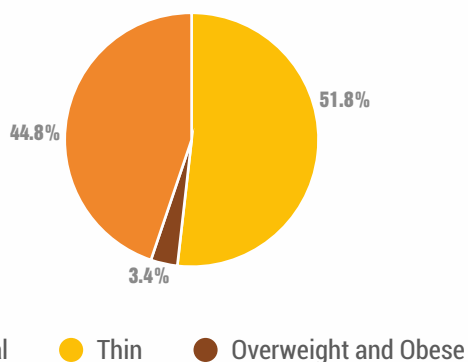
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**61.4%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**1.7%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

● Normal ● Thin ● Overweight and Obese

<sup>16</sup> Source : NFHS-3, 2006

<sup>17</sup> Source : RSoc, 2014

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **13%**



**33.3%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **20.9** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.4**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **27.2%**

Currently married women who make decisions about<sup>23</sup>:



**38.1%** Own healthcare



**6.7%** Major household purchase



**24.3%** Purchases for daily household needs



**5%** Visits to her family/friends/relatives



**41.2%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**62.2%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-3, 2007-08

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



87.1%

Households with access to improved sources of drinking water<sup>E, 24</sup>

17%

Households using improved sanitation facility<sup>F, 24</sup>



77.7%

Households practicing open defecation<sup>24</sup>

46.9 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,050 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



3%

Growth rate of agriculture from 2007-2012<sup>26</sup>



2.5%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

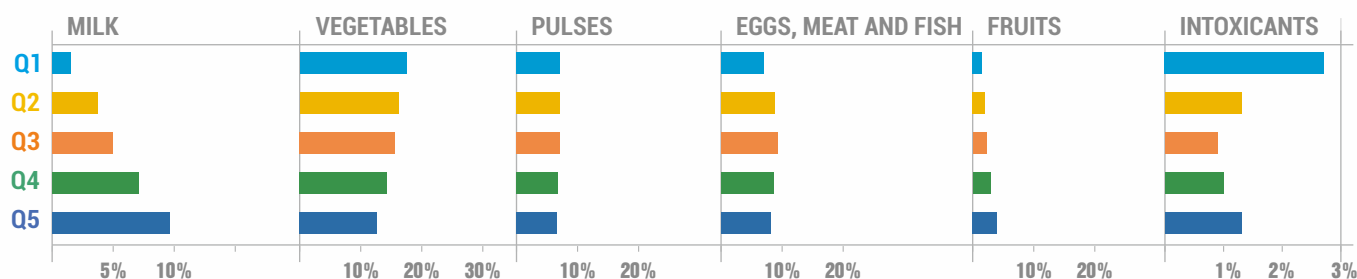
**RURAL**

2215 ODISHA | 2233 INDIA AVG

**URBAN**

2191 ODISHA | 2206 INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 89.2% |
| Children 36-71 months | 67.3% |
| Pregnant women        | 60.6% |
| Lactating mothers     | 76.5% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 0%    |
| Children aged 36-71 months | 35.6% |
| Pregnant women             | 24.8% |
| Lactating women            | 0%    |

<sup>29</sup> Source : RSoC, 2014

### SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**75.3%**

Received 3 or more antenatal checkups prior to delivery



**95.8%**

Received 2 or more TT injections prior to delivery



**28.9%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**81.3%**

Had Institutional delivery



**83.7%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**62.1%** Rural  
**61.6%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**8%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

### WOMEN GIVEN ADVICE ON<sup>31</sup>:



**48.5%**  
Breastfeeding



**45.2%**  
Nutrition



**48.2%**  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 9.1%     |
| AWWs living in the AWC village/ward  | 84.9%    |
| AWWs having 10 or more years of schooling  | 74.9%    |
| Median age of AWWs   | 35 years |
| AWCs serving to population more than the stipulated norm                           | 31%      |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 89.4% |
| AWCs having functional adult weighing scale | 36%   |
| Available WHO growth chart at AWCs          | 97.3% |

<sup>H</sup> Number of AWCs surveyed for Odisha as per RSoC 2014 is 200.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-4, 2012-13

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 97.3% |
| AWWs having correct knowledge of normal birth weight of children                    | 93%   |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 96.7% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 75.7% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 55.6% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 99.6%             |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 805 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0.3%              |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 111            | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 86.2           | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 29.2           | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 56.1% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 59.1% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 70%   |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 83             | 47               |
| PDS <sup>41</sup>                           | 862.7          | 475.3            |
| MGNREGA <sup>42</sup>                       | 196            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13



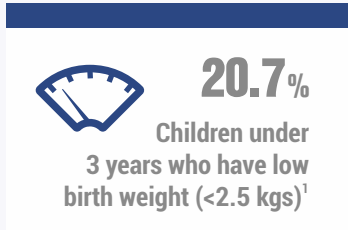
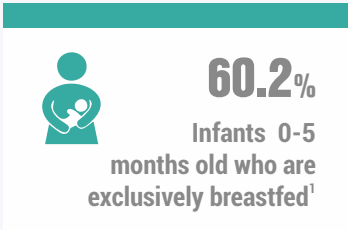
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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN PUNJAB

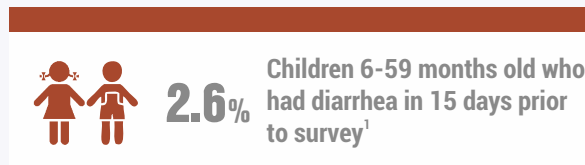
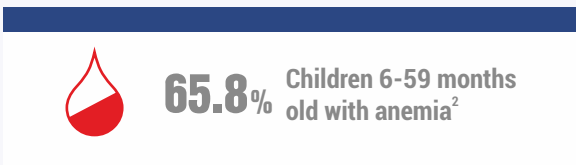
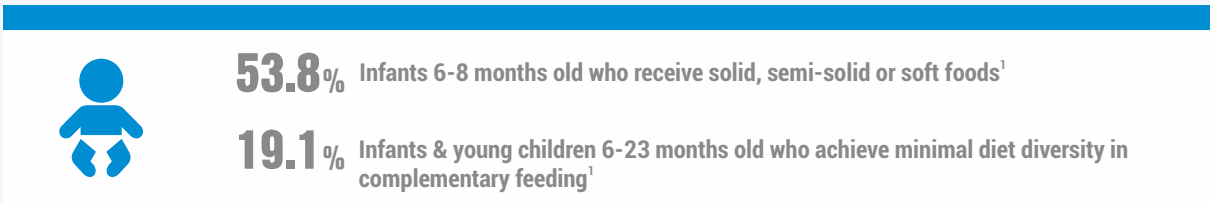
World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



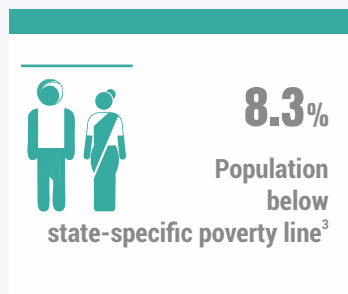
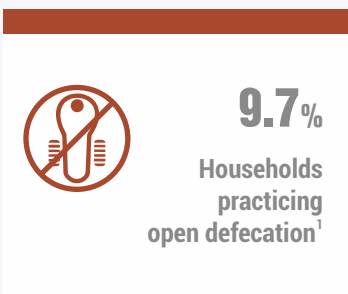
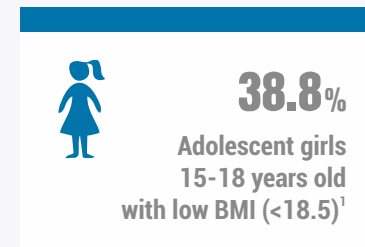
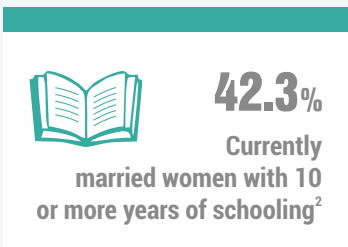
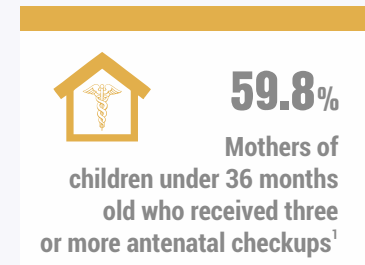
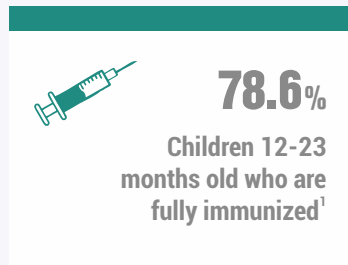
Immediate Determinants

Immediate Determinants



Underlying Determinants

Underlying Determinants



<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : DLHS4, 2012-13

<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

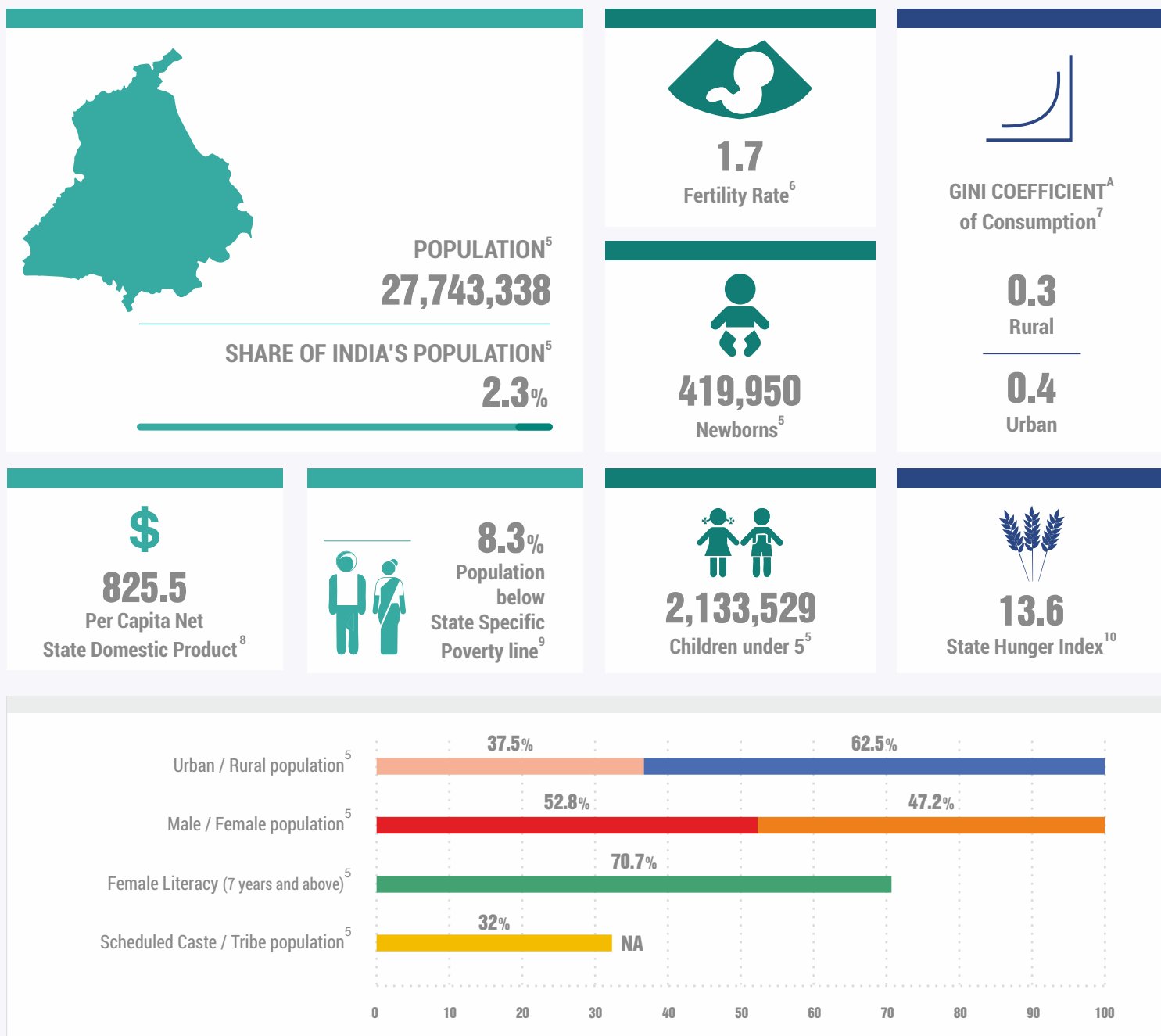


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# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

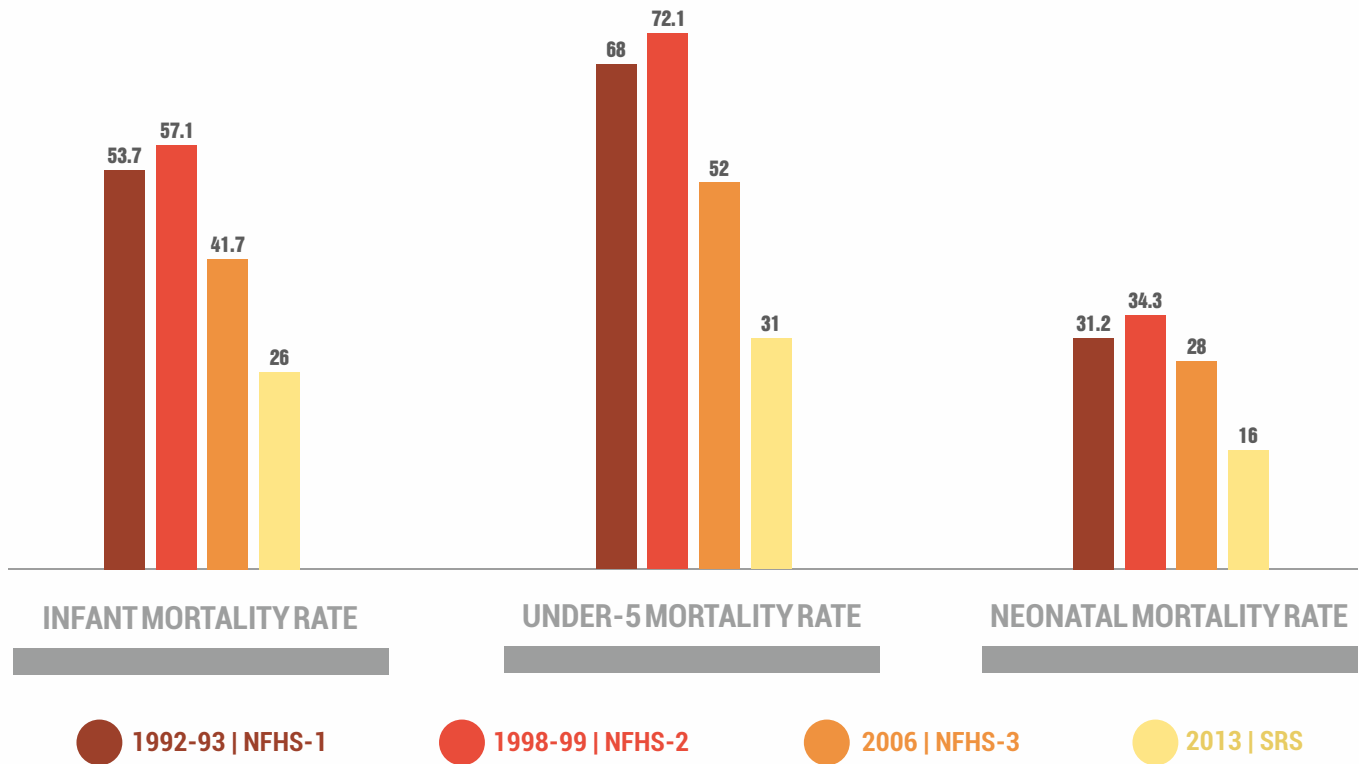
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

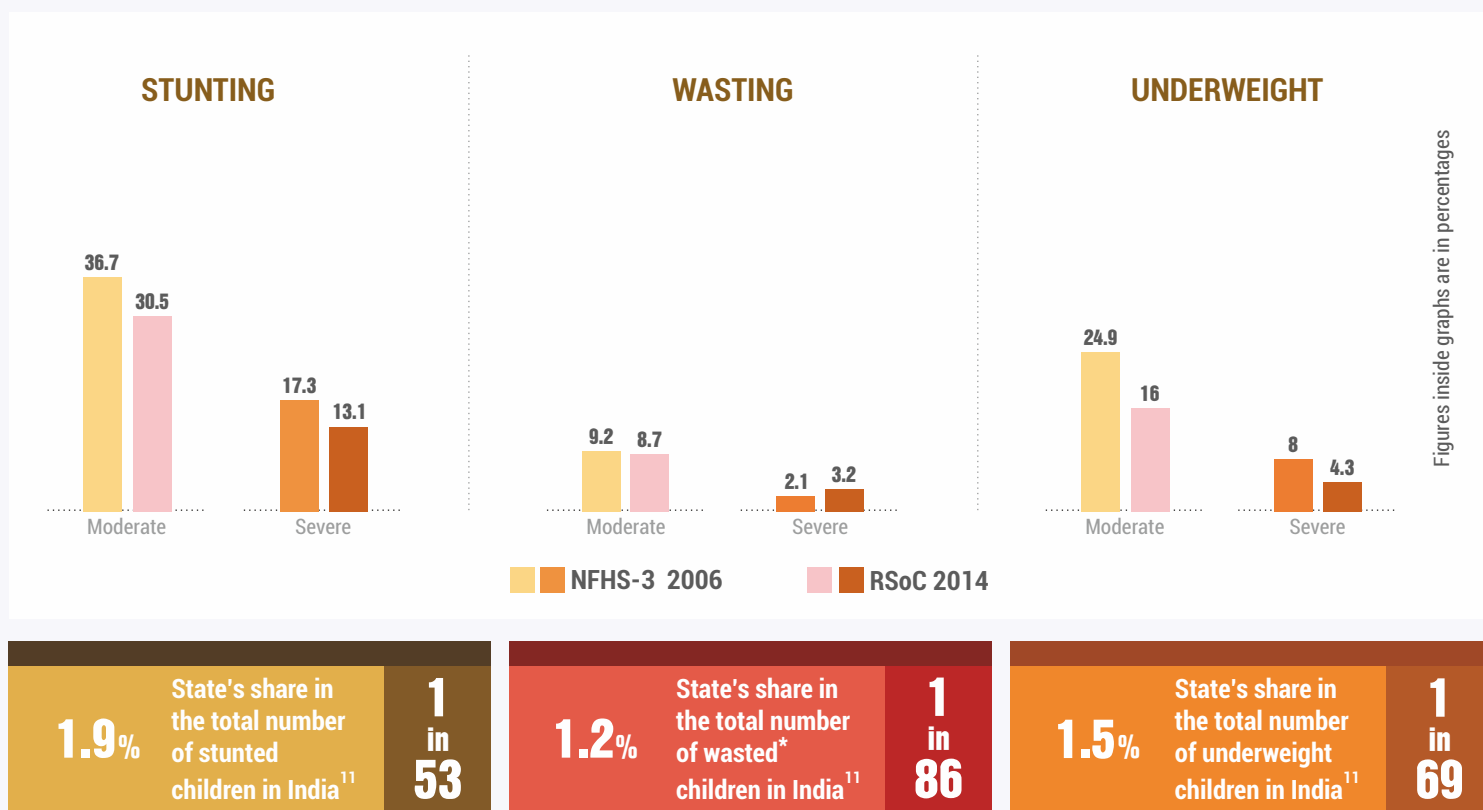
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

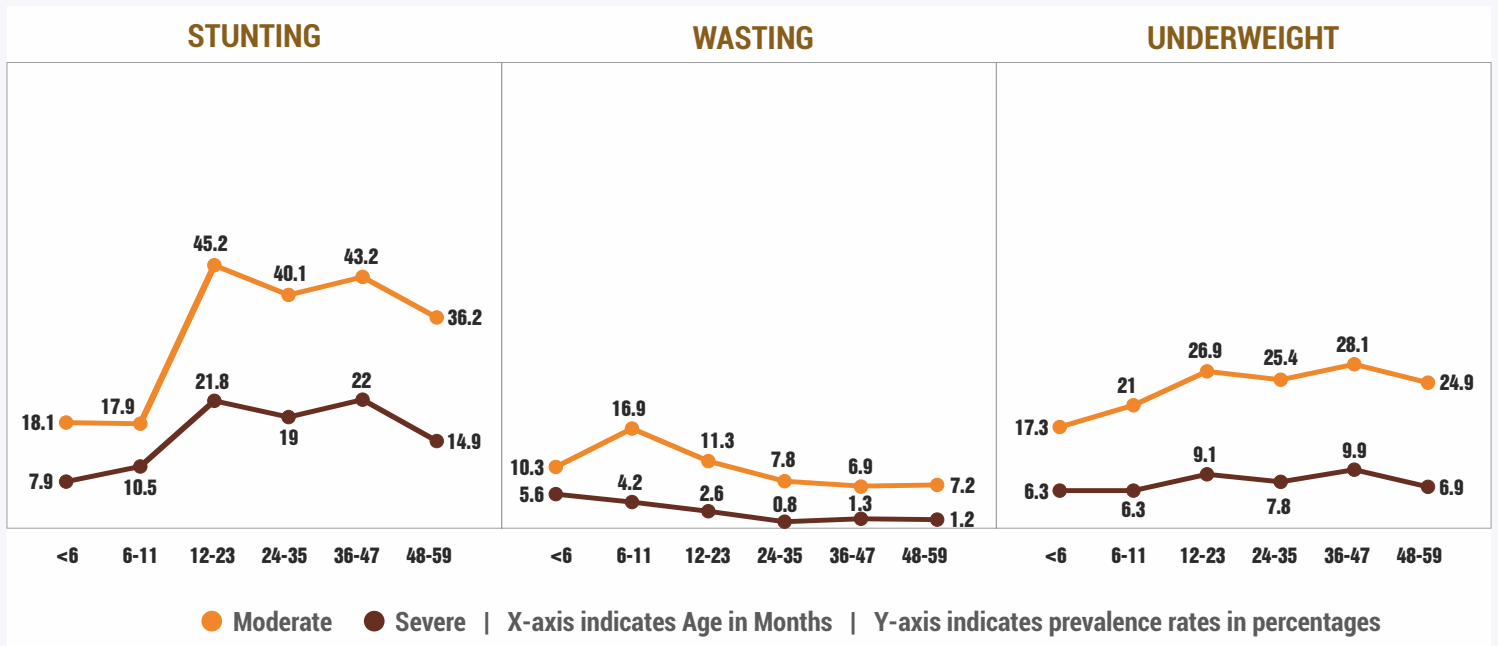


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

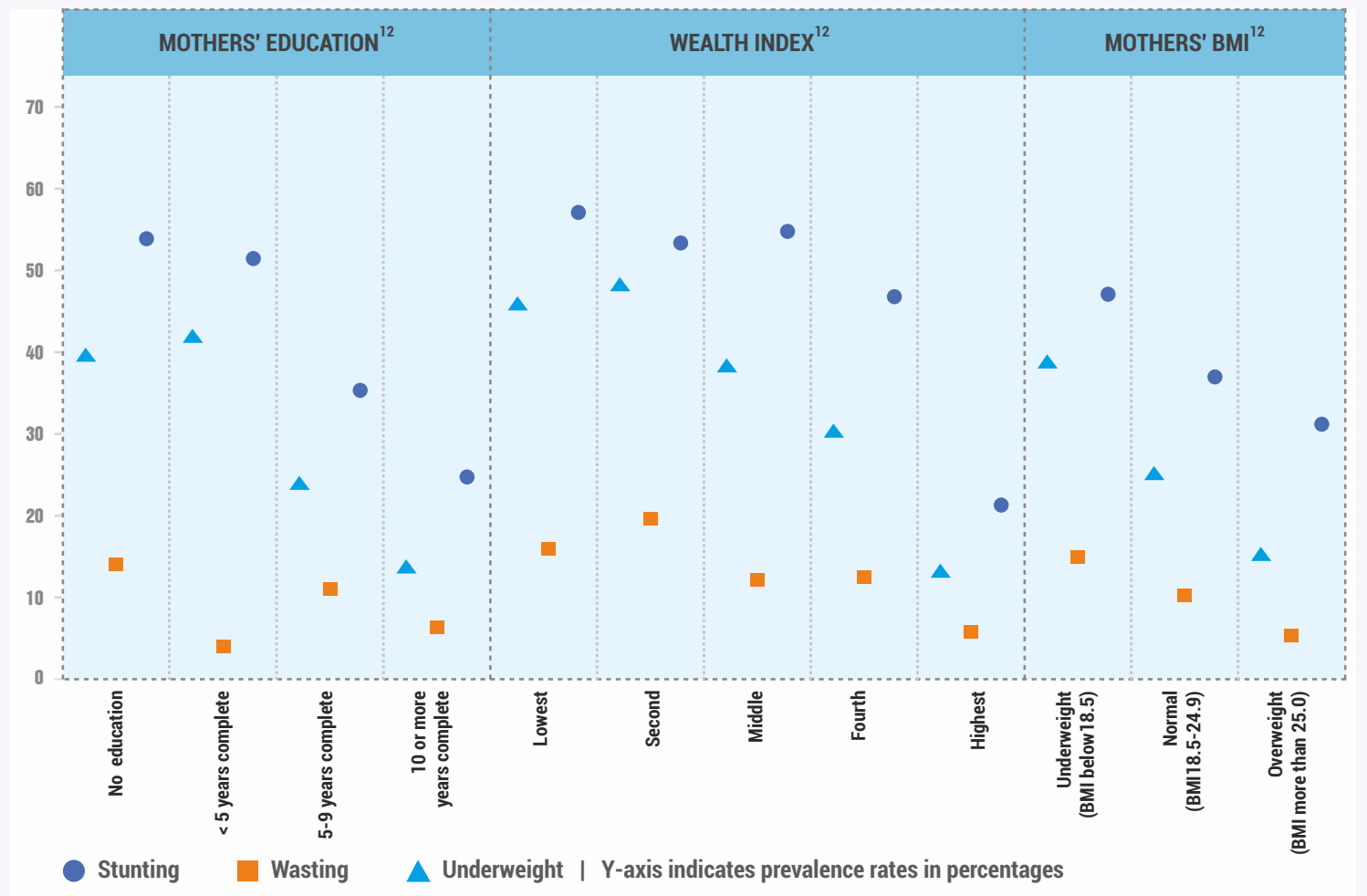
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



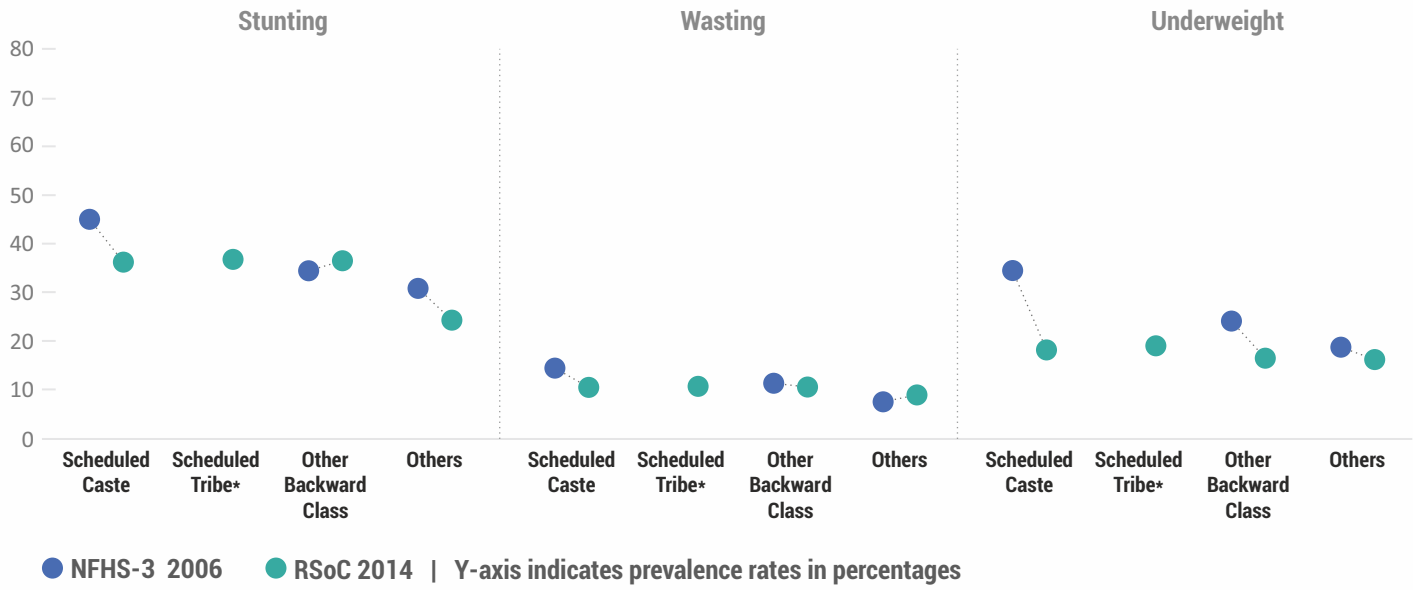
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.



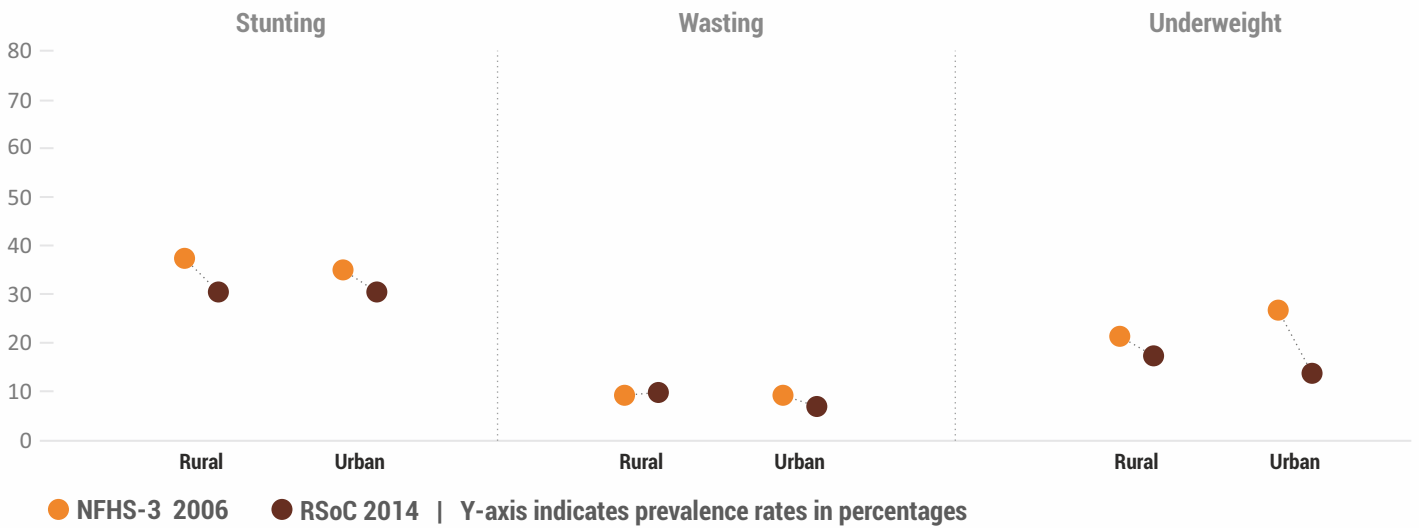
<sup>12</sup> Source : NFHS-3, 2006

CASTE



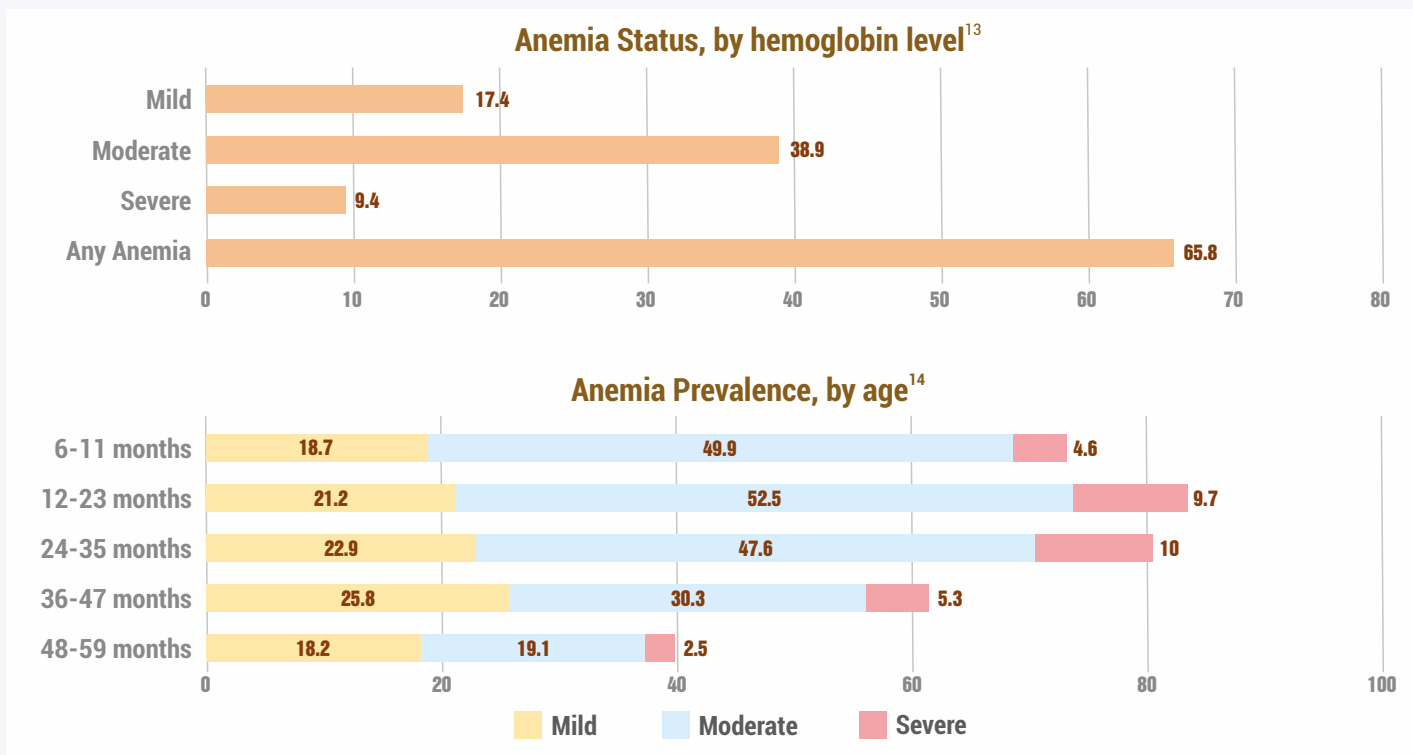
\*Data for Scheduled Tribes is not available in NFHS-3 for this state

RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |   |       |
|---|---|-------|
| Children aged 0-23 months breastfed immediately/within an hour of birth   | 32.9%   |       |
|    | Children aged 0-5 months who were exclusively breastfed   | 60.2% |
|   | Children aged 6-8 months who were fed complementary foods | 53.8% |
| <p>For breastfed children (6-23 months)-</p> <p>A. Fed minimum number of times.</p> <p>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old</p> | 35.2%   |       |
| <p>B. Had minimum dietary diversity</p> <p>Note : Minimum dietary diversity refers to four or more food groups<sup>B</sup> fed to children aged 6-23 months</p>   | 19.1%   |       |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 2.6%  |
| Had fever in 15 days prior to survey   | 11.5% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 6.7%  |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

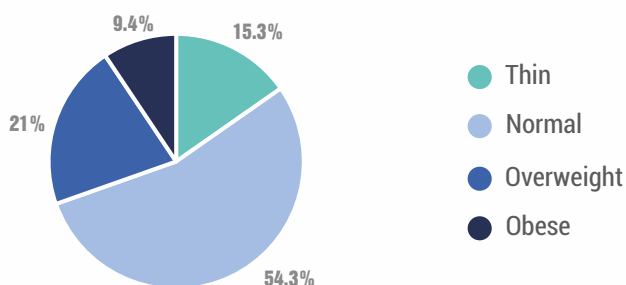
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**52.7%**

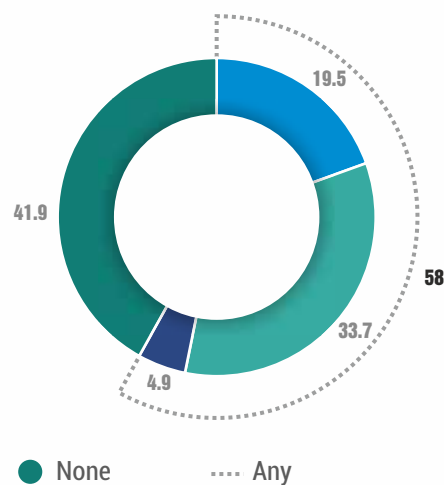
Women aged 15-49 years are anemic

**3.8%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

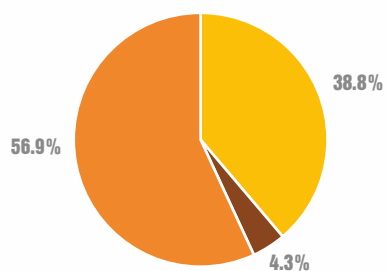
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



● Normal ● Thin ● Overweight and Obese



**41.4%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**1.6%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **42.3%**



**12.5%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **22.3** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup>

**0.5**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **13.9%**

Currently married women who make decisions about<sup>23</sup>:



**46.7%** Own healthcare



**6.3%** Major household purchase



**30.7%** Purchases for daily household needs



**14.5%** Visits to her family/friends/relatives



**26.7%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**55%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>0</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



99.1%

Households with access to improved sources of drinking water<sup>E, 24</sup>

72.3%

Households using improved sanitation facility<sup>F, 24</sup>



9.7%

Households practicing open defecation<sup>24</sup>

0.55 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



2.4%

Growth rate of agriculture from 2007-2012<sup>26</sup>



10.9%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

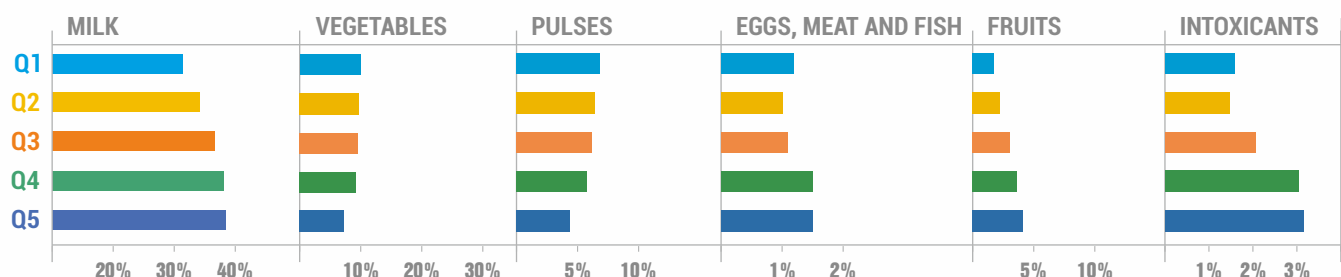
RURAL

2483 PUNJAB | 2233 INDIA AVG

URBAN

2299 PUNJAB | 2206 INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 23.1% |
| Children 36-71 months | 20.9% |
| Pregnant women        | 14.9% |
| Lactating mothers     | 15.5% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 23.8% |
| Children aged 36-71 months | 33.2% |
| Pregnant women             | NA    |
| Lactating women            | 17.6% |

<sup>29</sup> Source : RSoC, 2014

### SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**59.8%**

Received 3 or more antenatal checkups prior to delivery



**95.3%**

Received 2 or more TT injections prior to delivery



**19.7%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**80.4%**

Had Institutional delivery



**85.4%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**78.4%** Rural

**78.9%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**2.3%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

### WOMEN GIVEN ADVICE ON<sup>31</sup>:



**50%**

Breastfeeding



**39.4%**

Nutrition of mother and child



**29.4%**

Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup> | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers*           | 1.2%     |
| AWWs living in the AWC village/ward  | 86.4%    |
| AWWs having 10 or more years of schooling                                      | 95.3%    |
| Median age of AWWs   | 43 years |
| AWCs serving to population more than the stipulated norm                       | 54.4%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 49.4% |
| AWCs having functional adult weighing scale | 37.5% |
| Available WHO growth chart at AWCs          | 89.1% |

<sup>H</sup> Number of AWCs surveyed for Punjab as per RSoC 2014 is 134.

<sup>30</sup> Source : RSoC, 2014

<sup>31</sup> Source : DLHS-4, 2012-13

\* Source : MoWCD, 2012

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 87.7% |
| AWWs having correct knowledge of normal birth weight of children                    | 86.4% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 97.2% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 97.6% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 69.9% |

| Health Service Delivery Personnel   | Value              |
|---|--------------------|
| ASHAs selected <sup>33</sup>  | 94%                |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 1057 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0%                 |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 49             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 51.9           | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 5.8            | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 29.8% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 18.2% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 68.8% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 28             | 47               |
| PDS <sup>41</sup>                           | 175.2          | 475.3            |
| MGNREGA <sup>42</sup>                       | 26             | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lq15/15/as216.htm](http://164.100.47.132/Annexure_New/lq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13



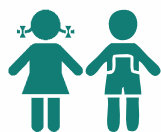
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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN RAJASTHAN

World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**36.4%**  
Stunted<sup>1</sup>

**14.1%**  
Wasted<sup>1</sup>



**49.9%**

Infants 0-5 months old who are exclusively breastfed<sup>1</sup>



**23.2%**

Children under 3 years who have low birth weight (<2.5 kgs)<sup>2</sup>



**53.1%**

Women 15-49 years old with anemia<sup>1</sup>

Immediate Determinants

Immediate Determinants



**45.9%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>2</sup>

**14.5%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>2</sup>



**69.7%** Children 6-59 months old with anemia<sup>1</sup>



**5.6%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>2</sup>



**26.8%**

Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>2</sup>



**60.7%**

Children 12-23 months old who are fully immunized<sup>2</sup>



**51.2%**

Mothers of children under 36 months old who received three or more antenatal checkups<sup>2</sup>

Underlying Determinants

Underlying Determinants



**9.2%**

Currently married women with 10 or more years of schooling<sup>1</sup>



**47.4%**

Women aged 20-24 years who were married before the age of 18<sup>2</sup>



**60.2%**

Adolescent girls 15-18 years old with low BMI (<18.5)<sup>2</sup>



**59.1%**

Households practicing open defecation<sup>2</sup>



**14.7%**

Population below state-specific poverty line<sup>3</sup>

Does state have a high-level nutrition mission?

