

# Child Malnutrition in Rajasthan

## Study of Tribal Migrant Communities

PAVITRA MOHAN, KUMARIL AGARWAL, PRIYANKA JAIN

Remote parts of southern Rajasthan such as Udaipur, Dungarpur, Banswara and Rajsamand are characterised by a predominance of tribal groups and a high prevalence of unskilled, male, seasonal outmigration. A study conducted in these parts in 2014 shows high levels of malnutrition among children in this region. It also discusses how socio-economic characteristics translate into severe resource limitations at the household level, primarily in the availability of nutritious food. Mothers are faced by time and energy constraints in providing adequate care to young ones, especially in migrant households. Normalisation of malnutrition in community perception, rooted in the structural deprivations experienced by these communities, further entrenches the problem. The study argues that implementing local solutions and adopting strategic policy reforms can offset these constraints to child nutrition in such tribal areas.

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Pavitra Mohan ([amrit@ajeevika.org](mailto:amrit@ajeevika.org)) is the Director of Aajeevika Bureau's Health Services and the co-founder of Basic Healthcare Services. Kumaril Agarwal ([kumaril\\_msw@yahoo.com](mailto:kumaril_msw@yahoo.com)) was a research associate with Aajeevika Bureau during this study. Priyanka Jain ([priyanka.jain@ajeevika.org](mailto:priyanka.jain@ajeevika.org)) is with the Centre for Migration and Labour Solutions, Aajeevika Bureau.

The Rapid Survey on Children (GoI and UNICEF 2014a) has highlighted that India continues to face a severe crisis of rampant child malnutrition, especially in rural areas where 42% of children are stunted, 15% are wasted and 32% are underweight. These numbers are highly distressing, if one appreciates the far-reaching consequences of child malnutrition. Malnourished children would have an inadequate growth, physically and mentally. They also might have an early death in childhood itself. Jha et al (2009) provide evidence that persisting low levels of nutrition among adults translate into lower labour productivity. It would further reduce the chances of such households crawling out of destitution and confine them to a poverty–nutrition trap.

On this barometer of nutritional deprivation, tribal children fare the worst among all social groups in the country. Stunting and wasting is most common among tribal children. The prevalence of being underweight is 13% higher among them as compared to the children that fall under the other<sup>1</sup> category (GoI and UNICEF 2014a). More alarming is that reduction in child malnutrition among tribal children is slower than those from other social categories (Thorat and Sabharwal 2011).

While tribal status is strongly related to poor nutritional outcomes, the combination of being tribal and from a high outmigration area potentially adds to the vulnerabilities faced by families, further compromising the nutrition and growth of their children. This linkage emerged as a salient point while we were studying the dynamics around child malnutrition in southern Rajasthan, which includes the districts of Udaipur, Dungarpur, Banswara and Rajsamand. In this region, the “tribal” and “migrant” compound signifies a geography that has undergone a near complete loss of traditional forest-dependent livelihoods, high levels of water scarcity, mercilessly unproductive land tracts and an absence of alternative employment opportunities. Pushed out by distress, large numbers of young males in the area migrate for seasonal, unskilled and often exploitative jobs, typically in urban areas.

Sixty-one percent of these households in southern Rajasthan are tribal (mainly belonging to the Bhil and Meena communities), and they account for 53% of the total tribal population of the state. These parts, constituting hilly, remote villages, also form the least developed region in the state. The average human development index (HDI) score of the region is 0.5, the lowest in Rajasthan (GoR 2008). Traditionally bound to their land and forests, these communities have started sending at least one member (typically a male person) to the labour

markets in Gujarat and beyond out of sheer economic distress (Sharma et al 2014). The meagre incomes earned from such jobs are inadequate to pull these households out of poverty (Sharma et al 2014). This paper throws light on the levels and factors behind the poor nutritional status of the children growing up in such areas. These factors, we argue, are shaped by the tribal, seasonal migrant characters of the region.

