

# Annual Health Survey 2010-11



									ORISSA
	Courde Birth Bete	Crude Death Pete (CDP)	Infant Martality Data /IMD\		Under Five Mortality Date (USMD)				95% Confidence Interval
District	Crude Birth Rate (CBR)	Crude Death Rate (CDR)  Natural Growth Rate	Infant Mortality Rate (IMR)	Neo-natal Post Neo-natal Mortality Rate Mortality Rate	Under Five Mortality Rate (U5MR)	Sex Ratio Sex Ratio at Birth (0- 4 Years)	Sex Ratio (All Ages)	Crude Birth Rate Crude Death Rate	Infant Mortality Rate Under Five Mortality Rate Sex Ratio at Birth
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22 Baudh	29.5 30.1 18.2 10.6 10.9				89 81 99 92 84 100			27.9     31.1     28.4     31.8     11.4     25.1     9.9     11.2     10.1     11.5     3.9     8.5	53 76 54 77 77 102 79 105 845 1011 843 1014 641 1348
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24 Balangir	21.1 21.6 16.2 10.5 11.3 22.8 23.1 14.4 7.3 7.9		100     99     101     103     101     104     -     -     -       56     53     59     57     54     60     -     -     -		15 112 118 119 116 122		973 975 953	20.2 22.0 20.6 22.6 13.3 19.2 9.5 11.5 9.8 11.9 4.1 9.2 20.5 25.0 20.8 25.5 13.3 15.6 6.3 8.3 6.4 8.4 1.9 7.7	84     116     86     119     -     -     103     127     106     131     -     -     873     1011     863     1006     811     1377       41     71     41     72     -     -     65     86     67     88     -     -     860     1005     856     1003     -     -
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28 Nabarangapur	<b>24.1 24.6 14.7 7.7 9.2</b>	2 6.2 7.9 9.3 6.3 4.9 5.8 3.9 <mark>16.4 16.7 9.9</mark>	54 58 51 55 59 50	32 32 - 23 23 - 8	87 96 78 89 99 78	951 951 963 960 963 885	982 9811002	<b>22.2 26.0 22.6 26.6 11.5 18.0 6.7 8.7 6.8 8.9 2.3 7.4</b>	43 66 43 67 77 96 79 98 889 1017 888 1018 654 1414
29 Koraput	25.8 26.0 24.9 8.0 9.0	0 7.1 8.5 9.5 7.4 5.9 6.2 5.6 17.8 17.5 19.0	56 53 59 58 57 59 46 33 59	36 37 31 20 21 14	72 71 73 75 76 73 56 44 69	913 904 962 992 985 1035	1012 1015 998	18.9 32.6 18.0 34.0 14.4 35.3 7.2 8.9 7.6 9.4 3.1 8.7	46 66 47 69 28 63 62 82 64 86 34 78 844 988 830 985 793 1166
30 Malkangiri  '-' denotes inadequate sample.	24.5   25.0   18.6   7.0   8.0	0 6.1 7.3 8.3 6.3 3.7 4.0 3.5 17.5 17.7 14.9	55   52   58   56   54   57   43   21   67   (Total' under Infant Mortality Rate may not add up t	33   33   43   22   23   -	79 79 79 80 81 79 61 42 82	932   931   938   986   983   1020	1007 1008 998	23.5 25.5 23.9 26.1 15.5 21.7 6.2 7.8 6.5 8.2 2.1 5.3	45   65   45   67   35   51   70   87   71   89   33   89   876   990   874   992   740   1186
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ORISSA 2 1 Bargarh	Number of Sample           Total         Rural           2,364         1,798           84         74           213         113           60         38           52         46           89         49           97         78           69         61           79         66           94         79           74         67           78         66           114         72           74         69           57         49           83         66           75         70	Units         Population (in '000')           Urban         Total         Rural         Urban           566         1,929         1,584         345           10         83         76         7           100         168         110         58           22         47         28         19           6         29         25         4           40         63         44         19           19         67         53         14           8         46         42         4           13         65         57         8           15         85         77         8           7         65         61         4           