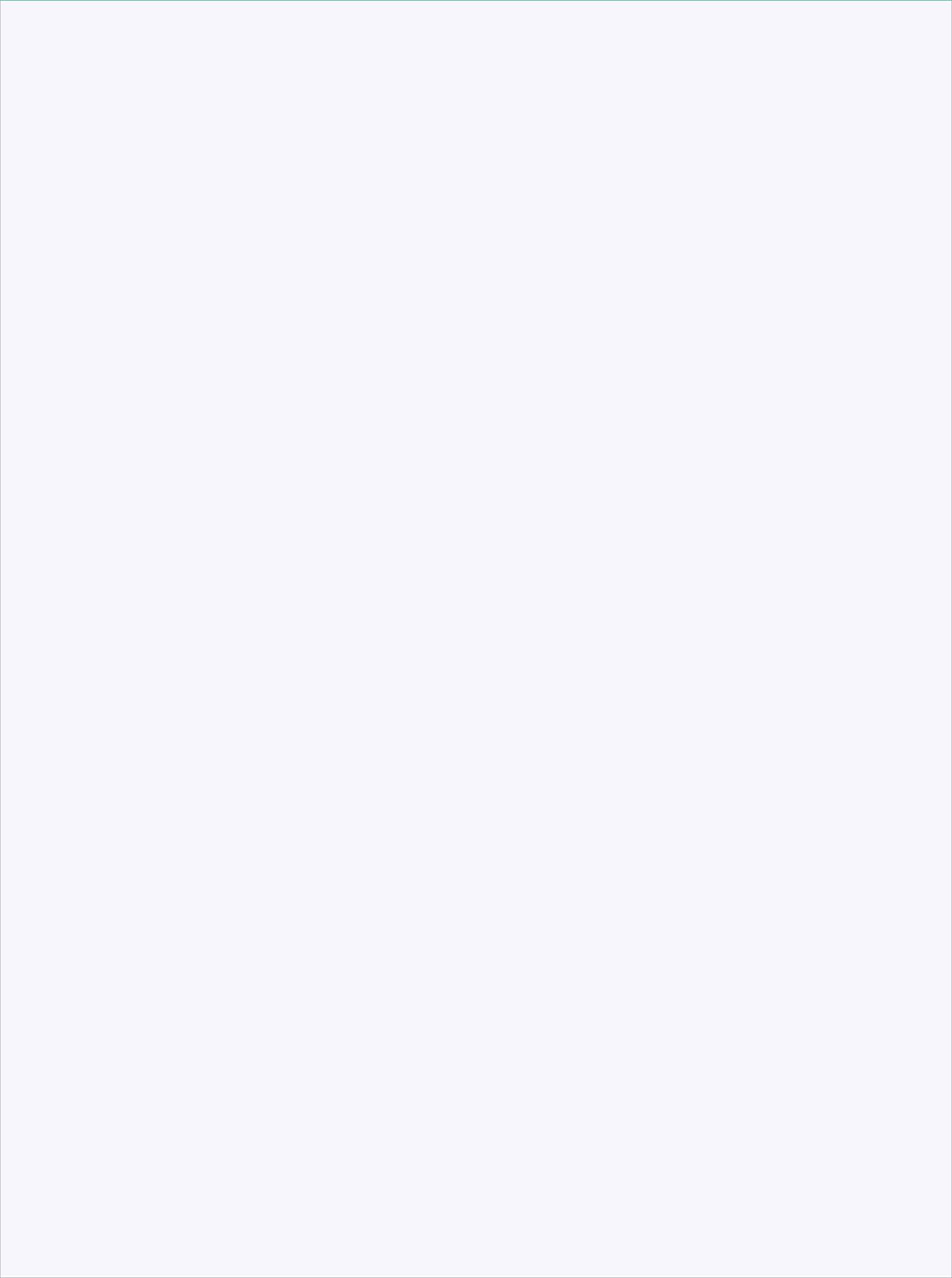
**NO**

<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : NFHS-3, 2006

<sup>3</sup> Source : DLHS-3, 2007-08

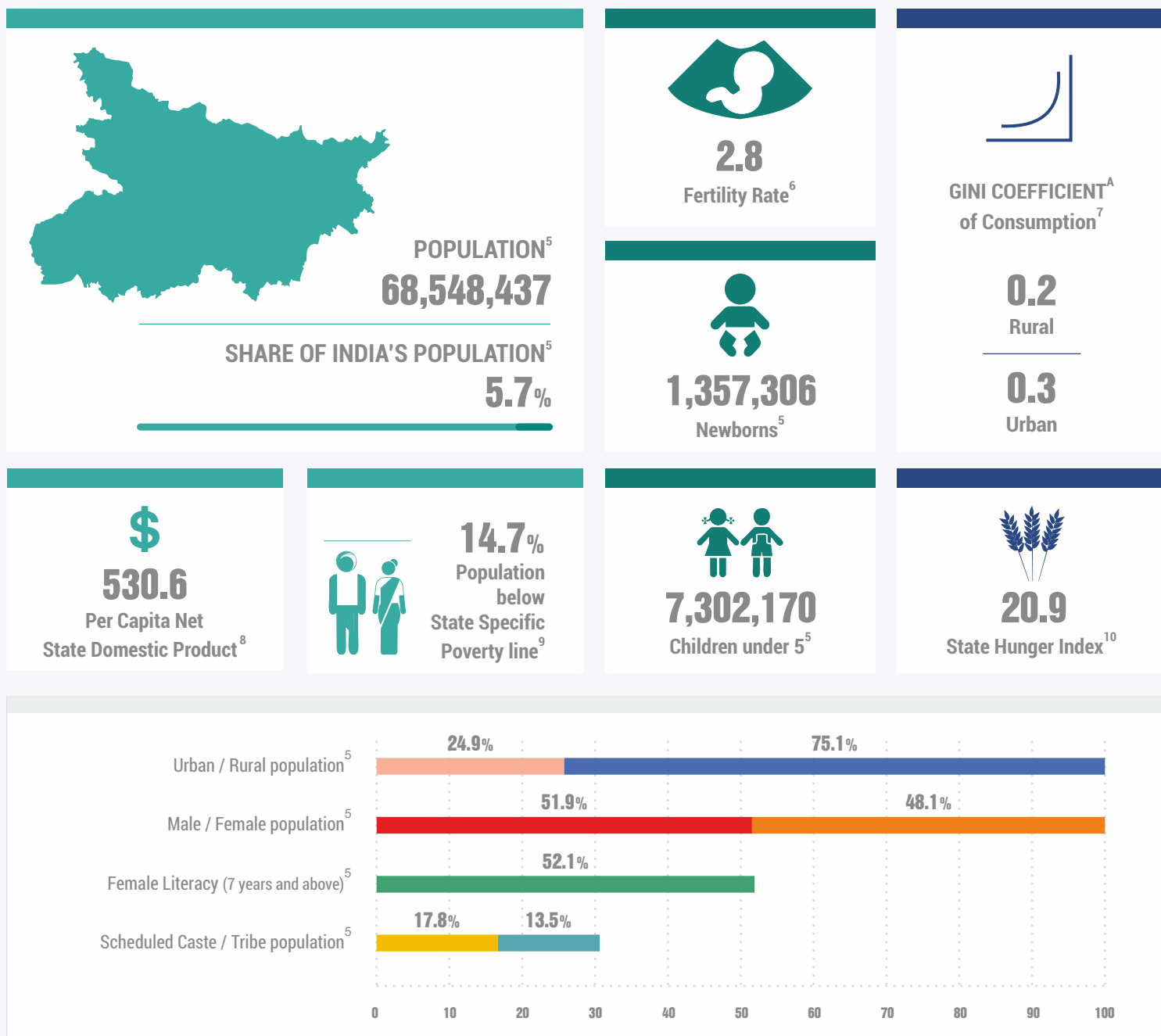
<sup>4</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India



# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

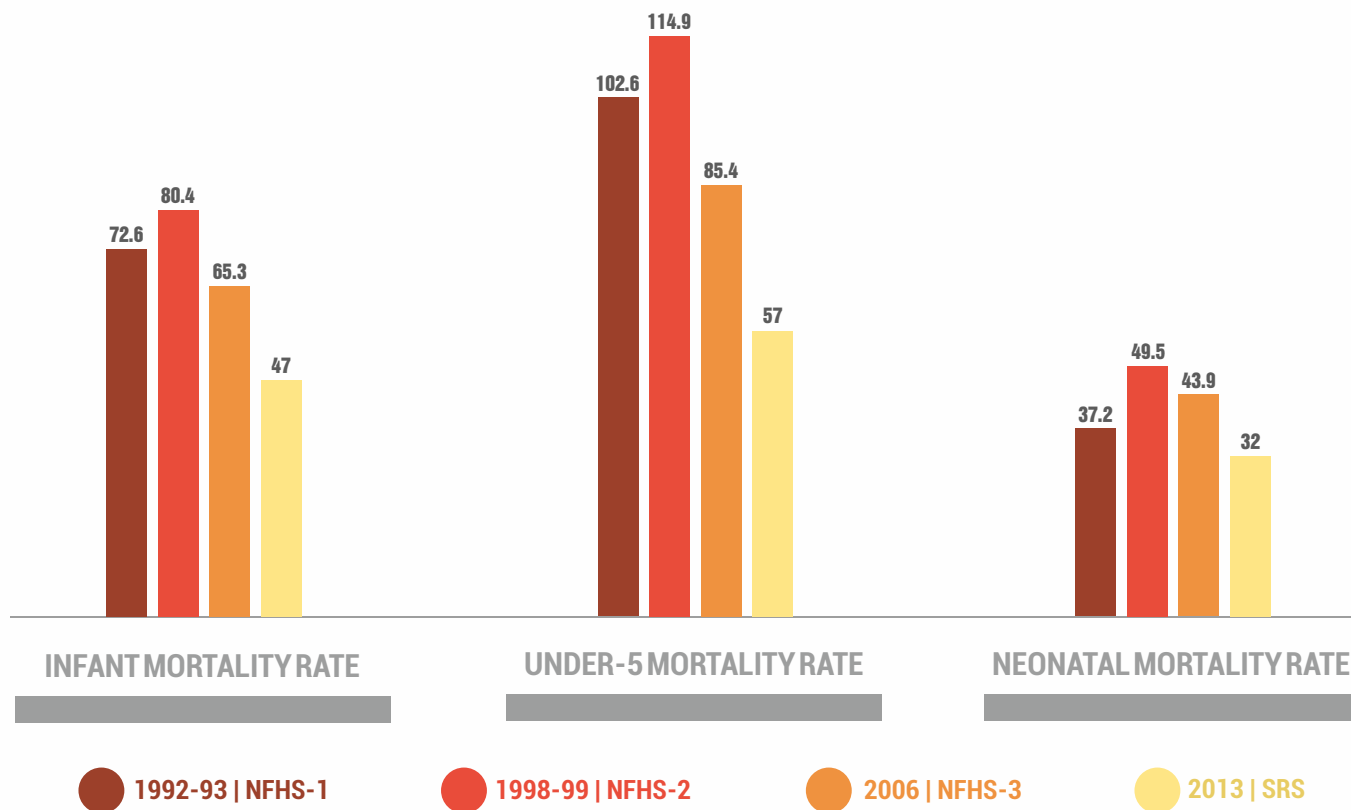
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14; [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

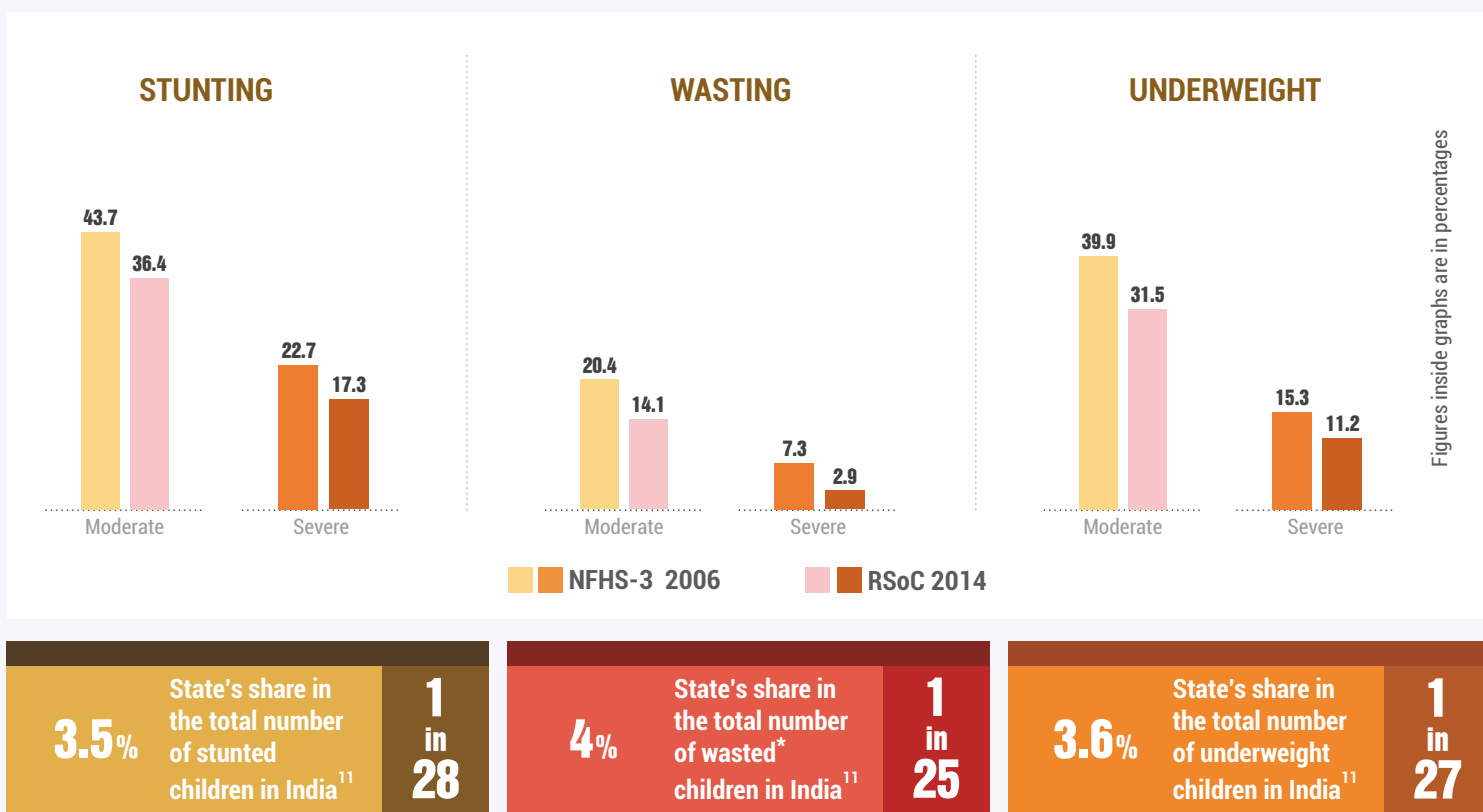
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

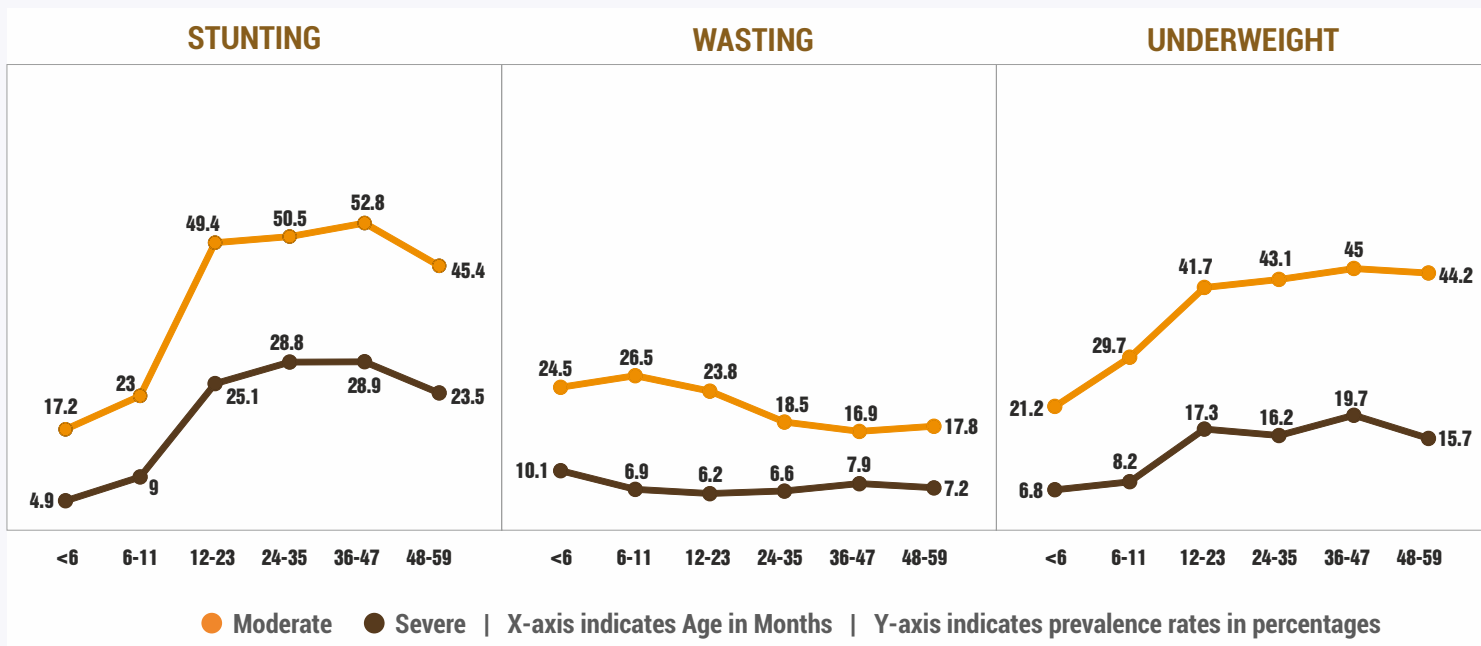


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

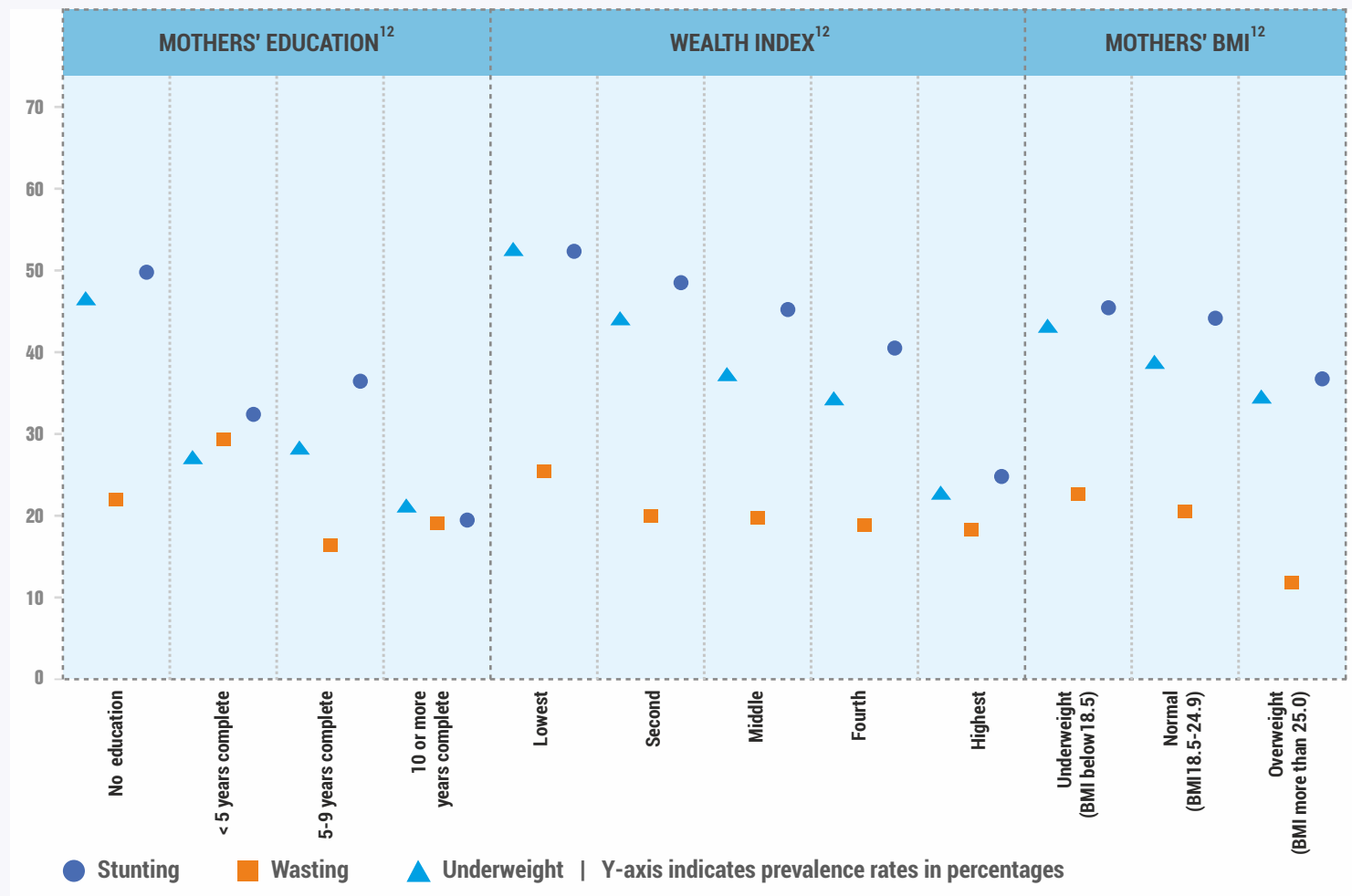
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



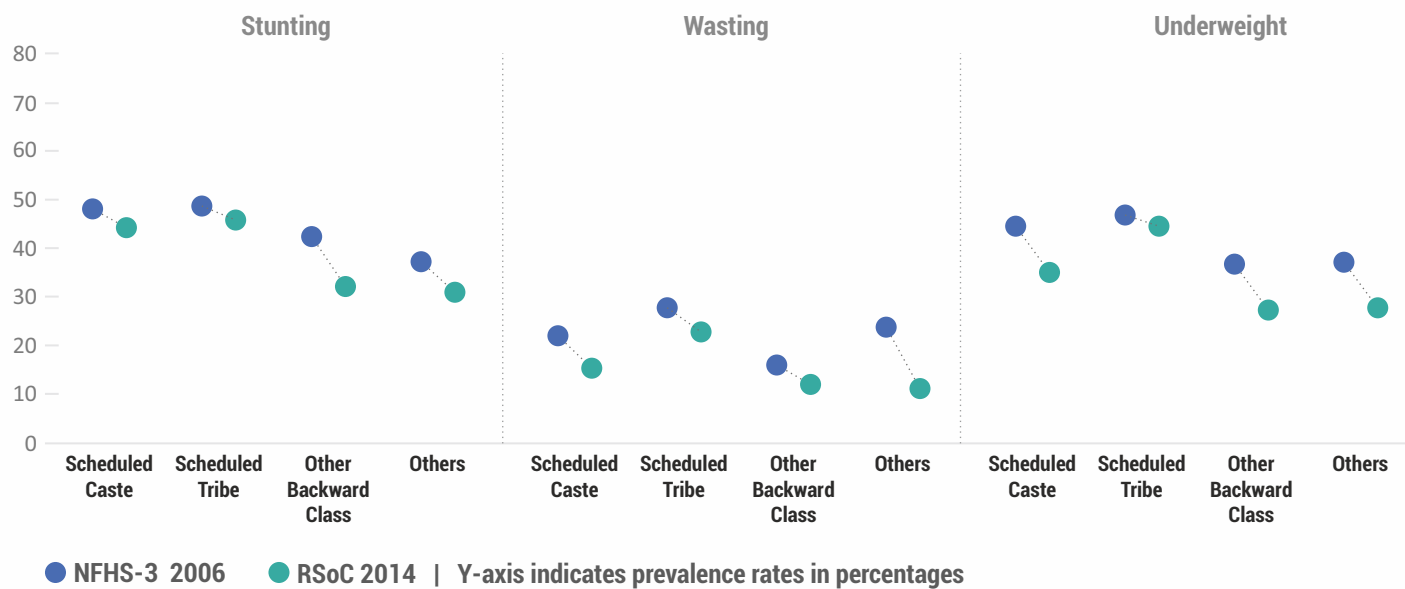
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

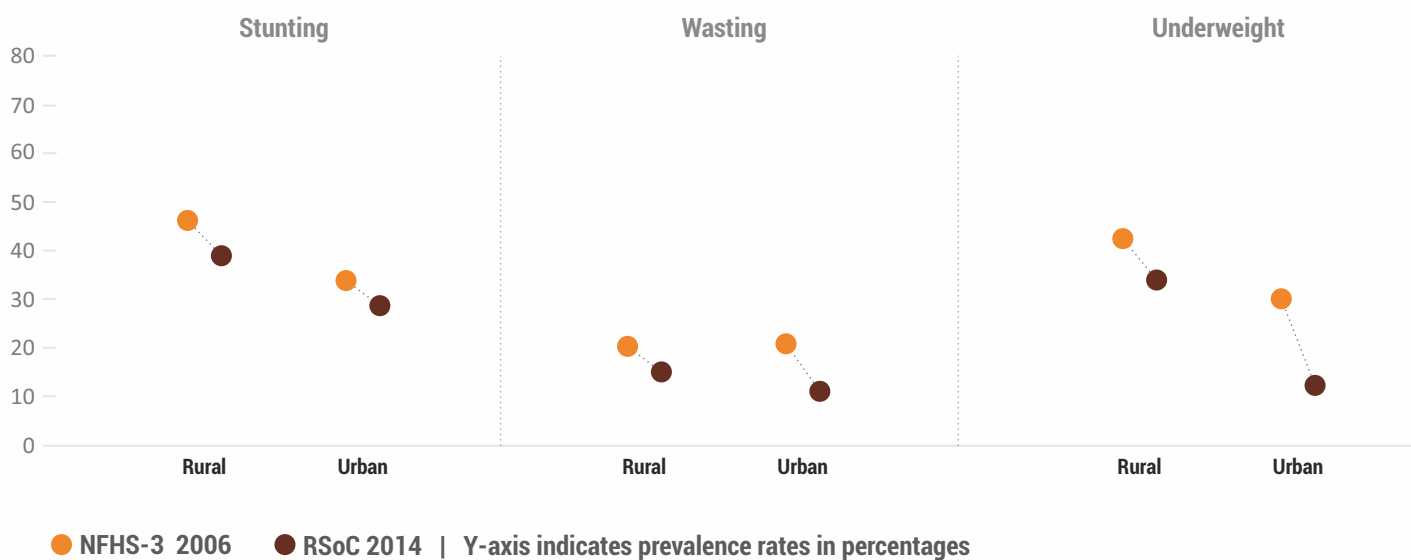


<sup>12</sup> Source : NFHS-3, 2006

CASTE

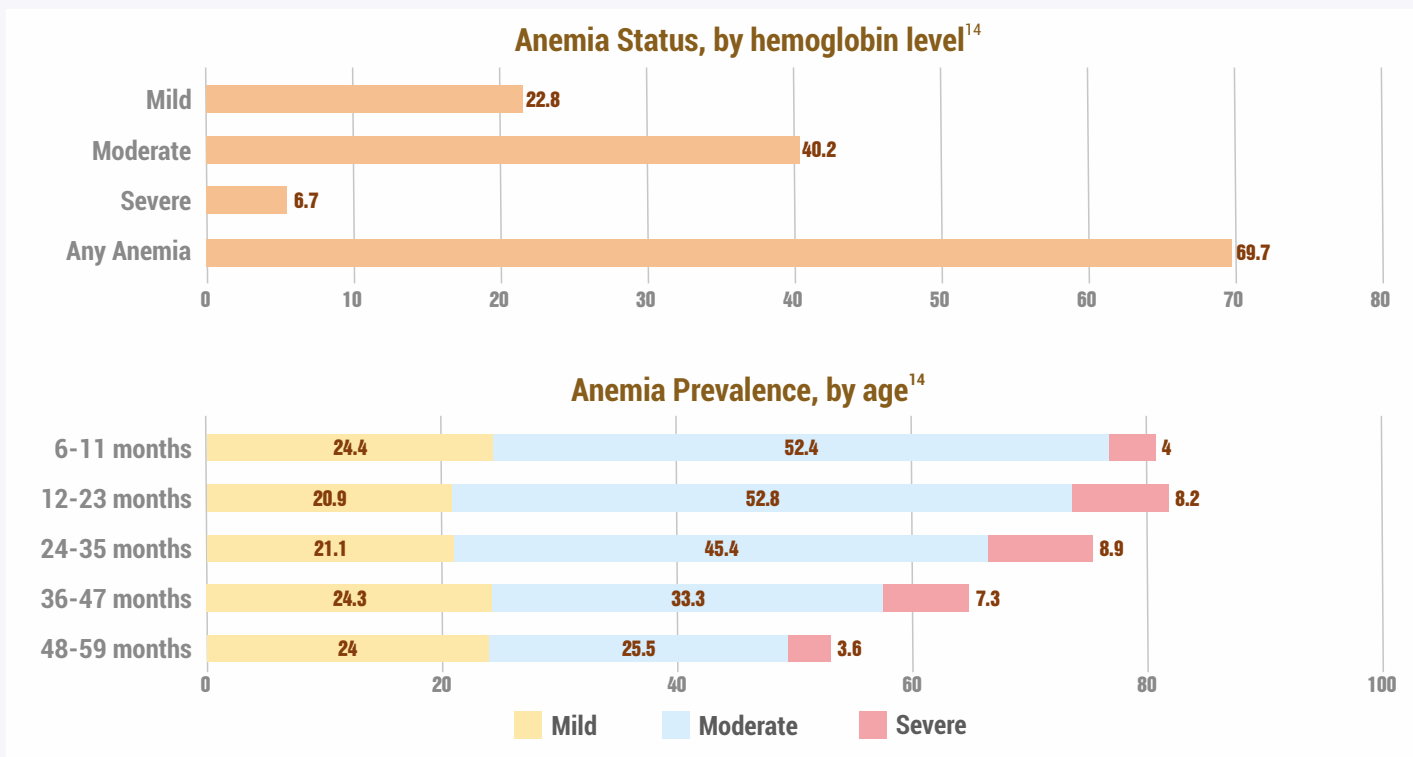


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.




<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 38.6% |
|  | Children aged 0-5 months who were exclusively breastfed  | 49.9% |
|   | Children aged 6-8 months who were fed complementary foods  | 45.9% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 45.8% |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 14.5% |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |      |
|--|------|
| Had diarrhea in 15 days prior to survey                                      | 5.6% |
| Had fever in 15 days prior to survey   | 16%  |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 9.3% |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

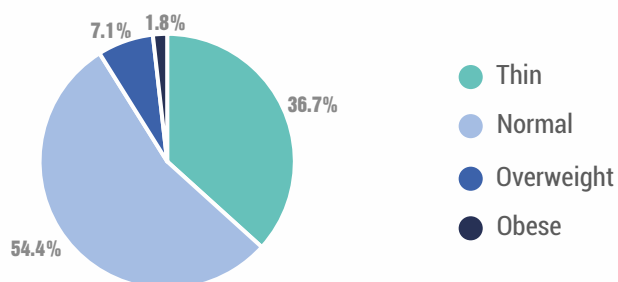
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**53.1%**

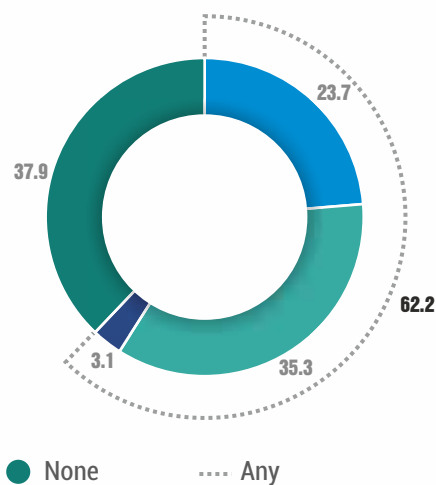
Women aged 15-49 years are anemic

**2.5%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

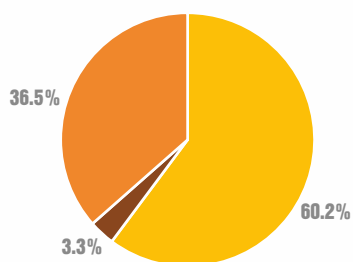
Anemia prevalence in pregnant women aged 15-49 years



● Mild    ● Moderate    ● Severe    ● None    --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



● Normal    ● Thin    ● Overweight and Obese



**53.9%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**3.1%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

<sup>16</sup> Source : NFHS-3, 2006

<sup>17</sup> Source : RSOC, 2014

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **9.2%**



**47.4%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **19.3** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.4**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **35.1%**

Currently married women who make decisions about<sup>23</sup>:



**24.9%** Own healthcare



**5.4%** Major household purchase



**29.3%** Purchases for daily household needs



**8.3%** Visits to her family/friends/relatives



**50.2%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**59.6%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>0</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-3, 2007-08

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



**88%**

Households with access to improved sources of drinking water<sup>E, 24</sup>

**31.1%**

Households using improved sanitation facility<sup>F, 24</sup>



**59.1%**

Households practicing open defecation<sup>24</sup>

**15.8 M**

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



**1,065 M**

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



**3.5%**

Growth rate of agriculture from 2007-2012<sup>26</sup>



**7.5%**

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

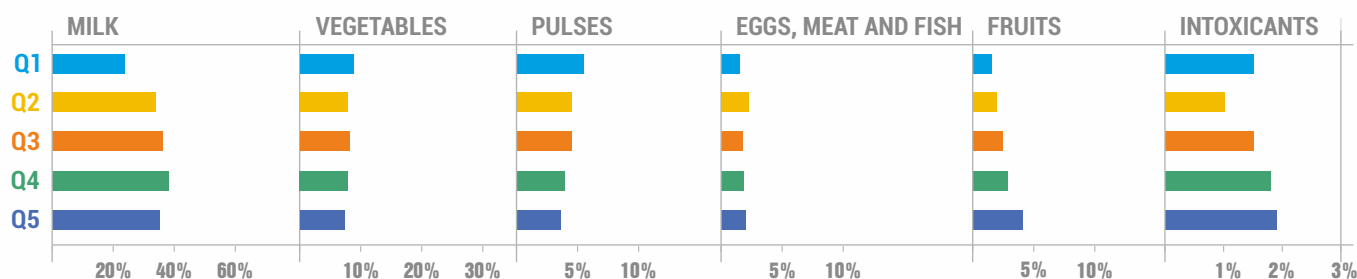
**RURAL**

**2408** | **2233**  
RAJASTHAN | INDIA AVG

**URBAN**

**2320** | **2206**  
RAJASTHAN | INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 33.7% |
| Children 36-71 months | 22%   |
| Pregnant women        | 33.5% |
| Lactating mothers     | 35.5% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 26.8% |
| Children aged 36-71 months | 26.8% |
| Pregnant women             | 28.9% |
| Lactating women            | 23.9% |

<sup>29</sup> Source : RSoC, 2014

### SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



51.2%

Received 3 or more antenatal checkups prior to delivery



82.6%

Received 2 or more TT injections prior to delivery



11.6%

Consumed 100 or more IFA tablets/syrup during pregnancy



82.7%

Had Institutional delivery



85.8%

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



55.6% Rural 74.7% Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



8.2%

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

### WOMEN GIVEN ADVICE ON<sup>31</sup>:



63% Breastfeeding



48.1% Nutrition



41.9% Institutional delivery

### A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 5.7%     |
| AWWs living in the AWC village/ward  | 75.8%    |
| AWWs having 10 or more years of schooling  | 56.4%    |
| Median age of AWWs   | 36 years |
| AWCs serving to population more than the stipulated norm                           | 67.5%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 57.7% |
| AWCs having functional adult weighing scale | 51.1% |
| Available WHO growth chart at AWCs          | 90.8% |

<sup>H</sup> Number of AWCs surveyed for Rajasthan as per RSoC 2014 is 206.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-3, 2007-08

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 91%   |
| AWWs having correct knowledge of normal birth weight of children                    | 64%   |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 95.2% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 97.1% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 55.2% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 94%               |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 998 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 9.4%              |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 115            | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 136.6          | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 40.1           | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 35.6% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 25.4% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 79%   |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 75             | 47               |
| PDS <sup>41</sup>                           | 716.9          | 475.3            |
| MGNREGA <sup>42</sup>                       | 545            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13



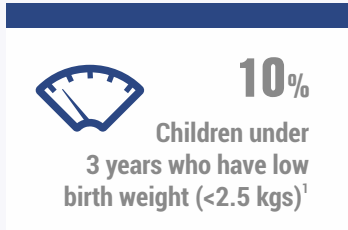
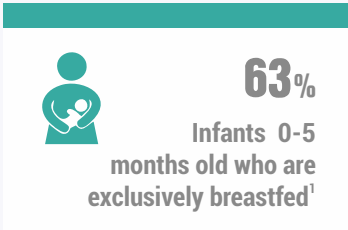
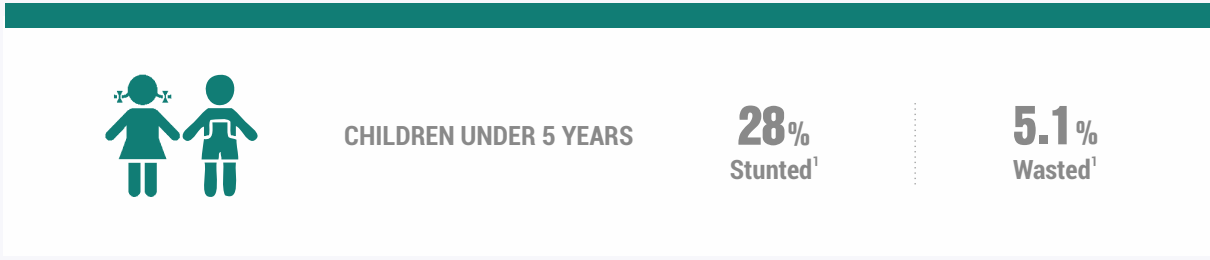
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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN SIKKIM

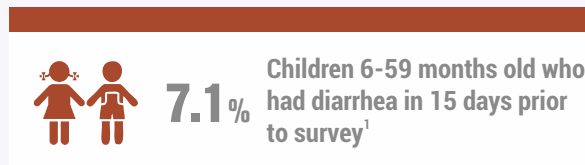
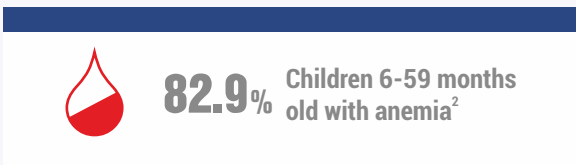
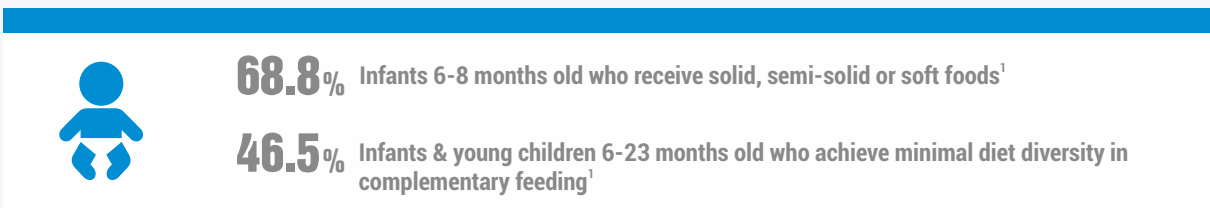
World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



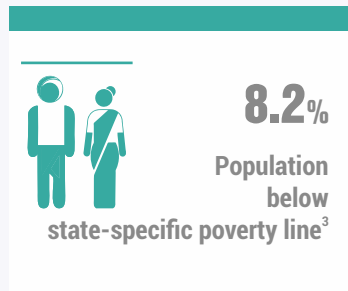
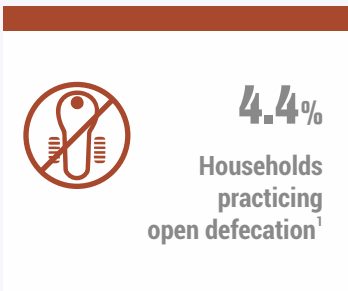
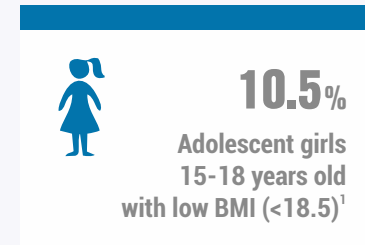
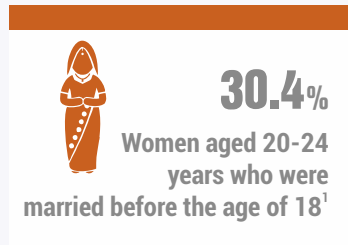
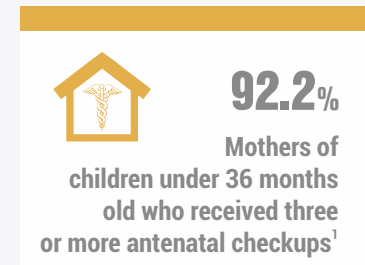
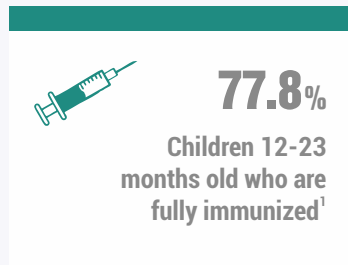
Immediate Determinants

Immediate Determinants



Underlying Determinants

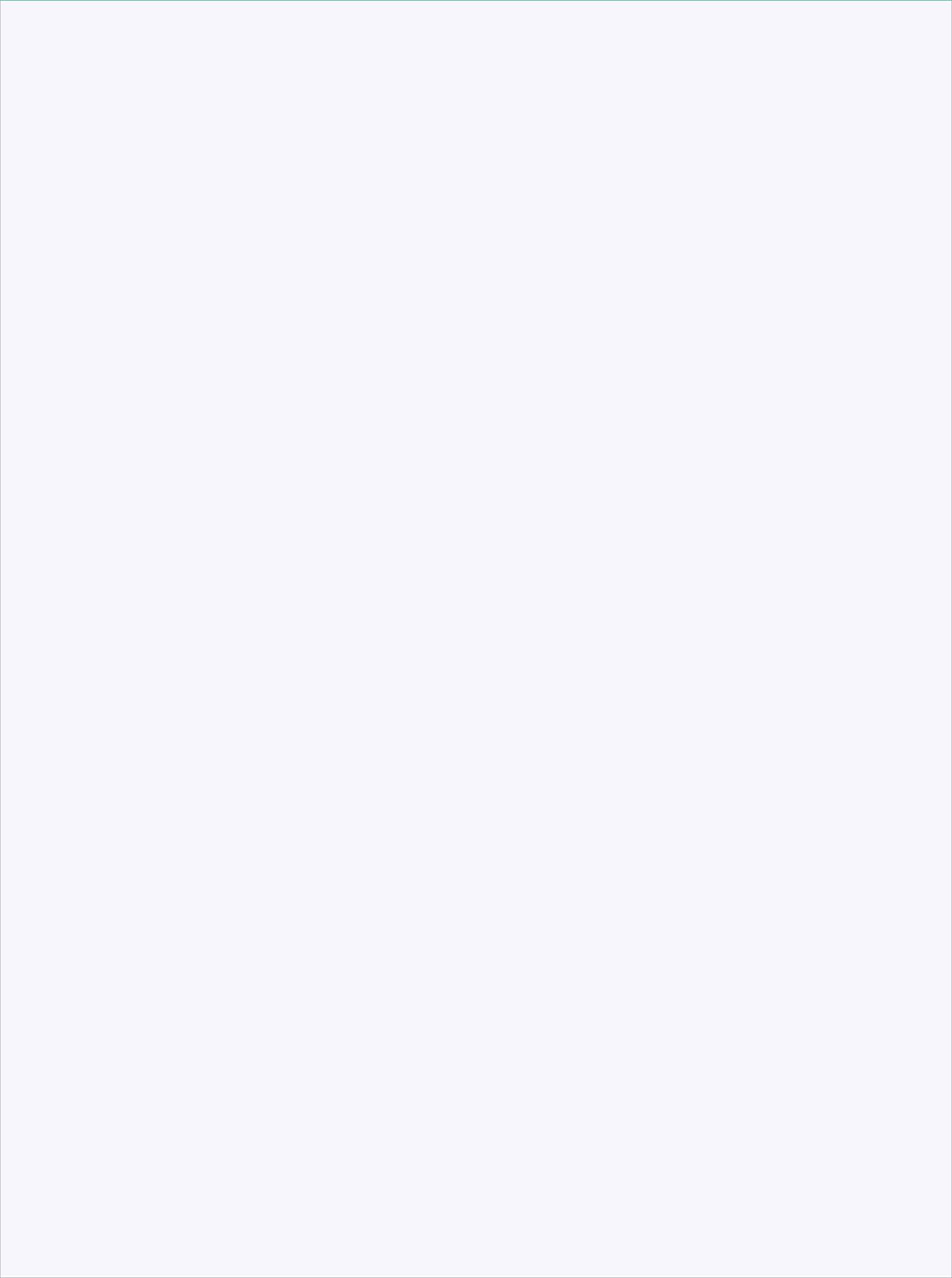
Underlying Determinants



<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : DLHS4, 2012-13

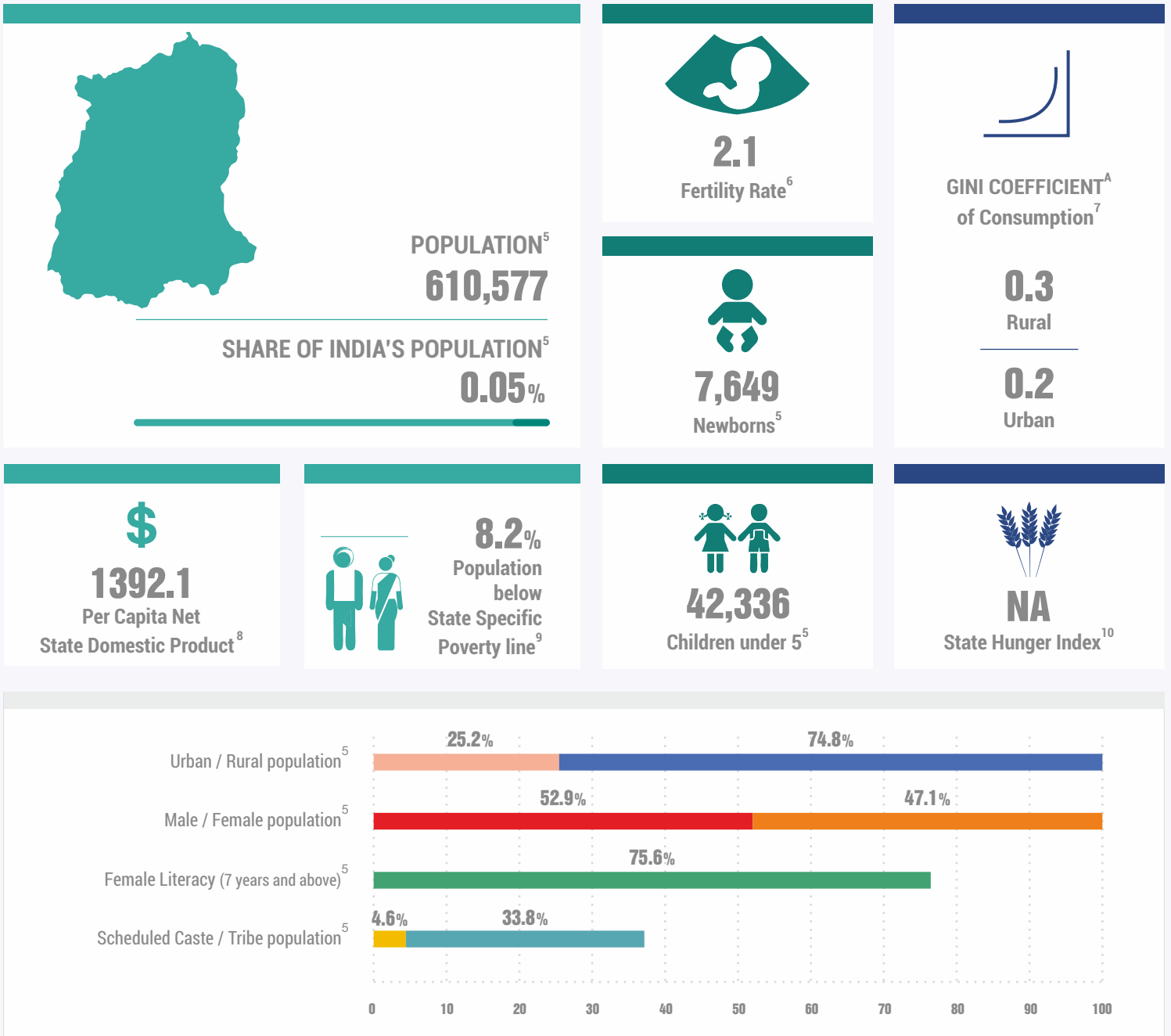
<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India



# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2009

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

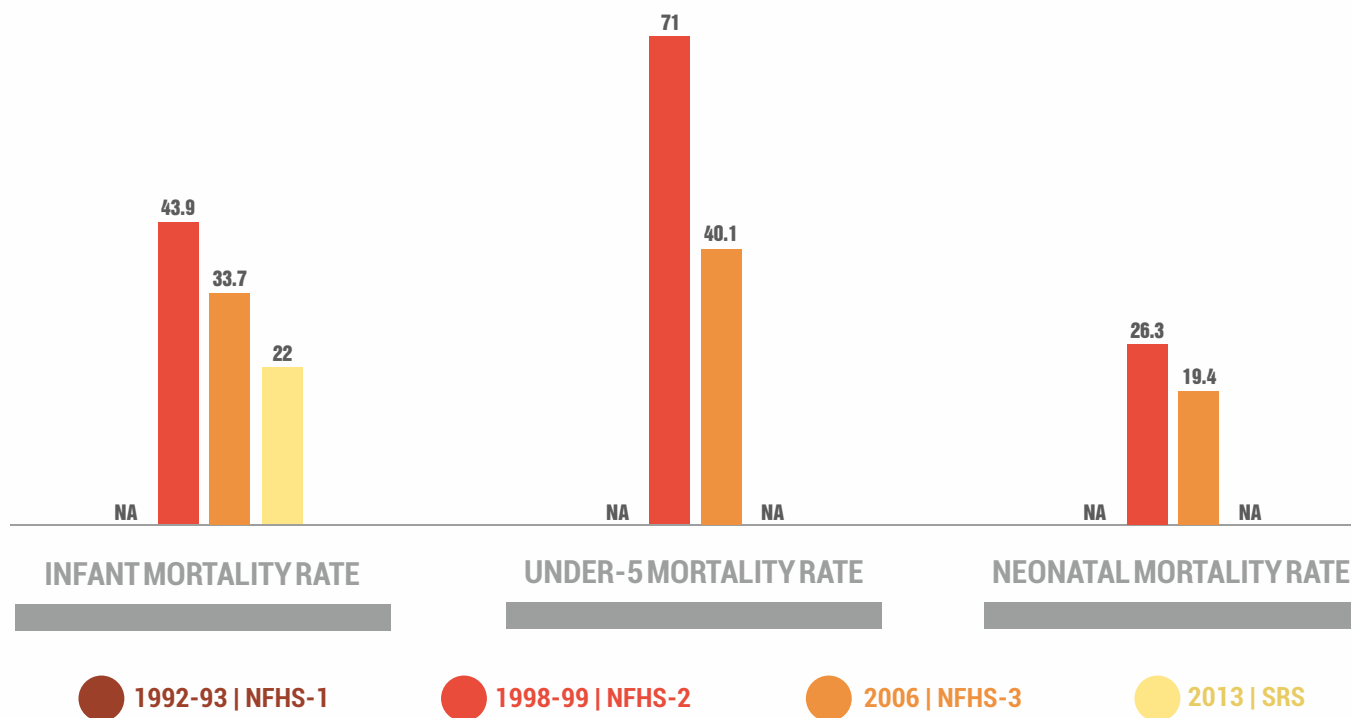
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

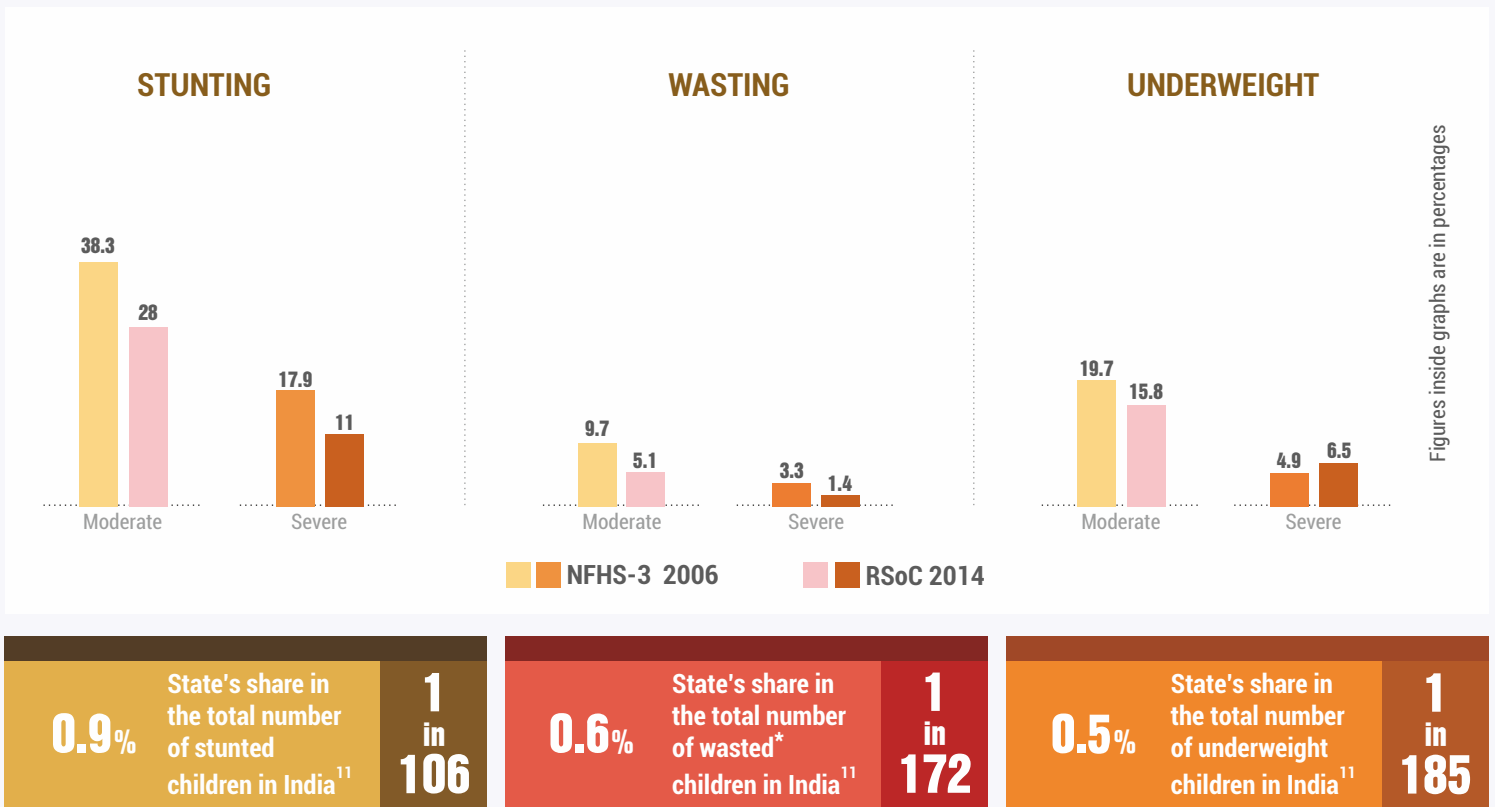
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