Our paper fits into the larger discussion on the causes and appropriate responses to malnutrition that has been gaining momentum in India. Numerous reasons have been put forth as causal factors of child malnutrition. Environment, cultural practices around feeding, food habits, low status of women, limited access to education and even low social capital have been argued as shaping nutritional outcomes for children (UNICEF 2013; Deaton and Drèze 2009). The dominant discourse in this area stresses on the multifactorial nature of malnutrition, tending towards a universalised, thinly spread set of policy interventions. Unsurprisingly, uniform explanations and solutions that are not customised to local dynamics have significantly failed to combat child malnutrition, which is shaped by the specific features of a given context. This has encouraged commentators such as Arvind Panagariya (2013), the Vice Chairman of the National Institution for Transforming India (NITI) Aayog to propose that malnutrition is not very responsive to policy interventions, at least in the medium term. It has led him and others to question the prudence of devoting large public resources to addressing this problem. It is probably the same stream of thought that has led to the national budget cuts in the nutrition sector (Bhalla 2015; Hindu 2015).

While the universal frameworks are useful to understand the breadth of the problem, they lack the depth to identify specific solutions. We believe that high impact interventions in this sector must be based on a deep appreciation of the socio-economic attributes of the community and region involved. We have addressed this knowledge gap through a focused study on tribal communities, which are known to have high levels of child malnutrition. Our presence and practice in southern Rajasthan, providing services (including those related to health and nutrition) to seasonal migrants and their families for last several years, suggested to us that migration adds to the problem of nutritional deprivation. This provided us with the motivation to do a deep dive into studying the factors responsible for child malnutrition within this community, with the aim of identifying context-specific solutions. We believe that this study should hold relevance for other areas of the country that are characterised by large tribal populations and are witnessing high levels of seasonal outmigration.

Srivastava and Sasikumar (2003) argue that seasonal outmigration is widespread in some of the chronically-poor tribal pockets of the country, such as those in eastern Uttar Pradesh, Bihar, southern Madhya Pradesh, and western Odisha (besides southern Rajasthan). A report of the United Nations Development Programme (Deshingkar and Akter 2009) estimated that about 100 million people in India, dominated by tribal and low-caste groups, depend on seasonal migration as an essential form of livelihood, working in the vast, amorphous

informal economy as casual labour. The vulnerability of this group has many economic, legal and political dimensions. While these aspects have been studied to some extent, the nutritional level of children growing up in outmigration areas is not even minimally understood. Our paper throws light on this issue by demystifying the contextual dynamics of child malnutrition among the migrant, tribal communities of southern Rajasthan.

This paper is structured as follows: first an overview of the methodology adopted by the study, followed by a description of our findings; in the discussion section, we explore key pathways that can be adopted to engage with the crisis of child malnutrition in this region. We weave together existing literature with our study, to throw light on possible ways through which these gaps can be addressed towards better nutritional outcomes for children in the region. The final section concludes, bringing together the various insights and arguments made throughout the paper.

## 1 Methodology

The study was conducted in March–May 2014 in Salumbar block of Udaipur district, where the Aajeevika Bureau provides a range of services to seasonal migrants and their families. According to the latest census data, about 53% of the population in the block consists of tribal persons (GoI 2011). We conducted a household survey in the block to profile the levels and patterns related to migration. This survey highlighted that about 45% of households have at least one male member who migrates to a city or town for work, mainly on a temporary basis for poorly paid, casual labour (Aajeevika Bureau 2008). Based on this migration profile, we stratified Salumbar's 48 panchayat areas into low and high migration panchayats. We then randomly selected one panchayat from each strata, so as to be able to draw some comparative insights between migrant and non-migrant households.

In order to provide an estimate of wasting with 5% precision, with a power of 80% and a confidence of 95%, we needed to enrol 640 children under three years of age. We randomly selected eight out of the 28 villages, and identified all the households in these villages with at least one child under the age of three years. We enrolled 610 families with at least one child under three, which allowed us to conduct anthropometry of 695 children. We also conducted detailed interviews with 500 of these families.

A team of surveyors conducted the anthropometry of children and their mothers. Their weight was measured using a commercially available weighing scale with a sensitivity of +/- 20 grams for children and +/- 50 grams for their mothers. The length of children was measured using a standardised infantometer, with a sensitivity of +/- 0.1 cm, and that of mothers with a stadiometer, with a sensitivity of +/- 0.1 cm. We analysed the anthropometric data using the World Health Organization (WHO)-Anthro. We used internationally-accepted indicators and criteria to estimate the levels of malnutrition. Levels of stunting (inadequate length/height for age), wasting (inadequate weight for height) and low weight (inadequate

weight for age) were used as indicators for childhood malnutrition. For mothers, we calculated the body mass index (BMI), and used the standard cut-off of 18.5 to classify malnutrition status among them.