12         62         55         7           42         97         74         23           5         75         72         3           8         58         53         5           17         70         58         12           5         66         64         2	NUMBER OF SAMPLE UNITS  NUMBER OF SAMPLE UNITS  Again to the sample of t	Agarant 78 Mayurbhanj 13 aarin Kendujhar 78 Mayurbhanj 13 aarin Kendujhar 78 Maleshwar 69 1 15 67 Bhadrak 100 121 Cuttac 66 7 Jagapur Kendrapara Nayagar 73 Jagapur Kendrapara 18 Puri	CRUDE BIRTH RATE  Sundargarh  Uharsuguda  Bargarh  Sonapul  Balangir  Baudh  Kandhamat  Kalahandi  Kalahandi  Kalahandi  Korapul	Mayurbhanj Baleshyar Bhadrak Cuttack Kendrapara Vagarr Knordha Pur	CRUDE DE	year or time period will die before reaching the age of five, subject to coage specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed as a rate per 1,000 live by the specific mortality rates. It is expressed a	INFANT MORTALITY RATE  Sundargarh  Mayurbani Balashyar  Balashyar  Balashyar  Anugul Dhenkanal, Jajaph Cuttac Nendrapara  Kandhamau Nayasar, Anordas  Rayagada  Ganjam  Malkangini  Koraput  Malkangini  Koraput  Malkangini  SEX RATIO AT BIRTH  Sundargarh  Mayurbani Mayurbani Mayurbani Mayurbani Mayurbani
17 Khordha 18 Puri 19 Ganjam 20 Gajapati 21 Kandhamal 22 Baudh 23 Sonapur 24 Balangir 25 Nuapada 26 Kalahandi 27 Rayagada 28 Nabarangapur 29 Koraput 30 Malkangiri	226     105       91     73       67     50       65     55       61     54       46     42       73     65       60     50       39     35       45     40       54     43       39     35       45     34       61     54	121     183     104     79       18     80     69     11       17     60     51     9       10     40     34     6       7     35     30     5       4     23     21     2       8     58     54     4       10     47     42     5       4     39     37     2       5     44     39     5       11     34     27     7       4     48     46     2       11     34     28     6       7     58     53     5	Malkangiris  Malkangiris  State/Commissionary/(Districts)  Sample Female	RURAL URBAN  Figure above the bar indicates number of units.  Sample Live Deaths MMR	6 Confidence Interval Maternal Mortality Time Age Group	CRUDE BIRTH RATE  <= 19.0 19.1 - 22.0 (State Average 20.0)  >= 22.1 Sample  Maternal  Peaths  Proportion	95% Confidence Interval	CRUDE DEATH RATE  (= 8.0  8.1 - 10.0 (State Average 8.3)  >= 10.1  Non  Maternal  Proportion  95% Confidence Interval  Approx Lippor	Balangir Balangir Budak Pendagan Dherikana Jajapur Budak Pendagan Balangir Budak Pendagan Balangir Budak Pendagan Balangir Budak Pendagan Pendagan Budak Pendagan
'Total' population may not add u  Distribution of Sam  Rural 76%	upto 'Rural' and 'Urban' popu		Donulatio	111390     308     277     24       37936     96     253     202       46452     128     276     228	2 304 16 0.57% 25-29 30-34 35-39 40-44 45-49 Total • Maternal	Deaths         Deaths           404         33         11           453         91         30           391         85         28           348         52         17           471         35         11           459         5         2           597         7         2           3123         308         100           Mortality Ratio = Proportion of ma	aternal deaths per	Deaths         Lower Limit Limit         Upper Limit           371         13         12         14           362         13         12         14           306         11         10         12           296         11         9         12           436         15         14         17           454         16         15         17           590         21         19         22           2815         100	ORIGINAL STATE OF THE STATE OF