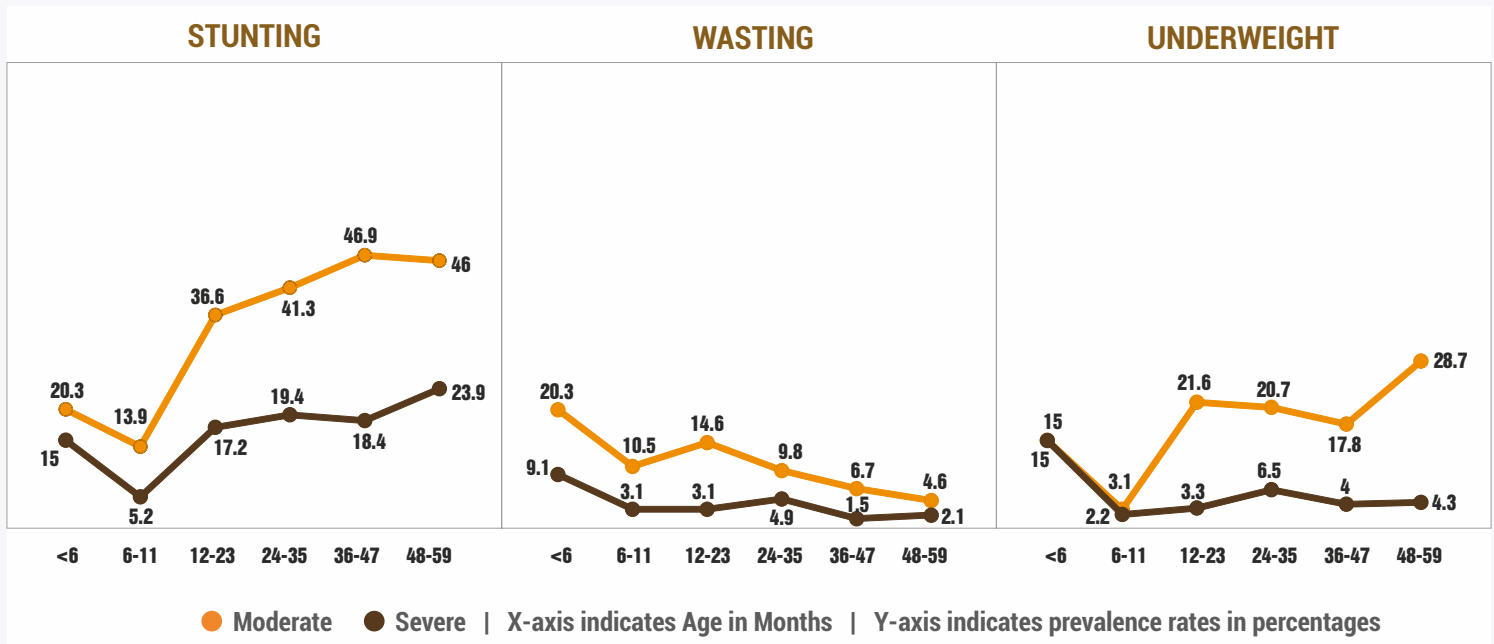


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

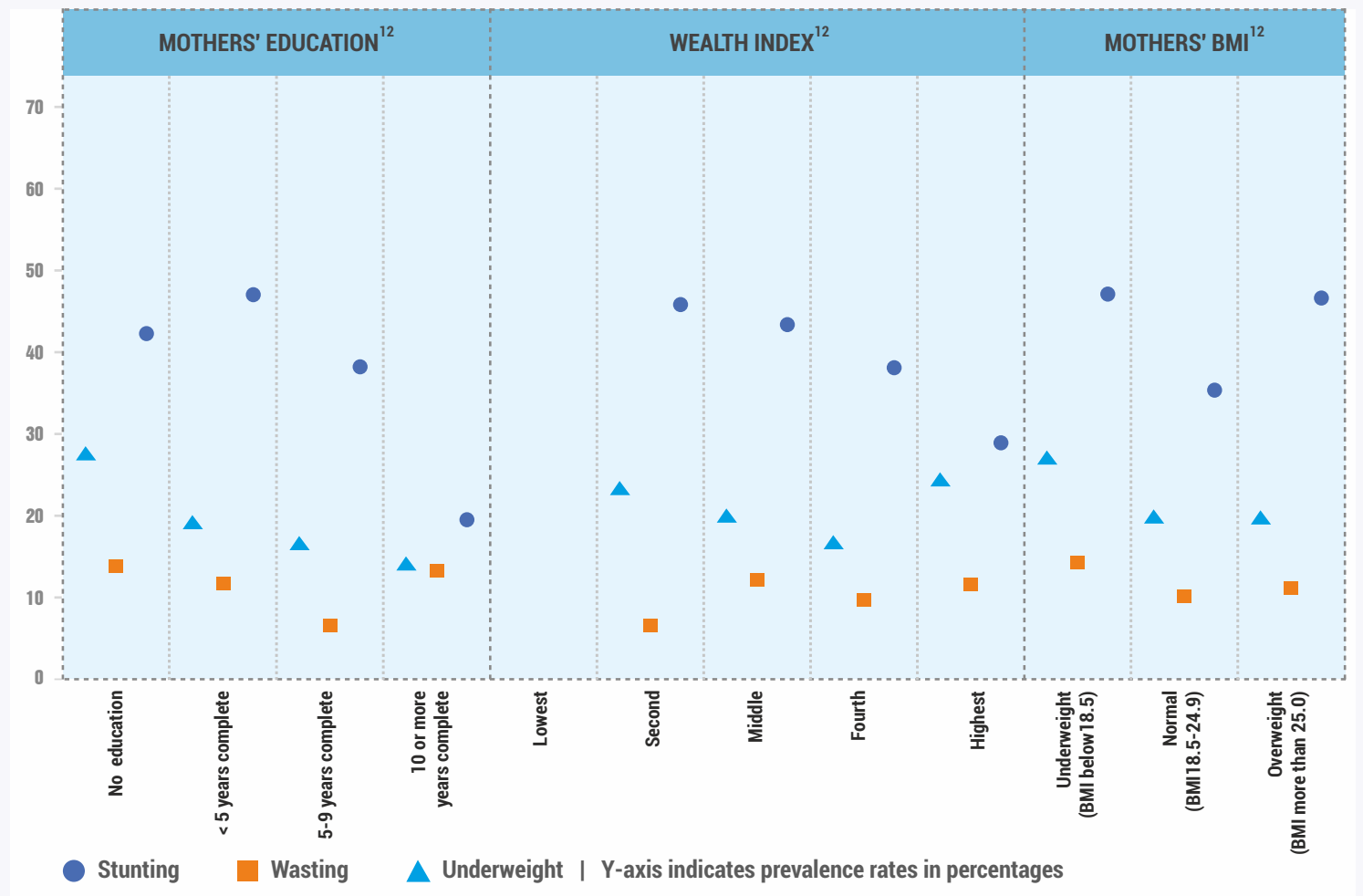
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



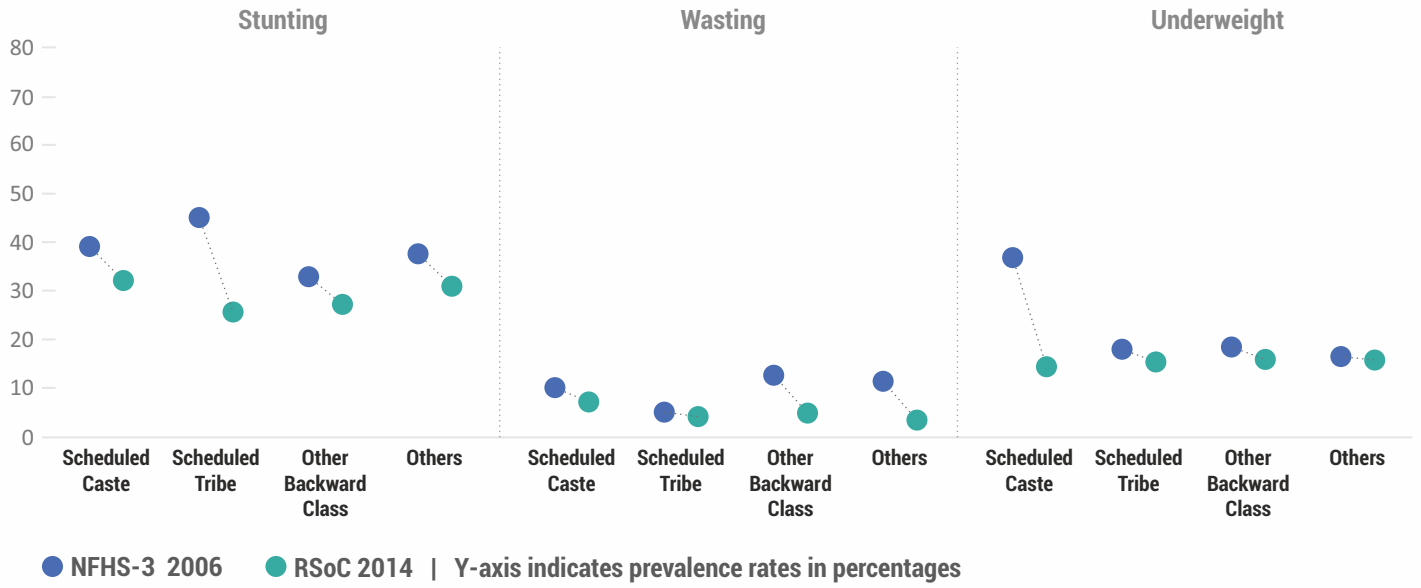
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

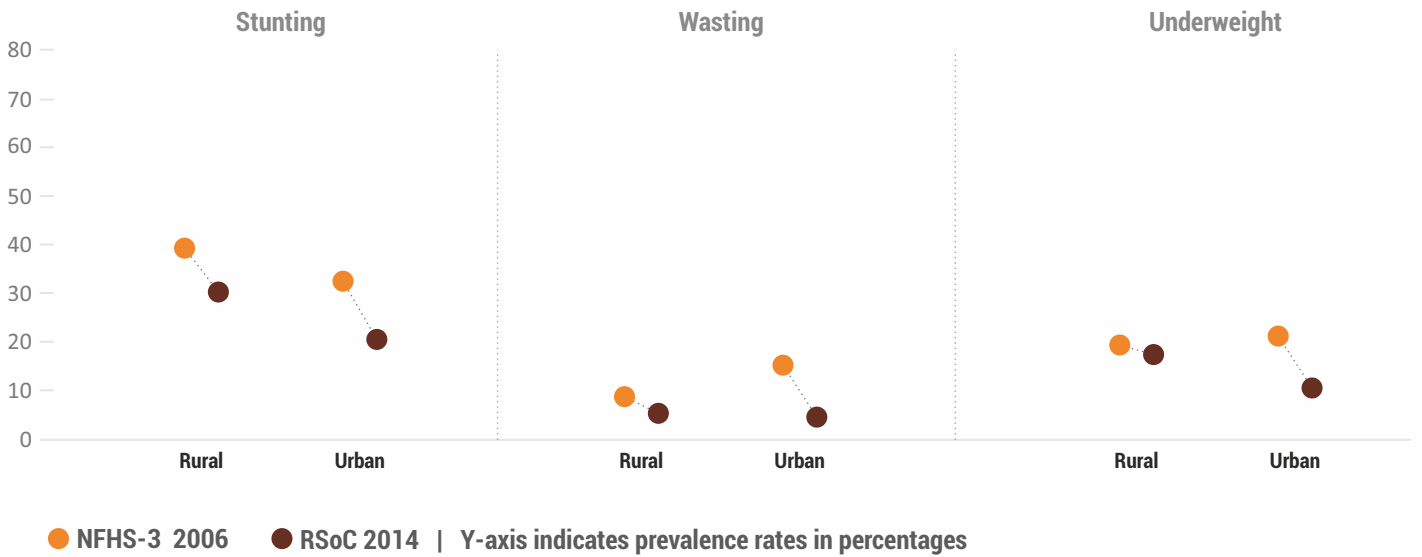


<sup>12</sup> Source : NFHS-3, 2006

CASTE

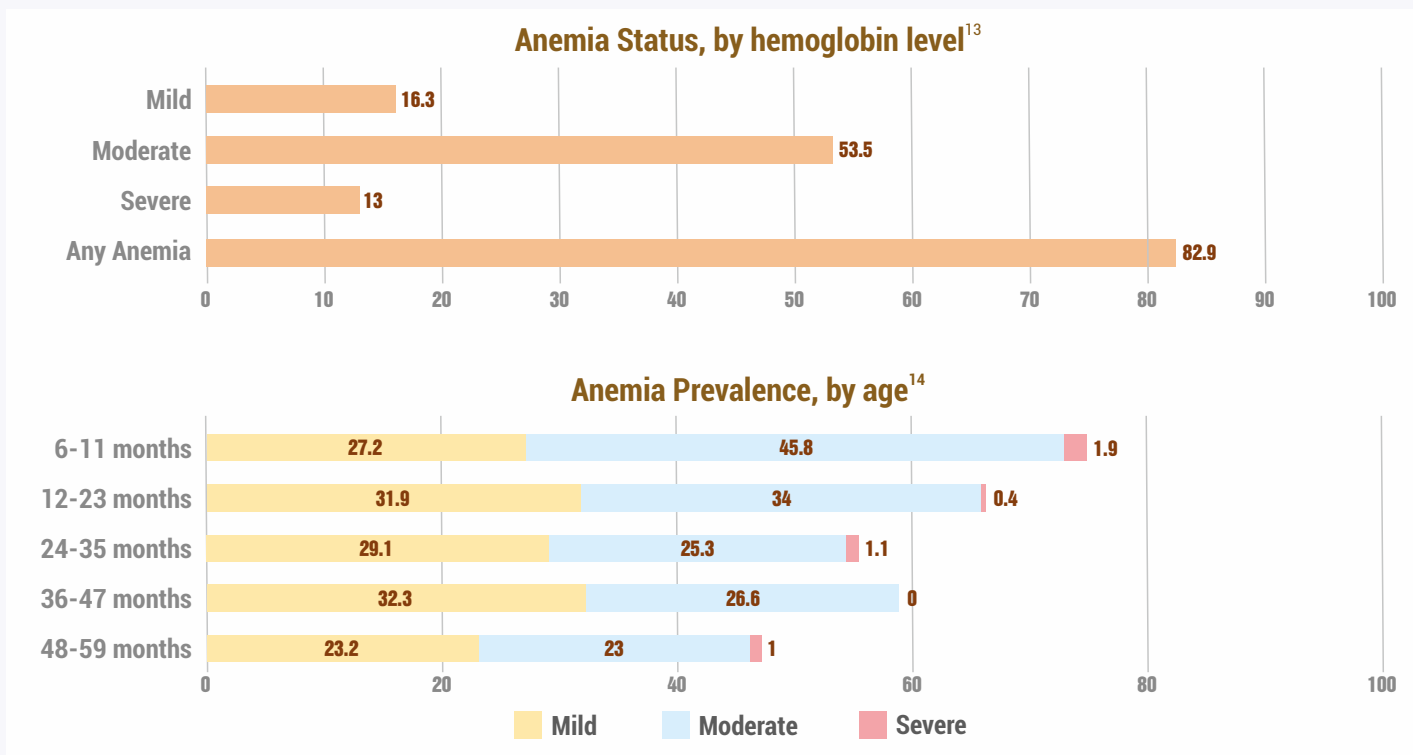


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 56.4% |
|  | Children aged 0-5 months who were exclusively breastfed  | 63%   |
|   | Children aged 6-8 months who were fed complementary foods  | 68.8% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 55.3% |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 46.5% |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |      |
|--|------|
| Had diarrhea in 15 days prior to survey                                      | 7.1% |
| Had fever in 15 days prior to survey   | 8.8% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 4.8% |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

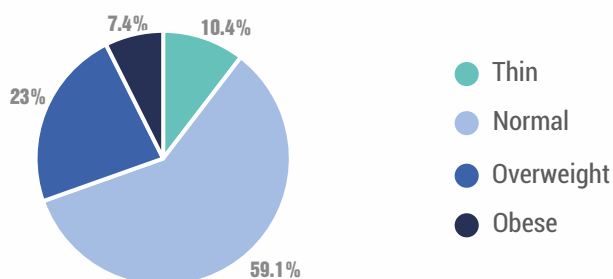
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**70.6%**

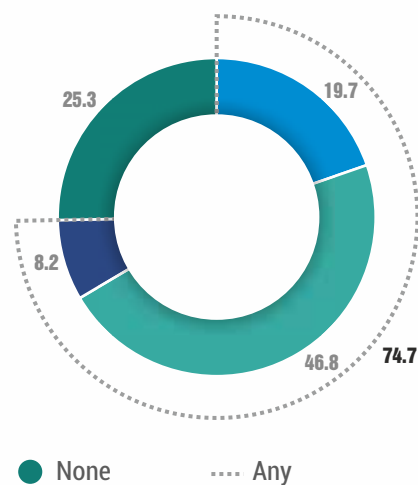
Women aged 15-49 years are anemic

**8.3%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

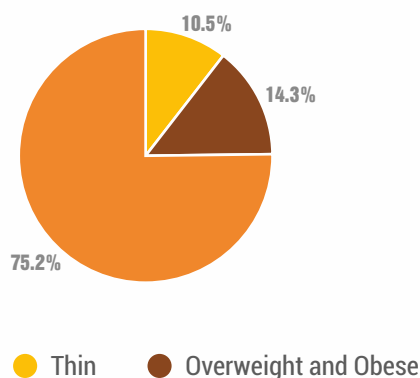
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**64.1%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**1%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

● Normal ● Thin ● Overweight and Obese

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **26.8%**



**30.4%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **21.9** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup>

**0.4**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **39.6%**

Currently married women who make decisions about<sup>23</sup>:



**43.9%** Own healthcare



**6%** Major household purchase



**42%** Purchases for daily household needs



**20.2%** Visits to her family/friends/relatives



**18.8%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**77.2%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



71.3%

Households with access to improved sources of drinking water<sup>E, 24</sup>

73.2%

Households using improved sanitation facility<sup>F, 24</sup>



4.4%

Households practicing open defecation<sup>24</sup>

3.23 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



3.3%

Growth rate of agriculture from 2007-2012<sup>26</sup>



0.04%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

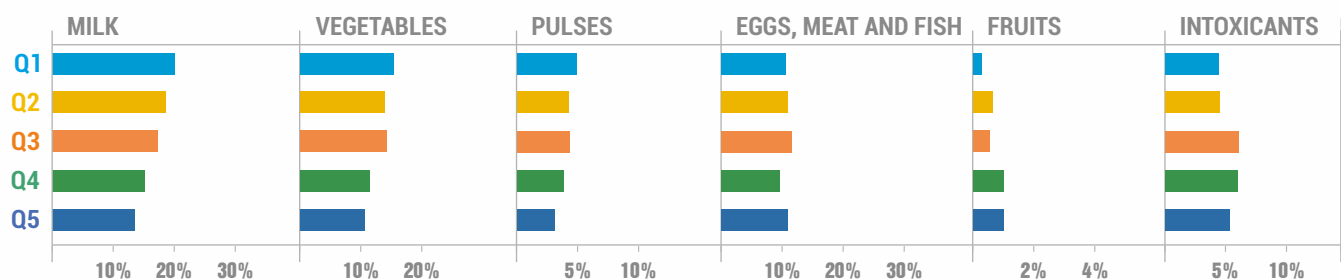
RURAL

NA SIKKIM 2233 INDIA AVG

URBAN

NA SIKKIM 2206 INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 65.7% |
| Children 36-71 months | 51.8% |
| Pregnant women        | 55.1% |
| Lactating mothers     | 43.9% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |     |
|----------------------------|-----|
| Children aged 6-35 months  | 0%  |
| Children aged 36-71 months | 38% |
| Pregnant women             | NA  |
| Lactating women            | 0%  |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



92.2%

Received 3 or more antenatal checkups prior to delivery



94.6%

Received 2 or more TT injections prior to delivery



58.8%

Consumed 100 or more IFA tablets/syrup during pregnancy



86.6%

Had Institutional delivery



87.8%

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



79.7% Rural

71.6% Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



0.6%

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



70%

Breastfeeding



65.9%

Nutrition of mother and child



59.6%

Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup> | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers*           | 1.1%     |
| AWWs living in the AWC village/ward  | 85.9%    |
| AWWs having 10 or more years of schooling                                      | 62.3%    |
| Median age of AWWs   | 34 years |
| AWCs serving to population more than the stipulated norm                       | 8.8%     |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 70.4% |
| AWCs having functional adult weighing scale | 24.8% |
| Available WHO growth chart at AWCs          | 67%   |

<sup>H</sup> Number of AWCs surveyed for Sikkim as per RSoC 2014 is 145.

<sup>30</sup> Source : RSoC, 2014

<sup>31</sup> Source : DLHS-4, 2012-13

\* Source : MoWCD, 2012

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 92.4% |
| AWWs having correct knowledge of normal birth weight of children                    | 75.2% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 96.9% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 99.2% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 93.1% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 100%              |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 685 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0%                |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 4              | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 5.6            | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | -0.4           | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 50.3% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 46.9% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 97.4% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 2              | 47               |
| PDS <sup>41</sup>                           | 18.3           | 475.3            |
| MGNREGA <sup>42</sup>                       | 14             | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13

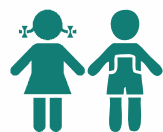


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## FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN TAMIL NADU

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**23.3%**  
Stunted<sup>1</sup>
**19%**  
Wasted<sup>1</sup>

World Health Assembly Nutrition Targets


**57%**  
Infants 0-5  
months old who are  
exclusively breastfed<sup>1</sup>

**16.7%**  
Children under  
3 years who have low  
birth weight (<2.5 kgs)<sup>1</sup>

**49.2%**  
Women  
15-49 years old  
with anemia<sup>2</sup>

Immediate Determinants


**64%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>1</sup>  
**21.4%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>1</sup>

**60.2%** Children 6-59 months  
old with anemia<sup>2</sup>

**5.1%** Children 6-59 months old who  
had diarrhea in 15 days prior  
to survey<sup>1</sup>

Immediate Determinants

Underlying Determinants


**36.1%**  
Currently  
married women with 10  
or more years of schooling<sup>2</sup>

**20.7%**  
Women aged 20-24  
years who were  
married before the age of 18<sup>1</sup>

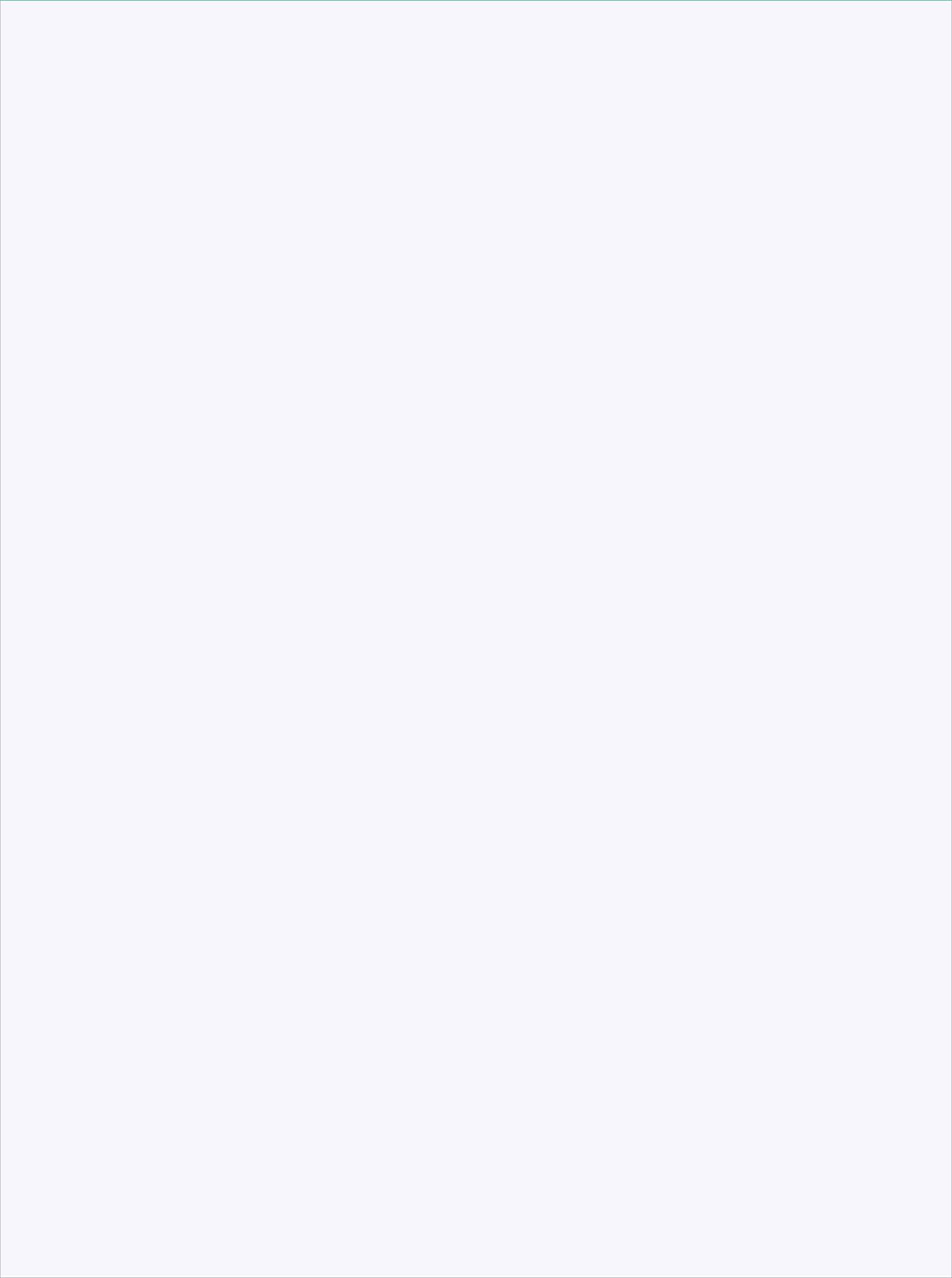
**35.2%**  
Adolescent girls  
15-18 years old  
with low BMI (<18.5)<sup>1</sup>

**43.4%**  
Households  
practicing  
open defecation<sup>1</sup>

**16.6%**  
Population  
below  
state-specific poverty line<sup>3</sup>
Does state have a  
high-level nutrition mission?
**NO**

Underlying Determinants

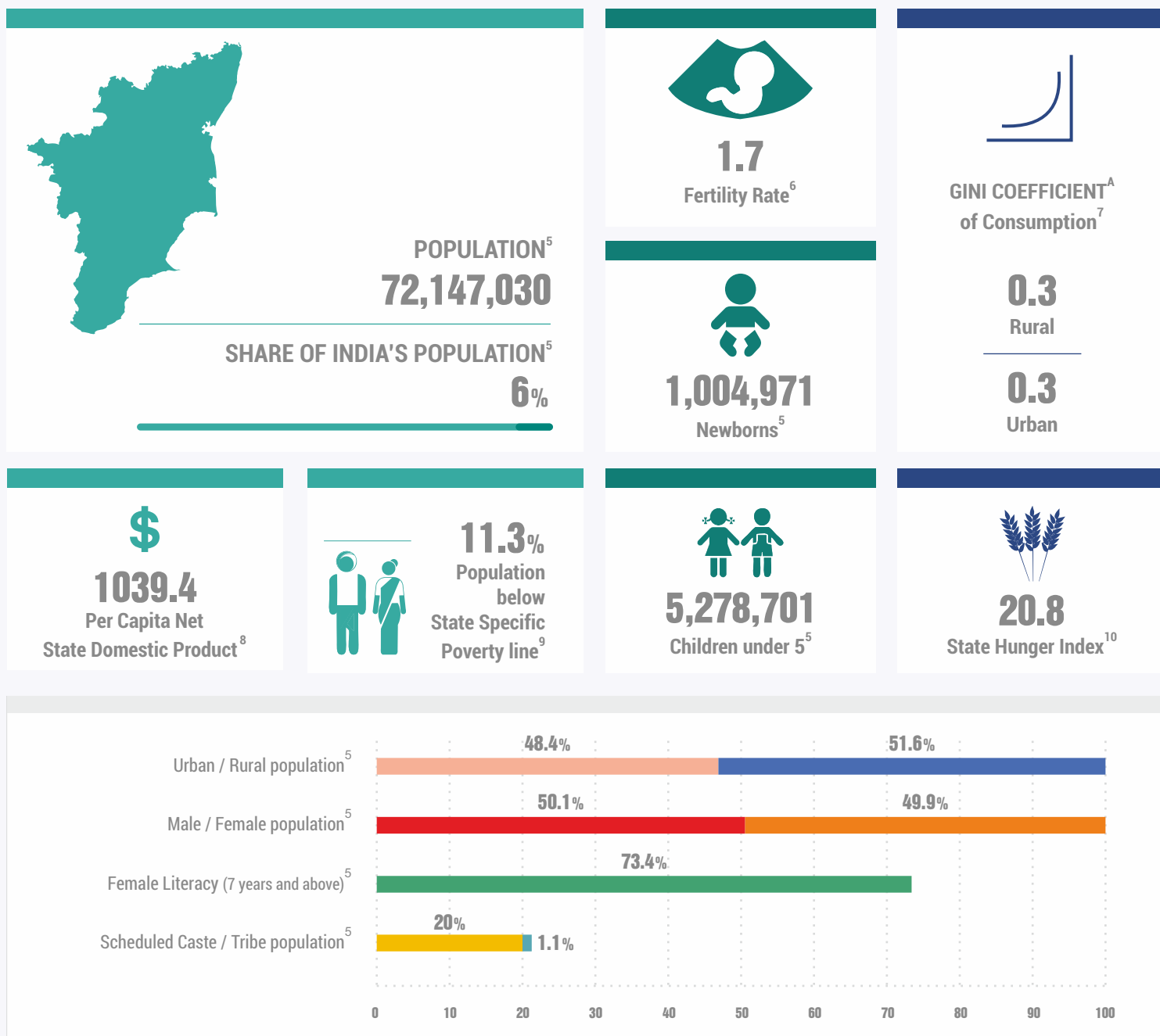
<sup>1</sup> Source : RSoC, 2014<sup>2</sup> Source : DLHS4, 2012-13<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India



## I. CONTEXT

### A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

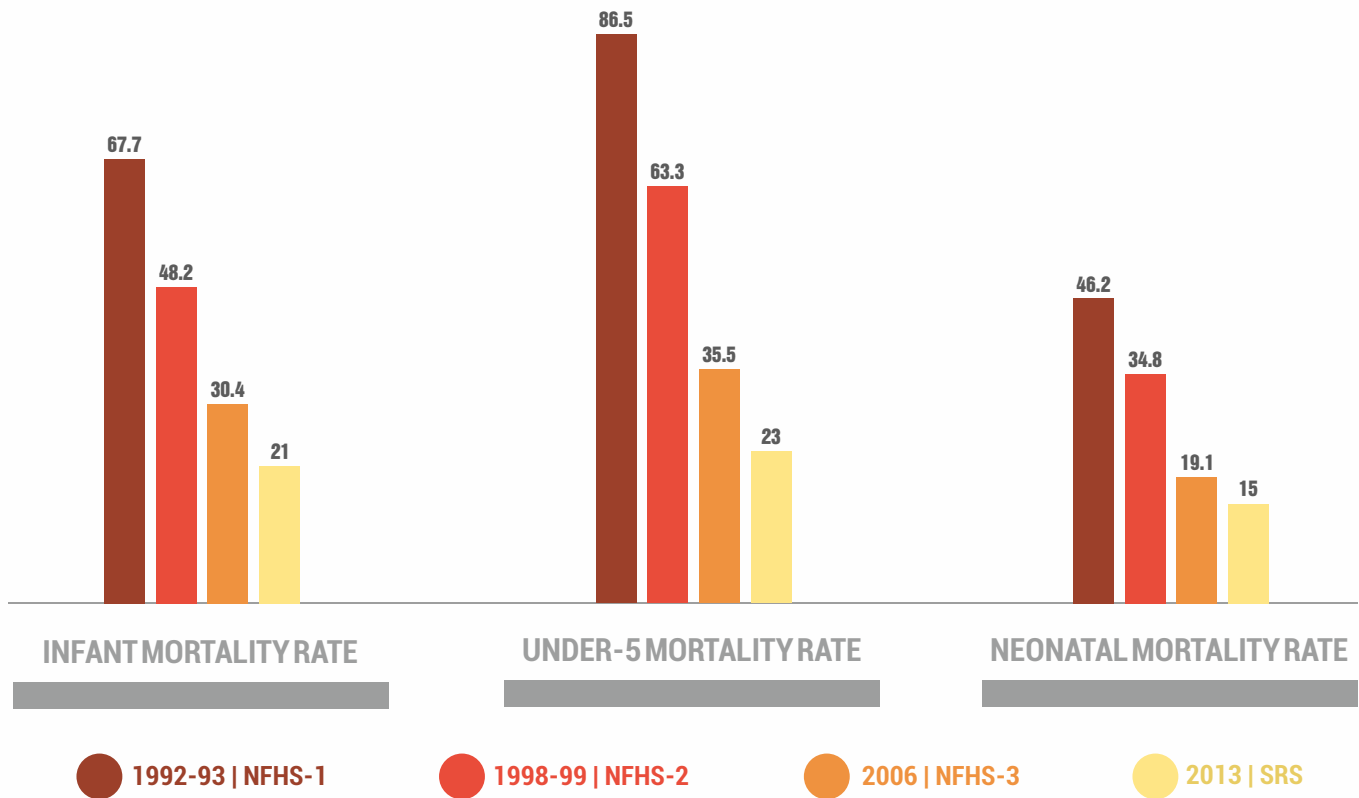
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

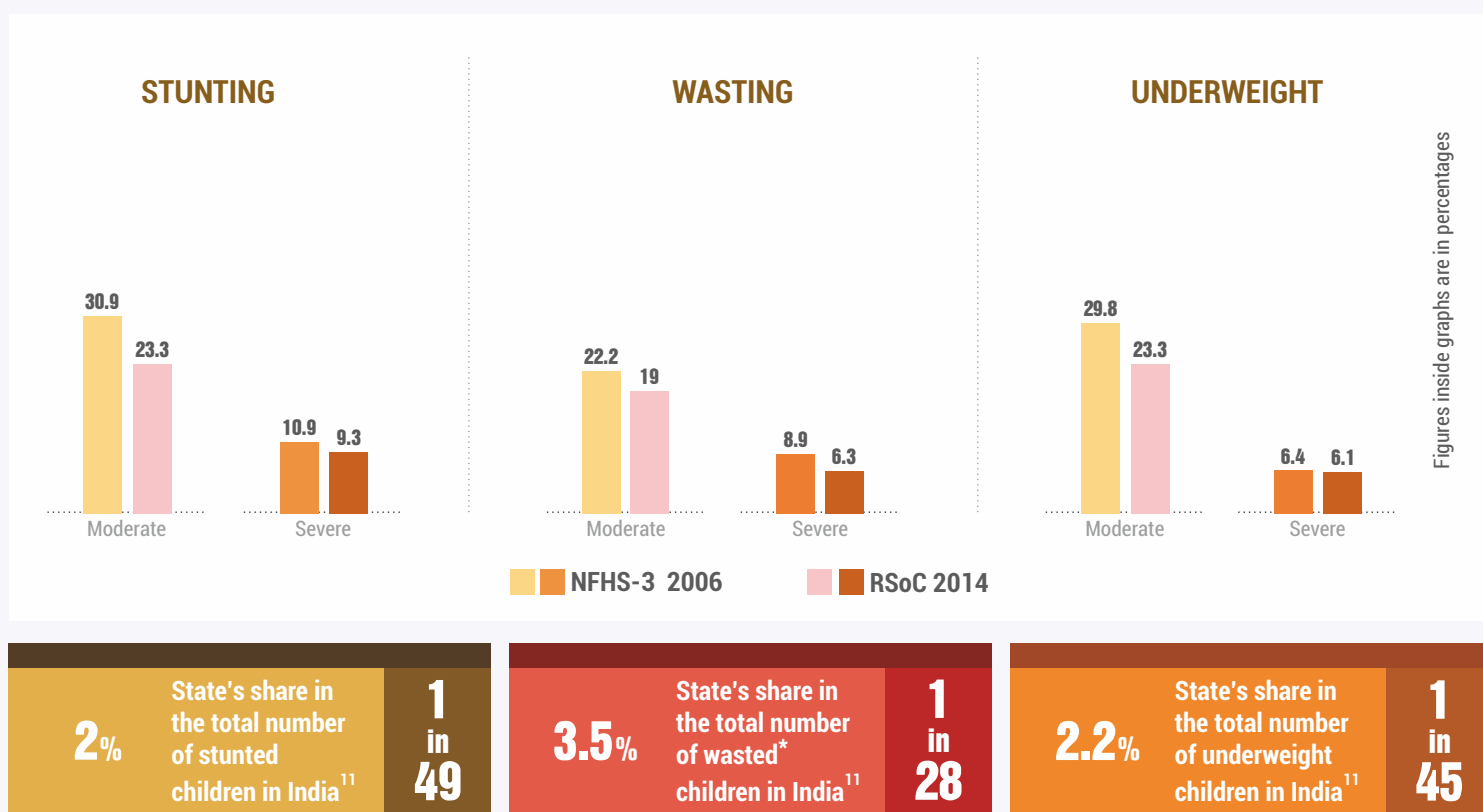
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

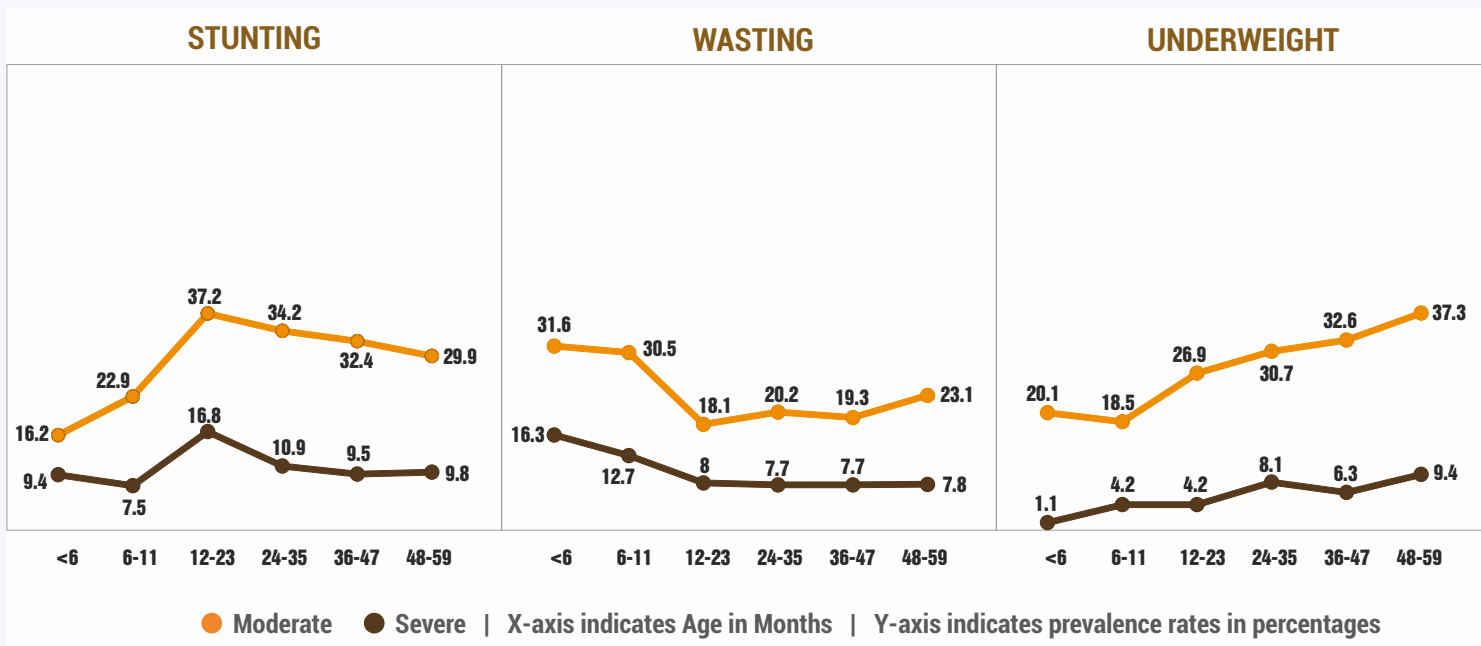


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

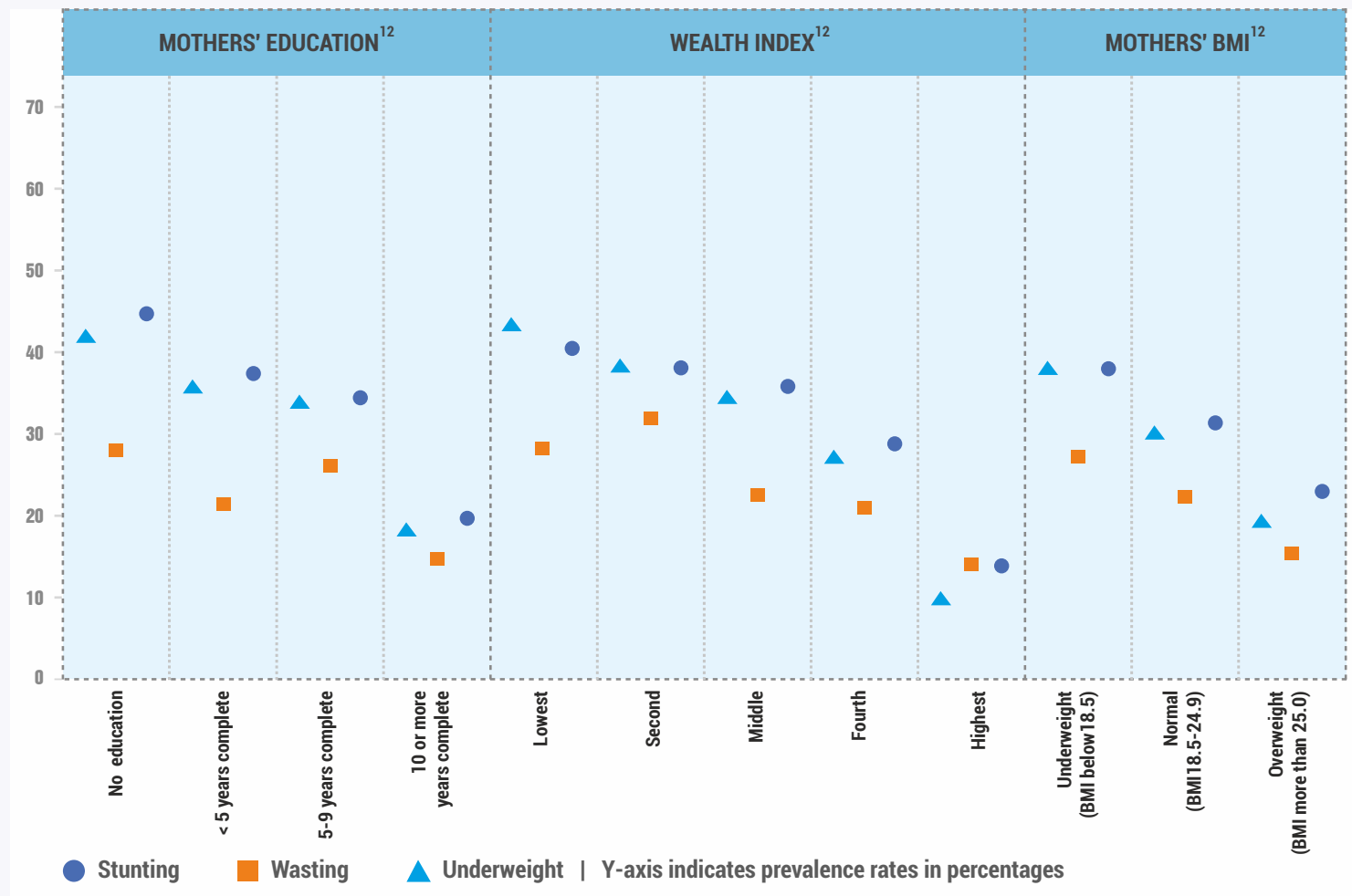
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



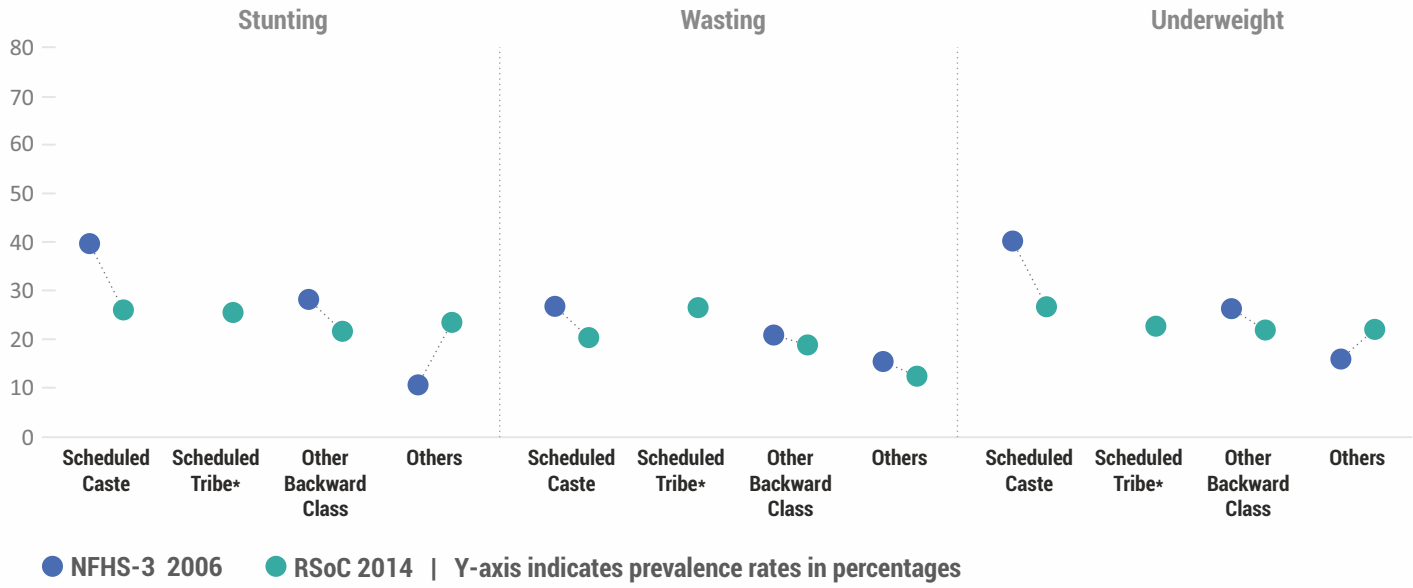
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.