In addition to the anthropometry, we developed a pretested questionnaire to capture the social, economic and demographic status of these families, as well as to understand the illness and care-seeking history of the children. The survey collected data on food availability at household level through on-spot checks; food intake levels of children and mothers through a semi-quantitative, 24-hour food recall method; and utilisation of schemes such as the public distribution system (PDS) and the Mahatma Gandhi National Rural Employment Gaurantee Act (MGNREGA). In addition to these interviews, we conducted six focus group discussions (FGDs) with mothers and grandmothers to understand social norms, perceptions, constraints faced by them and their experiences surrounding food availability, dietary practices, and caregiving of young children.

## 2 Results

### Profile of the Population

Of the 500 families surveyed, over 75% were tribal and another 5% belonged to low-caste groups. The male heads of about 40% of them were migrants, and 42% of them worked in unskilled jobs. Out of the 695 children studied, about half of them were girls. About 50% of the mothers did not receive any formal schooling. Twenty percent of the total mothers interviewed reported the death of at least one of her children in the past, and more than 50% of the mothers did not receive any formal schooling.

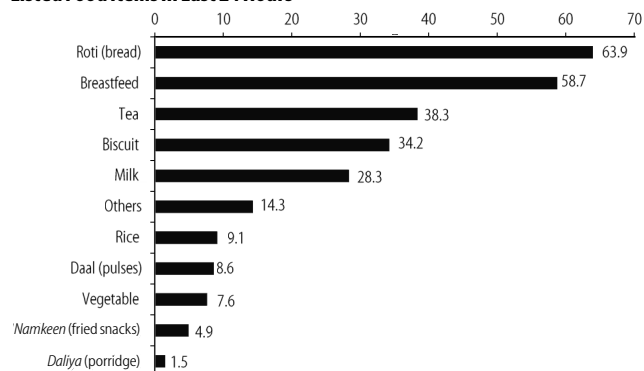
The study found very high rates of malnutrition among the children. On comparison, the nutritional status of these children was found to be significantly worse than their counterparts from other areas in the state and in the country (Table 1).<sup>2</sup> Over half of the children we met were stunted and underweight, whereas about one-third of them were wasted. We found no significant differences in malnutrition among migrant and non-migrant households or between boys and girls. However, the malnutrition levels among the tribal children we studied were significantly higher than the non-tribal children, with the incidence of wasting being 26.7% versus 7.3%, respectively. We also found high levels of malnutrition among mothers: as many as 54.6% of them were malnourished.

**Table 1: Comparison of Malnutrition Rates among Children under Study (n = 695) with State and National Level Data for Rural Areas**

Indicator	Prevalence of Malnutrition among Children (under three years) in the Study Area, Dominated by Tribal, Migrant Communities (%)	Prevalence of Malnutrition among Children (under five years) in Rural Rajasthan (%)	Prevalence of Malnutrition among Children (under five years) in Rural India (%)
Stunting	53	39	42
Severely stunted	28	19	19
Wasting	33	15	15
Severely wasted	9	3	5
Underweight	53	34	32
Severely underweight	26	12	11

Source: Gol and UNICEF (2014a, 2014b).

**Figure 1: Percentage of Children (between 6 and 35 months) Who Consumed Listed Food Items in Last 24 Hours**



### Food Intake among Children

The food intake of the children under study was highly inadequate. Figure 1 shows the results from a 24-hour food recall for children between 6 and 35 months. Only about 28% of the children consumed milk. Almost none of them had consumed egg, meat or fish over last 24 hours. Fewer than 10% of the children reported consuming appropriate and nutritional food items such as *daliya* (porridge), rice, pulses and vegetables or fruits, and even those who consumed these items, had it in very small quantities (Table 2). A significant proportion of children were given tea, biscuits, and some *namkeen* (fried snacks). While many of them were reported to have been given roti (bread), in absence of active feeding and inability of children (especially of six to 24 months) to bite and chew, the median number of rotis consumed in last 24 hours was less than one.