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#### Introduction:

Decentralized district-based health planning is essential in India because of the large interdistrict variations. In the absence of vital data at the district level, the State level estimates are being used for formulating district level plans as well as setting the milestones thereof. In the process, the hotspots (districts requiring special attention) very often gets masked by the State average. This statistical fallacy compounds the problems of the districts acutely, more so in the health sector. At present, none of the Surveys provides estimates of core vital indicators on fertility and mortality at district level. The District Level Household Survey conducted with periodicity of five years mainly focuses on maternal health and child welfare programmes. There has, therefore, been a surge in the demands from various quarters, in recent years, to generate timely and reliable statistics at the district level for informed decision making in the health sector.

#### Genesis:

2. The Annual Health Survey was conceived during a meeting of the National Commission of Population held in 2005 under the chairmanship of the Prime Minister wherein it was decided that "there should be an Annual Health Survey of all districts which could be published / monitored and compared against benchmarks". The objective was to monitor the performance and outcome of various health interventions of the Government including those under NRHM at closer intervals through these benchmark indicators. The AHS has been made an integral part of the National Rural Health Mission (NRHM), Ministry of Health & Family Welfare. The responsibility for the project has been entrusted to the Office of Registrar General, India on behalf of the Ministry of Health & Family Welfare keeping in view its expertise in handling the Sample Registration System, one of the largest demographic surveys in the world.

#### Objective:

3. Realizing the need for preparing a comprehensive district health profile on key parameters based on a community set up, the AHS has been designed to yield benchmarks of core vital and health indicators at the district level on fertility and mortality; prevalence of disabilities, injuries, acute and chronic illness and access to health care for these morbidities; and access to maternal, child health and family planning services. By virtue of being a panel survey, it has the unique ability to map the rate of change in these indicators on a yearly basis. AHS would, thus, enable better capturing of the

health seeking behaviour of the public as compared to other periodic cross-sectional

#### Coverage:

4. Keeping in view the mammoth sample size requirement as the sample size at the district level has been derived taking Infant Mortality Rate as the decisive indicator and host of other practical issues relating to execution, it was a considerate decision of the Government to undertake the survey, to begin with, in all the 284 districts (as per 2001 Census) in the 8 Empowered Action Group States (Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Chhattisgarh, Orissa and Rajasthan) and Assam for a three year period during XI Five Year Plan period. These nine States, which account for about 48 percent of the total population in the country, are the high focus States in view of their relatively higher fertility and mortality indicators. A representative sample of 18 million population and 3.6 million households is covered in 20,694 statistically selected PSUs (Census Enumeration Blocks in case of urban areas and villages or a segment thereof in case of villages in rural areas) in these 9 AHS States every year. Even with the present coverage, the AHS is the largest demographic survey in the world and is two and half times that of the Sample Registration System.

# Fieldwork Strategy:

5. The project is being implemented as a hybrid model wherein the actual field work has been outsourced to seven selected survey agencies on the pattern of National Family Health Survey (NFHS) and District Level Health Survey (DLHS). The supervision, monitoring and co-ordination of the fieldwork in the States are done by the dedicated staff posted at various levels in the respective Directorate of Census Operations (DCOs). The responsibility for overall supervision, monitoring and coordination across the 9 AHS States rests with the AHS Division at ORGI. For smooth and effective execution of the survey, the AHS States have been divided into 18 mutually exclusive and exhaustive zones, each having a group of contiguous districts with more or less similar workload.

# Technical Consultation:

6. The outline of the survey such as approach, periodicity, coverage, sampling strategy, sample size, permissible levels of relative standard error, levels of aggregation, were finalized after a series of deliberations on the subject with the representatives from Ministry of Health & Family Welfare, National Sample

Survey Organization, Central Statistical Organization, Ministry of Woman & Child Development, Indian Council of Medical Research, Planning Commission, Indian Institute of Population Sciences and other subject experts. Based on these recommendations, various technical details including preparation of sample design, derivation of sample size etc. were worked out and vetted by the Technical Advisory Group (TAG) constituted for the purpose.

Sample Design: 7. The Sample design adopted for Annual Health Survey is a uni-stage stratified simple random sample without replacement except in case of larger villages of rural areas (population more than or equal to 2000 as per 2001 Census), wherein a two stage stratified sampling has been applied. The sample units are Census Enumeration Blocks (CEBs) in urban areas and villages in rural areas. In rural areas, the villages have been divided into two strata. Stratum I comprise villages with population less than 2000 and Stratum II contains villages with population 2000 or more. Smaller villages with population less than 200 were excluded from the sampling frame in such a manner that the total population of villages so excluded did not exceed 2 per cent of the total population of the district. In case of Stratum I, the entire village is the sample unit. In case of Stratum II, the village has been divided into mutually exclusive (non-overlapping) and geographically contiguous units called segments of more or less equal size, population not exceeding 2000 in any case. One segment was selected from the frame of segments thus prepared in a random manner to represent the selected village at the second stage

8. The number of sample villages in each district was allocated between the two strata proportionally to their size (population). The villages within each size stratum were further ordered by the female literacy rate based on the Census 2001 data, and three equal size and disjoint substrata were established. The sample villages within each substratum were selected by simple random sampling without replacement. In urban areas, the Census Enumeration Blocks within a district were also ordered by the female literacy rate based on the Census 2001 data, and three equal size and disjoint substrata were established. The sample Census Enumeration Blocks within each substratum were selected by simple random sampling without replacement. This process of selection ensured equal representation across three sub-strata both in rural as well as in urban areas of a district besides rendering the sample design as self-weighting.