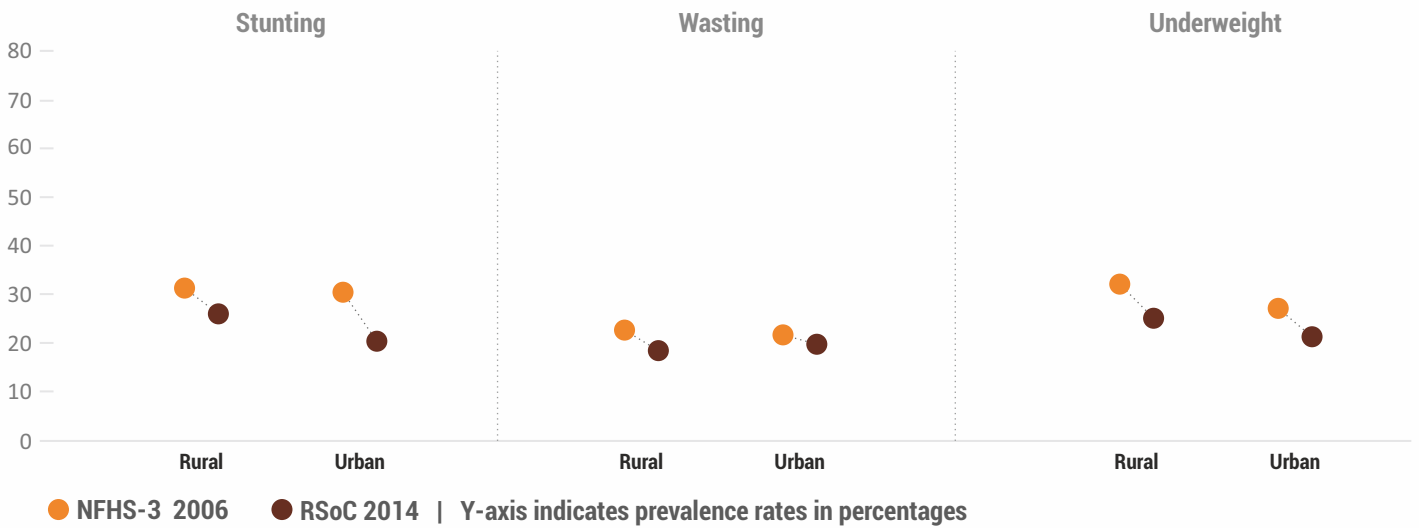
<sup>12</sup> Source : NFHS-3, 2006

CASTE



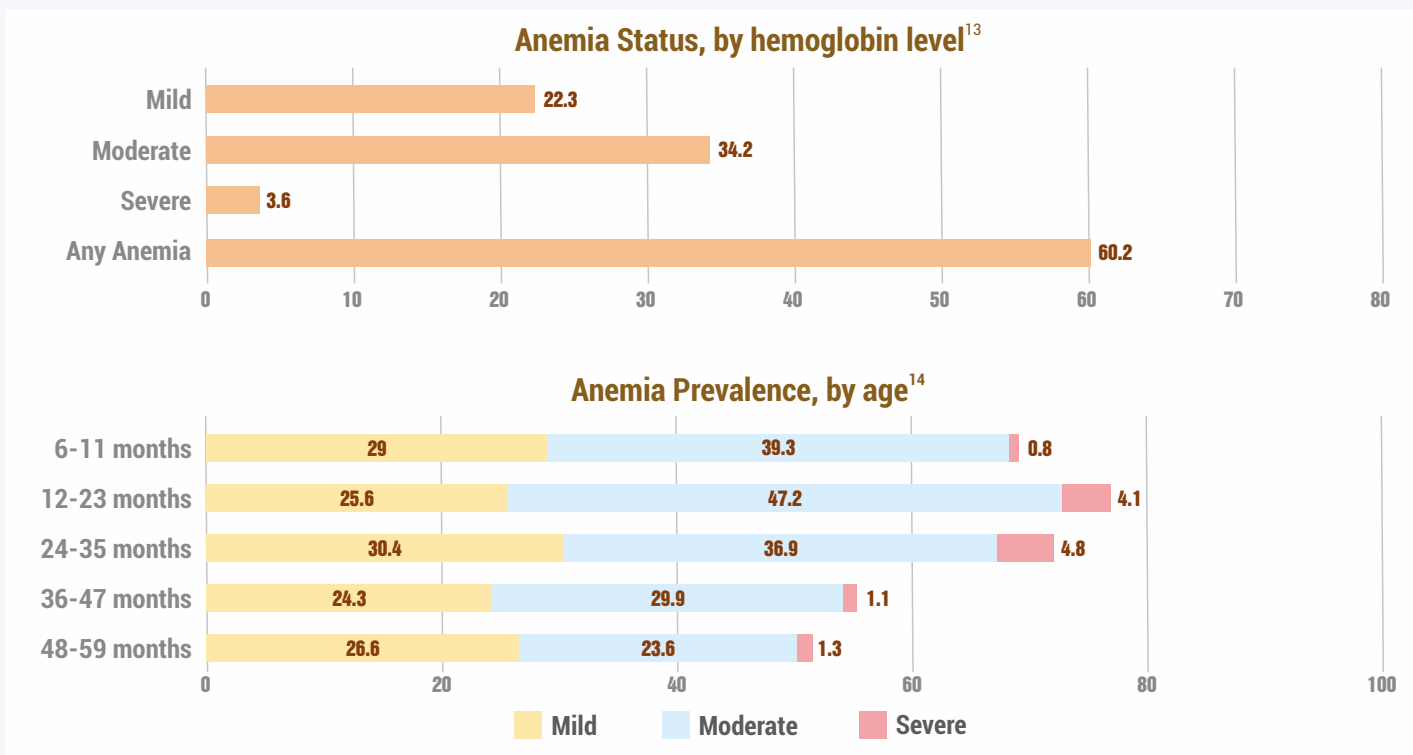
\*Data for Scheduled Tribes is not available in NFHS-3 for this state

RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |   |     |
|---|---|-----|
| Children aged 0-23 months breastfed immediately/within an hour of birth   | 74.7%   |     |
|    | Children aged 0-5 months who were exclusively breastfed   | 57% |
|   | Children aged 6-8 months who were fed complementary foods | 64% |
| <p>For breastfed children (6-23 months)-</p> <p>A. Fed minimum number of times.</p> <p>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old</p> | 30%   |     |
| <p>B. Had minimum dietary diversity</p> <p>Note : Minimum dietary diversity refers to four or more food groups<sup>B</sup> fed to children aged 6-23 months</p>   | 21.4%   |     |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 5.1%  |
| Had fever in 15 days prior to survey   | 12.7% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 4.8%  |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

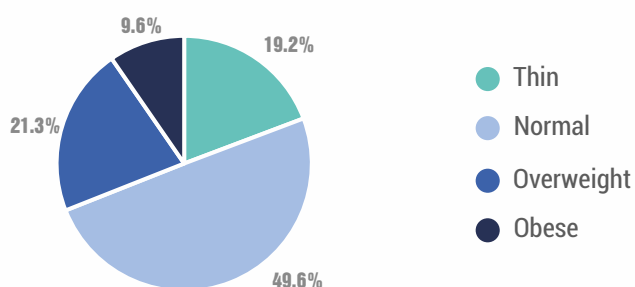
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**49.2%**

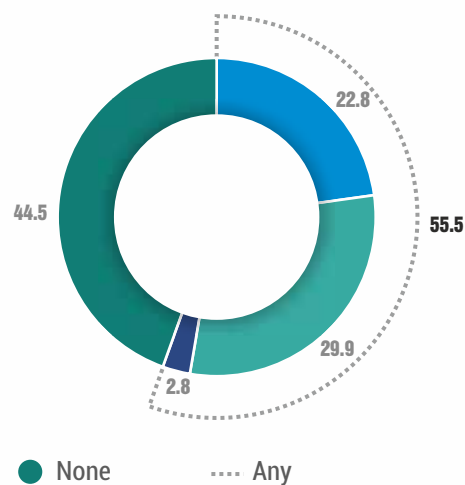
Women aged 15-49 years are anemic

**2.6%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

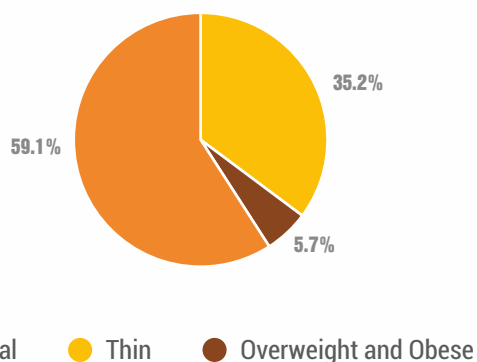
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**49.7%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**1%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **36.1%**



**20.7%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **22.4** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup>

**0.5**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **31.8%**

Currently married women who make decisions about<sup>23</sup>:



**29.1%** Own healthcare



**21.3%** Major household purchase



**57%** Purchases for daily household needs



**20.7%** Visits to her family/friends/relatives



**44.1%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**69.4%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



95.1%

Households with access to improved sources of drinking water<sup>E, 24</sup>

46.4%

Households using improved sanitation facility<sup>F, 24</sup>



43.4%

Households practicing open defecation<sup>24</sup>

75.6 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



4.7%

Growth rate of agriculture from 2007-2012<sup>26</sup>



3.9%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

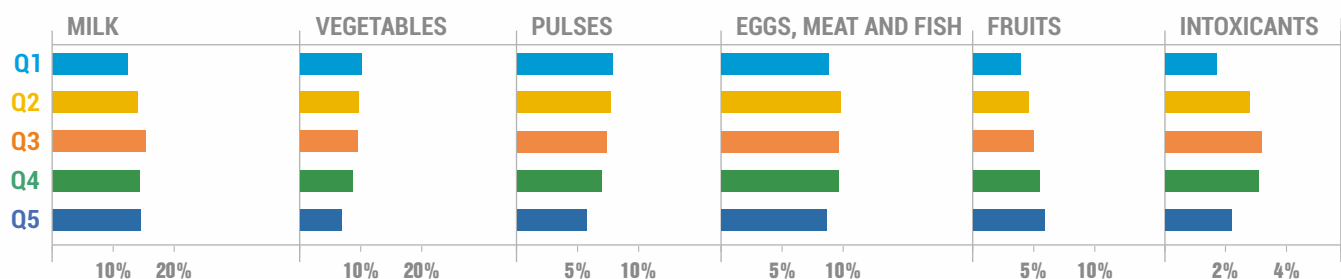
**RURAL**

2052 TAMIL NADU | 2233 INDIA AVG

**URBAN**

2112 TAMIL NADU | 2206 INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 42.3% |
| Children 36-71 months | 26.5% |
| Pregnant women        | 45.7% |
| Lactating mothers     | 30.5% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 33.8% |
| Children aged 36-71 months | 36.4% |
| Pregnant women             | 24.5% |
| Lactating women            | 31.3% |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**91.8%**

Received 3 or more antenatal checkups prior to delivery



**96.4%**

Received 2 or more TT injections prior to delivery



**37.7%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**99.3%**

Had Institutional delivery



**99.5%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**72.8%** Rural  
**80%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**1.4%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



**71.8%**  
Breastfeeding



**54.7%**  
Nutrition of mother and child



**40.2%**  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup> | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers*           | 16.5%    |
| AWWs living in the AWC village/ward  | 31.5%    |
| AWWs having 10 or more years of schooling                                      | 92.9%    |
| Median age of AWWs   | 49 years |
| AWCs serving to population more than the stipulated norm                       | 87.2%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 85.8% |
| AWCs having functional adult weighing scale | 70.2% |
| Available WHO growth chart at AWCs          | 97%   |

<sup>H</sup> Number of AWCs surveyed for Tamil Nadu as per RSoC 2014 is 183.

<sup>30</sup> Source : RSoC, 2014

<sup>31</sup> Source : DLHS-4, 2012-13

\* Source : MoWCD, 2012

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 88.2% |
| AWWs having correct knowledge of normal birth weight of children                    | 72.9% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 96.6% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 76%   |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 41%   |

| Health Service Delivery Personnel   | Value |
|---|-------|
| ASHAs selected <sup>33</sup>  | 79%   |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | **    |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 4.3%  |

\*\* ASHAs have been selected only in the tribal areas.

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 71             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 152.9          | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | -27.3          | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 32%   |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 82%   |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 93.6% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 8              | 47               |
| PDS <sup>41</sup>                           | 1315.5         | 475.3            |
| MGNREGA <sup>42</sup>                       | 687            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13

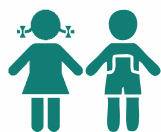


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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN TRIPURA

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**31%**  
Stunted<sup>1</sup>
**17.1%**  
Wasted<sup>1</sup>

World Health Assembly Nutrition Targets


**57.7%**

 Infants 0-5 months old who are exclusively breastfed<sup>1</sup>

**18.5%**

 Children under 3 years who have low birth weight (<2.5 kgs)<sup>1</sup>

**45.6%**

 Women 15-49 years old with anemia<sup>2</sup>

Immediate Determinants


**60.8%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>1</sup>
**21%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>1</sup>

**51.1%** Children 6-59 months old with anemia<sup>2</sup>

**3%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>1</sup>

Immediate Determinants


**0%**

 Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>1</sup>

**59.2%**

 Children 12-23 months old who are fully immunized<sup>1</sup>

**67%**

 Mothers of children under 36 months old who received three or more antenatal checkups<sup>1</sup>

Underlying Determinants


**25.1%**

 Currently married women with 10 or more years of schooling<sup>2</sup>

**40.8%**

 Women aged 20-24 years who were married before the age of 18<sup>1</sup>

**31.8%**

 Adolescent girls 15-18 years old with low BMI (<18.5)<sup>1</sup>

Underlying Determinants


**3.5%**

 Households practicing open defecation<sup>1</sup>

**11.3%**

 Population below state-specific poverty line<sup>3</sup>

Does state have a high-level nutrition mission?

**NO**
<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : DLHS4, 2012-13

<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

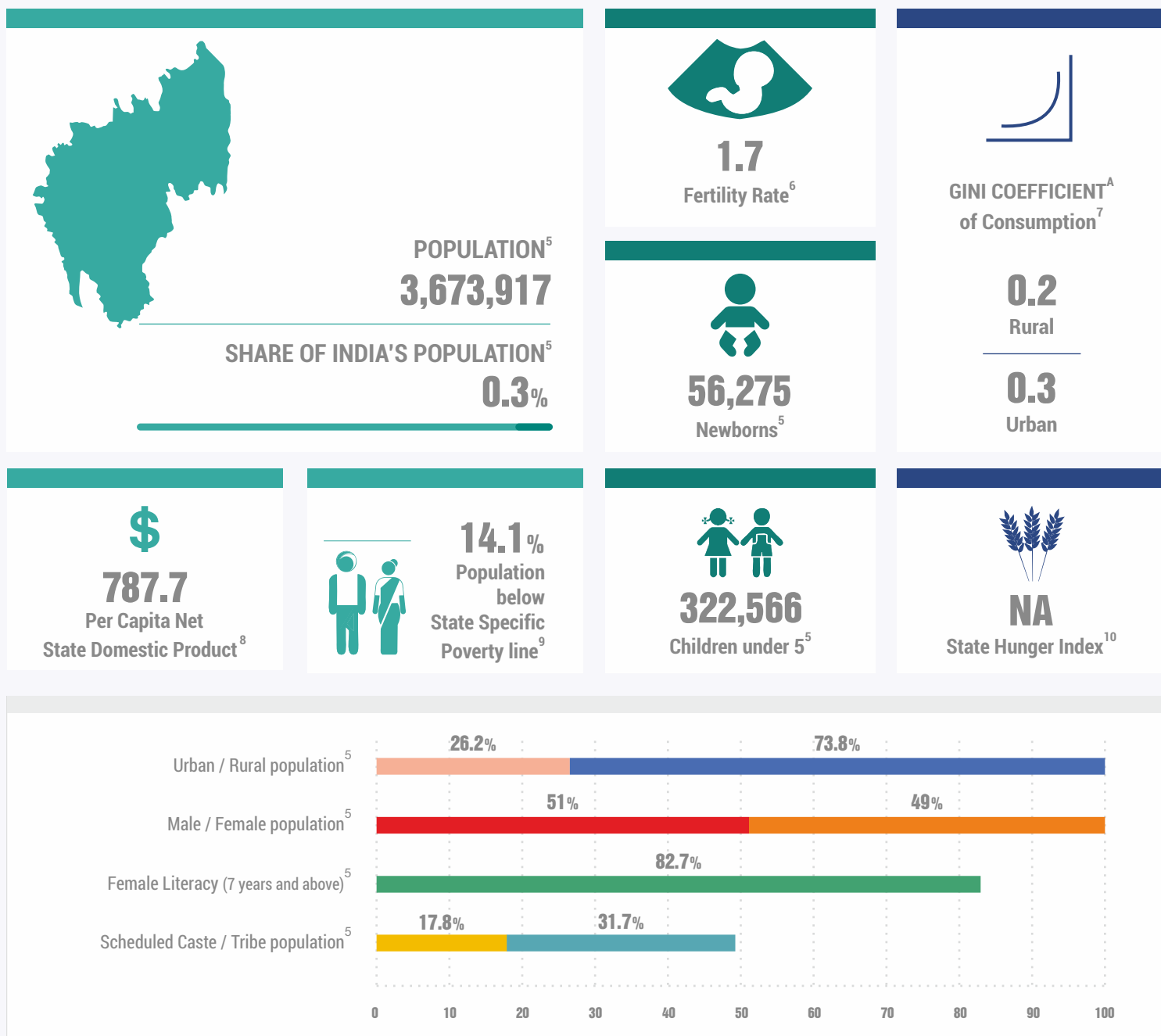


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## I. CONTEXT

### A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2009

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

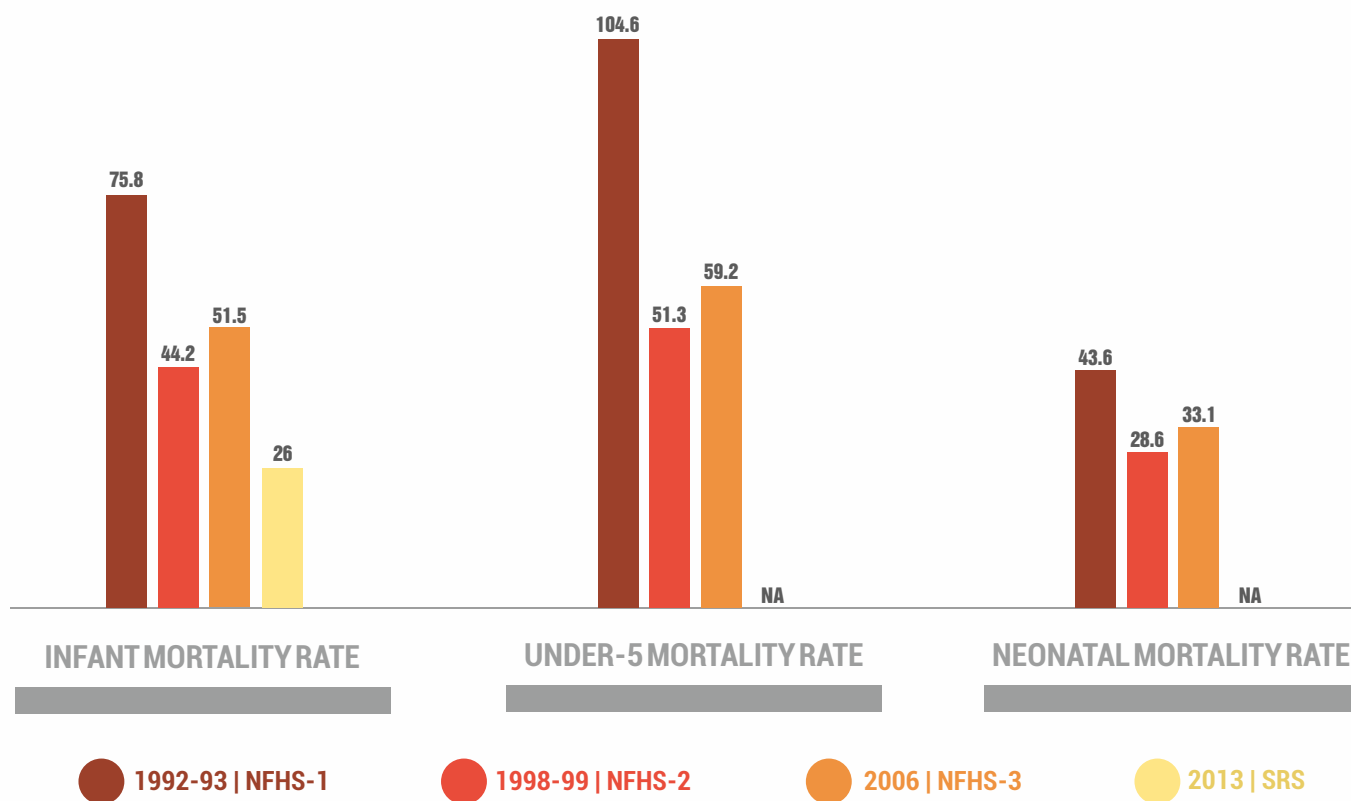
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

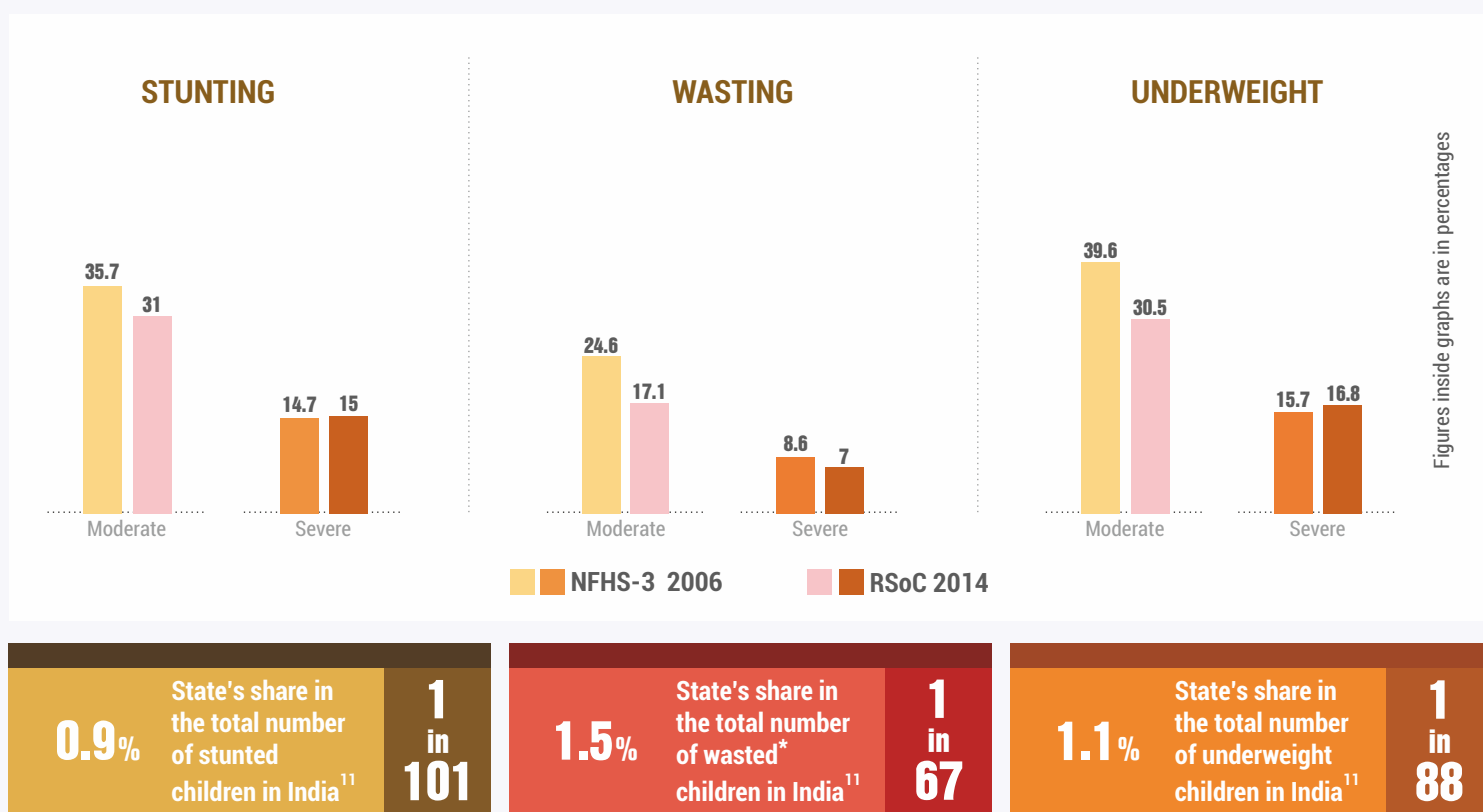
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

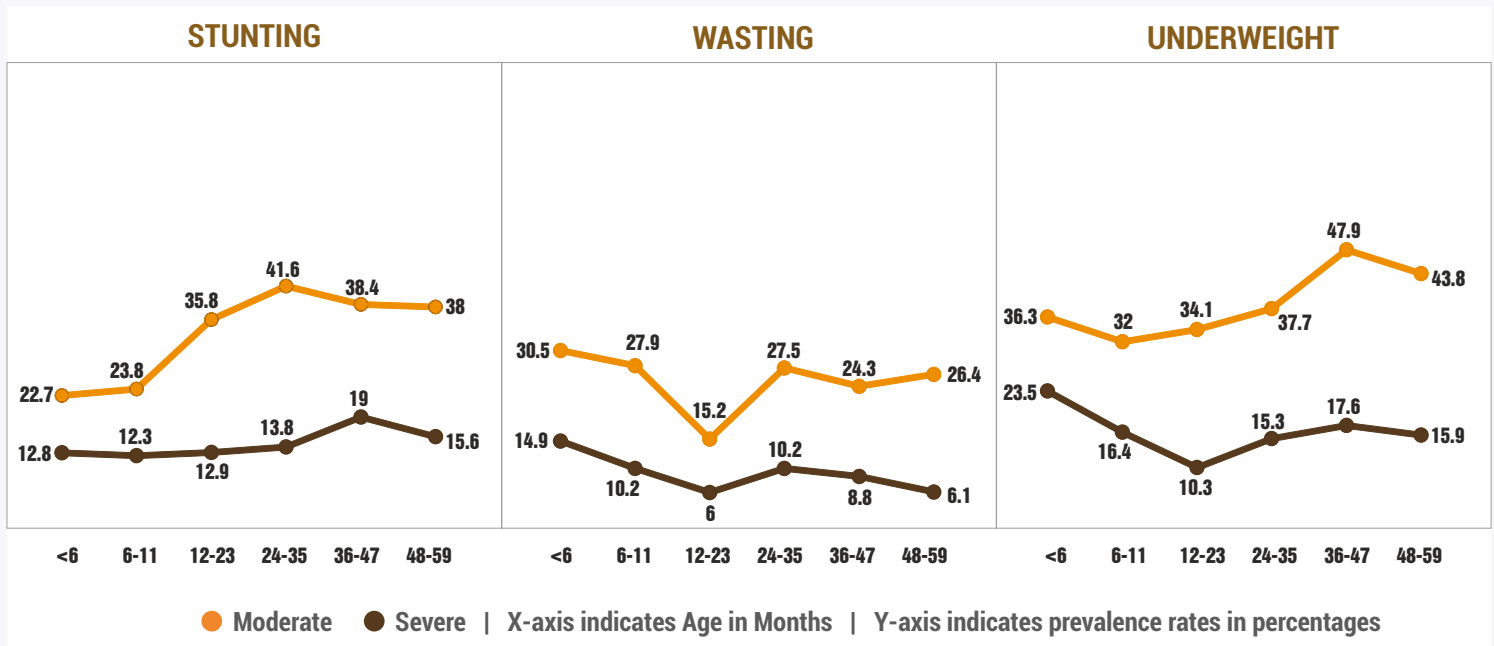


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

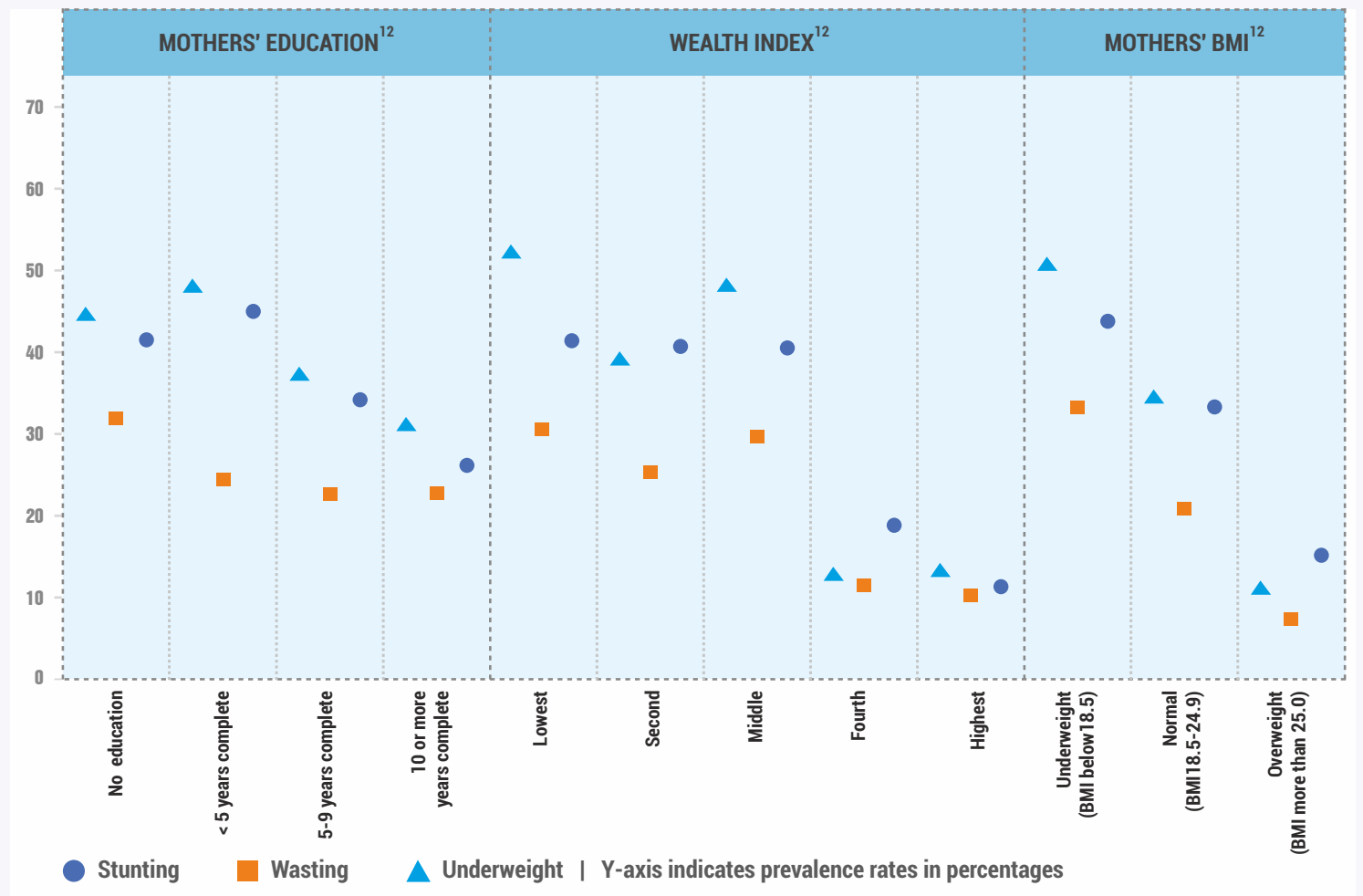
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.

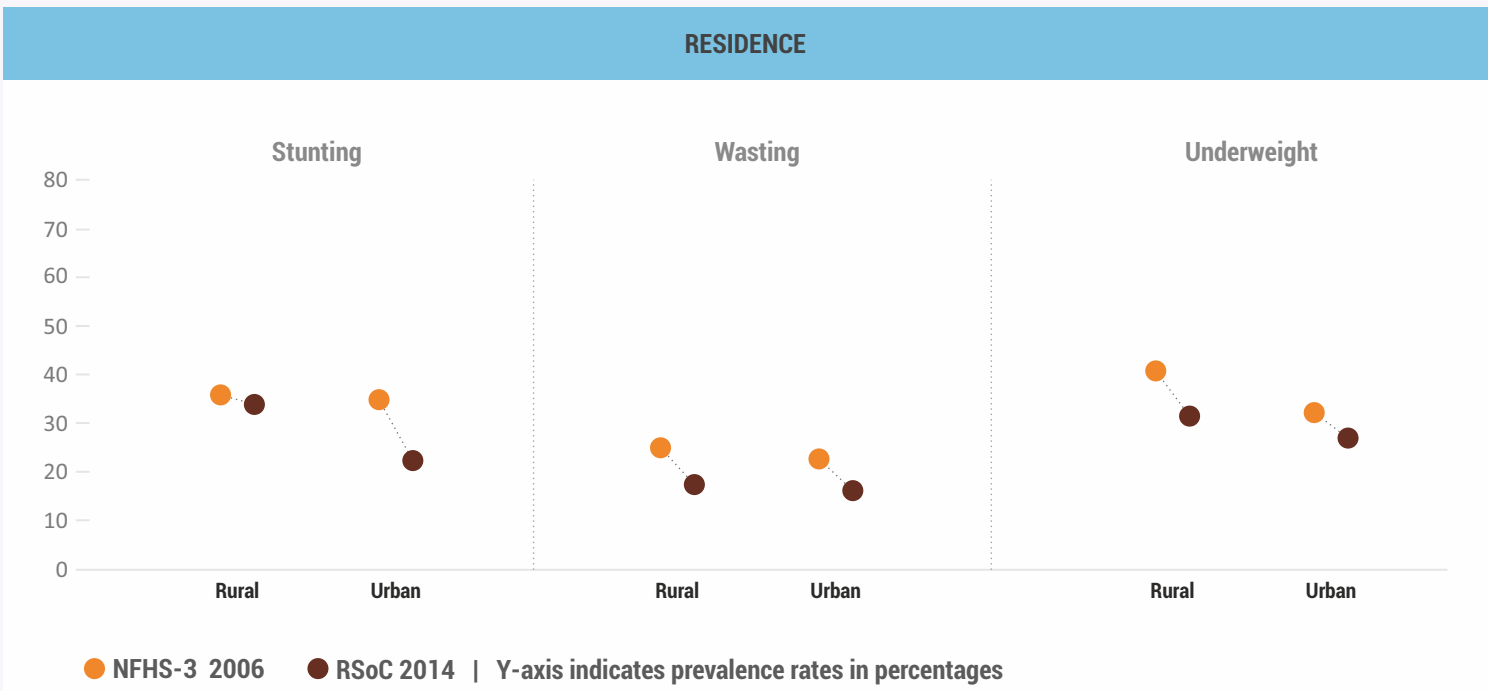
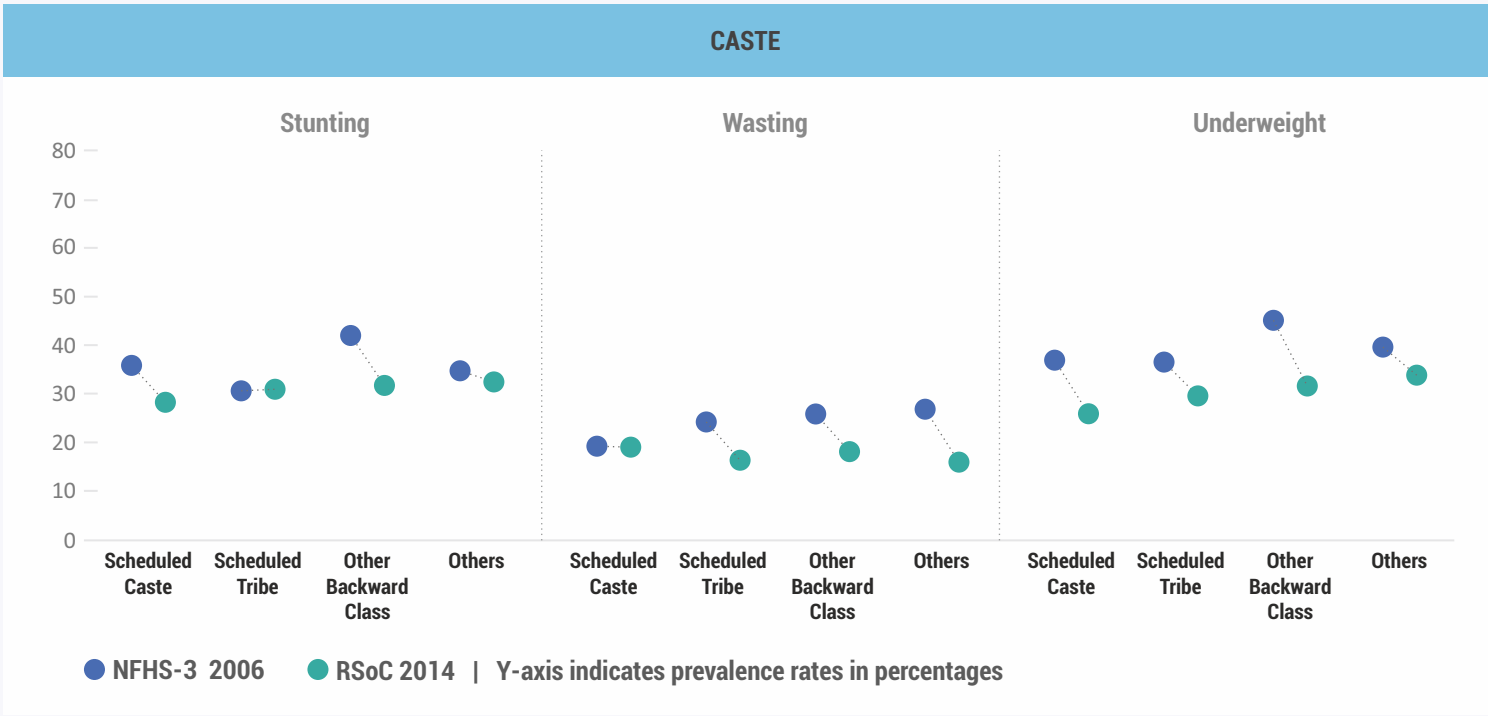


## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

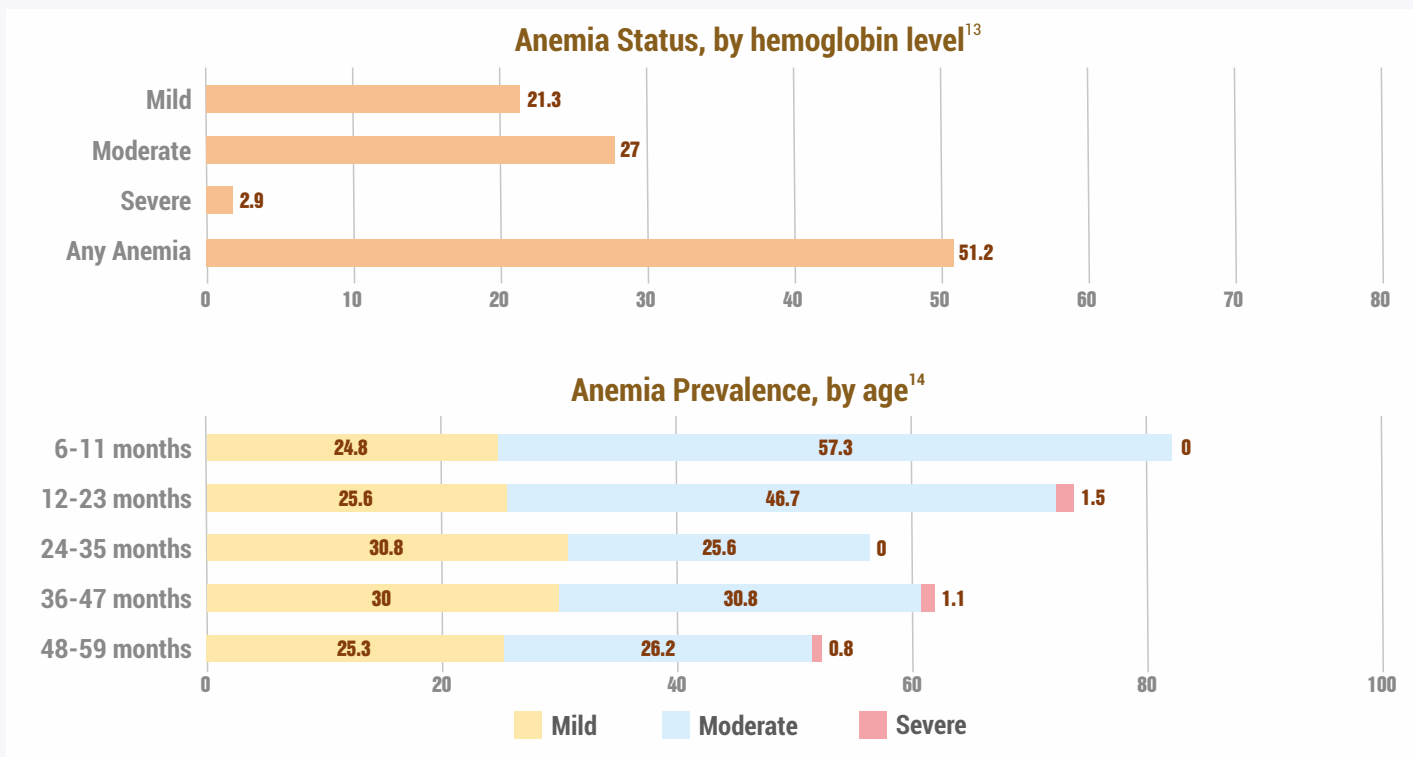


<sup>12</sup> Source : NFHS-3, 2006



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 39.9% |
|  | Children aged 0-5 months who were exclusively breastfed  | 57.7% |
|   | Children aged 6-8 months who were fed complementary foods  | 60.8% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 51.9% |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 21%   |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |      |
|--|------|
| Had diarrhea in 15 days prior to survey                                      | 3%   |
| Had fever in 15 days prior to survey   | 9.8% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 7%   |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

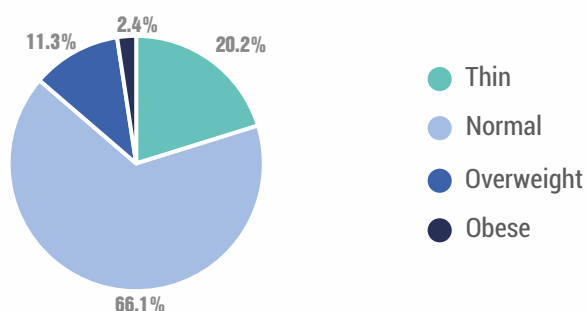
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**45.6%**

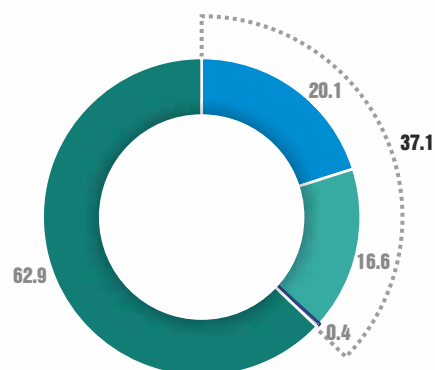
Women aged 15-49 years are anemic

**1.6%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

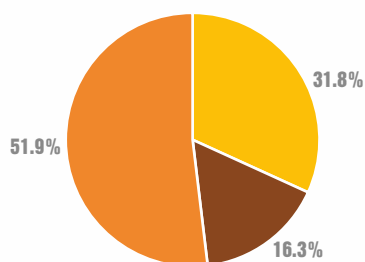
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



● Normal ● Thin ● Overweight and Obese



**59.8%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**1.3%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **25.1%**



**40.8%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **21** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.4**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **23.6%**



**26.2%** Own healthcare



**8.9%** Major household purchase



**32.9%** Purchases for daily household needs



**25.6%** Visits to her family/friends/relatives



**46.6%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**52.3%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



87.2%

Households with access to improved sources of drinking water<sup>E, 24</sup>

58%

Households using improved sanitation facility<sup>F, 24</sup>



3.5%

Households practicing open defecation<sup>24</sup>

7.4 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



1.4%

Growth rate of agriculture from 2007-2012<sup>26</sup>



0.3%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

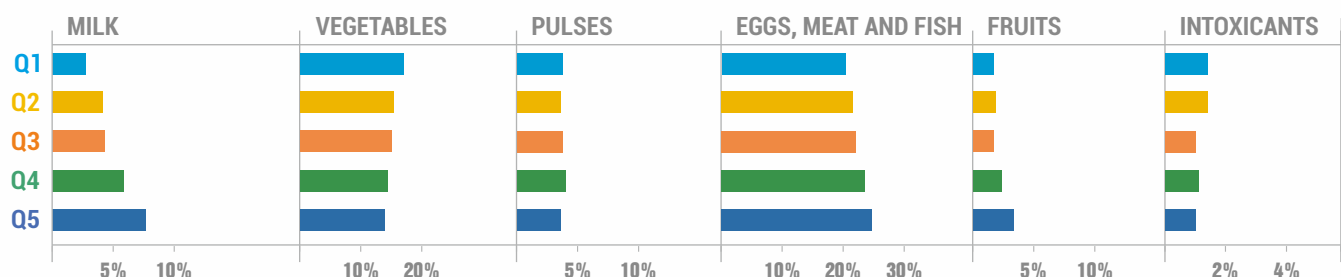
RURAL

NA 2233  
TRIPURA INDIA AVG

URBAN

NA 2206  
TRIPURA INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 70%   |
| Children 36-71 months | 78.4% |
| Pregnant women        | 60%   |
| Lactating mothers     | 27.2% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 0%    |
| Children aged 36-71 months | 39.3% |
| Pregnant women             | 49.5% |
| Lactating women            | 0%    |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



67%

Received 3 or more antenatal checkups prior to delivery



89.8%

Received 2 or more TT injections prior to delivery



24.6%

Consumed 100 or more IFA tablets/syrup during pregnancy



79.5%

Had Institutional delivery



80.4%

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



56.2% Rural

68.5% Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



11.9%

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



73.1%  
Breastfeeding



70.4%  
Nutrition of mother and child



43.9%  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup> | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers*           | 0.1%     |
| AWWs living in the AWC village/ward  | 66.8%    |
| AWWs having 10 or more years of schooling                                      | 61.4%    |
| Median age of AWWs   | 36 years |
| AWCs serving to population more than the stipulated norm                       | 2.9%     |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 20.9% |
| AWCs having functional adult weighing scale | 94.8% |
| Available WHO growth chart at AWCs          | 93.6% |

<sup>H</sup> Number of AWCs surveyed for Tripura as per RSoC 2014 is 263.