In addition to inadequate quantities, the eating and feeding habits were also found to be suboptimal. One tribal shared, "If the child is young, (we) give him some milk. If he is older, we give (him) a roti ... (he) keeps wandering around, breaking (and eating) one-one piece." In FGDs, many mothers reported that it was commonplace for them to feed young children rotis mashed with water and chilli, or, in season with *kairi* (raw mango) chutney.

**Table 2: Median Amounts of Food Consumed by Children (by age in months) in Last 24 Hours**

Food Item	0-5	6-11	12-23	24-35
Milk (ml)	90	75	120	100
Tea (ml)	0	55	70	75
Chapattis (number)	0.25	0.5	0.5	0.75
Biscuits (number)	0	2	2	3
Cooked rice (grams)	0	25	25	50
Vegetables (grams)	0	0	40	32
Daal (grams)	0	0	37.5	32

### Food Intake among Mothers

We also asked mothers for information on their food consumption in last 24 hours. While 90% of them reported having eaten a roti (median number of rotis: 2), less than half had consumed any pulses (49%), and less than two-thirds (65%) had consumed any vegetables in the past 24 hours. Only about 5% had consumed any milk, and none had consumed any egg or meat. These findings made it clear that the children and their mothers in these communities were eating extremely

poorly, and that was the most immediate cause for low nutrition levels.

### Food Availability at Home: Missing Fulcrum

Our spot assessments of food availability at the household level revealed a glaring reality of lack of food, especially nutritious food. While most households had some cereals (87%), more than half (56%) did not have any pulses and about a quarter (26%) did not have any cooking oil at home on the day of visit. Even those families that were found to have these items had them in small amounts (a median of 1 kg of pulse and half a litre of cooking oil). Very few households had any vegetables (14.4%), fruits (2.4%), and almost none had any milk, eggs or meat.<sup>3</sup>

In our interviews and FGDs, mothers cited two key reasons for non-availability of nutritious food. First, they stressed on high levels of water scarcity, which significantly reduce the quantity and variety of food that households are able to grow on their small plots of land. Lack of water also prevents them from rearing cattle, further restricting the availability of milk: "Cattle also need to eat and fodder requires water to grow ... those who have water can rear (cattle)," one mother opined on the subject. Second, families repeatedly highlighted the unfeasibility of purchasing vegetables, fruits, milk, eggs or other nutritious foods from the market, given their meagre incomes from casual manual labour, and high prices of the food. Stressing on their inability to purchase food items, one mother shared with us: "Only when our children fall ill do we go and buy some milk worth ₹5–10 ... otherwise we cannot afford to buy milk." The study made it evident that the two key assets that these families possess are land and their bodies (labour), and neither generates enough resources to ensure adequate nutritious food.

Migrant households were slightly better-off economically than the non-migrant households (27% of the migrant households fell in the highest economic quartile as compared to 22% of the non-migrant households in our sample), though that did not significantly affect the availability of food at the household level and the reported improvement in purchasing power was limited. However, non-tribal households had higher availability of food at the household level as compared to tribal families.

The absence of food in tribal families was further compounded by lack of knowledge on appropriate feeding practices. We asked the mothers to provide estimates of how much a child (with a similar age as their own child) should be eating every day, if there were no constraints on availability of food. Most mothers reported highly suboptimal amounts: the median number of *katoris* (small bowl or cup) of milk that a child should consume as reported by mothers of children of 6–11 months was 0 (interquartile range or IQR: 0,1). Whereas, the response of mothers with children that were 12–36 months old was 1 (IQR: 1,1).

We also asked the mothers whether they considered their children as normal or weak. We then compared their responses with the child's malnutrition status as per anthropometry. The analysis revealed that in 66% of the cases where

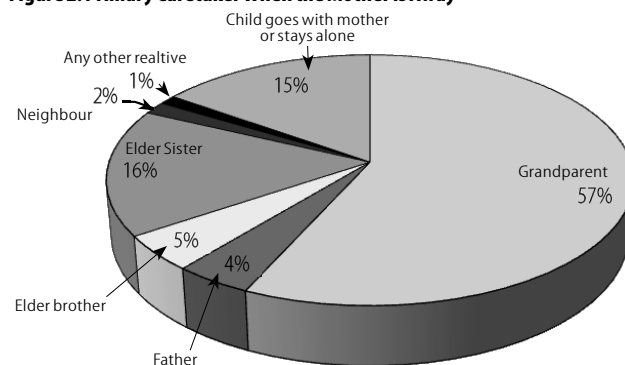
the mother reported her child to be "normal," the child was in fact found to be malnourished. This result, with our experience of providing health and nutrition services in the area, suggests that there is a widespread normalisation of child malnutrition in the area, such that mothers fail to recognise malnutrition as a problem. While the lack of food and other resources at the household level seem to be the fundamental reason behind poor food intakes, such community perceptions also appear to play a significant role in reproducing sub-optimal feeding practices.