# mple Size:

9. Generating robust estimate of Infant Mortality Rate at the district level has become an utmost necessity as reduction in Infant Mortality constitutes one of the key targets in the Reproductive & Child Health Programme (RCH) under the umbrella of NRHM. This would also facilitate effective tracking of the Millennium Development Goal 4 on Child Mortality. The Infant Mortality Rate has therefore been taken as the decisive indicator for estimation of sample size at the district level. The permissible level of error has been taken as 10 percentage relative standard error (prse) at the district level. The sample size so worked out would yield relatively better estimates of Crude Birth Rate / Crude Death Rate and may also enable generation of rarer indicators like TFR / MMR (for a group of districts) with good precision. In the absence of district level estimates from any other reliable source, the district level estimates of IMR based on SRS pooled data have been used for estimation of sample size for each district.

# Sample Identification Work:

**Survey Tools:** 

10. One of the essential prerequisites before the commencement of the survey is to uniquely identify the sample unit on ground. This was done in all the sample units across the 9 AHS States by the regular staff of ORGI. The work involved firming up of the boundary of the selected villages / Enumeration Blocks; resorting to segmentation in case of villages exceeding the population 2000, random selection of segment thereof and drawing of appropriate notional maps of the sample units to serve as the base map for the survey work.

# 11. The Baseline Survey in all the nine AHS States was carried out during July 2010 to March 2011 and four Schedules in all were administered.

These are: (i) House-listing Schedule, (ii) Household Schedule, (iii) Woman Schedule and (iv) Mortality Schedule. In the House-listing Schedule, besides the mapping and listing of all the houses and households in a sample unit, some key particulars relating to the dwelling, basic amenities available to the household and assets possessed by them were also collected. In the Household Schedule, all Usual Residents as on 01.01.2010 were listed and for each listed member, information on background characteristics like Name, Sex, Relationship to head, Date of Birth, Age, Religion, Social Group, Marital Status, Date of first Marriage, Education and Occupation/Activity status was captured. Besides, information in respect of Disability, Morbidity (Injuries, Acute illness, Chronic illness) and Personal habits (like Chewing. Smoking and consumption of Alcohol) was also collected wherever applicable. Woman Schedule comprised two sections. Section-I was

administered to each and every ever married woman and information relating to the outcome of pregnancy(s) (live birth/still birth/abortion), birth history, type of medical attention at delivery, details of maternal health care(ante natal/natal/post natal), immunization of children, breast feeding practices including supplements, occurrence of child diseases (Pneumonia, Diarrhoea and fever), registration of births, etc. taken place during the reference period i.e. 01.01.2007 to 31.12.2009 were collected. Section II focused on information on pregnancy; use, sources and practices of family planning methods; details relating to future and unmet need, awareness about RTI/STI, HIV/AIDS, administration of HAF/ORT/ORS during diarrhoea and danger signs of ARI/Pneumonia from Currently Married

12. Through the Mortality Schedule, details relating to death occurred to usual residents of sample unit during 01.01.2007 to 31.12.2009 were captured and it included information on name & sex of deceased, date of death, age at death, registration of death and source of medical attention before death. For infant deaths, a question on symptoms leading to death was also probed. Information on a variety of questions on factors leading/contributing to death, symptoms leading to death, time between onset of complications and death, etc. were asked in case of deaths associated with pregnancy to yield data on various determinants of maternal mortality. These schedules were finalized after a series of deliberations in the TAG and a pilot was also done to test them. The fieldwork in sample unit was carried out by a team of field enumerators which had at least one female. This was done to ensure that besides canvassing of woman schedule, questions on morbidity for female members in household schedule and questions relating to infant deaths as well as deaths associated with pregnancy in the mortality schedule are probed and recorded only by the female enumerator.