<sup>30</sup> Source : RSoC, 2014

<sup>31</sup> Source : DLHS-4, 2012-13

\* Source : MoWCD, 2012

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 91.9% |
| AWWs having correct knowledge of normal birth weight of children                    | 75.2% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 87.9% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 92%   |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 78.1% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 100%              |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 368 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | NA                |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 16             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 11.2           | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 7.6            | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 82.5% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 80.6% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 98.2% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 9              | 47               |
| PDS <sup>41</sup>                           | 133.1          | 475.3            |
| MGNREGA <sup>42</sup>                       | 162            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lq15/15/as216.htm](http://164.100.47.132/Annexure_New/lq15/15/as216.htm) 2011-12

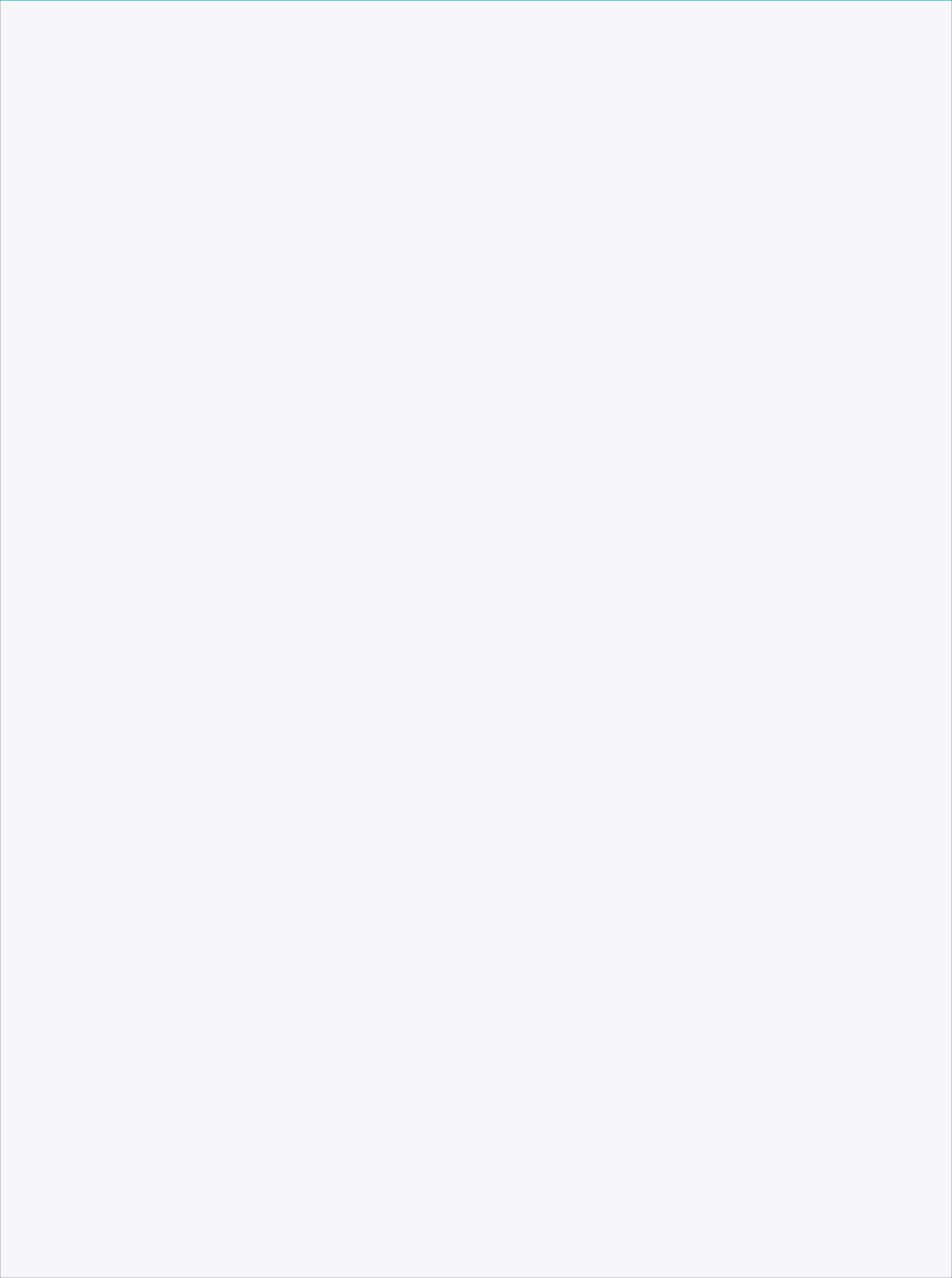
<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

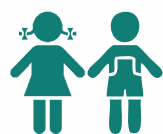
<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13





## FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN UTTAR PRADESH

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

50.4%  
Stunted<sup>1</sup>10%  
Wasted<sup>1</sup>

World Health Assembly Nutrition Targets



62.2%

Infants 0-5  
months old who are  
exclusively breastfed<sup>1</sup>

22.5%

Children under  
3 years who have low  
birth weight (<2.5 kgs)<sup>1</sup>

49.9%

Women  
15-49 years old  
with anemia<sup>2</sup>

Immediate Determinants

32% Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>1</sup>15.1% Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>1</sup>73.9% Children 6-59 months  
old with anemia<sup>2</sup>5.2% Children 6-59 months old who  
had diarrhea in 15 days prior  
to survey<sup>1</sup>

Immediate Determinants

Underlying Determinants



15.5%

Children 6-35 months old  
who received supplementary  
food under ICDS for 21 days  
in the month prior to survey<sup>1</sup>

47%

Children 12-23  
months old who are  
fully immunized<sup>1</sup>

38.6%

Mothers of  
children under 36 months  
old who received three  
or more antenatal checkups<sup>1</sup>

11.6%

Currently  
married women with 10  
or more years of schooling<sup>3</sup>

27.7%

Women aged 20-24  
years who were  
married before the age of 18<sup>1</sup>

36.7%

Adolescent girls  
15-18 years old  
with low BMI (<18.5)<sup>1</sup>

57.7%

Households  
practicing  
open defecation<sup>1</sup>

29.4%

Population  
below  
state-specific poverty line<sup>4</sup>Does state have a  
high-level nutrition mission?

YES

Underlying Determinants

<sup>1</sup> Source : RSoC, 2014<sup>2</sup> Source : NFHS-3, 2006<sup>3</sup> Source : DLHS-3, 2007-08<sup>4</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

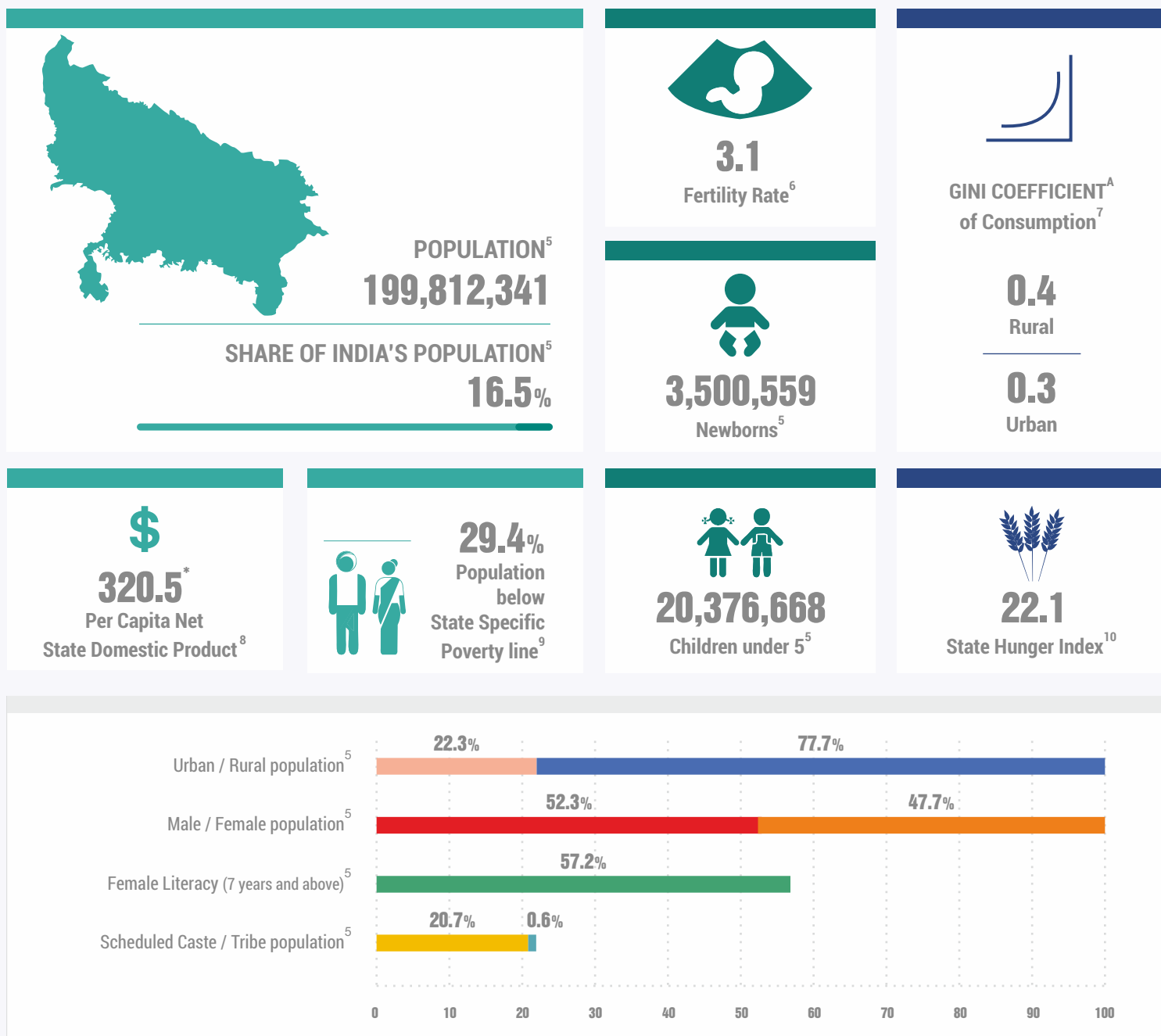


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## I. CONTEXT

### A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

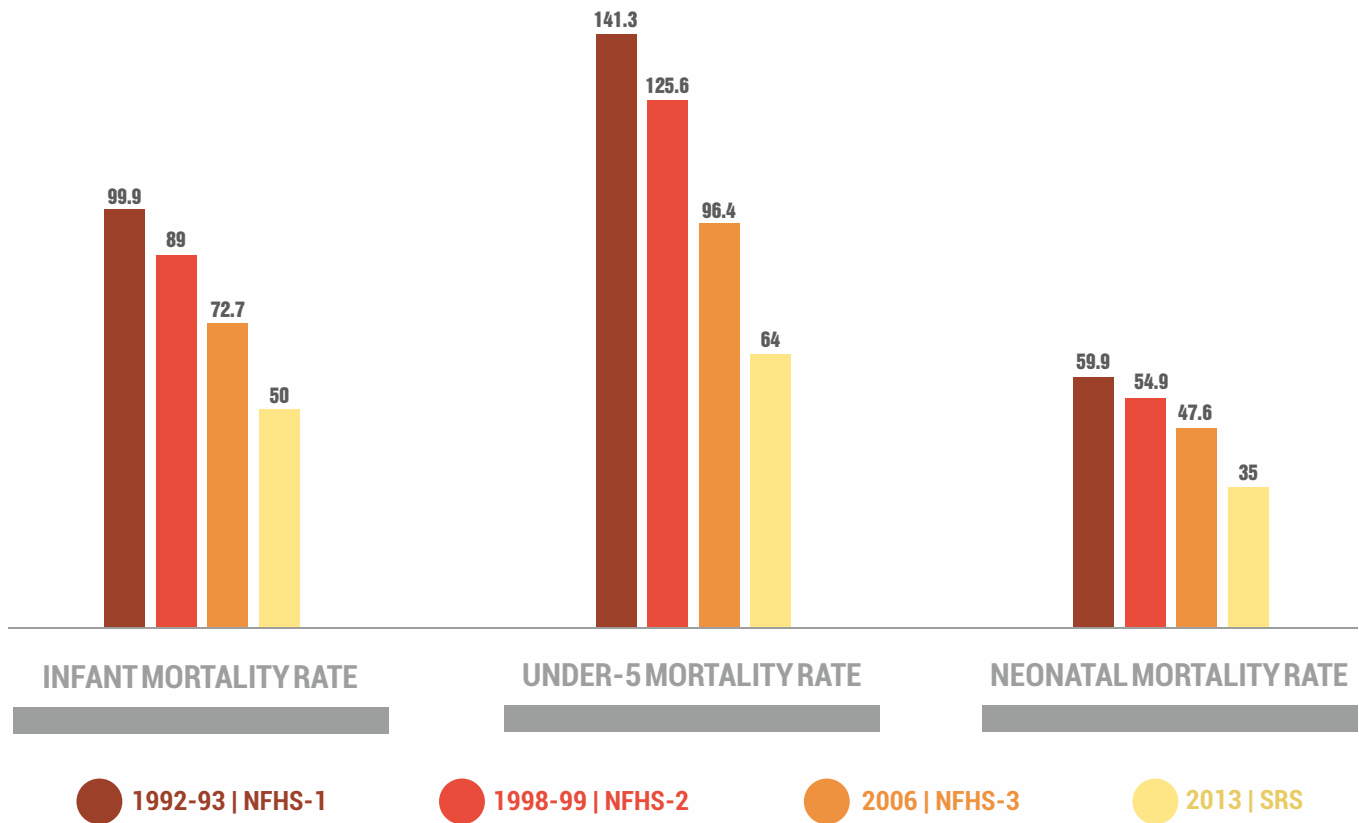
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

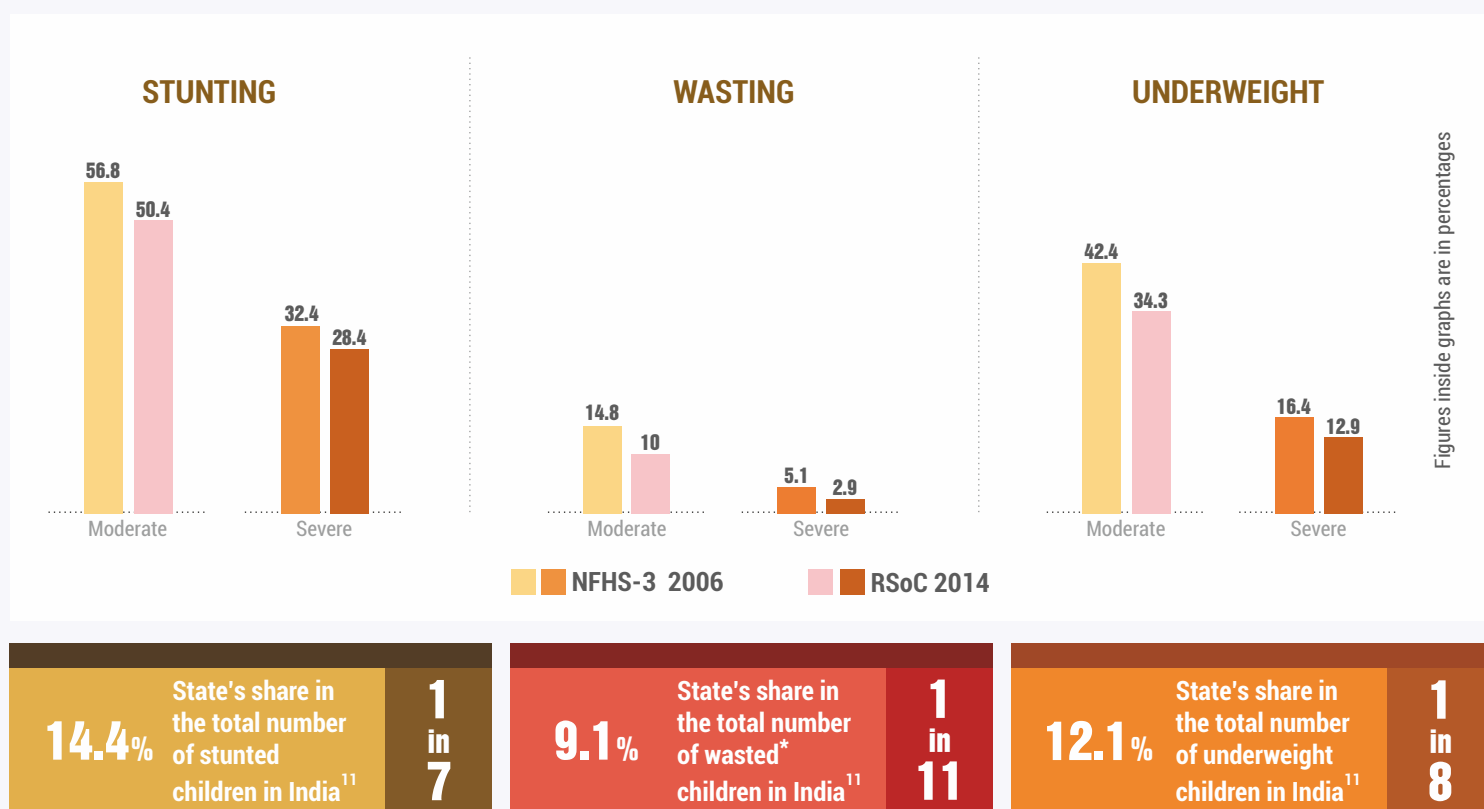
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

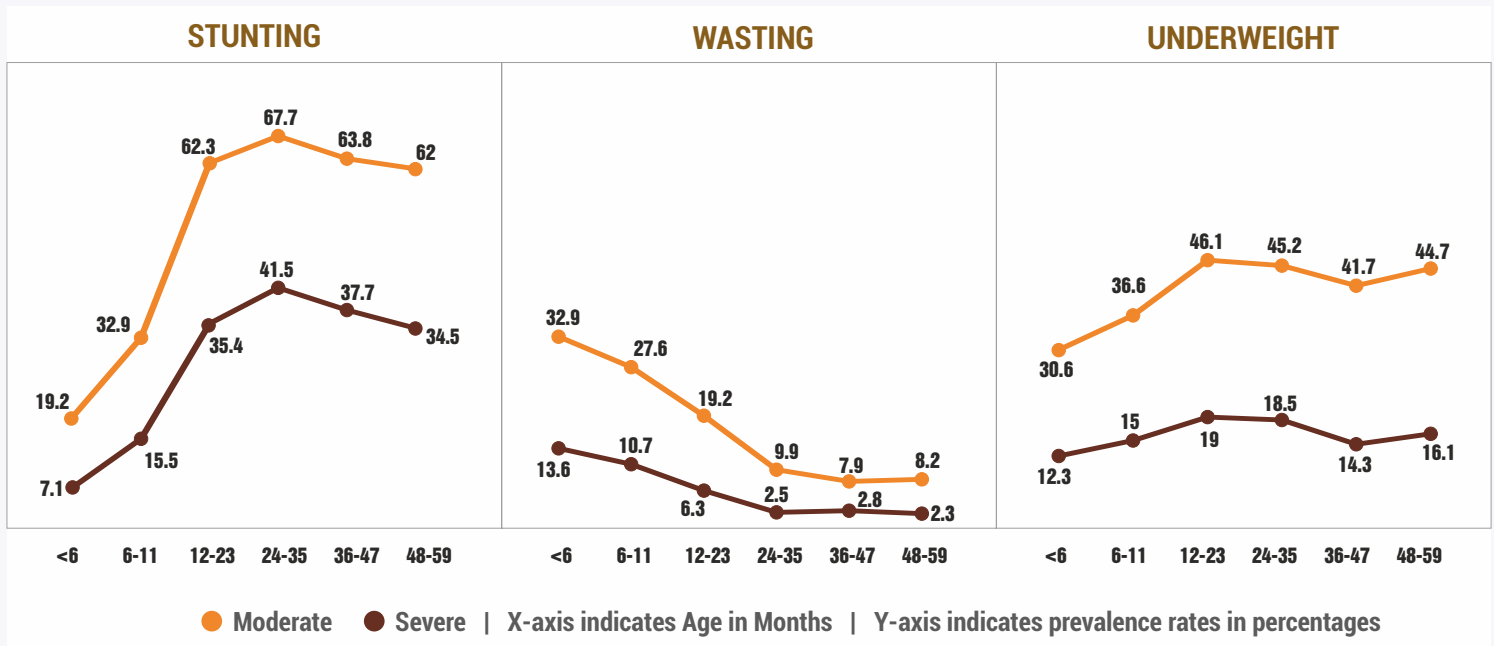


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

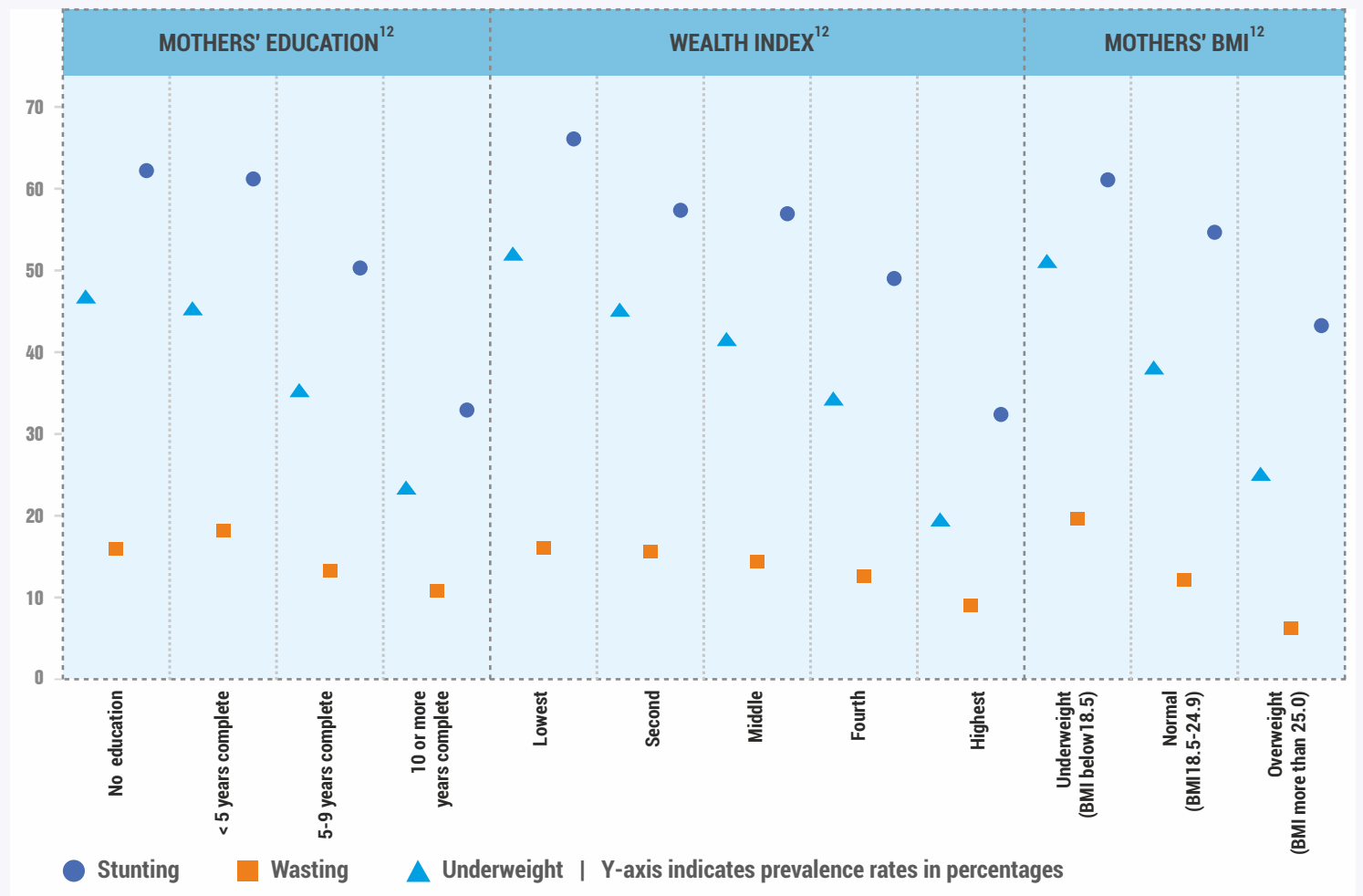
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



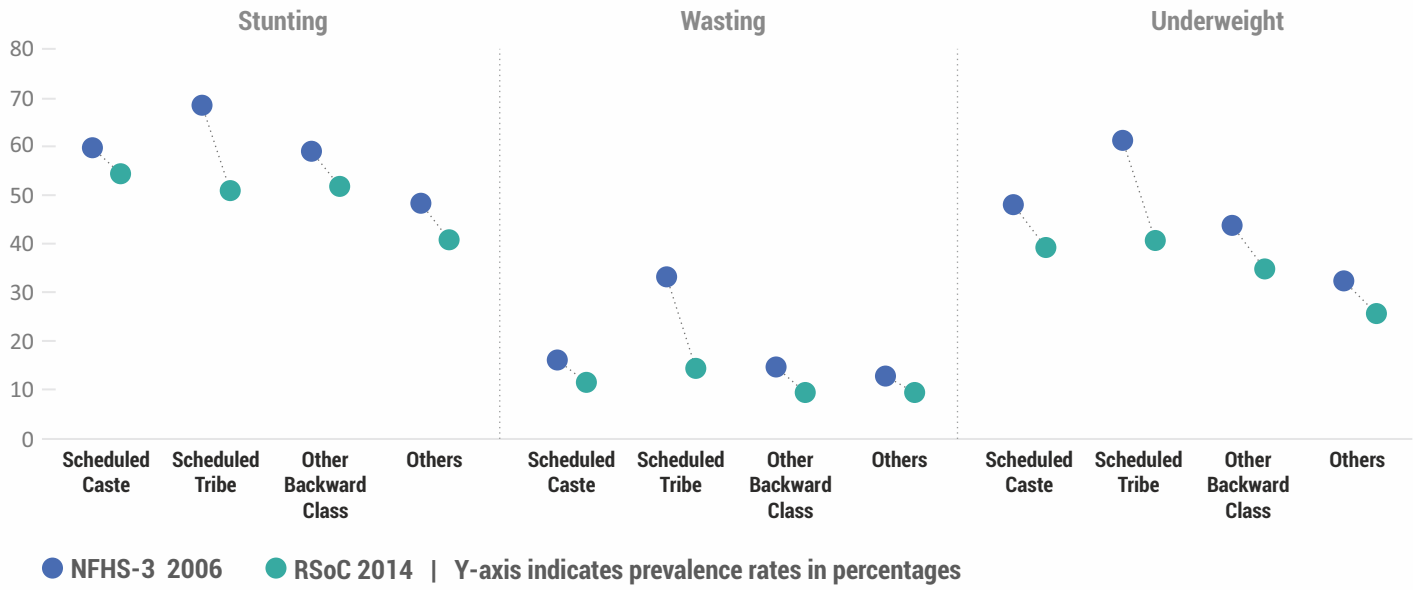
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

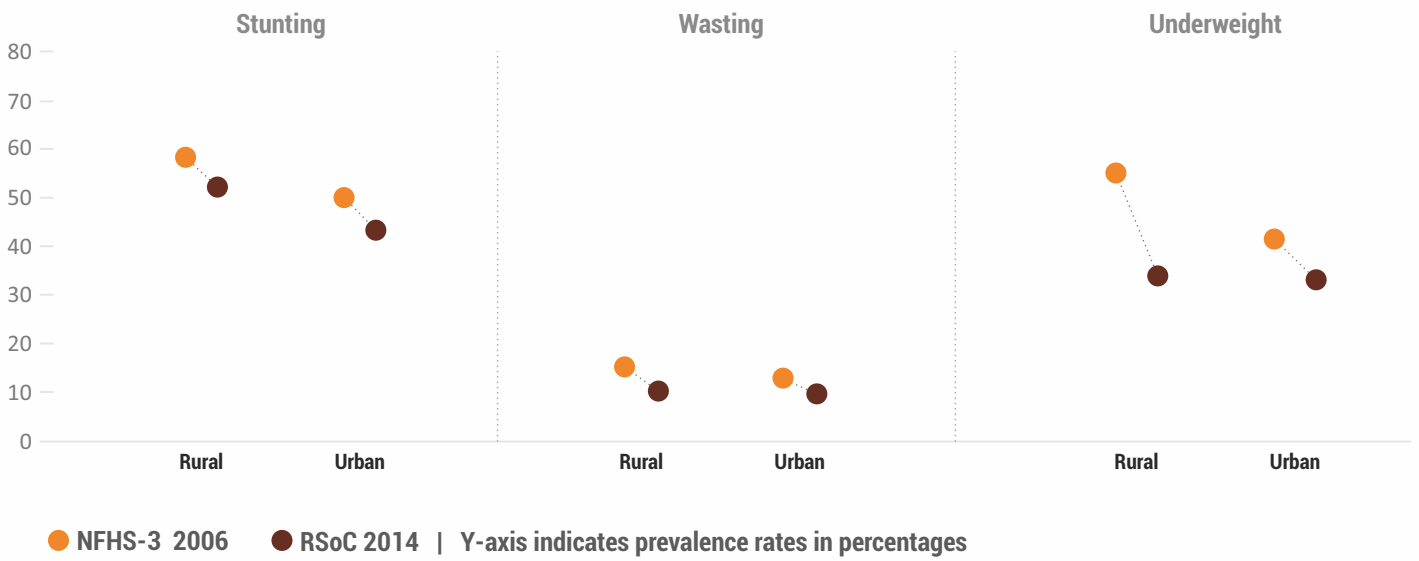


<sup>12</sup> Source : NFHS-3, 2006

CASTE

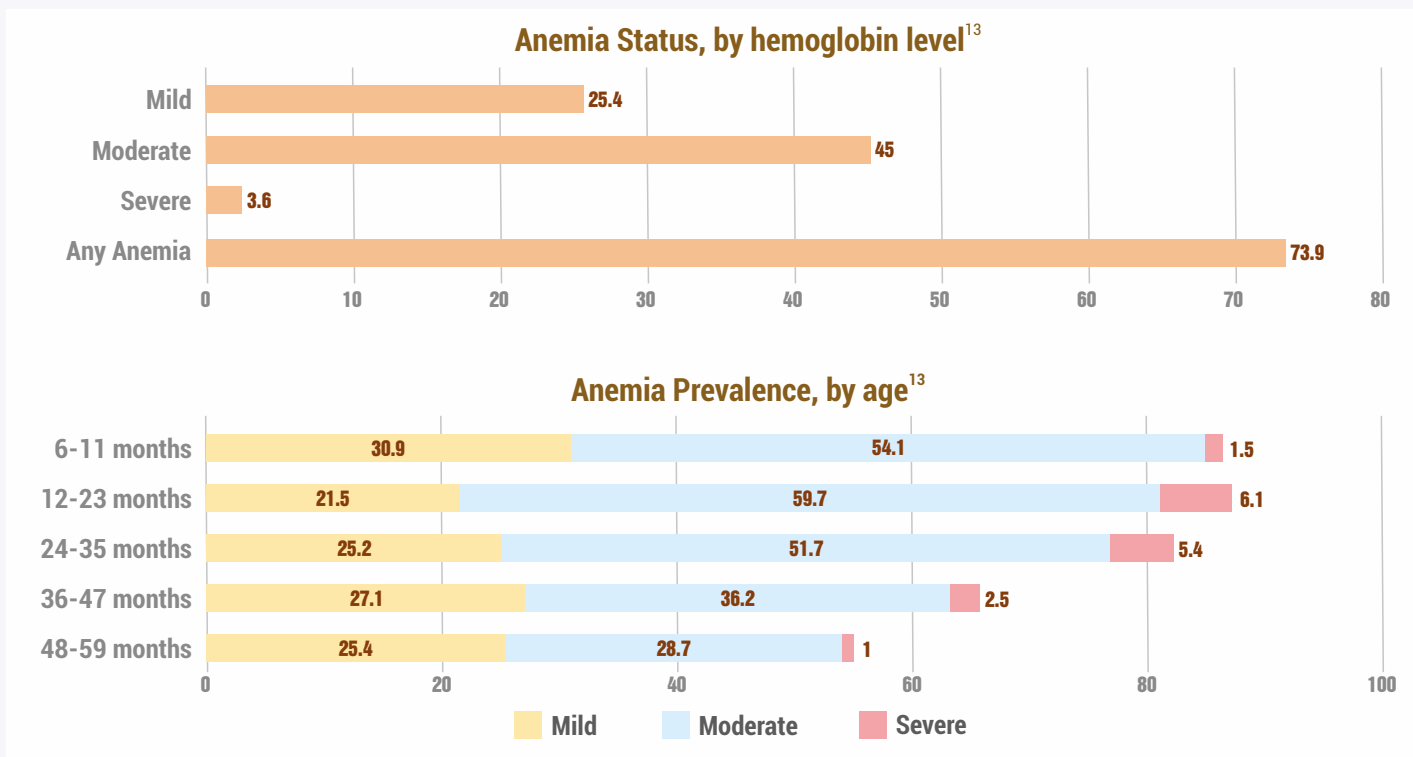


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.




<sup>13</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |   |       |
|---|---|-------|
| Children aged 0-23 months breastfed immediately/within an hour of birth   | 22.5%   |       |
|    | Children aged 0-5 months who were exclusively breastfed   | 62.2% |
|   | Children aged 6-8 months who were fed complementary foods | 32%   |
| <p>For breastfed children (6-23 months)-</p> <p>A. Fed minimum number of times.</p> <p>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old</p> | 30.1%   |       |
| <p>B. Had minimum dietary diversity</p> <p>Note : Minimum dietary diversity refers to four or more food groups<sup>B</sup> fed to children aged 6-23 months</p>   | 15.1%   |       |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 5.2%  |
| Had fever in 15 days prior to survey   | 11.3% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 6.3%  |

<sup>B</sup> The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

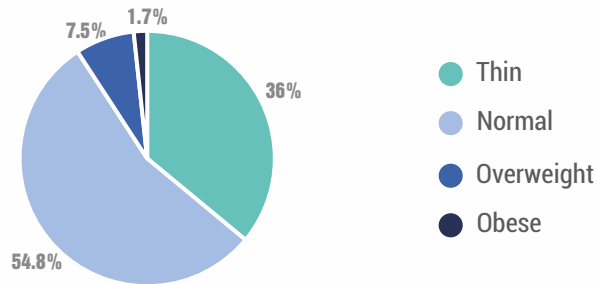
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



**49.9%**

Women aged 15-49 years are anemic

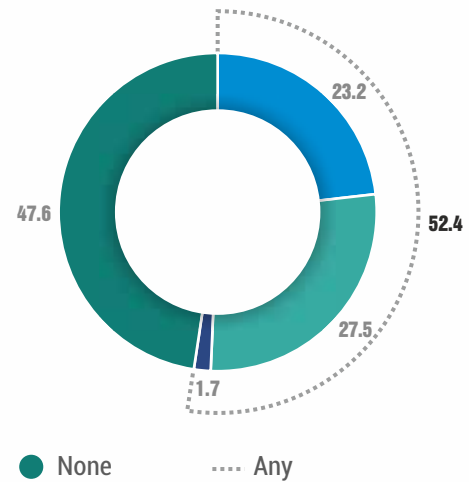
**1.6%**

Women aged 15-49 years are severely anemic

<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]

### C.2. PREGNANT WOMEN<sup>16</sup>

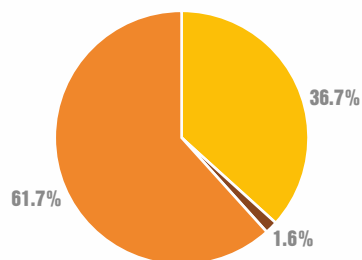
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



**48.6%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**1.6%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

● Normal ● Thin ● Overweight and Obese

<sup>16</sup> Source : NFHS-3, 2006

<sup>17</sup> Source : RSoC, 2014

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **11.6%**



**27.7%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **20.2** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup>

**0.4**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **16.8%**

Currently married women who make decisions about<sup>23</sup>:



**27%** Own healthcare



**5.6%** Major household purchase



**27.4%** Purchases for daily household needs



**6.4%** Visits to her family/friends/relatives



**45%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**47.7%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-3, 2007-08

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



97.5%

Households with access to improved sources of drinking water<sup>E, 24</sup>

33.1%

Households using improved sanitation facility<sup>F, 24</sup>



57.7%

Households practicing open defecation<sup>24</sup>

298 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



3%

Growth rate of agriculture from 2007-2012<sup>26</sup>



19.39%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

RURAL

URBAN

2200

2233

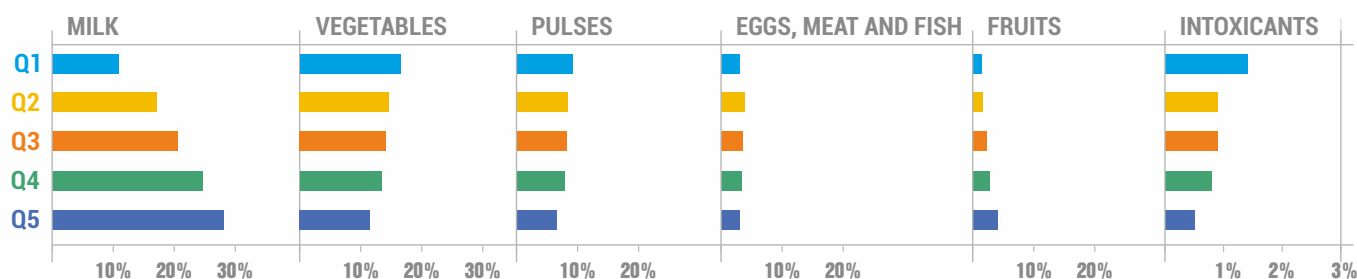
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### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 22.8% |
| Children 36-71 months | 22.5% |
| Pregnant women        | 23.8% |
| Lactating mothers     | 23.6% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 15.5% |
| Children aged 36-71 months | 12.4% |
| Pregnant women             | 12.7% |
| Lactating women            | 18.4% |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**38.6%**

Received 3 or more antenatal checkups prior to delivery



**81.3%**

Received 2 or more TT injections prior to delivery



**4.3%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**62.1%**

Had Institutional delivery



**65.1%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**43.4%** Rural

**60.3%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**14.6%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



**32.3%**  
Breastfeeding



**31.5%**  
Nutrition



**22.1%**  
Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 4.8%     |
| AWWs living in the AWC village/ward  | 80.6%    |
| AWWs having 10 or more years of schooling  | 96%      |
| Median age of AWWs   | 38 years |
| AWCs serving to population more than the stipulated norm                           | 92.1%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 49.9% |
| AWCs having functional adult weighing scale | 34.4% |
| Available WHO growth chart at AWCs          | 80.1% |

<sup>H</sup> Number of AWCs surveyed for Uttar Pradesh as per RSoC 2014 is 714.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-3, 2007-08

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 88.6% |
| AWWs having correct knowledge of normal birth weight of children                    | 81.5% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 95.6% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 95.8% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 50%   |

| Health Service Delivery Personnel   | Value               |
|---|---------------------|
| ASHAs selected <sup>33</sup>  | 85%                 |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 1,140 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | NA                  |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 417            | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 362.4          | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | -45.6          | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 32.5% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 24.4% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 84.1% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 184            | 47               |
| PDS <sup>41</sup>                           | 2349.3         | 475.3            |
| MGNREGA <sup>42</sup>                       | 444            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lq/15/15/as216.htm](http://164.100.47.132/Annexure_New/lq/15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13



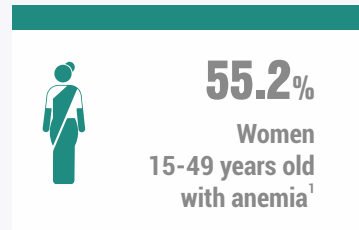
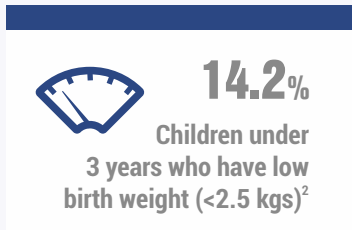
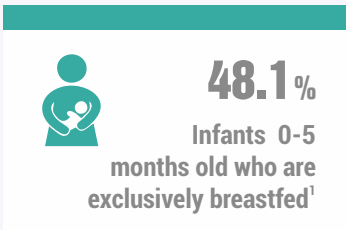
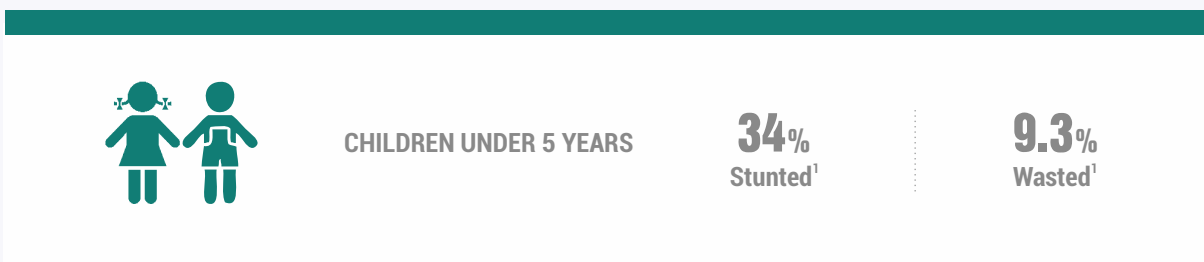
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# FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN UTTARAKHAND

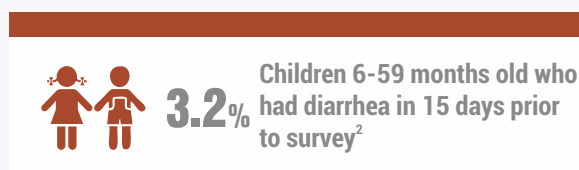
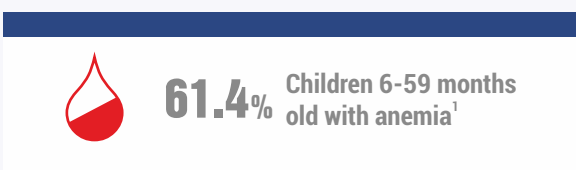
World Health Assembly Nutrition Targets

World Health Assembly Nutrition Targets



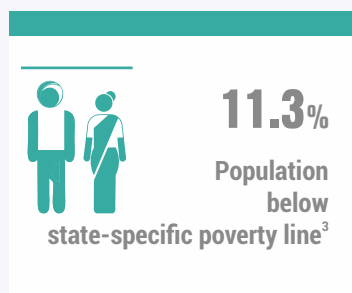
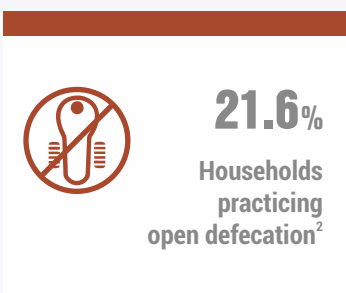
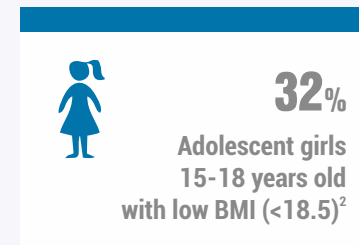
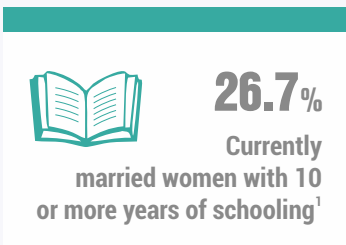
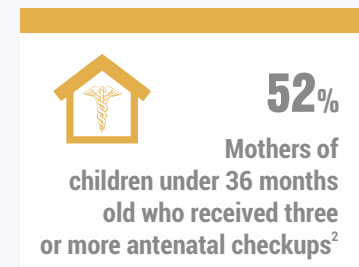
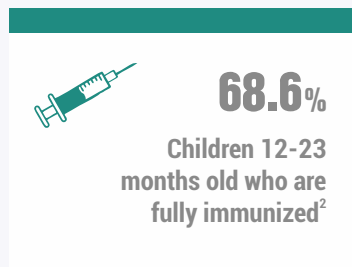
Immediate Determinants

Immediate Determinants



Underlying Determinants

Underlying Determinants

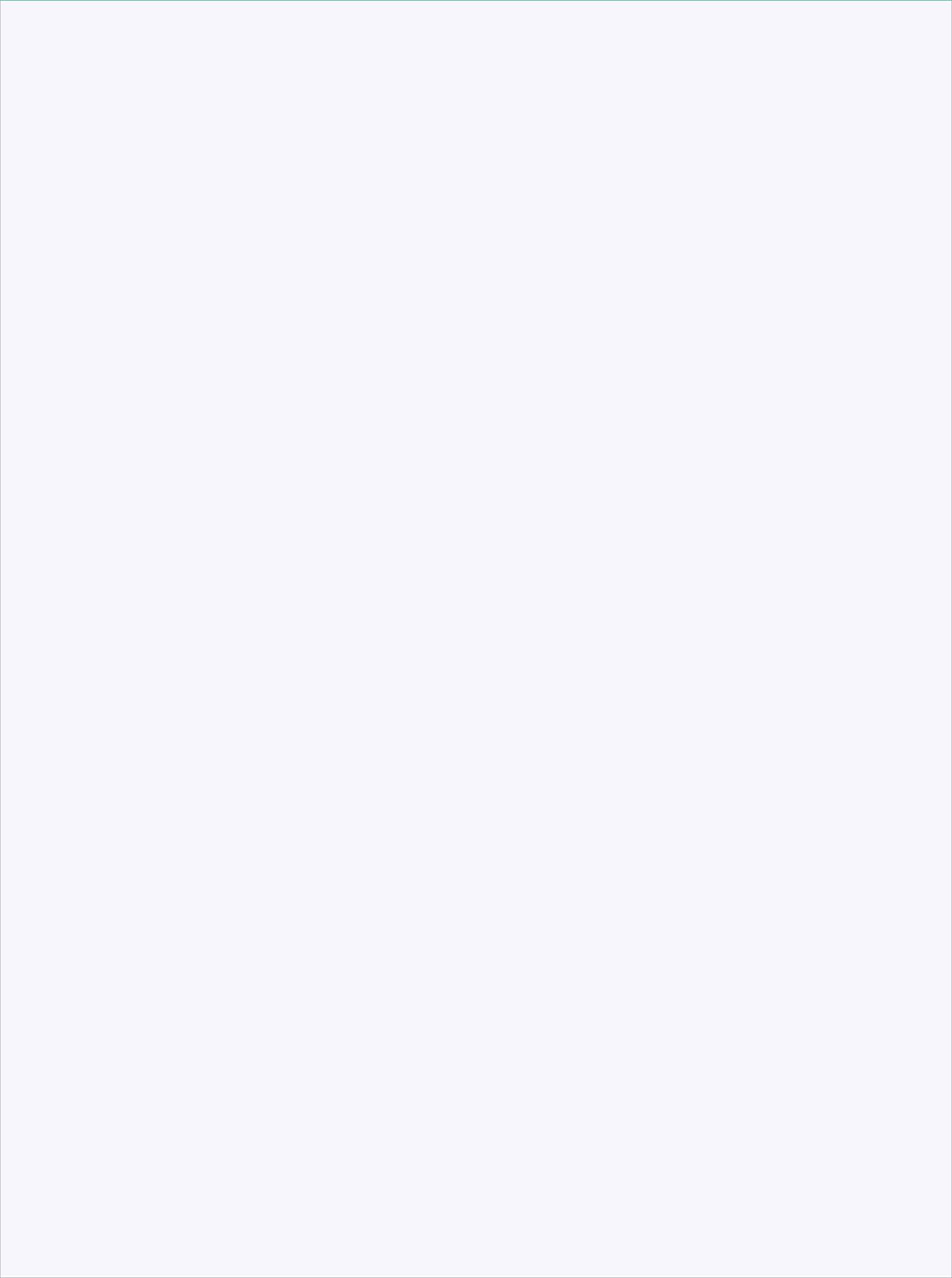


<sup>1</sup> Source : RSoC, 2014

<sup>2</sup> Source : NFHS-3, 2006

<sup>3</sup> Source : DLHS-3, 2007-08

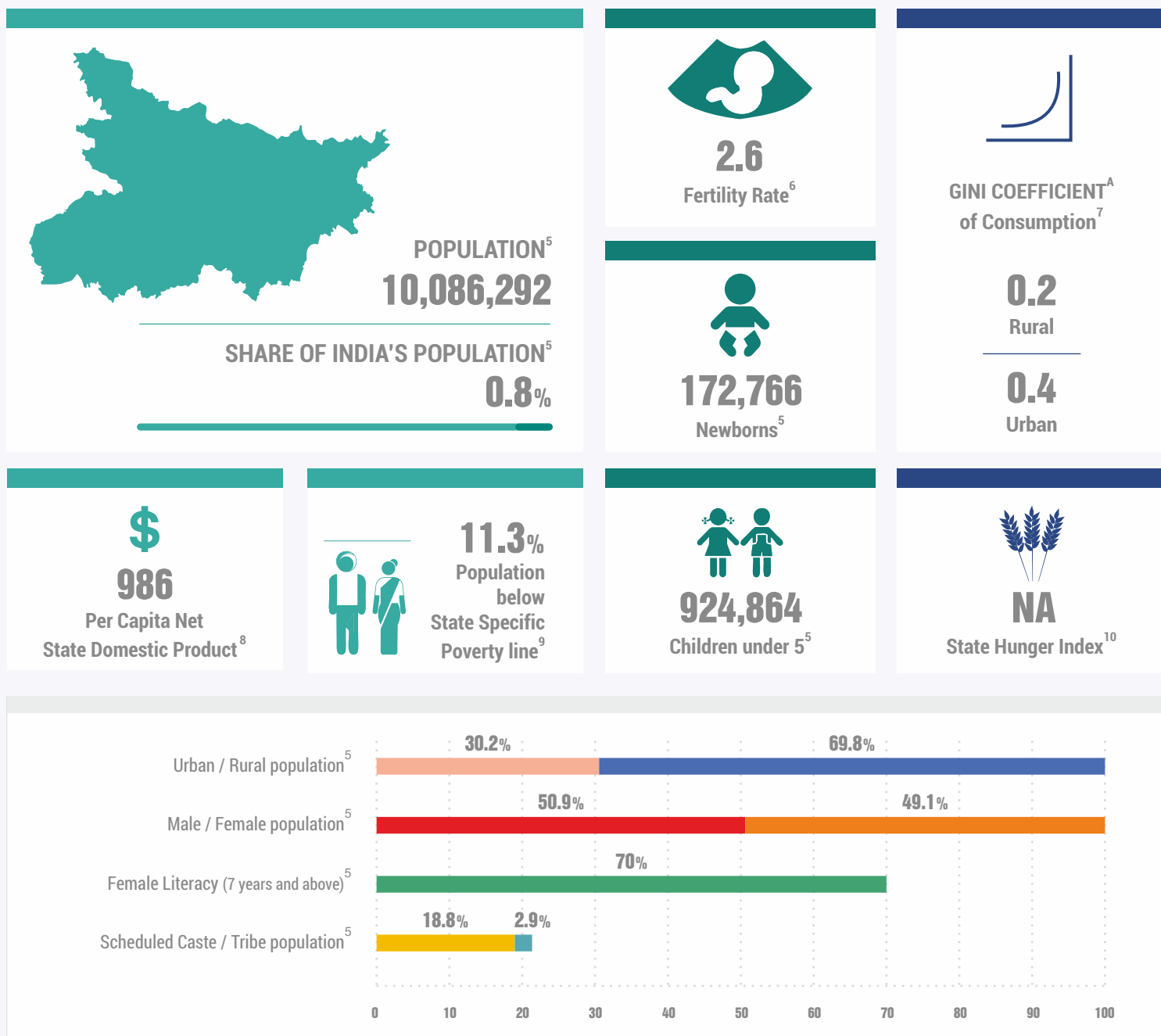
<sup>4</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India



## I. CONTEXT

### A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2009

<sup>7</sup> Source : Planning Commission Estimates: NSSO 66th round-Employment and Unemployment Survey, 2009-10

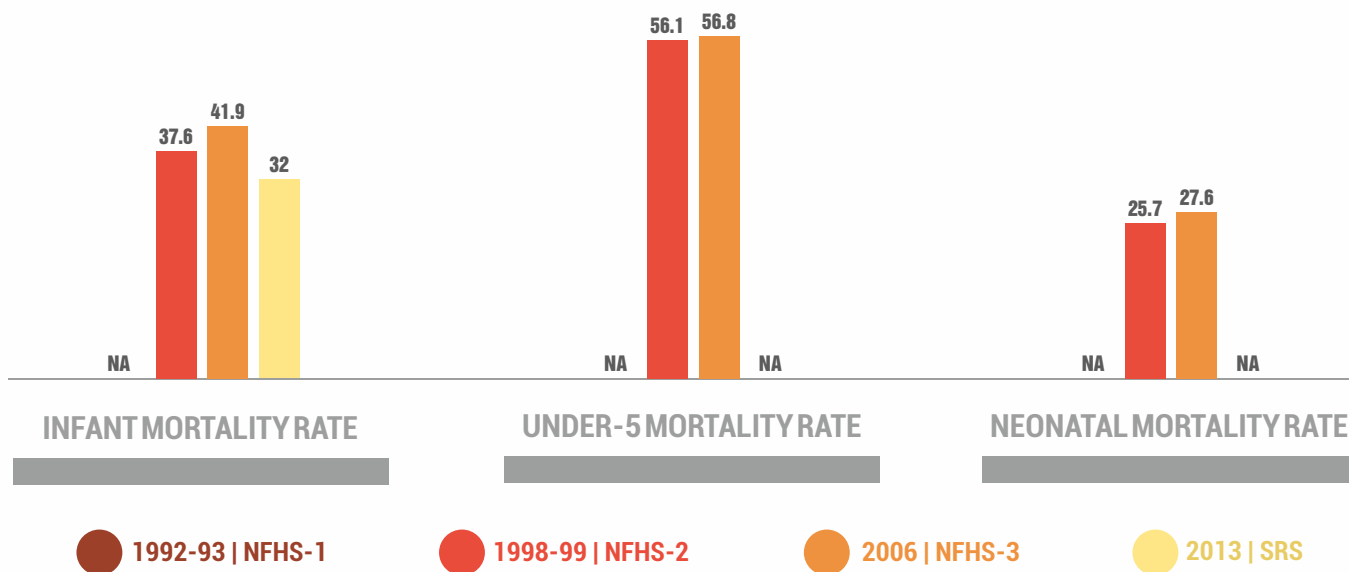
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14; [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

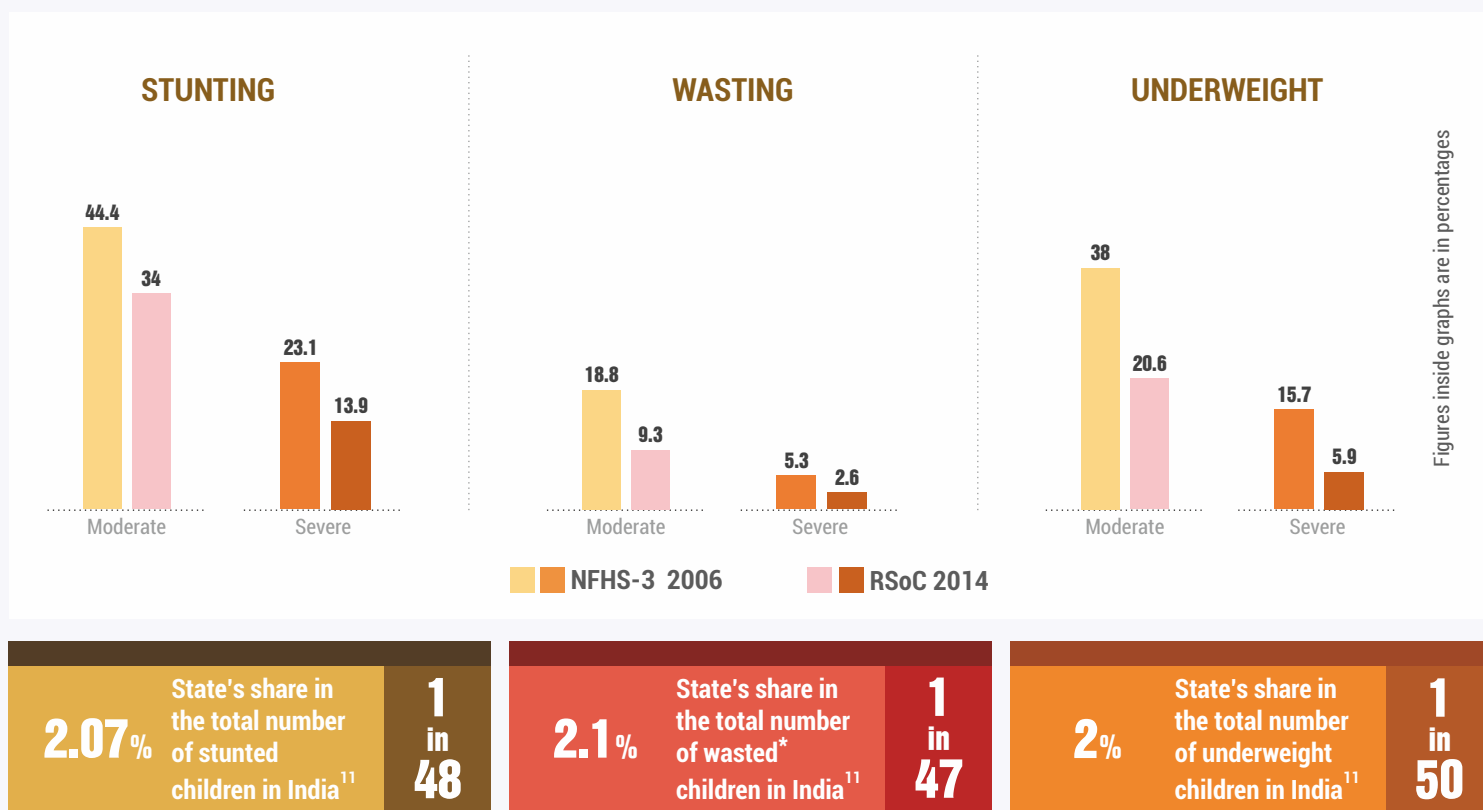
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

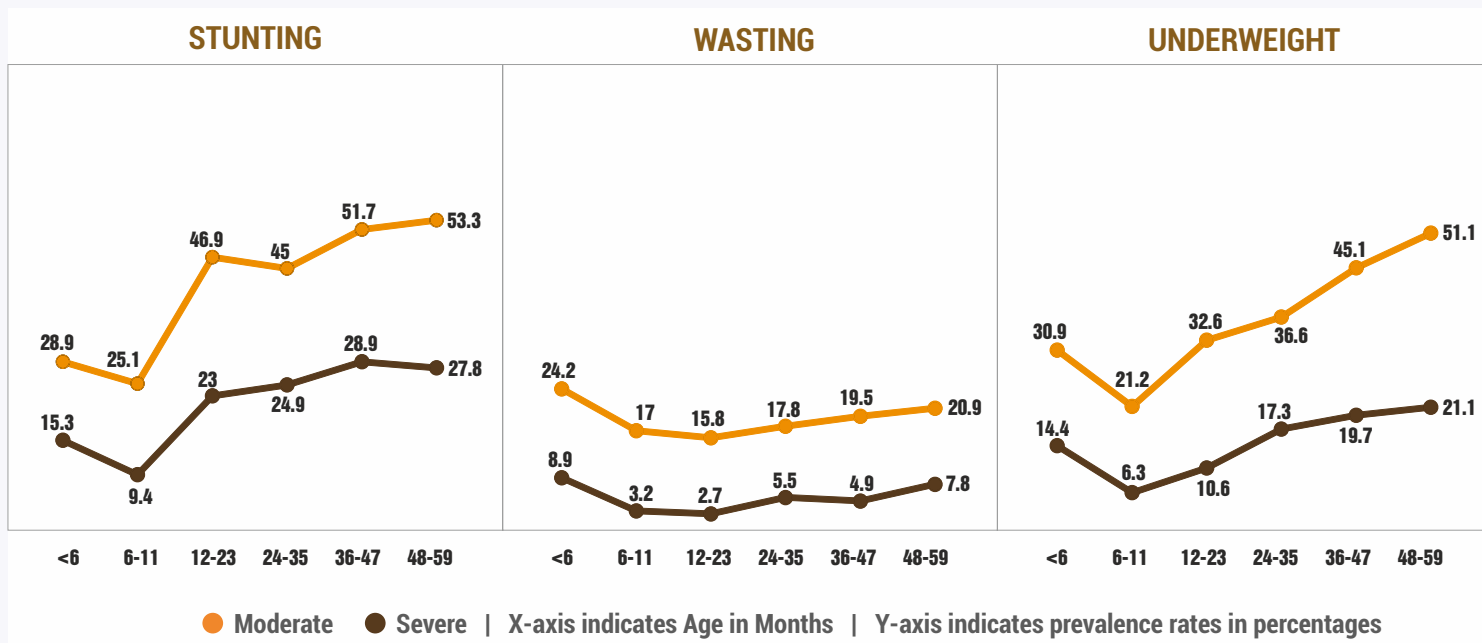


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

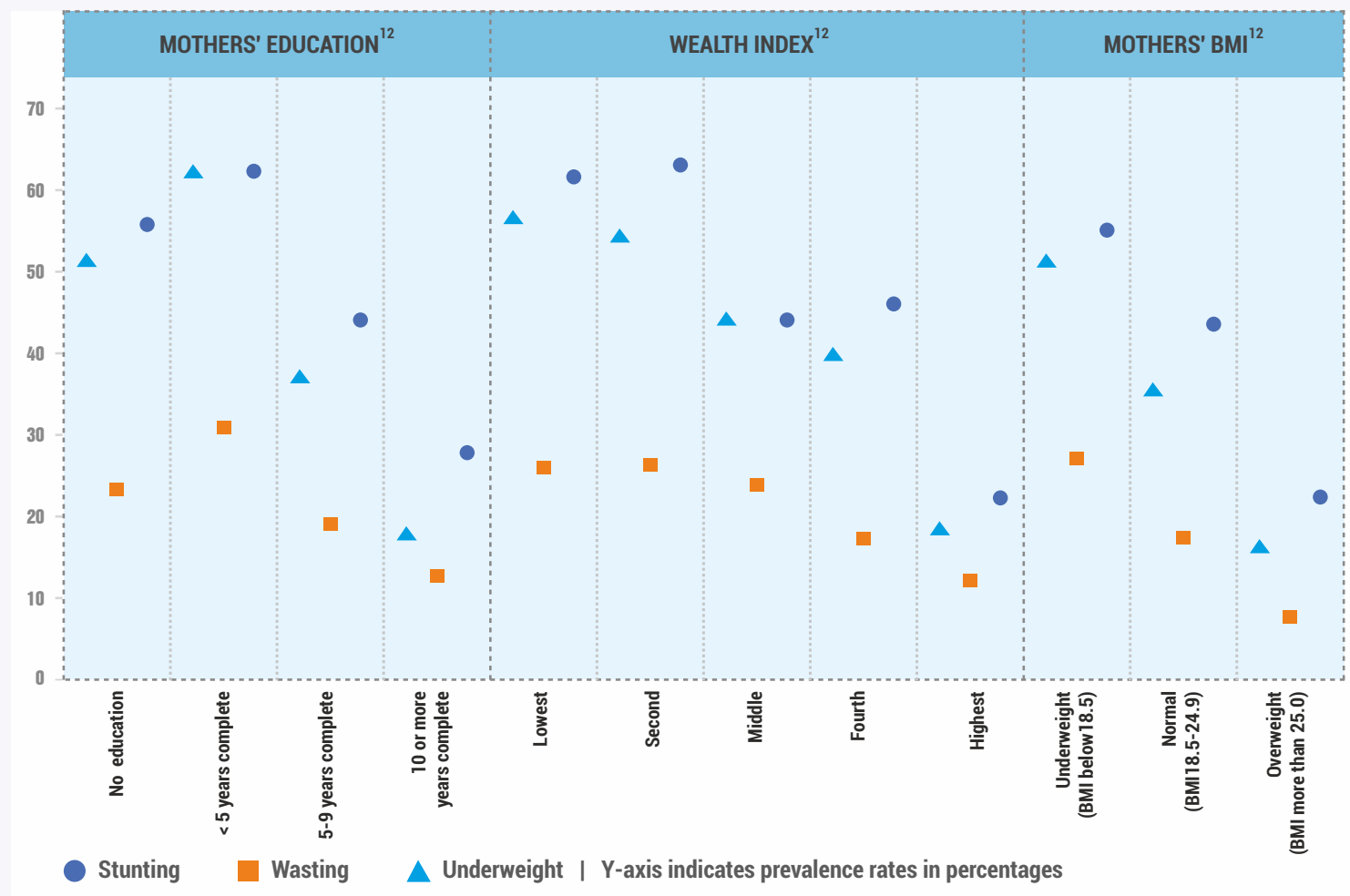
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



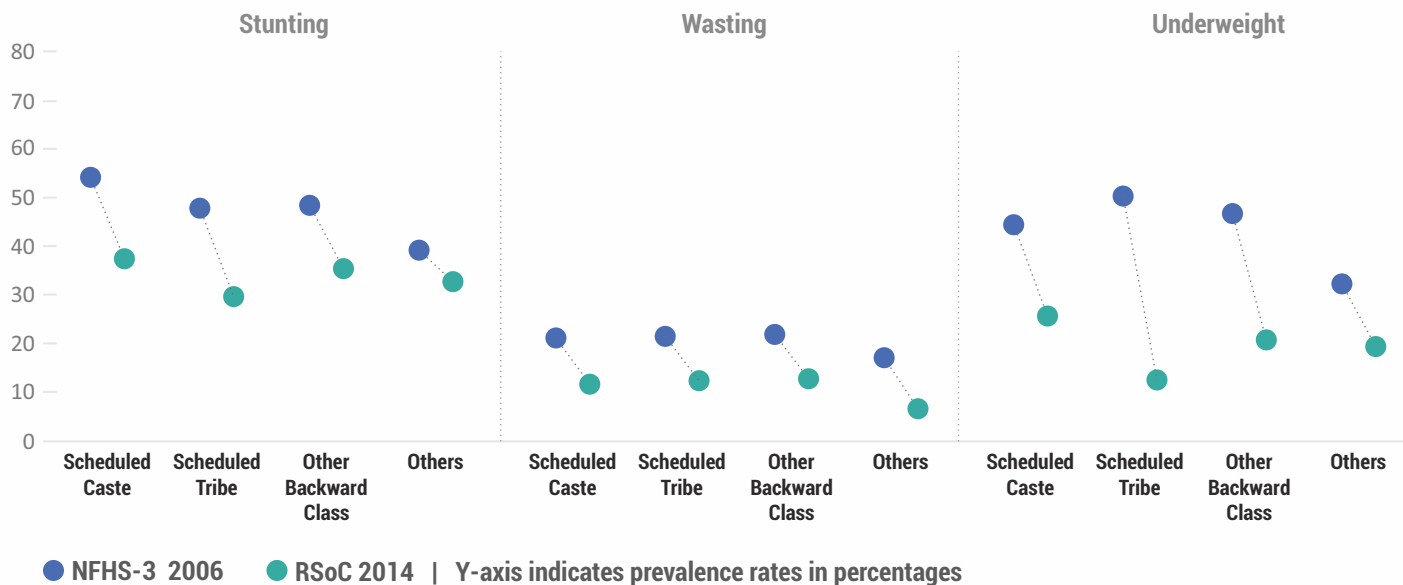
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

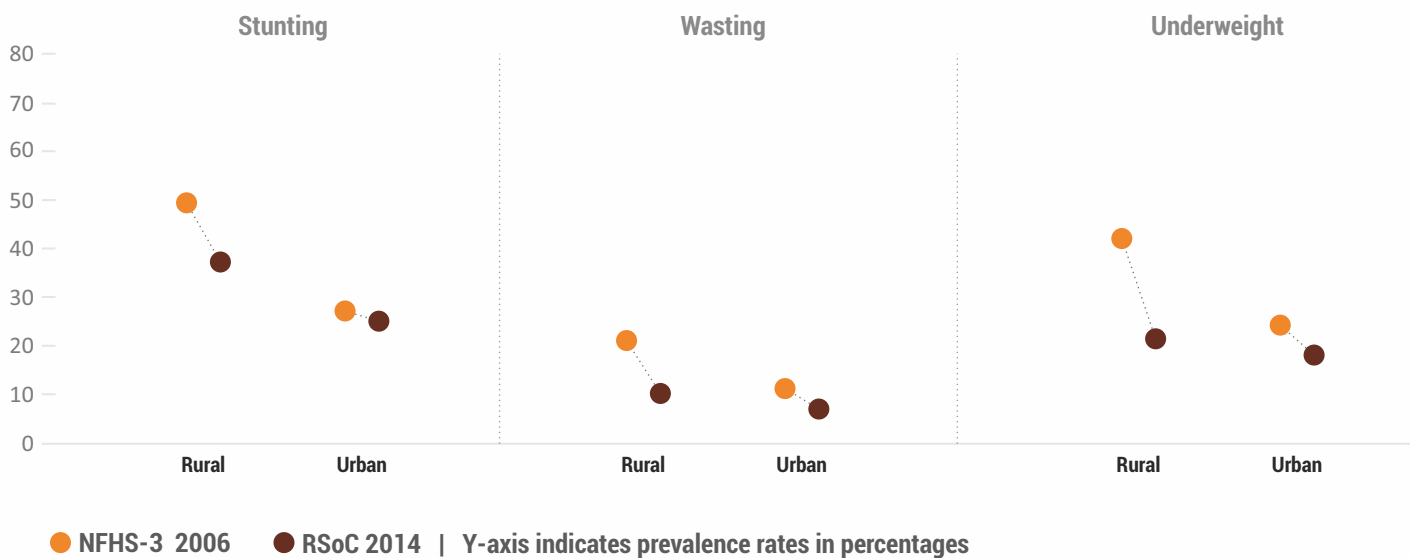


<sup>12</sup> Source : NFHS-3, 2006

CASTE

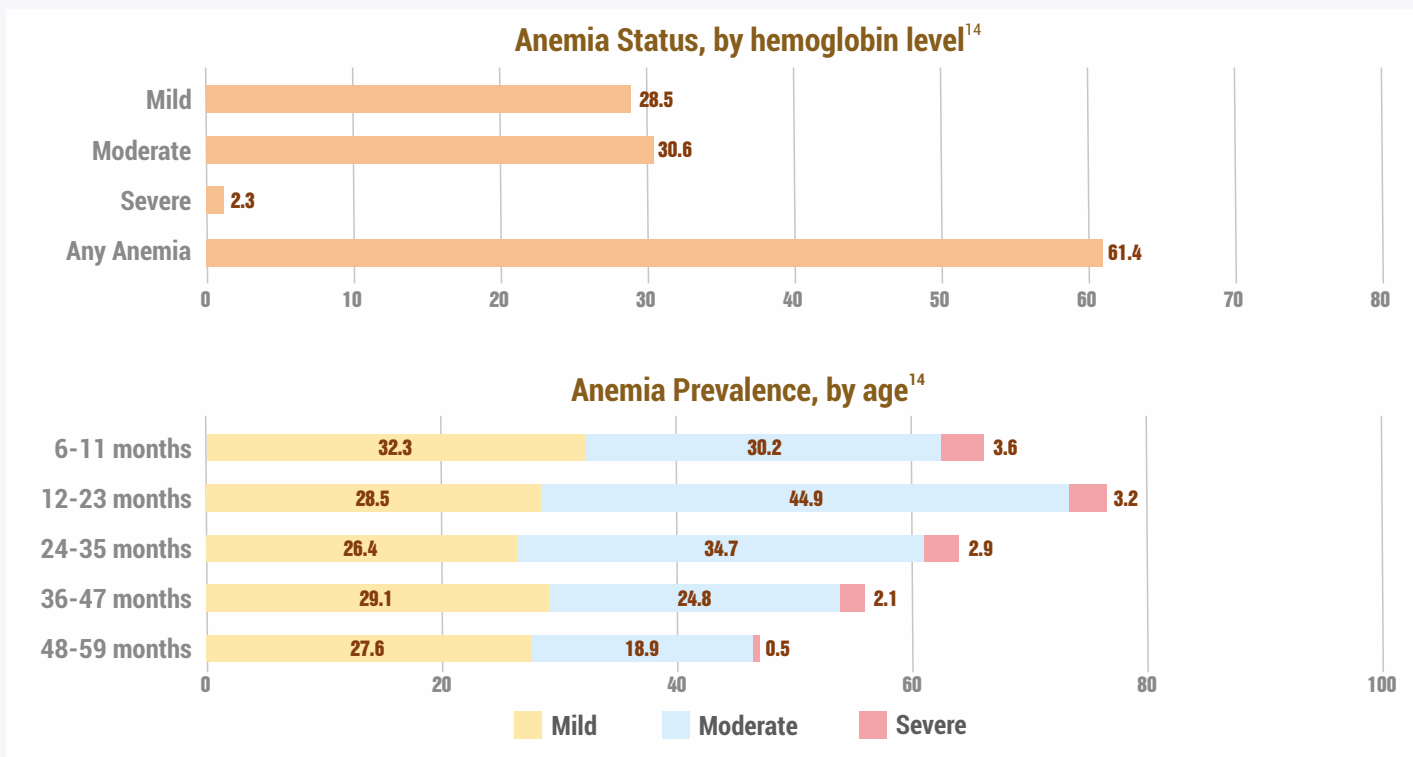


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.




<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|   |  |       |
|---|--|-------|
|   | Children aged 0-23 months breastfed immediately/within an hour of birth  | 48.1% |
|  | Children aged 0-5 months who were exclusively breastfed  | 48.1% |
|   | Children aged 6-8 months who were fed complementary foods  | 60.4% |
|   | For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 47.7% |
|   | B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 21.4% |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |      |
|--|------|
| Had diarrhea in 15 days prior to survey                                      | 3.2% |
| Had fever in 15 days prior to survey   | 9.3% |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 6.1% |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

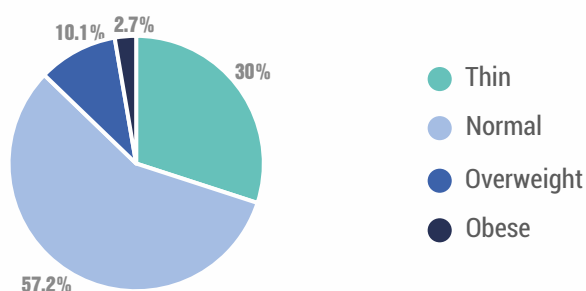
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



**55.2%**

Women aged 15-49 years are anemic

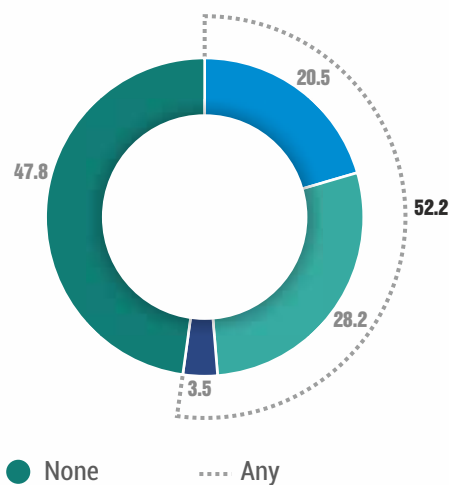
**1.5%**

Women aged 15-49 years are severely anemic

<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]

### C.2. PREGNANT WOMEN<sup>16</sup>

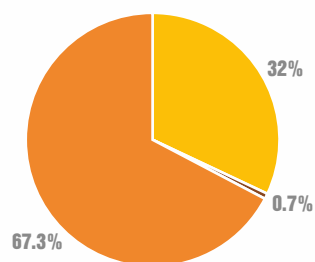
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



● Normal ● Thin ● Overweight and Obese



**59.3%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**1.7%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

<sup>16</sup> Source : NFHS-3, 2006

<sup>17</sup> Source : RSoC, 2014

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **26.7%**



**11.9%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **21.1** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.5**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **26.7%**



**24.1%** Own healthcare



**6.9%** Major household purchase



**29.3%** Purchases for daily household needs



**15.1%** Visits to her family/friends/relatives



**29.8%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**51.7%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>D</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-3, 2007-08

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



97.8%

Households with access to improved sources of drinking water<sup>E, 24</sup>

54.7%

Households using improved sanitation facility<sup>F, 24</sup>



21.6%

Households practicing open defecation<sup>24</sup>

8.4 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



3%

Growth rate of agriculture from 2007-2012<sup>26</sup>



0.7%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

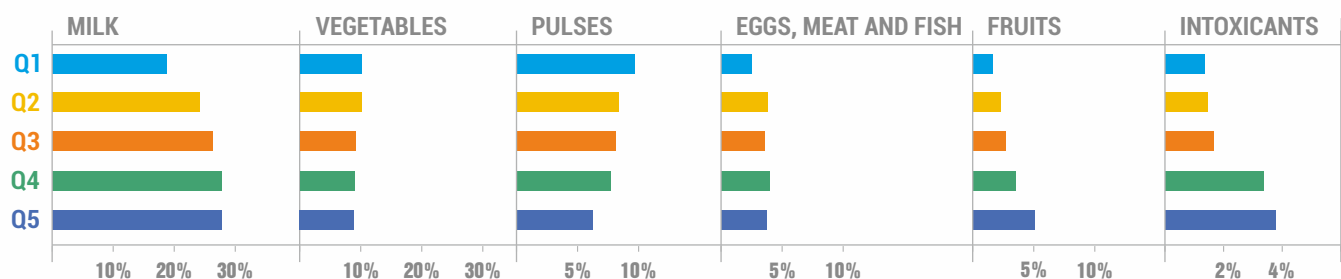
RURAL

NA 2233  
UTTARAKHAND INDIA AVG

URBAN

NA 2206  
UTTARAKHAND INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 18.6% |
| Children 36-71 months | 24.2% |
| Pregnant women        | 12.3% |
| Lactating mothers     | 21%   |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 15.2% |
| Children aged 36-71 months | 14.9% |
| Pregnant women             | 0%    |
| Lactating women            | 14.7% |

<sup>29</sup> Source : RSoC, 2014

## SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



52%

Received 3 or more antenatal checkups prior to delivery



87.7%

Received 2 or more TT injections prior to delivery



21.3%

Consumed 100 or more IFA tablets/syrup during pregnancy



68.5%

Had Institutional delivery



69.8%

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



65.6% Rural 74.4% Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



10.8%

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

## WOMEN GIVEN ADVICE ON<sup>31</sup>:



68.7% Breastfeeding



54.6% Nutrition



48% Institutional delivery

## A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup>     | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers <sup>30a</sup> | 23.1%    |
| AWWs living in the AWC village/ward  | 78.7%    |
| AWWs having 10 or more years of schooling  | 91.8%    |
| Median age of AWWs   | 35 years |
| AWCs serving to population more than the stipulated norm                           | 19.5%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 70.2% |
| AWCs having functional adult weighing scale | 14.5% |
| Available WHO growth chart at AWCs          | 82.6% |

<sup>H</sup> Number of AWCs surveyed for Uttarakhand as per RSoC 2014 is 144.

<sup>30</sup> Source : RSoC, 2014

<sup>30a</sup> Source : MoWCD, 2012

<sup>31</sup> Source : DLHS-3, 2007-08

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 72.1% |
| AWWs having correct knowledge of normal birth weight of children                    | 74%   |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 96.9% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 90.6% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 72.6% |

| Health Service Delivery Personnel   | Value             |
|---|-------------------|
| ASHAs selected <sup>33</sup>  | 100%              |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 634 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0%                |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 20             | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 28.5           | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 9.8            | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 51.4% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 64.1% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 87.2% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 21             | 47               |
| PDS <sup>41</sup>                           | 173.1          | 475.3            |
| MGNREGA <sup>42</sup>                       | 52             | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lsq15/15/as216.htm](http://164.100.47.132/Annexure_New/lsq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13

<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13

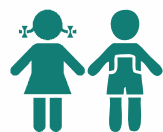


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## FAST FACTS ON NUTRITION AND ITS DETERMINANTS IN WEST BENGAL

World Health Assembly Nutrition Targets



CHILDREN UNDER 5 YEARS

**34.7%**  
Stunted<sup>1</sup>**15.3%**  
Wasted<sup>1</sup>

World Health Assembly Nutrition Targets

**59.4%**Infants 0-5 months old who are exclusively breastfed<sup>1</sup>**16.9%**Children under 3 years who have low birth weight (<2.5 kgs)<sup>1</sup>**76.3%**Women 15-49 years old with anemia<sup>2</sup>

Immediate Determinants

**67.7%** Infants 6-8 months old who receive solid, semi-solid or soft foods<sup>1</sup>**33.7%** Infants & young children 6-23 months old who achieve minimal diet diversity in complementary feeding<sup>1</sup>**86.4%** Children 6-59 months old with anemia<sup>2</sup>**3.5%** Children 6-59 months old who had diarrhea in 15 days prior to survey<sup>1</sup>

Immediate Determinants

Underlying Determinants

**0%**Children 6-35 months old who received supplementary food under ICDS for 21 days in the month prior to survey<sup>1</sup>**75.2%**Children 12-23 months old who are fully immunized<sup>1</sup>**89.7%**Mothers of children under 36 months old who received three or more antenatal checkups<sup>1</sup>**22.6%**Currently married women with 10 or more years of schooling<sup>2</sup>**44.7%**Women aged 20-24 years who were married before the age of 18<sup>1</sup>**34.5%**Adolescent girls 15-18 years old with low BMI (<18.5)<sup>1</sup>**28.3%**Households practicing open defecation<sup>1</sup>**20%**Population below state-specific poverty line<sup>3</sup>

Does state have a high-level nutrition mission?

**NO**

Underlying Determinants

<sup>1</sup> Source : RSoC, 2014<sup>2</sup> Source : DLHS4, 2012-13<sup>3</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Govt. of India

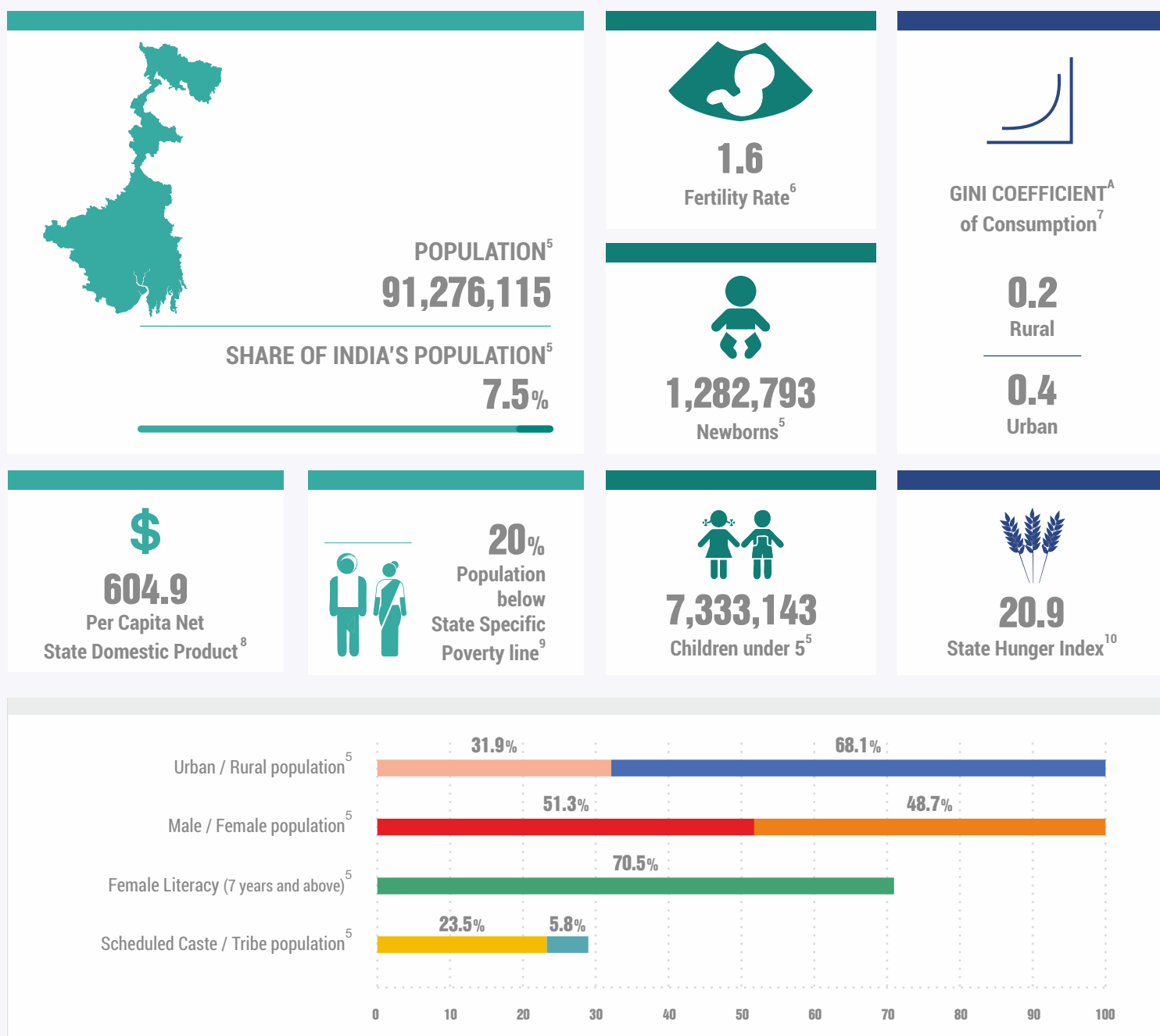


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## I. CONTEXT

### A. DEMOGRAPHIC CONTEXT

This section highlights the demographic composition of the state in terms of male-female, rural-urban, and SC-ST ratios, literacy and fertility rates. In addition, it also includes the size of the population of newborns and children less than five years of age (as of the Census of India, 2011) to illustrate the size of the target population for nutrition-related interventions that need to reach this vulnerable population.



A : Gini coefficient is a measure of inequality of distribution. A Gini coefficient of 0 represents perfect equality, while a value of 100 implies perfect inequality. (See Appendix A for more information)

<sup>5</sup> Source : Primary Census Abstract, Census, 2011

<sup>6</sup> Source : SRS, 2013

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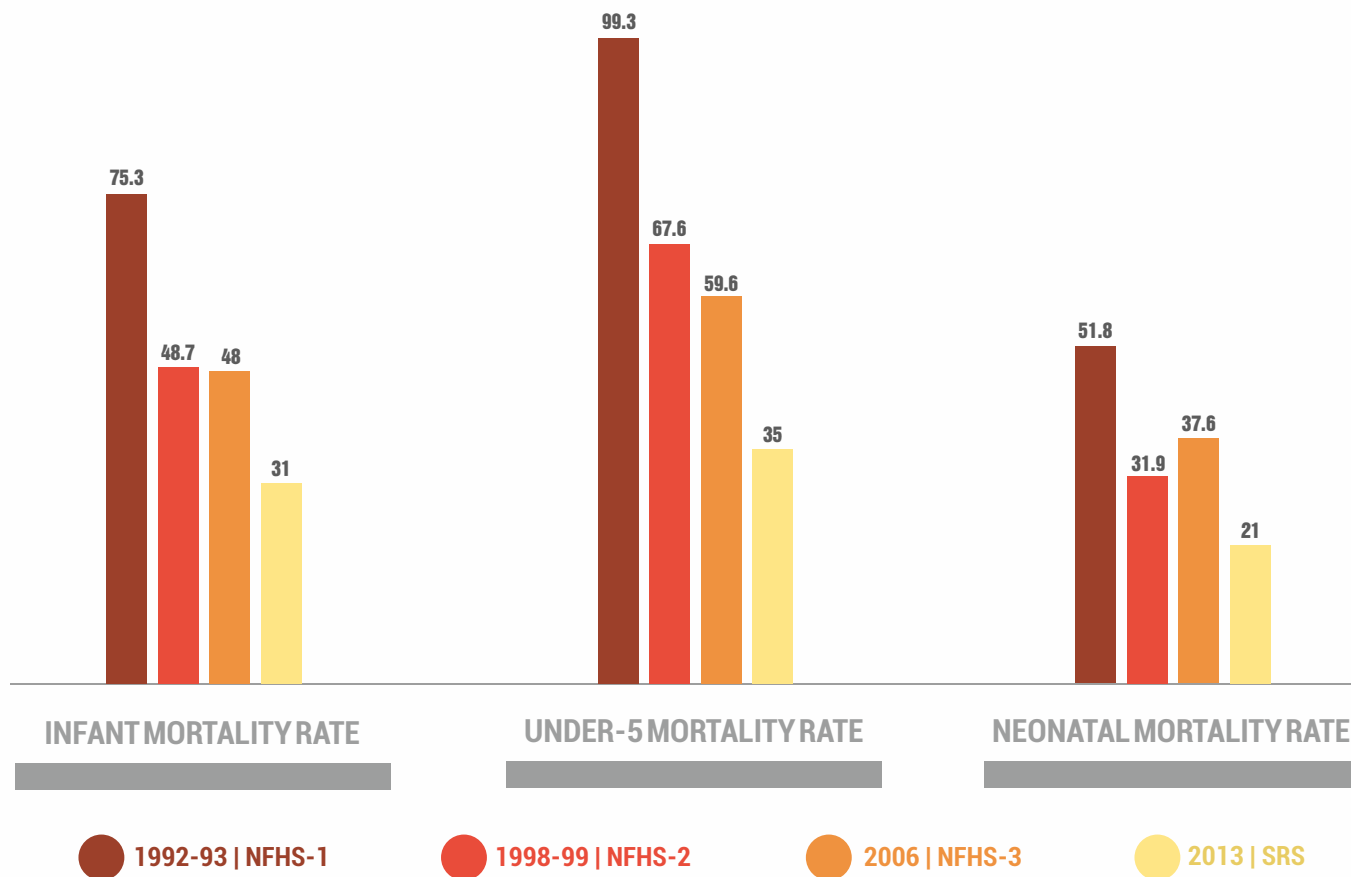
<sup>8</sup> Source : Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14 : [http://mospi.nic.in/Mospi\\_New/site/inner.aspx?status=3&menu\\_id=82](http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&menu_id=82)

<sup>9</sup> Source : Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India, 2011-12 : [http://planningcommission.nic.in/news/pre\\_pov2307.pdf](http://planningcommission.nic.in/news/pre_pov2307.pdf)

<sup>10</sup> Source : IFPRI, India State Hunger Index, 2009

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

This section illustrates trends in mortality in neonates, infants and children under 5 years, since 1992. The purpose of this is to highlight the success achieved by individual states in averting deaths of children since the economic growth of the 1990s.



## II. NUTRITIONAL STATUS AMONG CHILDREN

This section presents data on nutrition outcome indicators (stunting, wasting, and underweight) and anemia prevalence. Anthropometric measures for children under 5 (stunting, wasting, and underweight) are presented over time periods, by age groups and by background characteristics. This data aims to convey the prevalence and severity of undernutrition in the state.

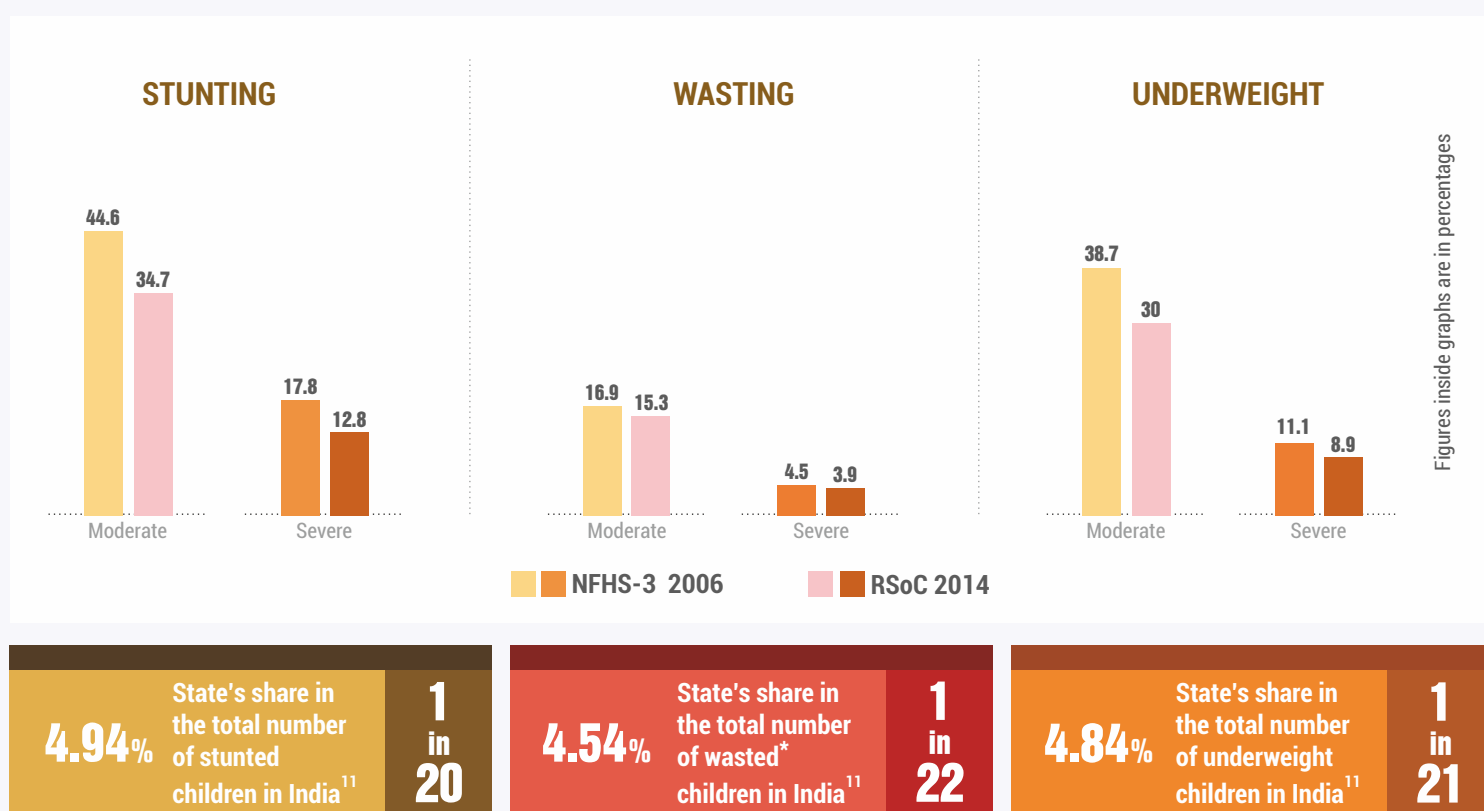
### A. CHILD UNDERNUTRITION, BY TIME PERIOD

#### ANTHROPOMETRIC MEASURES

Stunting is inadequate height for age, which is indicative of chronic or cumulative nutritional deprivation in early childhood. A stunted child's height-for-age is below -2 standard deviations from the median height-for-age (termed HAZ) of the WHO Child Growth Standards, while a severely stunted child is below -3 standard deviations.

Wasting is inadequate weight for height, which points to acute or short-term undernutrition. A wasted child's weight-for-height (WHZ) is below -2 standard deviations from the WHO Child Growth Standards; a severely wasted child is below -3 standard deviations. (Another way to determine severe wasting or severe acute malnutrition is through a measurement of a child's mid-upper arm circumference (MUAC).

Underweight is inadequate weight for age, a composite indicator that encompasses stunting and wasting. An underweight child's weight-for-age (WAZ) is below -2 standard deviations from the WHO Child Growth Standards; again, a severely underweight child is below -3 standard deviations.

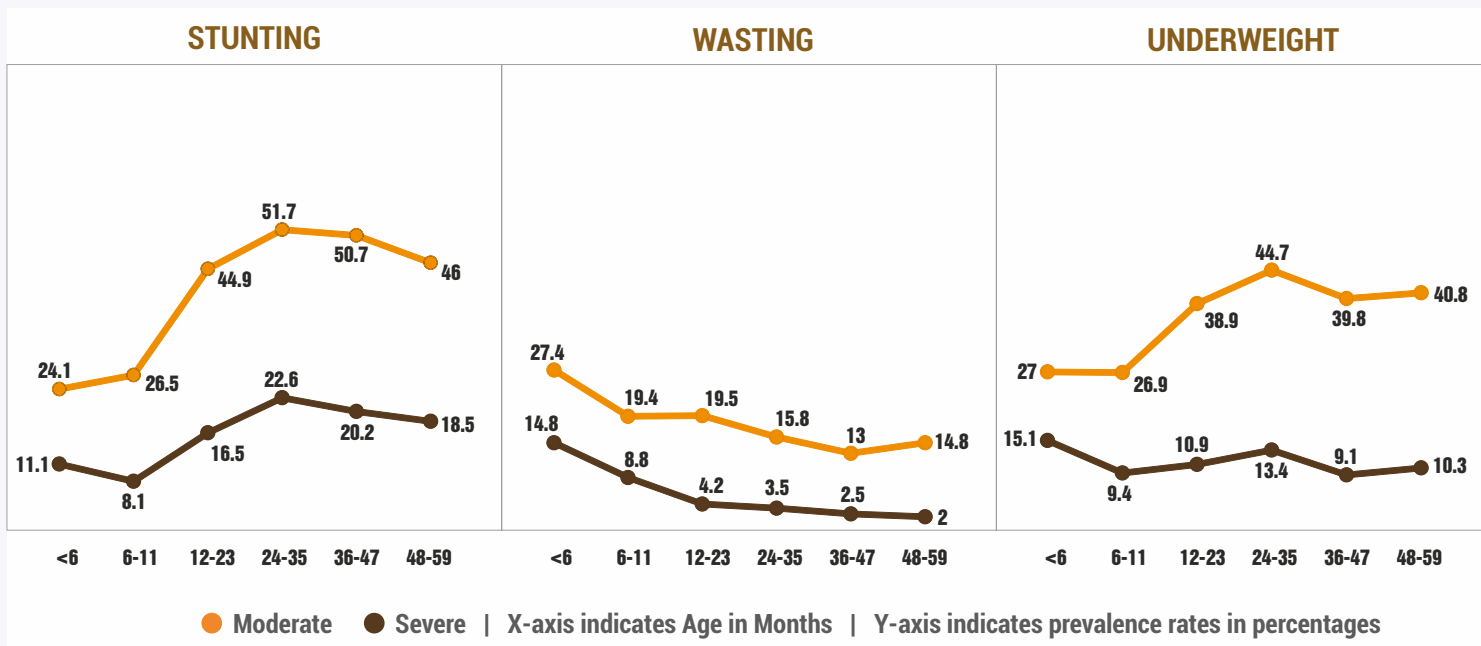


\*Wasting is subject to seasonal variations either in food supply or disease prevalence and hence may not be comparable across groups of children measured at different times of the year within a survey round as well as between different survey rounds.