# Training:

13. Since information on morbidity, disability, few specific details in case of infant and maternal deaths etc. were being collected at the district level in such a large survey setup for the first time, adequate emphasis was given on training. An exhaustive training manual for the field staff was prepared with inputs from various stakeholders and subject experts. A three day 'Training of Trainers' programme was organized at New Delhi prior to commencement of State/Zone level training sessions wherein experts imparted training on concepts.

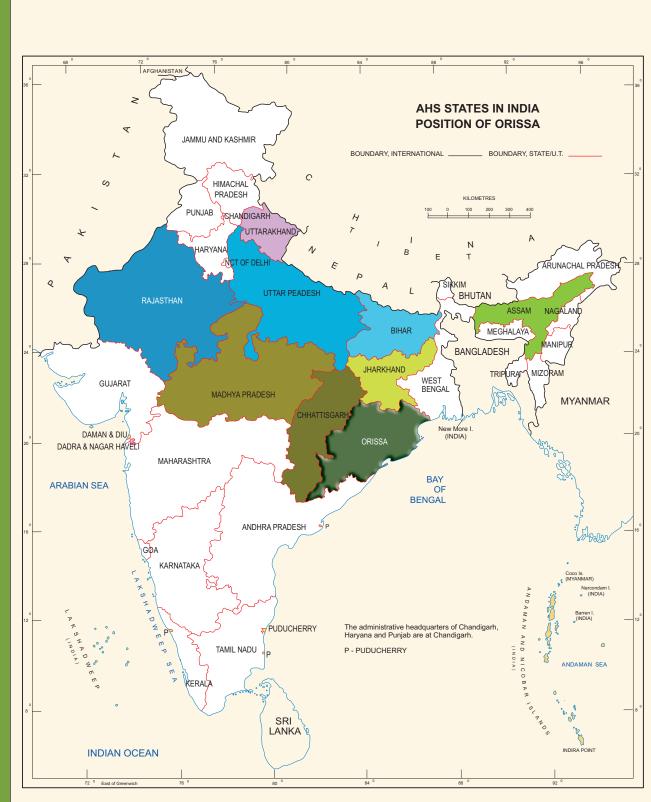
definitions and how best to collect data on different parameters. A pool of doctors was arranged with the help of National Institute of Health & Family Welfare (NIHFW) who imparted training to the field staff on disability and morbidity in the State/Zone level training programmes. A standardized Video training module was specially developed for the purpose. Officers from ORGI and DCOs were deputed to observe these training programmes.

#### **Supervision and Third Party Audit:**

14. In addition to the multilayer supervision mechanism adopted by the survey agencies, regular inspections were carried out by the officers/officials of respective DCOs and those from ORGI headquarters to secure the quality of data. The inspections were a judicious mix of concurrent as well as post survey audit. Over and above, a component of third party audit has also been included to verify and authenticate the surveyed data through an independent mechanism. The third party audit work has been done in 20 randomly selected AHS units in a district covering every fourth household thereof by following a standard protocol prescribed by ORGI. A truncated version of household, women and mortality schedules were filled in afresh by the field staff of the third party audit agencies. The findings of the third party audit helped in improving the quality of data particularly netting of vital events.

#### Dissemination of Results:

15. In view of the huge volume of data collected under AHS and also the significant time required for validation and processing, the dissemination of AHS results is being done in two phases. The first set of data is being released in the form of a State-wise bulletin, which contains the district level data on crude birth rate, crude death rate, natural growth rate, infant mortality rate, neo-natal and post neonatal mortality rate, under 5 mortality rate, sex ratio at birth, sex ratio (0-4 years) and overall sex ratio. Though the sample size has been calculated for the district as a whole, the rural and urban estimates at the district level has also been published as a by-product. Users are advised to keep the above fact into consideration while using the rural / urban estimates of a district. In addition, the maternal mortality ratio, maternal mortality rate and life time risk have been published for a group of districts. In order to facilitate direct intervention, the grouping of districts has been done on the basis of existing administrative divisions in the respective AHS States. The data on all other parameters covered under AHS would be released subsequently in the form of district level factsheets.



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state boundaries between Uttarakhand & Uttar Pradesh, Bihar & Jharkhand and Chattisgarh & drya Pradesh have not been verified by the Governments concerned.

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