<sup>11</sup> Source : NFHS-3, 2006

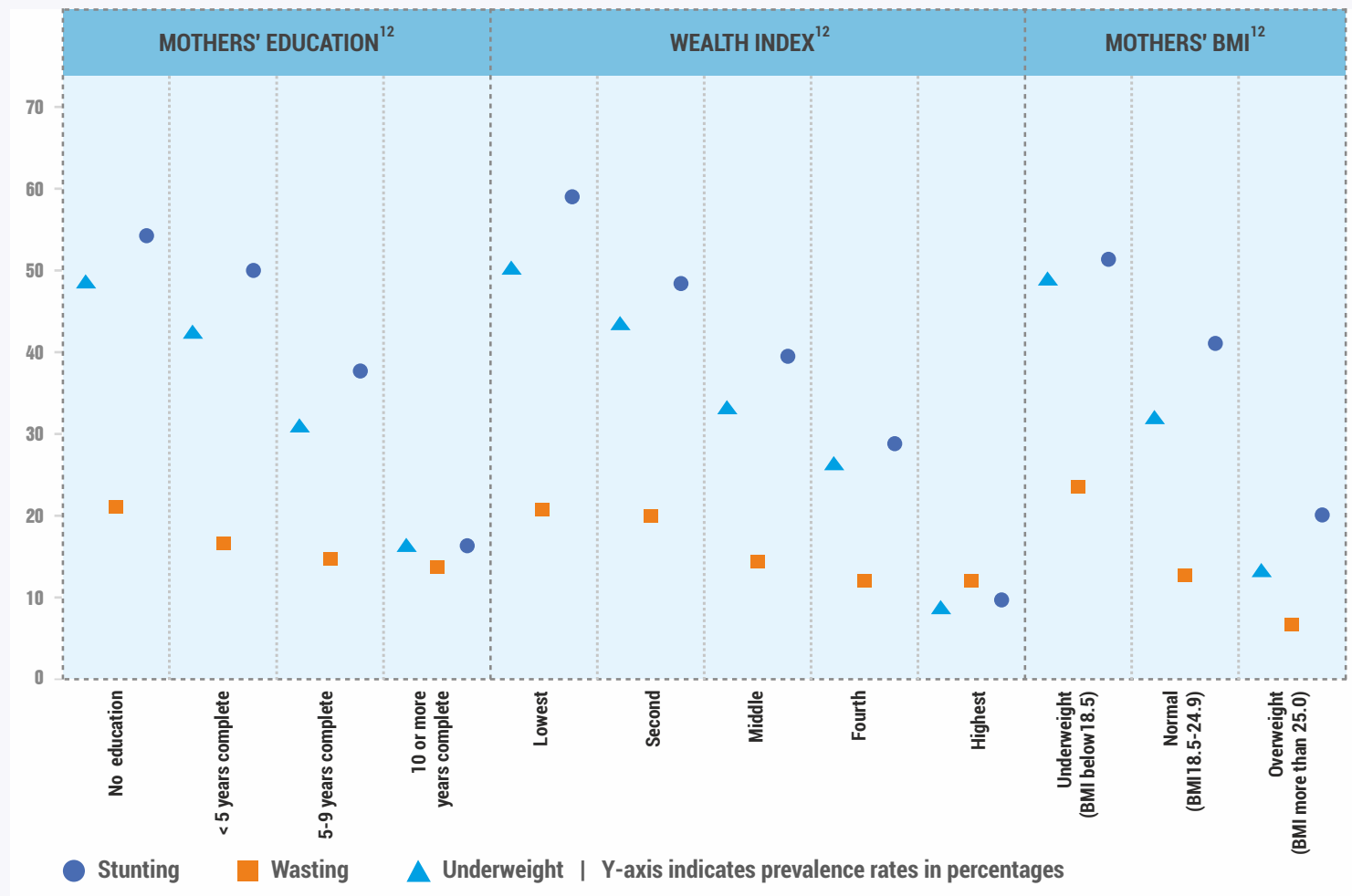
## B. CHILD UNDERNUTRITION, BY AGE GROUPS<sup>12</sup>

Percentage of moderate (below -2 SD from the WHO growth standards) and severe (below -3 SD) stunting, wasting and underweight are available for 6 age groups among children under 5.



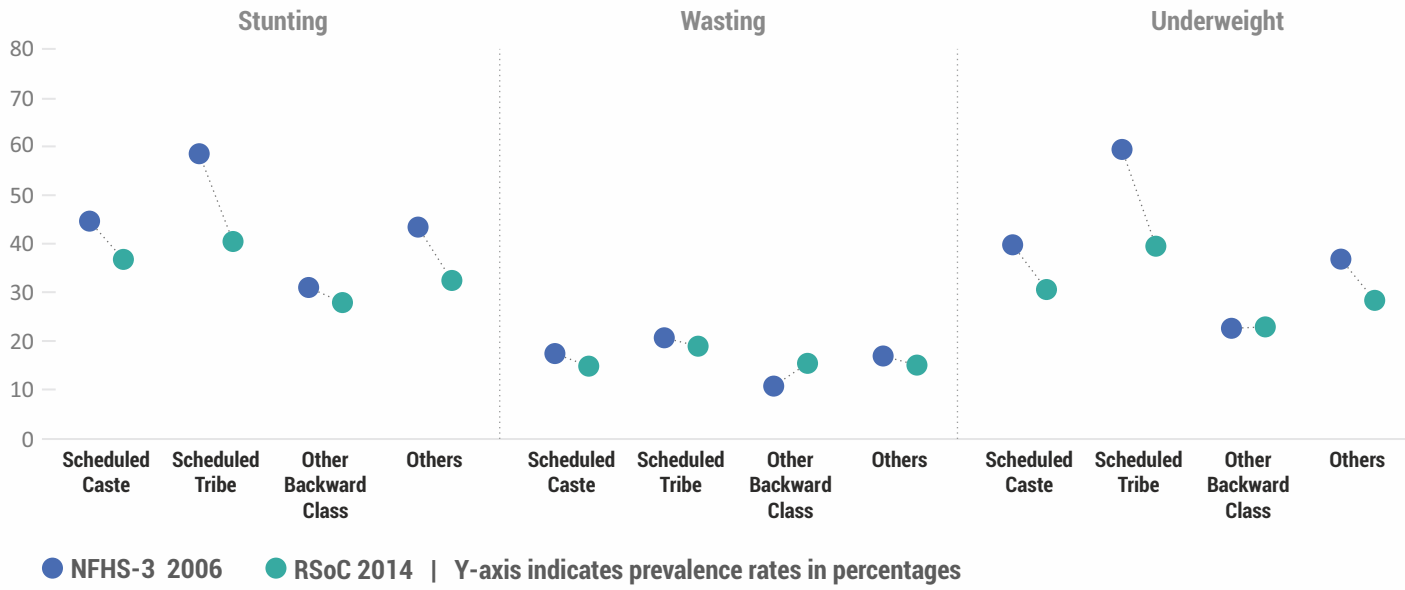
## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

In this section, child undernutrition outcomes are presented, along with key socioeconomic drivers that are known to be associated with child nutrition, such as caste, residence, mother's health and education, and household income.

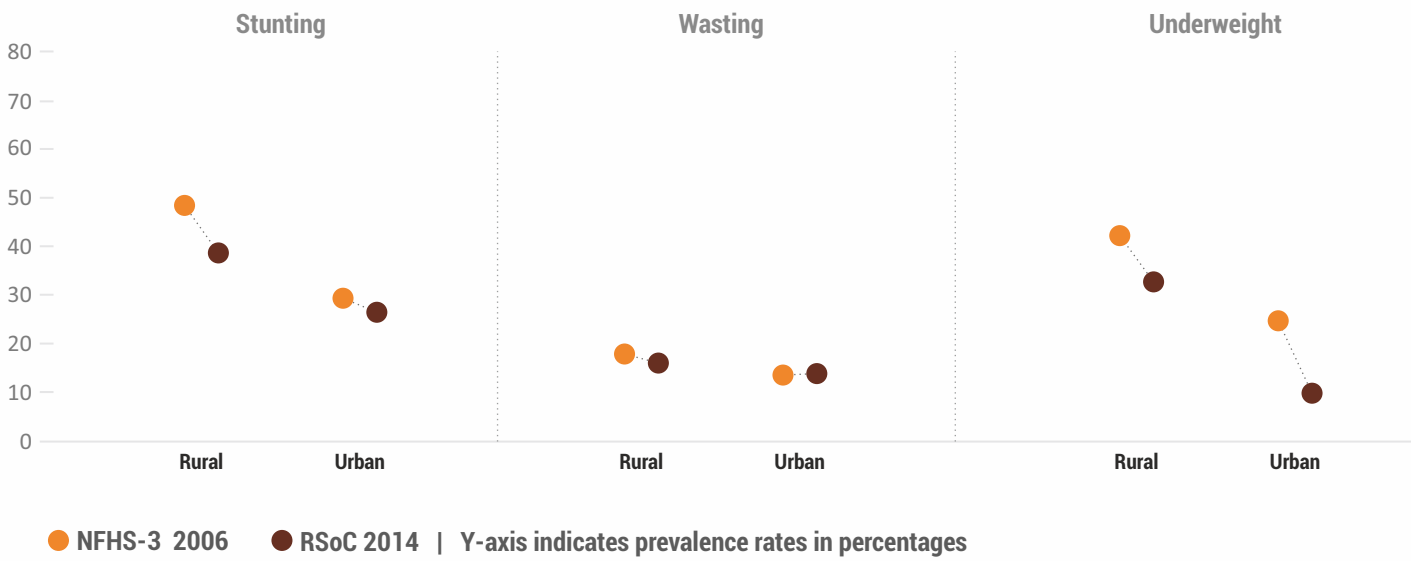


<sup>12</sup> Source : NFHS-3, 2006

CASTE

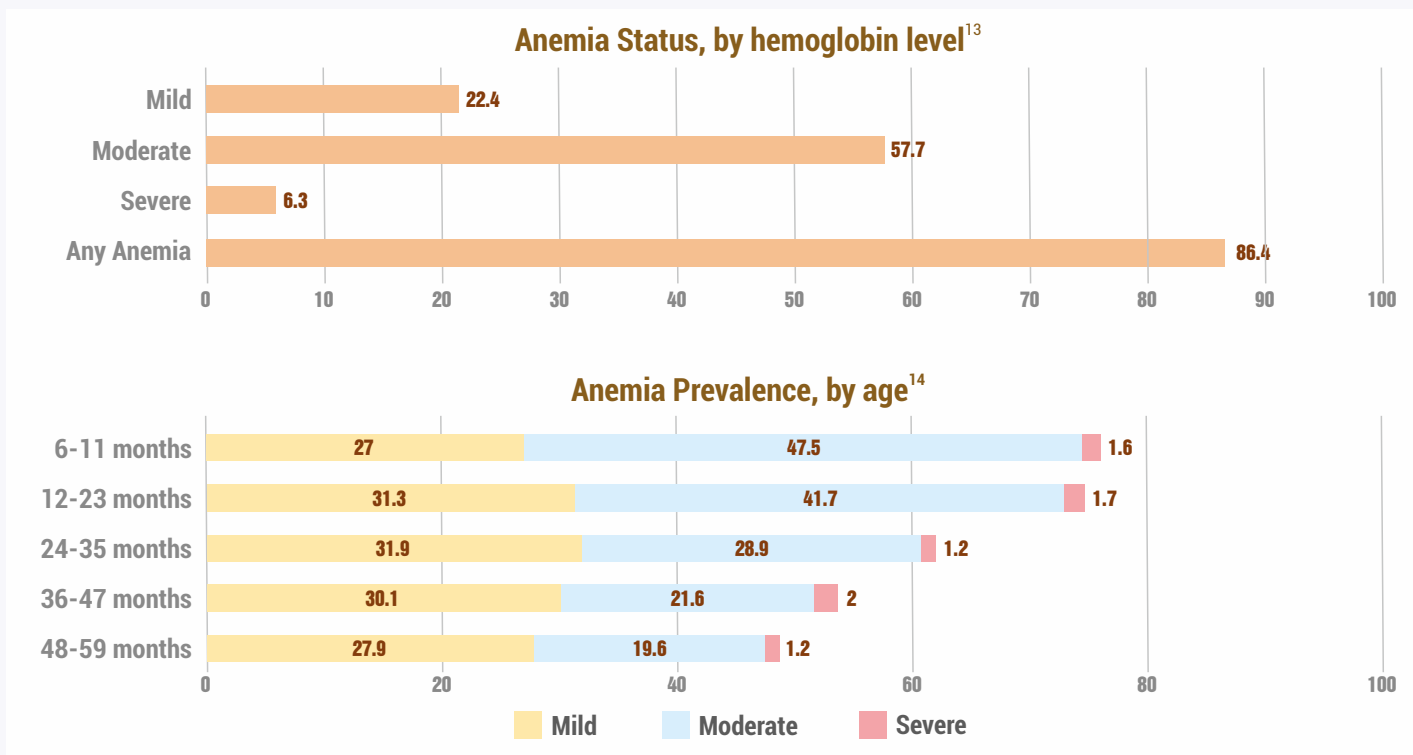


RESIDENCE



## D. ANEMIA PREVALENCE

Anemia can impair physical and cognitive development among children and create long term impacts on productivity and wellbeing. This section features data on anemia prevalence by severity and age groups for children under 5.



<sup>13</sup> Source : DLHS-4, 2012-13


<sup>14</sup> Source : NFHS-3, 2006



### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES<sup>15</sup>

This section presents indicators for assessing IYCF practices as recommended by the WHO and revised in 2008. Following optimal IYCF practices during the first 1,000 days is crucial for early child survival and growth as well as long-term health and wellbeing.

|  |       |
|--|-------|
| Children aged 0-23 months breastfed immediately/within an hour of birth  | 43.3% |
|  Children aged 0-5 months who were exclusively breastfed  | 59.4% |
| Children aged 6-8 months who were fed complementary foods  | 67.7% |
| For breastfed children (6-23 months)-<br>A. Fed minimum number of times.<br>Note : At least twice a day for breastfed infants 6-8 months old and at least three times a day for breastfed children 9-23 months old | 41.6% |
| B. Had minimum dietary diversity<br>Note : Minimum dietary diversity refers to four or more food groups <sup>B</sup> fed to children aged 6-23 months  | 33.7% |

#### B. CHILD HEALTH<sup>15</sup>

##### Prevalence of childhood illnesses (in children aged 0-59 months)

|  |       |
|--|-------|
| Had diarrhea in 15 days prior to survey                                      | 3.5%  |
| Had fever in 15 days prior to survey   | 17%   |
| Had symptoms of Acute Respiratory Infection (ARI) in 15 days prior to survey | 13.8% |

<sup>B</sup>The 7 food groups include the following: i. grains, roots and tubers ii. legumes and nuts iii. dairy products (milk, yoghurt, cheese) iv. Flesh foods (meat, fish, poultry, and liver/organ meats) v. eggs vi. Vitamin-A rich fruits and vegetables vii. other fruits and vegetables.

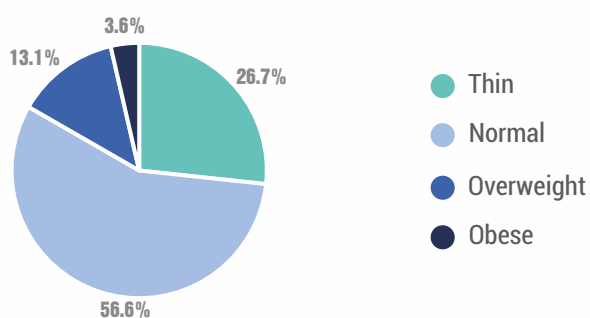
<sup>15</sup> Source : RSoC, 2014

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

Maternal health and nutrition, as well as adolescent nutrition, have important consequences for intergenerational transmission of undernutrition. Data on Body Mass Index (BMI), anemia prevalence and height among women of reproductive age are presented in this section, as are data on adolescent BMI and anemia.

### C.1. WOMEN 15-49 YEARS OLD<sup>16</sup>

BMI<sup>c</sup> levels of women aged 15-49 years



<sup>c</sup>Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI < 18.5 = total thin, BMI 18.5-24.9 = normal, BMI 25.0-29.9 = Overweight, BMI > 30.0 = Obese [per WHO Standards]



**76.3%**

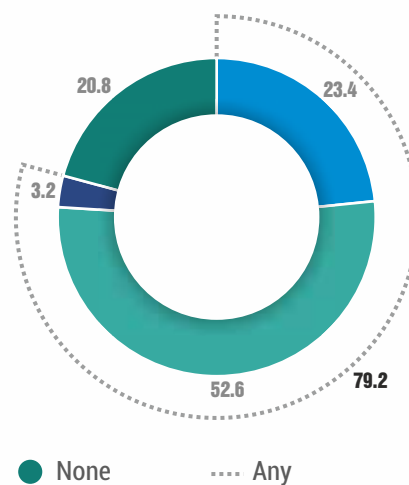
Women aged 15-49 years are anemic

**3.2%**

Women aged 15-49 years are severely anemic

### C.2. PREGNANT WOMEN<sup>16</sup>

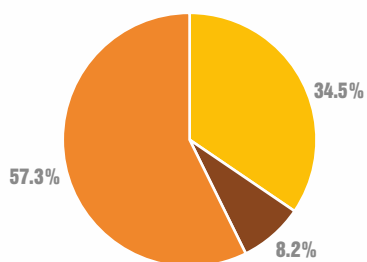
Anemia prevalence in pregnant women aged 15-49 years



● Mild ● Moderate ● Severe ● None --- Any

### C.3. ADOLESCENT GIRLS

BMI levels of adolescent girls aged 15-18 years<sup>17</sup>



● Normal ● Thin ● Overweight and Obese



**62%**

Adolescent girls aged 15-19 years are anemic<sup>16</sup>

**1.8%**

Adolescent girls aged 15-19 years are severely anemic<sup>16</sup>

<sup>16</sup> Source : DLHS-4, 2012-13

<sup>17</sup> Source : RSoC, 2014

<sup>17a</sup> Source : NFHS-3, 2006

## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

Women's status is recognized to contribute in significant ways to improving nutrition. This section presents indicators that are representative of women's social status, including measures of education, age at marriage and first birth, employment, decision making and domestic violence. It also includes the Gender Empowerment Measure that captures gender inequality along three dimensions: political participation and decision-making power, economic participation and decision-making power, and power over economic resources.



Currently married women who have 10 or more years of schooling<sup>18</sup> **22.6%**



**44.7%** Women aged 20-24 years who were married before the age of 18<sup>19</sup> | **19.9** Average age at marriage<sup>19</sup>

Gender Empowerment Measure<sup>D,20</sup> **0.4**

**0.5**

National Average<sup>20</sup>



Female workforce participation rate<sup>22</sup> **18.1%**



**32.6%** Own healthcare



**9.1%** Major household purchase



**28.1%** Purchases for daily household needs



**16.7%** Visits to her family/friends/relatives



**41.8%** Women who have experienced any form of physical/sexual/emotional violence<sup>23</sup>

**42.5%** Ever married women who justify hitting/wife-beating (for either of the reasons mentioned)<sup>23</sup>

<sup>0</sup> The Gender Empowerment Measure is a weighted average index based on indicators that are classified into three dimensions: a. political participation and decision-making power b. economic participation and decision-making power and c. power over economic resources. The index ranges from a minimum of 0 to a maximum of 1, with a higher score indicating greater empowerment of women. (More information available at <http://wcd.nic.in/publication/GDIGEReport/Part3.pdf>.)

<sup>18</sup> Source : DLHS-4, 2012-13

<sup>19</sup> Source : RSoC, 2014

<sup>20</sup> Source : MoWCD, 2006

<sup>22</sup> Source : Women and Men in India, 16th Issue MoSPI, 2014

<sup>23</sup> Source : NFHS-3, 2006

## B. WATER AND SANITATION

Poor hygiene and sanitation, by directly increasing exposure and susceptibility to infections, are associated with undernutrition among children. This section covers key indicators on access to safe drinking water and availability of sanitation facilities at the state level. It also includes the expenditure on toilet construction under the Total Sanitation Campaign.



94.7%

Households with access to improved sources of drinking water<sup>E, 24</sup>

43.3%

Households using improved sanitation facility<sup>F, 24</sup>



28.3%

Households practicing open defecation<sup>24</sup>

67.3 M

Expenditure on toilets under Total Sanitation Campaign (TSC)<sup>G, 25</sup>



1,065 M

National Average<sup>25</sup>

## C. AGRICULTURE AND FOOD SECURITY

Agriculture productivity and food security can affect household access to foods necessary for a healthy diet. Thus, this section presents indicators related to agricultural growth and food consumption patterns in the state, indicating the level of food security in the state relative to the national situation.



4%

Growth rate of agriculture from 2007-2012<sup>26</sup>



6.2%

Share in India's total foodgrain production<sup>27</sup>



Mean Calorie intake per person per day (in Kcal)<sup>28</sup>

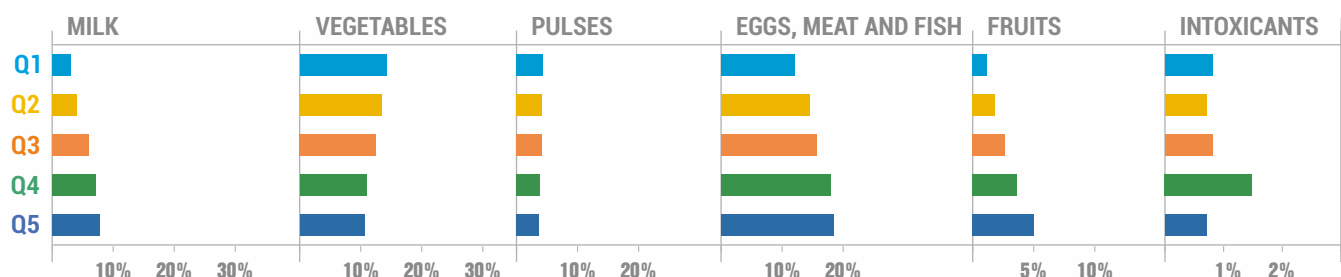
**RURAL**

2199 WEST BENGAL | 2233 INDIA AVG

**URBAN**

2130 WEST BENGAL | 2206 INDIA AVG

### Expenditure on food items by income quintiles<sup>28</sup>



<sup>E</sup> Improved sources of drinking water include: piped water into dwelling, piped water to yard/plot, public tap or standpipe, tubewell or borehole, protected dug well, protected spring, and rainwater (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>).

<sup>F</sup> Improved sanitation means households using improved toilets that include: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab, composting toilet, special case (as per Joint Monitoring Programme definition: <http://www.wssinfo.org/definitions-methods/watsan-categories/>); excludes those households who are using improved toilets but sharing toilet facilities with other households.

<sup>G</sup> Besides toilet construction subsidies, this expenditure also includes funding other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centers of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in govt. schools and Anganwadis in govt. buildings etc.

<sup>24</sup> Source : RSoC, 2014

<sup>25</sup> Source : Indiastat, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011, 2011-12

<sup>26</sup> Source : Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 4535. 2007-12

<sup>27</sup> Source : Indiastat, Ministry of Agriculture, Government of India 2011-2012

<sup>28</sup> Source : NSSO, 68th round-Nutritional Intake in India, 2011-12

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

The financial resources allocated to, and spent on direct nutrition-specific interventions can determine the scale, coverage and quality of interventions to reach vulnerable target populations. These services, in India, are delivered both by the Integrated Child Development Scheme (ICDS) and the National Health Mission (NHM). This section includes data on the coverage of interventions delivered by these two key centrally-sponsored schemes that directly impact maternal and child nutrition and health. We also include here information on the human resources and service availability of these schemes and expenditures.

#### A.1. COVERAGE OF ICDS AND NHM:

The Integrated Child Development Services (ICDS) aims to improve the nutrition and health status of children under-six through a package of services (supplementary nutrition, immunization, health check-up, referral services, etc.) delivered through frontline workers at the Anganwadi Centres (AWCs). This section provides information on expenditure on ICDS and coverage of its supplementary nutrition programme (SNP). This section also covers critical services provided by the health system, including provision of care for pregnant women and child immunization. Immunization plays a crucial role in complementing actions to improve nutrition. The link between undernutrition and infectious diseases is cyclical, poor nutrition increases vulnerability to infections, which in turn worsen nutrition status. Data on immunization among children are presented by residence. Here, full immunization refers to children covered with BCG, measles and 3 doses each of DPT and polio.

#### Beneficiaries who availed supplementary food under ICDS<sup>29</sup>

|                       |       |
|-----------------------|-------|
| Children 6-35 months  | 71.9% |
| Children 36-71 months | 69.6% |
| Pregnant women        | 55.6% |
| Lactating mothers     | 46.5% |

#### Beneficiaries who received supplementary food for at least 21 days in the month prior to the survey

|                            |       |
|----------------------------|-------|
| Children aged 6-35 months  | 0%    |
| Children aged 36-71 months | 33.2% |
| Pregnant women             | 35.6% |
| Lactating women            | 0%    |

<sup>29</sup> Source : RSoC, 2014

### SERVICES PROVIDED TO WOMEN WHO HAD A LIVE BIRTH IN LAST 35 MONTHS<sup>30</sup>



**89.7%**

Received 3 or more antenatal checkups prior to delivery



**96%**

Received 2 or more TT injections prior to delivery



**22.5%**

Consumed 100 or more IFA tablets/syrup during pregnancy



**76.3%**

Had Institutional delivery



**78.9%**

Women who had live birth in 35 months where delivery was assisted by skilled health provider<sup>30</sup>



**74.3%** Rural  
**77%** Urban

Children aged 12-23 months who are fully immunised<sup>30</sup>



**2.6%**

Children aged 12-23 months who have not received any immunisation<sup>30</sup>

### WOMEN GIVEN ADVICE ON<sup>31</sup>:



**75.7%**  
Breastfeeding



**66.5%**  
Nutrition of mother and child



**40.4%**  
Institutional delivery

### A.2. PERSONNEL CAPACITY OF ICDS AND NRHM:

This section features data on availability of healthcare personnel and services available to women of reproductive age (antenatal care, tetanus toxoid coverage, iron-folic acid supplementation coverage, institutional delivery and counseling). Household and individual access to health services can directly impact children's nutrition and welfare during the crucial first 1,000 days of life.

| Availability of Anganwadi Centres and Workers (AWCs and AWWs) <sup>H, 30</sup> | Value    |
|--|----------|
| Pending or vacant Anganwadi workers to sanctioned number of workers*           | 9.3%     |
| AWWs living in the AWC village/ward  | 38.1%    |
| AWWs having 10 or more years of schooling                                      | 73%      |
| Median age of AWWs   | 41 years |
| AWCs serving to population more than the stipulated norm                       | 41.6%    |

| Growth Monitoring <sup>30</sup>             | Value |
|---|-------|
| AWCs having functional baby weighing scale  | 79.3% |
| AWCs having functional adult weighing scale | 70.1% |
| Available WHO growth chart at AWCs          | 95.2% |

<sup>H</sup> Number of AWCs surveyed for West Bengal as per RSoC 2014 is 337.

<sup>30</sup> Source : RSoC, 2014

<sup>31</sup> Source : DLHS-4, 2012-13

\* Source : MoWCD, 2012

| Training and Comprehensive Knowledge <sup>32</sup>                                  | Value |
|---|-------|
| AWWs having correct knowledge of intake of food by pregnant women                   | 90.1% |
| AWWs having correct knowledge of normal birth weight of children                    | 89.2% |
| AWWs having correct knowledge of initiation of breastfeeding within one hour        | 91.3% |
| AWWs having correct knowledge of exclusive breastfeeding for the first six months   | 96.9% |
| AWWs having correct knowledge of appropriate age of child for complementary feeding | 43.5% |

| Health Service Delivery Personnel   | Value              |
|---|--------------------|
| ASHAs selected <sup>33</sup>  | 79%                |
| Current density of ASHA as per Census 2011 rural population <sup>33</sup> | 1 per 1291 persons |
| Pending or vacant ANM positions sub centres & PHCs <sup>34</sup>          | 0%                 |

### A.3. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SPECIFIC INTERVENTIONS

| Expenditure on Schemes (in million dollars)                             | In million USD | National Average |
|---|----------------|------------------|
| ICDS (ICDS general + SNP + training) (women and children) <sup>35</sup> | 178            | 75               |
| NRHM expenditure (Central Government) <sup>36</sup>                     | 151.2          | 68.8             |
| NRHM expenditure (State Government) <sup>36</sup>                       | 4.8            | 9.3              |

## B. NUTRITION-SENSITIVE INTERVENTIONS

This section includes information on expenditure and coverage of key centrally-sponsored schemes that indirectly impact maternal and child nutrition. These are: the Mid Day Meal Scheme (MDMS), Public Distribution System (PDS), and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

### B.1. COVERAGE OF SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS

| Coverage of Schemes   | Value |
|---|-------|
| MDMS (base: eligible children*) <sup>37</sup>   | 53.7% |
| PDS (base: rural and urban households reporting consumption) <sup>38</sup>  | 43.1% |
| MGNREGA (base: rural persons 18 years and above registered in MGNREG job card and demanded work during last 365 days) <sup>39</sup> | 73.9% |

\* All children studying in primary & upper primary classes in schools supported under Sarva Shiksha Abhiyan and NCLP (National Child Labour Project) run by Ministry of Labour.

### B.2. EXPENDITURE ON SCHEMES DELIVERING NUTRITION-SENSITIVE INTERVENTIONS:

| Expenditure on Schemes (in million dollars) | In million USD | National Average |
|---|----------------|------------------|
| MDMS <sup>40</sup>                          | 168            | 47               |
| PDS <sup>41</sup>                           | 1242.2         | 475.3            |
| MGNREGA <sup>42</sup>                       | 642            | 214              |

<sup>32</sup> Source : RSoC, 2014

<sup>33</sup> Source : NRHM, 2013

<sup>34</sup> Source : MoHFW, 2013

<sup>35</sup> Source : Lok Sabha Unstarred Question # 846 dated 27.02.2015, 2012-13

<sup>36</sup> Source : Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013, 2012-13

<sup>37</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 [http://164.100.47.132/Annexure\\_New/lq15/15/as216.htm](http://164.100.47.132/Annexure_New/lq15/15/as216.htm) 2011-12

<sup>38</sup> Source : Report No. 558, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>39</sup> Source : Report No. 554, NSSO 68th round-Employment and Unemployment Situation in India, 2011-12

<sup>40</sup> Source : Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014, 2012-13


<sup>41</sup> Source : Food Corporation of India 2013, 2012-13

<sup>42</sup> Source : Lok Sabha Annexured Unstarred Question # 3835 dated 19.03.2015, 2012-13




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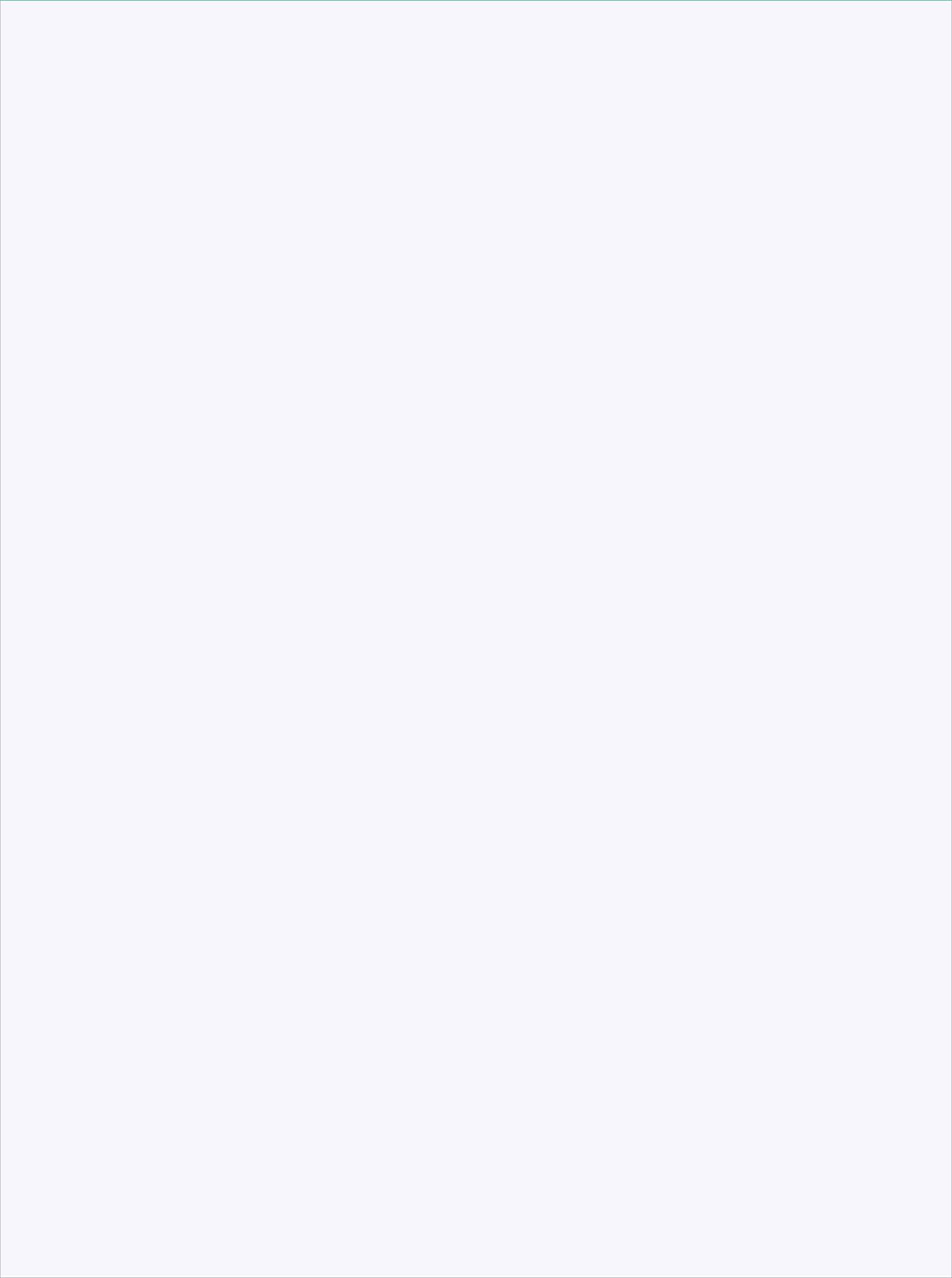




**APPENDIX A:  
SOURCE NOTES AND  
INDICATOR DEFINITIONS**



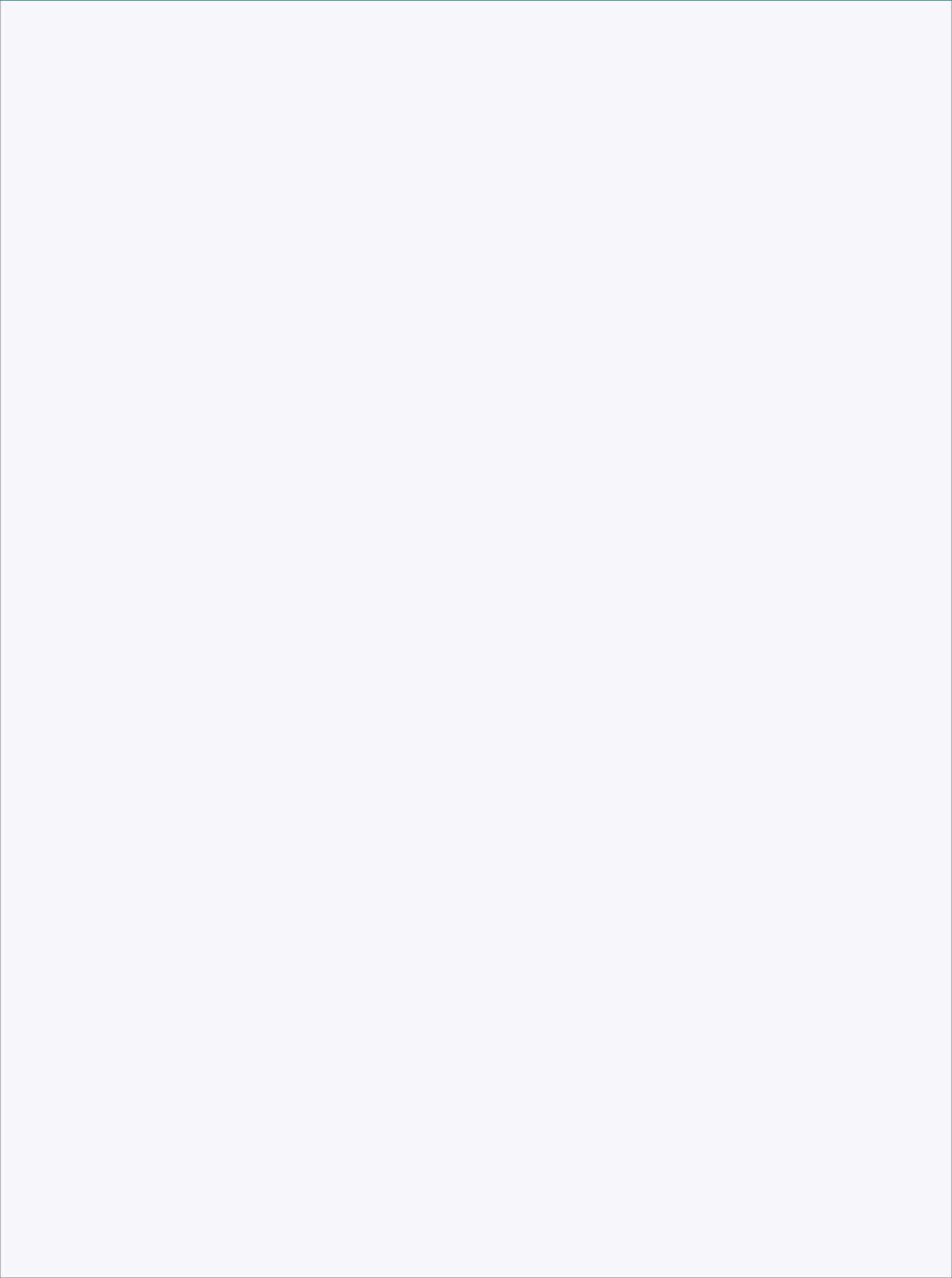
***FAST FACTS ON NUTRITION AND  
ITS DETERMINANTS***




| INDICATOR   | DEFINITION  | NUMERATOR  | DENOMINATOR   | DATA SOURCE & YEAR  |
|---|---|--|---|---|
| <b>Stunting (%)</b>   | Percentage of children 0–59 months who are below minus two (moderate and severe) standard deviations from median height-for-age of the WHO Child Growth Standards   | Number of children 0–59 months who are below minus two standard deviations (moderate and severe) from median height-for-age of the WHO Child Growth Standards    | Total number of children 0–59 months surveyed                         | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI   |
| <b>Wasting (%)</b>  | Percentage of children 0–59 months who are below minus two (moderate and severe) standard deviations from median weight-for-height of the WHO Child Growth Standards  | Number of children 0–59 months who are below minus two standard deviations (moderate and severe) from median weight-for-height of the WHO Child Growth Standards | Total number of children 0–59 months surveyed                         | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI   |
| <b>Infants who were exclusively breastfed (%)</b>   | Percentage of infants 0-5 months who were exclusively breastfed   | Number of infants between 0-5 months who were exclusively breastfed  | Total number of infants between 0-5 months old surveyed               | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI   |
| <b>Low birth weight (%)</b>   | Percentage of children 0-35 months with birth weight less than 2500 grams/2.5 kilograms (out of those weighed)  | Number of children 0-35 months who weighed less than 2500 grams (2.5kgs)   | Total number of children 0-35 months weighed/surveyed                 | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI   |
| <b>Anemia Prevalence among women (%)</b><br>[Note-* For Andhra Pradesh, Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, J&K, Karnataka, Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim, Tamil Nadu, Tripura and West Bengal<br><br>**For Assam, Bihar, Chhattisgarh, Delhi, Gujarat, India, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand] | Percentage of women between 15-49 years those who have mild, moderate, severe anaemia.<br>[Hemoglobin levels shown in grams per decilitre are classified into different categories as - Mild a (10.0-10.9g/dl)/ Moderate (7.0-9.9g/dl)/ Severe (<7.0 g/dl) or Any (<11.0 g/dl)] | Number of women between 15-49 years who have mild, moderate, severe anaemia.   | Total number of women between 15-49 years surveyed                    | *District Level Household & Facility Survey 4 (2012-13), Ministry of Health and Family Welfare, GoI<br><br>** National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI |
| <b>Infants who receive solid, semi-solid or soft foods (%)</b>  | Percentage of infants between 6-8 months old who receive solid, semi-solid or soft foods  | Number of infants between 6-8 months who receive solid, semi-solid or soft foods   | Total number of children between 6-8 months of age surveyed           | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI   |
| <b>Breastfed infants &amp; young children who had minimum dietary diversity (%)</b>   | Percentage of infants & young children between 6-23 months who had minimum dietary diversity (includes four or more food groups)  | Number of infants & young children between 6-23 months who had a minimum dietary diversity   | Total number of infants & young children between 6-23 months surveyed | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI   |


| INDICATOR   | DEFINITION   | NUMERATOR  | DENOMINATOR   | DATA SOURCE & YEAR  |
|---|--|--|---|---|
| <p><b>Anemia Prevalence among children (%)</b><br/>Note-* For Andhra Pradesh, Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, J&amp;K, Karnataka, Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim, Tamil Nadu, Tripura and West Bengal</p> <p>**For Assam, Bihar, Chhattisgarh, Delhi, Gujarat, India, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand]</p>             | <p>Percentage of children between 6-59 months those who have mild, moderate and severe anemia.<br/>[Hemoglobin levels shown in grams per decilitre are classified into different categories as - Mild a (10.0-10.9g/dl)/ Moderate (7.0-9.9g/dl)/ Severe (&lt;7.0 g/dl) or Any (&lt;11.0 g/dl)]</p> | <p>Number of children between 6-59 months who have mild, moderate and severe anaemia</p>   | <p>Total number of children between 6-59 months surveyed</p>                    | <p>*District Level Household &amp; Facility Survey 4 (2012-13), Ministry of Health and Family Welfare, GoI</p> <p>**National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI</p>                 |
| <p><b>Children aged 0-59 months with diarrhea (%)</b></p>   | <p>Percentage of children aged 0-59 months who had diarrhea in 15 days prior to survey</p>   | <p>Number of children 0-59 months who had diarrhea in 15 days prior to survey</p>  | <p>Total number of children aged 0-59 months age surveyed</p>                   | <p>Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI</p>  |
| <p><b>Children between 6-35 months who received supplementary food under ICDS for at least 21 days in the month prior to the survey (%)</b></p>   | <p>Percentage of children between 6-35 months who received supplementary food under ICDS for at least 21 days in the month prior to the survey</p>   | <p>Number of children between 6-35 months who received supplementary food under ICDS for at least 21 days in the month prior to the survey</p> | <p>Total targeted children between 6-35 months surveyed per state</p>           | <p>Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI</p>  |
| <p><b>Children fully immunized (%)</b></p>  | <p>Percentage of children (12-23 months age) who received one dose BCG, 3 doses of DPT/OPV each and 1 measles vaccine</p>  | <p>Number of children between 12-23 months who received one dose BCG, 3 doses of DPT/OPV each and 1 measles vaccine</p>                        | <p>Total number of children between 12-23 months surveyed</p>                   | <p>Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI</p>  |
| <p><b>Women who had live birth in 35 months prior to survey received three or more antenatal check-ups (%)</b></p>  | <p>Percentage of women with a live birth in 35 months prior to survey who received 3 or more antenatal check ups</p>   | <p>Number of women with a live birth in 35 months prior to the survey who received three or more antenatal check-ups</p>                       | <p>Total number of women with a live birth in 35 months prior to the survey</p> | <p>Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI</p>  |
| <p><b>Women who have 10 or more years of schooling (%)</b><br/>[Note-*For Andhra Pradesh, Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, J&amp;K, Karnataka, Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim, Tamil Nadu, Tripura and West Bengal</p> <p>**For Assam, Bihar, Chhattisgarh, Delhi, Gujarat, India, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand]</p> | <p>Percentage of ever married women between 15-49 years who have an educational level greater than primary level</p>   | <p>Number of ever married sampled women between 15-49 years who have an educational level greater than primary level</p>                       | <p>Total number of ever married women between 15-49 years surveyed</p>          | <p>*District Level Household &amp; Facility Survey 4 (2012-13), Ministry of Health and Family Welfare, GoI</p> <p>** District Level Household &amp; Facility Survey 3 (2007-08), Ministry of Health and Family Welfare, GoI</p> |
| <p><b>Women aged 20-24 years who are married before the age of 18</b></p>   | <p>Percentage of women between 20-24 years who are married before the age of 18</p>  | <p>Number of women between 20-24 years who are married before the age of 18</p>  | <p>Total number of women aged 20-24 years surveyed per state</p>                | <p>Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI</p>  |

| INDICATOR  | DEFINITION  | NUMERATOR                                       | DENOMINATOR  | DATA SOURCE & YEAR  |
|--|---|---|--|---|
| <b>Adolescent girls with different BMI levels (%)</b>  | Percentage of adolescent girls between 15-18 years  | Number of adolescent girls between 15-18 years  | Total number of adolescent girls between 15-18 years per state | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| <b>Household practicing open defecation</b>  | Percentage of households practicing open defecation   | Number of households practicing open defecation | Total number of households surveyed per state                  | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| <b>State population below state-specific poverty line (as defined under Tendulkar Methodology) (%)</b> | The Expert group of Dr. Tendulkar used the all-India urban poverty line basket as the reference to derive state-level rural and urban poverty in 2009. The Tendulkar methodology uses implicit prices derived from quantity and value data collected in household consumer expenditure surveys for estimating and updating the poverty lines for rural and urban areas in each state based on Mixed Reference Period. |   |  | Press Note on Poverty Estimates, 2011-12, Planning Commission, GoI            |





**APPENDIX A:  
SOURCE NOTES AND  
INDICATOR DEFINITIONS**



***STATE NUTRITION DASHBOARDS***



The page contains a large, faint watermark of a globe centered on the Atlantic Ocean, with the word "Globe" written across it. The globe is rendered in a light gray color and is positioned in the lower-left quadrant of the page. The rest of the page is blank white space.



# I. CONTEXT

## A. DEMOGRAPHIC CONTEXT

| INDICATOR   | DEFINITION  | NUMERATOR  | DENOMINATOR  | DATA SOURCE & YEAR   |
|---|---|--|--|--|
| <b>Total population</b>   | Total headcount of population in the administrative units of India at 0.00 hours of 1st March 2011  |  |  | Primary Census Abstract, Census of India 2011, Series 1. Registrar General & Census Commissioner, India  |
| <b>Share of population</b>  | Percentage of population of the state   | Total population of the state                              | Total population of India  | Authors' estimates: Primary Census Abstract, Census of India 2011, Series 1. Registrar General & Census Commissioner, India  |
| <b>Fertility Rate</b><br><br>[*Note- 2009 numbers are for Arunachal Pradesh, Goa, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura and Uttarakhand] | The average number of children a hypothetical cohort of women would have at the end of their reproductive period if they were subject during their whole lives to the fertility rates of a given period and if they were not subject to mortality. It is expressed as children per woman.   | Average number of live births per women                    | Total number of women in the age group of 15-44 years of age in the calendar year        | Sample Registration System Statistical Report 2013. Office of Registrar General & Census Commissioner India. Ministry of Home Affairs, GoI<br>*Sample Registration System 2010, Office of Registrar General & Census Commissioner India. Ministry of Home Affairs, GoI |
| <b>Newborns</b>   | Number of children born in a particular year  |  |  | Primary Census Abstract, Census of India 2011, Series 1. Registrar General & Census Commissioner, India  |
| <b>Gini Coefficient of consumption</b>  | Gini coefficient is a measure of inequality of distribution. It measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality. Assuming all people have non-negative income, a Gini coefficient ranges between 0, which expresses perfect equality (everyone has the same income/consumption) and 100, which expresses maximal inequality (only 1 person has the entire share of the income/consumption and others have none). | Area between the line of perfect equality and Lorenz curve | Area between the line of perfect equality and Lorenz curve + Area under the Lorenz curve | Planning Commission estimates: NSS 66th round, Employment & Unemployment Survey, 2009-10   |

| INDICATOR  | DEFINITION  | NUMERATOR   | DENOMINATOR                                     | DATA SOURCE & YEAR   |
|--|---|---|---|--|
| <b>Per capita net state domestic product in 2013-14 at constant (2004-05) prices in USD (@INR60)</b>   |   | Net state domestic product in 2013-14 at constant (2004-05) prices in USD (@INR60)  | Population of 2011 per state as per Census 2011 | Press Releases and Statements, Ministry of Statistics and Programme Implementation, 2013-14: <a href="http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&amp;menu_id=82">http://mospi.nic.in/Mospi_New/site/inner.aspx?status=3&amp;menu_id=82</a> |
| <b>State population below state-specific poverty line (as defined under Tendulkar Methodology) (%)</b> | The Expert group of Dr. Tendulkar used the all-India urban poverty line basket as the reference to derive state-level rural and urban poverty in 2009. The Tendulkar methodology uses implicit prices derived from quantity and value data collected in household consumer expenditure surveys for estimating and updating the poverty lines for rural and urban areas in each state based on Mixed Reference Period. |   |   | Press Note on Poverty Estimates, 2011-12, Planning Commission, Government of India: <a href="http://planningcommission.nic.in/news/pre_pov2307.pdf">http://planningcommission.nic.in/news/pre_pov2307.pdf</a>  |
| <b>Children under 5</b>  | Number of children between 0-59 months of age per state   |   |   | Primary Census Abstract, Census of India 2011, Series 1. Registrar General & Census Commissioner, India  |
| <b>State Hunger Index</b>  | Index created to comprehensively measure and track hunger globally and by country and region.   | Proportion of undernourished children as the percentage of the population, prevalence of children younger than the age of five who are underweight, mortality rate of children younger than the age of five | Total number of children 0-59 months surveyed   | IFPRI, 2009 India state hunger index, comparisons of hunger across states <a href="https://www.ifpri.org/publication/comparisons-hunger-across-states">https://www.ifpri.org/publication/comparisons-hunger-across-states</a>                          |
| <b>Urban Population (%)</b>  | Percentage of urban population to total population of the state   | Total Urban population of the state   | Total population of the state                   | Authors' estimates: Primary Census Abstract, Census of India 2011, Series 1. Registrar General & Census Commissioner, India  |
| <b>Rural Population (%)</b>  | Percentage of rural population to total population of the state   | Total Rural population of the state   | Total population of the state                   | Authors' estimates: Primary Census Abstract, Census of India 2011, Series 1. Registrar General & Census Commissioner, India  |
| <b>Total Male Population (%)</b>   | Percentage of male population of the state to the total population of India   | Total male population of the state  | Total population of the state                   | Authors' estimates: Primary Census Abstract, Census of India 2011, Series 1. Registrar General & Census Commissioner, India  |
| <b>Total Female Population (%)</b>   | Percentage of female population of the state to the total population of India   | Total female population of the state  | Total population of the state                   | Authors' estimates: Primary Census Abstract, Census of India 2011, Series 1. Registrar General & Census Commissioner, India  |

| INDICATOR                | DEFINITION  | NUMERATOR  | DENOMINATOR   | DATA SOURCE & YEAR  |
|--------------------------|---|--|---|---|
| Female literacy rate (%) | Percentage of literate females 7 years and above to total women population above 7 years of the state | Total number of literate women 7 years and above | Total female population above 7 years of age in the state | Authors' estimates: Primary Census Abstract, Census of India 2011, Series 1. Registrar General & Census Commissioner, India |
| Scheduled Caste (%)      | Percentage of Scheduled Caste population to total population of the state                             | Total Scheduled Caste population of the state    | Total population of the state                             | Authors' estimates: Primary Census Abstract, Census of India 2011, Series 1. Registrar General & Census Commissioner, India |
| Scheduled Tribe (%)      | Percentage of Scheduled Tribe population to total population of the state                             | Total Scheduled Tribe population of the state    | Total population of the state                             | Authors' estimates: Primary Census Abstract, Census of India 2011, Series 1. Registrar General & Census Commissioner, India |

## B. CHILD MORTALITY PER THOUSAND LIVE BIRTHS

|                         |  |   |                                       |  |
|-------------------------|--|---|---------------------------------------|--|
| Infant Mortality Rate   | Probability of dying between birth and exactly one year of age expressed per 1,000 live births   | Number of children dying between birth and exactly one year of age in a year in the state   | Per 1,000 live births in a given year | National Family Health Survey (NFHS-1, 2 & 3), Ministry of Health and Family Welfare 1992-93, 1998-99 & 2005-06, GoI<br><br>Sample Registration System Statistical Report 2013. Office of Registrar General & Census Commissioner India. Ministry of Home Affairs, GoI |
| Under 5 Mortality Rate  | Probability of dying between birth and exactly five years of age expressed per 1,000 live births | Number of children dying between birth and exactly five years of age in a year in the state | Per 1,000 live births in a given year | National Family Health Survey (NFHS-1, 2 & 3), Ministry of Health and Family Welfare 1992-93, 1998-99 & 2005-06, GoI<br><br>Sample Registration System Statistical Report 2013. Office of Registrar General & Census Commissioner India. Ministry of Home Affairs, GoI |
| Neonatal Mortality Rate | Number of neonates dying before reaching 28 days of age, per 1,000 live birth in a given year    | Number of neonates dying before reaching 28 days of age in a year in the state              | Per 1,000 live births in a given year | National Family Health Survey (NFHS-1, 2 & 3), Ministry of Health and Family Welfare 1992-93, 1998-99 & 2005-06, GoI<br><br>Sample Registration System Statistical Report 2013. Office of Registrar General & Census Commissioner India. Ministry of Home Affairs, GoI |

## II. NUTRITIONAL STATUS AMONG CHILDREN

### A. CHILD UNDERNUTRITION, BY TIME PERIOD

| INDICATOR   | DEFINITION   | NUMERATOR  | DENOMINATOR   | DATA SOURCE & YEAR   |
|---|--|--|---|--|
| <b>Stunting (%)</b>   | Percentage of children 0–59 months who are below minus two (moderate and severe) standard deviations from median height-for-age of the WHO Child Growth Standards    | Number of children 0–59 months who are below minus two standard deviations (moderate and severe) from median height-for-age of the WHO Child Growth Standards    | Total number of children 0–59 months surveyed             | National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI<br><br>Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| <b>Wasting (%)</b>  | Percentage of children 0–59 months who are below minus two (moderate and severe) standard deviations from median weight-for-height of the WHO Child Growth Standards | Number of children 0–59 months who are below minus two standard deviations (moderate and severe) from median weight-for-height of the WHO Child Growth Standards | Total number of children 0–59 months surveyed             | National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI<br><br>Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| <b>Underweight (%)</b>  | Percentage of children 0–59 months who are below minus two (moderate and severe) standard deviations from median weight-for-age of the WHO Child Growth Standards    | Number of children 0–59 months who are below minus two standard deviations (moderate and severe) from median weight-for-age of the WHO Child Growth Standards    | Total number of children 0–59 months surveyed             | National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI<br><br>Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| <b>State's share in the total number of stunted children in India</b>     | Proportion of stunted children 0-59 months in the state relative to the total number of stunted children in India  | Total number of stunted children 0-59 months in the state  | Total number of stunted children 0-59 months in India     | Authors' estimate: National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI   |
| <b>State's share in the total number of wasted children in India</b>      | Proportion of wasted children 0-59 months in the state relative to the total number of wasted children in India  | Total number of wasted children 0-59 months in the state   | Total number of wasted children 0-59 months in India      | Authors' estimate: National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI   |
| <b>State's share in the total number of underweight children in India</b> | Proportion of underweight children 0-59 months in the state relative to the total number of underweight children in India  | Total number of underweight children 0-59 months in the state  | Total number of underweight children 0-59 months in India | Authors' estimate: National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI   |

### B. CHILD UNDERNUTRITION, BY AGE GROUPS

|  |  |  |  |   |
|--|--|--|--|---|
| <b>Prevalence of undernutrition (moderate and severe stunting, wasting and underweight) among children under 5, by age in months (%)</b> | Percentage of children 0-59 months who are stunted, wasted and underweight, by age in months |  |  | National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI |
|--|--|--|--|---|

## C. PREVALENCE OF CHILD UNDERNUTRITION, BY BACKGROUND CHARACTERISTICS

| INDICATOR  | DEFINITION  | NUMERATOR | DENOMINATOR | DATA SOURCE & YEAR  |
|--|---|-----------|-------------|---|
| Prevalence of undernutrition (stunting, wasting and underweight), by mothers' education, wealth index, mothers' BMI, caste and residence (%) | Percentage of children 0-59 months who are stunted, wasted and underweight by mothers' education, wealth index, mothers' BMI, caste and residence |           |             | National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI |
| Prevalence of undernutrition (stunting, wasting and underweight), by caste and residence (%)   | Percentage of children 0-59 months who are stunted, wasted and underweight by caste and residence   |           |             | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI           |

## D. ANEMIA PREVALENCE

|   |   |  |  |   |
|---|---|--|--|---|
| <p><b>Anemia Prevalence among children (%)</b></p> <p>[Note-* For Andhra Pradesh, Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, J&amp;K, Karnataka, Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim, Tamil Nadu, Tripura and West Bengal</p> <p>**For Assam, Bihar, Chhattisgarh, Delhi, Gujarat, India, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand]</p> | <p>Percentage of children between 6 mo-59 months those who have mild, moderate and severe anemia. [Hemoglobin levels shown in grams per decilitre are classified into different categories as - Mild a (10.0-10.9g/dl)/ Moderate (7.0-9.9g/dl)/ Severe (&lt;7.0 g/dl) or Any (&lt;11.0 g/dl)]</p> | <p>Number of children between 6-59 months those who have mild, moderate and severe anaemia</p> | <p>Total number of children between 6-59 months surveyed</p> | <p>*District Level Household &amp; Facility Survey 4 (2012-13), Ministry of Health and Family Welfare, GoI</p> <p>**National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI</p> |
|---|---|--|--|---|

### III. IMMEDIATE DETERMINANTS

#### A. INFANT AND YOUNG CHILD FEEDING (IYCF) PRACTICES

| INDICATOR  | DEFINITION   | NUMERATOR  | DENOMINATOR   | DATA SOURCE & YEAR  |
|--|--|--|---|---|
| Children aged 0-23 months who were breastfed within an hour of birth (%)       | Percentage of children 0-23 months who were breastfed immediately within an hour of birth  | Number of children between 0-23 months who were breastfed immediately within an hour of birth  | Total number of children between 0-23 months surveyed per state           | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| Children aged 0-5 months who were exclusively breastfed (%)                    | Percentage of children 0-5 months who were exclusively breastfed   | Number of children 0-5 months old who were exclusively breastfed   | Total number of children 0-5 months surveyed per state                    | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| Children aged 6-8 months who were fed complementary food (%)                   | Percentage of children 6-8 months who were fed complementary foods   | Number of children between 6-8 months who were fed complementary foods   | Total number of children between 6-8 months surveyed per state            | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| Breastfed children aged 6-23 months who had minimum dietary diversity (%)      | Percentage of breastfed children 6-23 months who had minimum dietary diversity includes four or more food groups   | Number of children between 6-23 months who had a minimum dietary diversity   | Total number of children between 6-23 months surveyed per state           | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| Breastfed children aged 6-23 months who were fed a minimum number of times (%) | Percentage of breastfed children 6-8 months who were fed at least twice a day and breastfed children between 9-23 months who were fed at least three times a day | Number of breastfed children 6-8 months who were fed at least twice a day and breastfed children between 9-23 months who were fed at least three times a day | Total number of breastfed children between 6-23 months surveyed per state | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |

#### B. CHILD HEALTH

|   |  |  |   |   |
|---|--|--|---|---|
| Children aged 0-59 months with diarrhea (%) | Percentage of children between 0-59 months had diarrhea in 15 days prior to survey | Number of children between 0-59 months who had diarrhea in 15 days prior to survey | Total number of children between 0-59 months surveyed per state | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| Children aged 0-59 months with fever (%)    | Percentage of children between 0-59 months had fever in 15 days prior to survey    | Number of children between 0-59 months who had fever in 15 days prior to survey    | Total number of children between 0-59 months surveyed per state | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| Children aged 0-59 months with ARI (%)      | Percentage of children between 0-59 months had ARI in 15 days prior to survey      | Number of children between 0-59 months who had ARI in 15 days prior to survey      | Total number of children between 0-59 months surveyed per state | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |

## C. NUTRITIONAL STATUS OF WOMEN AND ADOLESCENT GIRLS

| INDICATOR   | DEFINITION   | NUMERATOR  | DENOMINATOR  | DATA SOURCE & YEAR  |
|---|--|--|--|---|
| <p><b>Women with different BMI levels (%)</b></p> <p>[Note--*For Andhra Pradesh, Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, J&amp;K, Karnataka, Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim, Tamil Nadu, Tripura and West Bengal</p> <p>**For Assam, Bihar, Chhattisgarh, Delhi, Gujarat, India, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand]</p>        | <p>Percentage of women between 15-49 years of age who are total thin, normal, overweight and obese.</p> <p>[Body Mass Index (BMI) is defined as the weight in kilograms by the square of the height in metres (kg/m<sup>2</sup>). It is a simple index of weight-for-height which is commonly used to classify underweight, overweight and obesity in adults. Range: BMI&lt;18.5=total thin, BMI 18.5-24.9=normal, BMI 25.0-29.9=Overweight, BMI&gt;30.0=Obese [per WHO Standards]</p> | <p>Number of women between 15-49 years who are total thin, normal, overweight and obese.</p>       | <p>Total number of women between 15-49 years surveyed</p>                  | <p>*District Level Household &amp; Facility Survey 4 (2012-13), Ministry of Health and Family Welfare, Gol</p> <p>**National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, Gol</p> |
| <p><b>Anemia Prevalence among women (%)</b></p> <p>[Note--*For Andhra Pradesh, Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, J&amp;K, Karnataka, Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim, Tamil Nadu, Tripura and West Bengal</p> <p>**For Assam, Bihar, Chhattisgarh, Delhi, Gujarat, India, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand]</p>          | <p>Percentage of women between 15-49 years those who have mild, moderate, severe anaemia.</p> <p>[Haemoglobin levels shown in grams per decilitre are classified into different categories as - Mild a (10.0-10.9g/dl)/ Moderate (7.0-9.9g/dl)/ Severe (&lt;7.0 g/dl) or Any (&lt;11.0 g/dl)]</p>  | <p>Number of women between 15-49 years those who have mild, moderate, severe anaemia.</p>          | <p>Total number of women between 15-49 years surveyed</p>                  | <p>*District Level Household &amp; Facility Survey 4 (2012-13), Ministry of Health and Family Welfare, Gol</p> <p>**National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, Gol</p> |
| <p><b>Anemia Prevalence among pregnant women (%)</b></p> <p>[Note--*For Andhra Pradesh, Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, J&amp;K, Karnataka, Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim, Tamil Nadu, Tripura and West Bengal</p> <p>**For Assam, Bihar, Chhattisgarh, Delhi, Gujarat, India, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand]</p> | <p>Percentage of pregnant women between 15-49 years those who have mild, moderate, severe anaemia.</p> <p>[Haemoglobin levels shown in grams per decilitre are classified into different categories as - Mild a (10.0-10.9g/dl)/ Moderate (7.0-9.9g/dl)/ Severe (&lt;7.0 g/dl) or Any (&lt;11.0 g/dl)]</p>   | <p>Number of pregnant women between 15-49 years those who have mild, moderate, severe anaemia.</p> | <p>Total number of women between 15-49 years surveyed</p>                  | <p>*District Level Household &amp; Facility Survey 4 (2012-13), Ministry of Health and Family Welfare, Gol</p> <p>**National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, Gol</p> |
| <p><b>Adolescent girls with different BMI levels (%)</b></p>  | <p>Percentage of adolescent girls between 15-18 years</p>  | <p>Number of adolescent girls between 15-18 years</p>  | <p>Total number of adolescent girls women between 15-18 years surveyed</p> | <p>Rapid Survey on Children (2014), Ministry of Women and Child Development, Gol</p>  |

| INDICATOR   | DEFINITION   | NUMERATOR   | DENOMINATOR   | DATA SOURCE & YEAR  |
|---|--|---|---|---|
| <b>Anemia Prevalence among adolescent girls (%)</b> | Percentage of adolescent girls between 15-19 years those who have mild, moderate, severe anaemia. [Haemoglobin levels shown in grams per decilitre are classified into different categories as - Mild a (10.0-10.9g/dl)/ Moderate (7.0-9.9g/dl)/ Severe (<7.0 g/dl) or Any (<11.0 g/dl)] | Number of adolescent girls between 15-19 years those who have mild, moderate, severe anaemia. | Total number of adolescent girls women between 15-19 years surveyed | National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI |



## IV. UNDERLYING DETERMINANTS

### A. SOCIAL STATUS OF WOMEN

| INDICATOR  | DEFINITION   | NUMERATOR   | DENOMINATOR  | DATA SOURCE & YEAR  |
|--|--|---|--|---|
| <p><b>Women who have 10 or more years of schooling (%)</b></p> <p>[Note--For Andhra Pradesh, Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, J&amp;K, Karnataka, Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim, Tamil Nadu, Tripura and West Bengal</p> <p>**For Assam, Bihar, Chhattisgarh, Delhi, Gujarat, India, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand]</p> | <p>Percentage of ever married women between 15-49 years who have an educational level greater than primary level</p>   | <p>Number of ever married sampled women between 15-49 years who have an educational level greater than primary level</p>  | <p>Total number of ever married women between 15-49 years surveyed</p> | <p>*District Level Household &amp; Facility Survey 4 (2012-13), Ministry of Health and Family Welfare, GoI</p> <p>** District Level Household &amp; Facility Survey 3 (2007-08), Ministry of Health and Family Welfare, GoI</p>   |
| <p><b>Women aged 20-24 years who are married below 18 years (%)</b></p>  | <p>Percentage of women between 20-24 years who are married below the age of 18</p>   | <p>Number of women between 20-24 years who are married below the age of 18</p>  | <p>Total number of women between 20-24 years surveyed per state</p>    | <p>Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI</p>  |
| <p><b>Average age at marriage</b></p>  | <p>Average age at marriage</p>   |   |  | <p>Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI</p>  |
| <p><b>Gender empowerment measure</b></p>   | <p>Weighted average index based on indicators on three dimensions: i. political participation and decision-making power; ii. Economic participation and decision-making power; iii. Power over economic resources. For detailed list of indicators and illustration of GEM calculation please see: <a href="http://wcd.nic.in/publication/GDIGEReport/Part4.pdf">http://wcd.nic.in/publication/GDIGEReport/Part4.pdf</a></p> | <p>For each of the indicators along the three dimensions, an equally distributed equivalent percentage (EDEP) is calculated as a population-weighted average. Each EDEP is indexed by dividing it by 50 (assuming perfect equality in an ideal world). The GEM is a simple average of the indexed EDEPs assuming equal weights for each of the three dimensions</p> |  | <p>Gendering Human Development Indices: Recasting the Gender development Index and Gender Empowerment Measure for India, Ministry of Women and Child Development, GoI, 2009 <a href="http://wcd.nic.in/publication/GDIGEReport/Part3.pdf">http://wcd.nic.in/publication/GDIGEReport/Part3.pdf</a></p>   |
| <p><b>Female workforce participation rate (%)</b></p>  | <p>Percentage of female working population of the state</p> <p>[Note-Persons engaged in any gainful activity are considered 'workers' (or employed). They are the persons assigned any one or more of the nine activity categories under the first broad activity category i.e. "working or employed"]</p>   | <p>Female working population of the state</p>   | <p>Total working population of the state</p>                           | <p>Women and Men in India, 2014, 16th Issue. Social Statistics Division, CSO, MOSPI, GoI. <a href="http://mospi.nic.in/Mospi_New/upload/man_and_women/Women_Men_In_India_2014.htm">http://mospi.nic.in/Mospi_New/upload/man_and_women/Women_Men_In_India_2014.htm</a> <a href="http://mospi.nic.in/Mospi_New/upload/man_and_women/Chapter%204.pdf">http://mospi.nic.in/Mospi_New/upload/man_and_women/Chapter%204.pdf</a></p> |

| INDICATOR  | DEFINITION   | NUMERATOR   | DENOMINATOR  | DATA SOURCE & YEAR  |
|--|--|---|--|---|
| <b>Currently married women who make decisions about own health care (%)</b>                        | Percentage of currently married women 15-49 years of age had right to decide on own health care                                | Number of currently married women between 15-49 years who had right to decide on own health care                                | Total number of currently married women 15-49 years of age surveyed  | National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI |
| <b>Currently married women who make decisions about major household purchase (%)</b>               | Percentage of currently married women 15-49 years of age had right to decide on household purchase                             | Number of currently married women between 15-49 years who had right to decide on household purchase                             | Total number of currently married women 15-49 years of age surveyed  | National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI |
| <b>Currently married women who make decisions about purchases for daily household needs (%)</b>    | Percentage of currently married women 15-49 years of age had right to decide on purchases of daily household needs             | Number of currently married women between 15-49 years who had right to decide on purchases of daily household needs             | Total number of currently married women between 15-49 years surveyed | National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI |
| <b>Currently married women who make decisions about visits to her family/friends/relatives (%)</b> | Percentage of currently married women 15-49 years of age had right to decide on visiting their family/friends/relatives on own | Number of currently married women between 15-49 years who had right to decide on visiting their family/friends/relatives on own | Total number of currently married women 15-49 years of age surveyed  | National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI |
| <b>Ever married women who experienced any form of violence (physical/emotional/sexual) (%)</b>     | Percentage of ever married women who have experienced any form of physical/sexual/emotional violence                           | Number of ever married women between 15-49 years who have experienced any form of physical/sexual/emotional violence            | Total number of ever married women 15-49 years of age surveyed       | National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI |
| <b>Ever married women who justify hitting/wife-beating (%)</b>                                     | Percentage of ever married women who justify hitting/wife-beating (for either of any reasons mentioned)                        | Number of ever married women between 15-49 years who justify hitting/wife-beating (for either of any reasons mentioned)         | Total number of ever married women 15-49 years of age surveyed       | National Family Health Survey (NFHS-3), Ministry of Health and Family Welfare 2006, GoI |

## B. WATER AND SANITATION

|  |   |  |   |   |
|--|---|--|---|---|
| <b>Households having access to improved sources of water (%)</b> | Percentage of households in the state using an improved drinking water source | Number of households using improved drinking water source                      | Total number of households in the state | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| <b>Households having improved sanitation facility (%)</b>        | Percentage of households have access to improved sanitation facility          | Number of households using improved sanitation facilities which are not shared | Total number of households in the state | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| <b>Households practicing open defecation (%)</b>                 | Percentage of households practicing open defecation                           | Number of households who practice open defecation                              | Total number of households in the state | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |

| INDICATOR  | DEFINITION  | NUMERATOR | DENOMINATOR | DATA SOURCE & YEAR   |
|--|---|-----------|-------------|--|
| <b>Expenditure on toilets under TSC (in million USD @INR 60)</b> | Expenditure on TSC includes the following expenditures: toilets construction subsidies, funding of other activities such as solid and liquid waste management, IEC activities for sustainable demand generation for sanitation facilities, assistance to production centres of sanitary materials and rural sanitary marts, provision of construction of community sanitary complexes, provision of sanitation facilities in government schools and Anganwadis in government buildings. |           |             | Indiastat, 2011-12, Rajya Sabha Unstarred Question No. 2950, dated on 30.08.2011 |

## C. AGRICULTURE AND FOOD SECURITY

|   |   |   |   |  |
|---|---|---|---|--|
| <b>Growth rate of agriculture (%)</b>   | Percentage growth in production of food grains and cash crops from year 2007-2012   | Total production of food grains and cash crops in the given year per state  | Total production of food grains and cash crops in the given year in India | Indiastat, compiled by datanet from Rajyasabha & Lok Sabha unstarred questions no. 3039, 45335, 2007-12          |
| <b>Share in India's total food grain production (%)</b>   | Percentage share of the state in the total food grain production of India   | Total food grain production of the state in the given year  | Total food grain production of India in the given year                    | Indiastat, Ministry of Agriculture, 2011-12, GoI   |
| <b>Mean calorie intake per person per day (in Kcal) for all monthly per capita expenditure classes (Rural &amp; Urban)</b>      | Average quantity of calorie consumption (Kcal) per day per capita   |   |   | NSSO, 68th round- Nutritional Intake in India, 2011-12. Ministry of Statistics and Programme Implementation, NSO |
| <b>Expenditure on food items (pulses, milk, vegetables, fruits, eggs, meat, fishes and intoxicants) by income quintiles (%)</b> | Percentage share of pulses, milk, vegetables, fruits and intoxicants in the total monthly per capita expenditure on food for each income quintile | Average monthly per capita expenditure on each of the following food groups: pulses, milk, vegetables, fruits and intoxicants per income quintile | Average monthly per capita expenditure on all food per income quintile    | NSSO, 68th round- Nutritional Intake in India, 2011-12. Ministry of Statistics and Programme Implementation, NSO |

## V. STATUS OF NUTRITION-RELEVANT INTERVENTIONS

### A. NUTRITION-SPECIFIC INTERVENTIONS

#### A.1 Coverage of ICDS and NHM: Beneficiaries who availed supplementary food under ICDS

| INDICATOR  | DEFINITION   | NUMERATOR  | DENOMINATOR   | DATA SOURCE & YEAR  |
|--|--|--|---|---|
| i. Children between 6-35 months who received supplementary food under ICDS (%)   | Percentage of children between 6-35 months who received supplementary food under ICDS  | Number of children between 6-35 months                               | Total targeted children between 6-35 months surveyed per state  | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| ii. Children between 36-71 months who received supplementary food under ICDS (%) | Percentage of children between 36-71 months who received supplementary food under ICDS | Number of children between 36-71 months                              | Total targeted children between 36-71 months surveyed per state | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| iii. Pregnant women who received supplementary food under ICDS (%)               | Percentage of pregnant women who received supplementary food under ICDS                | Number of pregnant women who received supplementary food under ICDS  | Total number of pregnant women surveyed per state               | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| iii. Lactating women who received supplementary food under ICDS (%)              | Percentage of lactating women who received supplementary food under ICDS               | Number of lactating women who received supplementary food under ICDS | Total number of lactating women surveyed per state              | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |

#### A.2 Coverage of ICDS and NHM: Beneficiaries who availed supplementary food under ICDS

|  |  |  |  |   |
|--|--|--|--|---|
| i. Children between 6-35 months as beneficiaries who received supplementary food for at least 21 days in the month prior to the survey (%)   | Percentage of children between 6-35 months as beneficiaries who received supplementary food for 21 days or more in the month prior to the survey   | Number of children between 6-35 months as beneficiaries who received supplementary food for 21 days or more in the month prior to the survey   | Total children between 6-35 months surveyed per state            | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| ii. Children between 36-71 months as beneficiaries who received supplementary food for at least 21 days in the month prior to the survey (%) | Percentage of children between 36-71 months as beneficiaries who received supplementary food for at least 21 days in the month prior to the survey | Number of children between 36-71 months as beneficiaries who received supplementary food for at least 21 days in the month prior to the survey | Total number of children between 36-71 months surveyed per state | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| iii. Pregnant women as beneficiaries who received supplementary food for at least 21 days in the month prior to the survey (%)               | Percentage of pregnant women as beneficiaries who received supplementary food for at least 21 days in the month prior to the survey                | Number of pregnant women as beneficiaries who received supplementary food for at least 21 days in the month prior to the survey                | Total number of pregnant women surveyed per state                | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| iv. Lactating mothers as beneficiaries who received supplementary food for at least 21 days in the month prior to the survey (%)             | Percentage of lactating mothers as beneficiaries who received supplementary food for at least 21 days in the month prior to the survey             | Number of lactating mothers as beneficiaries who received supplementary food for at least 21 days in the month prior to the survey             | Total number of lactating mothers surveyed per state             | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |

#### A.3 Coverage of ICDS and NHM: Beneficiaries who received supplementary food under ICDS

|  |   |   |  |   |
|--|---|---|--|---|
| Women who had live birth in 35 months prior to survey received three or more antenatal check-ups (%) | Percentage of women with a live birth in 35 months prior to survey who received 3 or more antenatal check-ups | Number of women with a live birth in 35 months prior to the survey who received three or more antenatal check-ups | Total number of women with a live birth in 35 months prior to the survey | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
|--|---|---|--|---|

| INDICATOR  | DEFINITION  | NUMERATOR   | DENOMINATOR  | DATA SOURCE & YEAR  |
|--|---|---|--|---|
| <b>Women who had live birth in 35 months prior to survey received two or more TT injections (%)</b>                          | Percentage of women with a live birth in 35 months prior to survey who received 2 or more TT injections                         | Number of women with a live birth in 35 months prior to the survey who received two or more TT injections                         | Total number of women with a live birth in 35 months prior to the survey             | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| <b>Women with a live birth in 35 months prior to survey who consumed 100 or more IFA tablets/syrups during pregnancy (%)</b> | Percentage of women with a live birth in 35 months prior to survey who consumed 100 or more IFA tablets/syrups during pregnancy | Number of women (with a live birth in 35 months prior to the survey) who consumed 100 or more IFA tablets/syrups during pregnancy | Total number of women (with a live birth in 35 months prior to the survey) per state | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| <b>Women with a live birth in 35 months prior to survey who had institutional delivery (%)</b>                               | Percentage of women with a live birth in 35 months prior to survey who had institutional delivery                               | Number of live births in the last 3 years that were delivered in the health facility  | Total number of live births in the last 3 years                                      | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| <b>Women with a live birth in 35 months prior to survey whose delivery was assisted by skilled health provider (%)</b>       | Percentage of women with a live birth in 35 months prior to survey whose delivery was assisted by skilled health provider       | Number of live births in the last 3 years that were attended by skilled health personnel  | Total number of live births in the last 3 years                                      | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| <b>Children fully immunized (Rural &amp; Urban) (%)</b>  | Percentage of children (12-23 months age) receiving one dose BCG, 3 doses of DPT/OPV each and 1 measles vaccine                 | Number of children between 12-23 months receiving one dose BCG, 3 doses of DPT/OPV each and 1 measles vaccine                     | Total number of children between 12-23 months surveyed                               | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |
| <b>Children not immunized (%)</b>  | Percentage of children aged 12-23 months who are not immunized  | Number of children between 12-23 months who are not immunized   | Total number of children in the age group of 12-23 months of age surveyed            | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI |

#### A.4 Coverage of ICDS and NHM: Women (15-49 years) given advice on:

|  |   |   |  |  |
|--|---|---|--|--|
| <b>Breastfeeding (%)</b><br><br>[Note-*For Andhra Pradesh, Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, J&K, Karnataka, Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim, Tamil Nadu, Tripura and West Bengal<br><br>**For Assam, Bihar, Chhattisgarh, Delhi, Gujarat, India, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand] | Percentage of women between 15-49 years given advice on breastfeeding | Number of women between 15-49 years given advice on breastfeeding | Total number of women between 15-49 years surveyed | *District Level Household & Facility Survey 4 (2012-13), Ministry of Health and Family Welfare, GoI<br><br>** District Level Household & Facility Survey 3 (2007-08), Ministry of Health and Family Welfare, GoI |
|--|---|---|--|--|

| INDICATOR   | DEFINITION  | NUMERATOR   | DENOMINATOR  | DATA SOURCE & YEAR  |
|---|---|---|--|---|
| <p><b>Nutrition (%)</b></p> <p>Note-*For Andhra Pradesh, Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, J&amp;K, Karnataka, Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim, Tamil Nadu, Tripura and West Bengal</p> <p>**For Assam, Bihar, Chhattisgarh, Delhi, Gujarat, India, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand]</p>              | Percentage of women between 15-49 years given advice on nutrition of mother and child | Number of women between 15-49 years given advice on nutrition of mother and child | Total number of women between 15-49 years surveyed | <p>*District Level Household &amp; Facility Survey 4 (2012-13), Ministry of Health and Family Welfare, GoI</p> <p>** District Level Household &amp; Facility Survey 3 (2007-08), Ministry of Health and Family Welfare, GoI</p> |
| <p><b>Institutional Delivery (%)</b></p> <p>Note-*For Andhra Pradesh, Arunachal Pradesh, Goa, Haryana, Himachal Pradesh, J&amp;K, Karnataka, Kerala, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim, Tamil Nadu, Tripura and West Bengal</p> <p>**For Assam, Bihar, Chhattisgarh, Delhi, Gujarat, India, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand]</p> | Percentage of women between 15-49 years given advice on institutional delivery        | Number of women between 15-49 years given advice on institutional delivery        | Total number of women between 15-49 years surveyed | <p>*District Level Household &amp; Facility Survey 4 (2012-13), Ministry of Health and Family Welfare, GoI</p> <p>** District Level Household &amp; Facility Survey 3 (2007-08), Ministry of Health and Family Welfare, GoI</p> |

#### A.5 Personnel capacity of ICDS and NRHM: Availability of Anganwadi Centres and Workers (AWCs and AWWs)

|   |  |   |  |  |
|---|--|---|--|--|
| <b>Pending/Vacant AWW positions to sanctioned workers (%)</b>       | Percentage of pending or vacant AWW positions to sanctioned numbers of workers | Number of pending or vacant AWW positions           | Number of sanctioned AWW positions for the state | ICDS Data Tables, Ministry of Women and Child Development, 2012<br><a href="http://www.wcd.nic.in/icdspd/atatables.htm">http://www.wcd.nic.in/icdspd/atatables.htm</a> , 2011-12 |
| <b>AWWs living in the AWC village/ward (%)</b>                      | Percentage of AWWs living in the AWC village/ward                              | Number of AWWs living in the AWC village/ward       | Total number of AWWs surveyed                    | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI  |
| <b>AWWs having 10 or more years of schooling (%)</b>                | Percentage of AWWs having 10 or more years of schooling                        | Number of AWWs having 10 or more years of schooling | Total number of AWWs surveyed period             | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI  |
| <b>Median age of AWWs</b>   | Median age of the AWWs   | Median age of the total number of AWWs surveyed     |  | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI  |
| <b>AWCs serving to population more than the stipulated norm (%)</b> | Percentage of AWCs serving to population more than the stipulated norm         | Number of AWCs serving to population of the state   | Total number of functioning AWCs in the state    | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI  |

| INDICATOR  | DEFINITION  | NUMERATOR   | DENOMINATOR  | DATA SOURCE & YEAR  |
|--|---|---|--|---|
| <b>A.6 Personnel capacity of ICDS and NRHM: Growth monitoring</b>                              |   |   |  |   |
| <b>AWCs having functional baby weighing scale (%)</b>  | Percentage of AWCs having functional weighing scale for baby  | Number of AWCs having functional baby weighing scale  | Total number of AWCs surveyed                                      | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI   |
| <b>AWCs having functional adult weighing scale (%)</b>   | Percentage of AWCs having functional weighing scale for adults  | Number of AWCs having functional adult weighing scale   | Total number of AWCs surveyed                                      | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI   |
| <b>WHO growth chart available at AWCs (%)</b>  | Percentage of AWCs which have WHO growth charts   | Number of AWCs which have WHO growth charts   | Total number of AWCs surveyed                                      | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI   |
| <b>A.7 Personnel capacity of ICDS and NRHM: Training and comprehensive knowledge</b>           |   |   |  |   |
| <b>AWWs having correct knowledge of intake of food by pregnant women (%)</b>                   | Percentage of AWWs having correct knowledge of intake of food by pregnant women   | Number of AWWs having correct knowledge of intake of food by pregnant women                   | Total number of AWWs surveyed                                      | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI   |
| <b>AWWs having correct knowledge of normal birth weight of children (%)</b>                    | Percentage of AWWs having correct knowledge of normal birth weight of children  | Number of AWWs having correct knowledge of normal birth weight of children                    | Total number of AWWs surveyed                                      | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI   |
| <b>AWWs having correct knowledge of initiation of breastfeeding within one hour (%)</b>        | Percentage of AWWs having correct knowledge of initiation of breastfeeding within one hour  | Number of AWWs having correct knowledge of initiation of breastfeeding within one hour        | Total number of AWWs surveyed                                      | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI   |
| <b>AWWs having correct knowledge of exclusive breastfeeding for the first six months (%)</b>   | Percentage of AWWs having correct knowledge of exclusive breastfeeding for the first six months   | Number of AWWs having correct knowledge of exclusive breastfeeding for the first six months   | Total number of AWWs surveyed                                      | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI   |
| <b>AWWs having correct knowledge of appropriate age of child for complementary feeding (%)</b> | Percentage of AWWs having correct knowledge of appropriate age of child for complementary feeding   | Number of AWWs having correct knowledge of appropriate age of child for complementary feeding | Total number of AWWs surveyed                                      | Rapid Survey on Children (2014), Ministry of Women and Child Development, GoI   |
| <b>A.8 Personnel capacity of ICDS and NRHM: Health service delivery personnel</b>              |   |   |  |   |
| <b>ASHAs selected (%)</b>  | Percentage of ASHAs selected as a relative to the proposed number of ASHAs as per the state's rural population  | Number of ASHAs selected per state  | Total number of ASHAs proposed as per the state's rural population | Update on ASHA programme-July 2013, National Rural Health Mission, Ministry of Health and Family Welfare, GoI <a href="http://nrhm.gov.in/images/pdf/communitisation/asha/Reports/Update_on_ASHA_Program_July_2013.pdf">http://nrhm.gov.in/images/pdf/communitisation/asha/Reports/Update_on_ASHA_Program_July_2013.pdf</a> |
| <b>Current density of ASHAs (as per Census 2011 rural population)</b>                          | Based on the rural population for the state as per the latest Census, the current density is defined as 1 ASHA worker per 'x' persons (against the norm of 1 ASHA per 1,000 population) | Rural Population as per 2011 Census   | Number of ASHAs selected as of June 2013 as reported by the states | Update on ASHA programme-July 2013, National Rural Health Mission, Ministry of Health and Family Welfare, GoI <a href="http://nrhm.gov.in/images/pdf/communitisation/asha/Reports/Update_on_ASHA_Program_July_2013.pdf">http://nrhm.gov.in/images/pdf/communitisation/asha/Reports/Update_on_ASHA_Program_July_2013.pdf</a> |

| INDICATOR                                       | DEFINITION  | NUMERATOR   | DENOMINATOR  | DATA SOURCE & YEAR  |
|---|---|---|--|---|
| Pending/Vacant ANMs in Sub centres and PHCs (%) | Percentage of pending or vacant ANM positions to sanctioned positions in sub centres and rural PHCs per state | Number of pending or vacant ANM positions in sub centres and rural PHCs per state | Total number of sanctioned ANM positions in sub centres and rural PHCs per state | Indiastat, Ministry of Health and Family Welfare, GoI (ON185) 2013<br><br><a href="http://www.indiastat.com/table/health/16/manpowerinhalthsubcentres20012013/451478/885281/data.aspx">http://www.indiastat.com/table/health/16/manpowerinhalthsubcentres20012013/451478/885281/data.aspx</a> |

### A.9 Expenditures on schemes delivering nutrition-specific interventions

|      |   |  |  |  |
|------|---|--|--|--|
| ICDS | Funds released under ICDS Scheme [including ICDS (Gen.), SNP and Training] in million USD |  |  | Authors' estimates: Indiastat, Lok Sabha Unstarred Question. No. 846 dated 27.02.2015<br><a href="http://164.100.47.132/Annexture_New/Isq16/4/au846.htm">http://164.100.47.132/Annexture_New/Isq16/4/au846.htm</a> |
| NRHM | Expenditure of state & Central Governments on NRHM in million USD                         |  |  | Authors' estimates: Indiastat, Lok Sabha Annexured Unstarred Question # 409 dated 6.12.2013  |

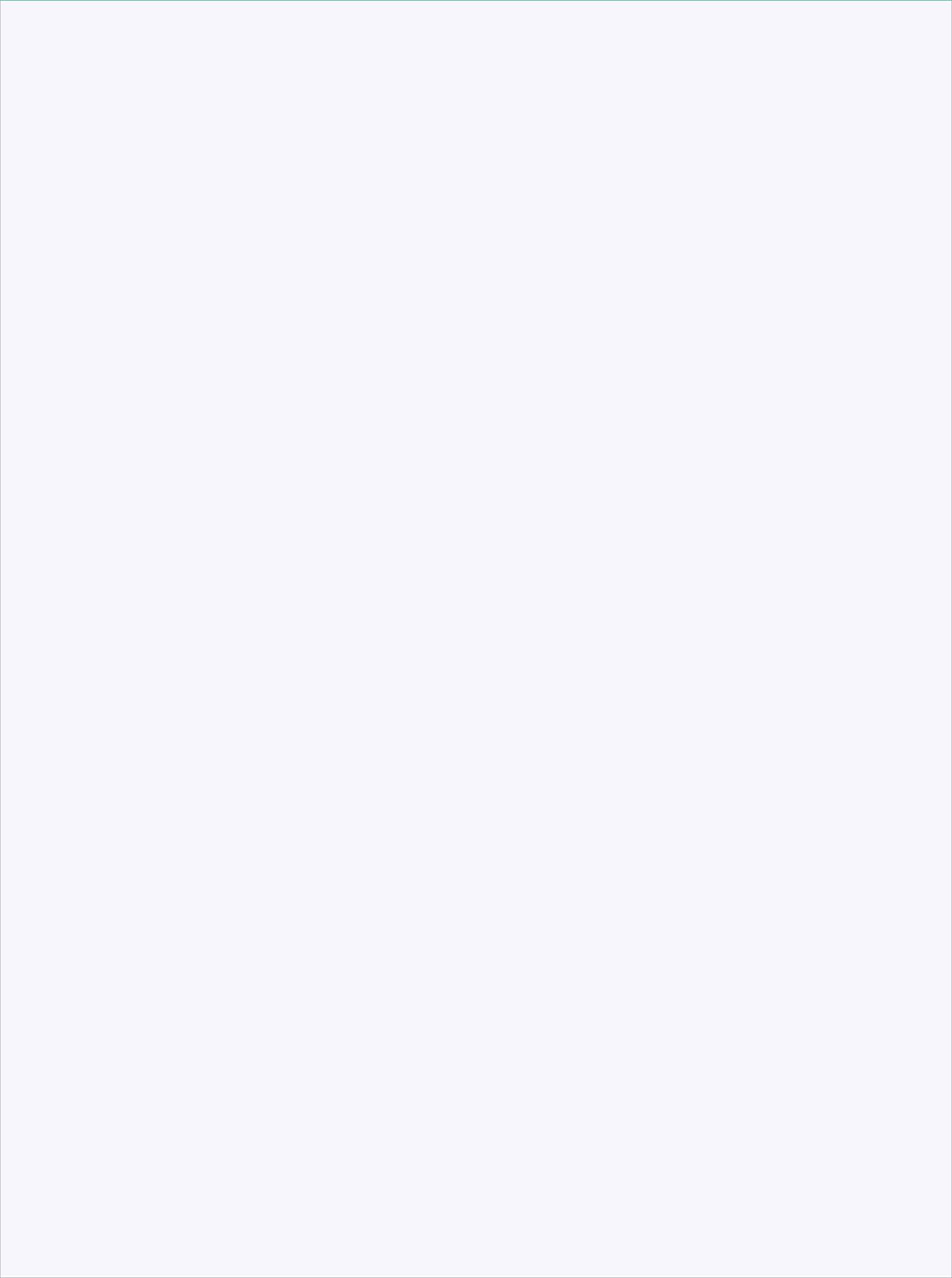
## B. NUTRITION-SENSITIVE INTERVENTIONS

### B.1 Coverage of schemes delivering nutrition-sensitive interventions

|             |  |  |   |  |
|-------------|--|--|---|--|
| MDMS (%)    | Percentage of all eligible children covered under Mid-day meal scheme during 2013-14<br><br>[Note-eligible children are all children studying in Primary and Upper Primary Classes in Government, Govt. Aided, Local Body, EGS and AIE Centres, Madarsa and Maqtabas supported under Sarva Shiksha Abhiyan and NCLP Schools run by Ministry of Labour] | Number of all eligible children  | Total targeted number of eligible children per state  | Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014<br><a href="http://164.100.47.132/Annexture_New/Isq15/15/as216.htm">http://164.100.47.132/Annexture_New/Isq15/15/as216.htm</a> |
| PDS (%)     | Percentage of households reporting consumption through PDS   | Number of rural-urban households reporting consumption through PDS   | Total number of rural-urban households surveyed per state   | Report No. 558, NSS 68th round (2011-12)-Household Consumption of Various Goods and Services in India. NSSO, Ministry of Statistics and Programme Implementation and GoI                     |
| MGNREGA (%) | Percentage of rural persons 18 years and above registered in MGNREG job card and worked during last 365 days prior to the survey   | Number of rural persons 18 years and above registered in MGNREG job card and worked during last 365 days prior to the survey | Total number of rural persons 18 years and above registered in MGNREG job card who demanded work during last 365 days prior to the survey | Report No. 554, NSS 68th round (2011-12)-Employment and Unemployment Situation of India. NSSO, Ministry of Statistics and Programme Implementation and GoI                                   |



| INDICATOR  | DEFINITION   | NUMERATOR | DENOMINATOR | DATA SOURCE & YEAR  |
|--|--|-----------|-------------|---|
| <b>B.2 Expenditure on schemes delivering nutrition-sensitive interventions</b> |  |           |             |   |
| <b>MDMS</b>  | Expenditure incurred on Mid Day Meal Scheme in million USD       |           |             | Authors' estimates: Indiatat, Part (c) of Lok Sabha Starred Question # 216 dated 05.02.2014 <a href="http://164.100.47.132/Annexture_New/lsq15/15/as216.htm">http://164.100.47.132/Annexture_New/lsq15/15/as216.htm</a> |
| <b>PDS</b>   | Total cost of offtake of rice and wheat per state in million USD |           |             | Authors' estimates: Food Corporation of India 2013  |
| <b>MGNREGA</b>   | Central government expenditure under MGNREGA in million USD      |           |             | Authors' estimates: Indiatat, Lok Sabha Unstarred Question # 3835 dated on 19.03.2015   |





**APPENDIX B:  
LIST OF PERSPECTIVE PIECES,  
BY EXPERT CONTRIBUTORS**





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We are deeply grateful to the experts who helped shape the India Health Report: Nutrition 2015 with their valuable perspectives on nutrition and its many challenges. The papers are listed below and are available on the following website: [www.transformnutrition.org](http://www.transformnutrition.org)

|    | <b>Title</b>  | <b>Authors</b>  |
|----|---|---|
| 1  | Stunting in Children in India: it's Association with the Multiple Determinants of Nutrition                               | Ashi Kohli Kathuria<br>John Lincoln Newman                    |
| 2  | Agriculture, Nutrition and Health in India: Linkages and disconnects  | Swarna Sadasivam Vepa<br>Vinodhini Umashankar<br>R.V. Bhavani |
| 3  | Overnutrition – State, Drivers and Challenges   | Kiruba Sankar KV<br>Tinku Thomas<br>Anura Kurpad              |
| 4  | India's Malnutrition Enigmas: Why They Must Not Be a Distraction from Action  | Lawrence Haddad   |
| 5  | Nurturing Public Health Nutrition Education in India  | Shweta Khandelwal<br>Anura Kurpad                             |
| 6  | Repositioning Nutrition in India: What will it take?  | Meera Shekar  |
| 7  | Agriculture for Improving Nutrition in India  | S. Mahendra Dev   |
| 8  | India Health Report: Perspective Paper on Nutrition   | M. G. Venkatesh Mannar  |
| 9  | Adolescent Girls and Women's Nutritional Status in India: A critical Review of Current Understanding, Gaps and Challenges | Melissa Young<br>Usha Ramakrishnan                            |
| 10 | Impact of Water, Environment and Sanitation on Nutrition  | Indira Chakravarty  |
| 11 | Overweight and Obesity - Causes, Consequences and Control Measures  | Kamala Krishnaswamy<br>Sudha Vasudevan                        |
| 12 | Addressing India's Nutrition Challenge  | Nira Ramachandran   |
| 13 | Maternal and Child Undernutrition in India and Implications for Public Health Policies                                    | Shobha Rao  |
| 14 | Examining Current Nutrition Policies in the Context of the Dual Burden: Malnutrition and Nutrition Transition             | Anuradha Jain<br>Rajib Das Gupta<br>Rajiv Tandon              |
| 15 | Can Food Alone Resolve "Malnutrition"?: Stunting, Open Defecation, and the Urgency of a Policy Response                   | Dean Spears   |
| 16 | Investigating in Accelerating Coverage of Direct High Impact Essential Interventions                                      | Rajiv Tandon  |