### Resource-constrained Mothers as Caregivers

After food, incapacity of households to provide adequate care for young children emerged as the second biggest crisis. Children under three have a high requirement for care, as they are entirely dependent on adults for a range of needs: to eat well, for mental stimulation that in turn affects appetite, for their safety and to inculcate healthy habits. One of the most significant factors that determines care of these young children is the capacity of the caregiver. Herein lay the crisis of care in these communities. Mothers, the primary caregivers in the context were found to be extremely stretched for time and overburdened with work. They reported spending an average of four hours outside home on the previous day, for chores such as collection of firewood, drawing of water or working in the farms. A substantial amount of time was also spent within the household, cooking, looking after animals and caring for elders. As reported above, about 58% of them were malnourished themselves, reducing their capacity to cope with such heavy demands on their time by the multiple roles they fulfil as wives, daughters-in-law, homemakers and mothers.

Overtaxed and exhausted from (almost single-handedly) managing household chores, farm work, collecting firewood, as well as caring for the elderly, children and animals, women were found to have no time to attend to the well-being of their own bodies or that of their children.

Figure 2: Primary Caretaker When the Mother Is Away



During the time that mothers spent away from their home, the duty of care typically fell on other members of the family such as elderly grandparents or elder siblings (Figure 2). In a significant proportion (16%) of households, the elder girl sibling, barely a teen herself, would have to take care of the younger children during her mother's absence, forcing them out of school. In many cases, children under three years were

left to fend for themselves. Clearly these care options are inadequate and unacceptable.

The study found that such deficient care practices were far more common among migrant families. The absence of male member(s) due to seasonal migration was found to significantly reduce the human resources available at home to manage children and all the other labour-intensive facets of rural life in this region. Moreover, the absence of male heads of family also appeared to reduce the overall social capital available to women in seeking help and cooperation from other family members or neighbours to care for children. Many mothers reported feeling extremely anxious about these childcare problems: “Yes, we are always worried. My mind is always there ... he may be crying; an animal could trample over him; he may be eating soil ... his feet might be burning ... (but) we have to go to collect firewood. Everyone has to.”

It is hardly surprising that children brought up on very limited resources and inadequate care faced a high and recurrent incidence of illness. The study found that a large proportion of children (64%) fell ill at least once in last one month. Twenty percent of them were ill on the day of the survey, and 12% reported falling ill more than once in the past one month. Fever, diarrhoea, cough and difficulty in breathing were the most common symptoms reported. While most of the mothers (94%) reported having sought care when their children fell ill, more than half of them went to private informal providers, and another 10% sought care from a traditional healer. They incurred a median cost of ₹150 for each illness episode. Only one-fourth reported seeking care from a public facility. Our study suggests that poor nutrition and lack of care predisposes these children to illnesses. Moreover, illness is seen to further suppress the appetite of these children as well as lead to the loss of minimal amounts of nutrients consumed by them.

### Public Schemes—Weak Safety Nets

The resource constraints faced by these households in terms of food and care could have been partly compensated for by a well-functioning system of government support schemes. However, the study suggests that such schemes, both due to their design and implementation, offer limited support to these families currently. The study highlighted that about 25% of the families studied did not possess a ration card at all. Many of the households that did hold cards reported difficulties in accessing any or the full amount of their entitlements. Only 56% of the families reported receiving any wheat in the last one month, whereas only about 13% received any sugar. The PDS in Rajasthan does not include pulses and oil, and hence, they were not asked whether they received these food items from ration shops. Nutritional support offered by the PDS to these families remains very low, both due to poor functioning and the scope of the scheme being limited to grains and sugar. The findings suggest that even the existing entitlements of grain and sugar were found to be reaching households in trickles.

The utilisation by these households of MGNREGA, which is meant to boost rural incomes and with the potential effect of enhancing their purchasing power, was found to be abysmally

low as well. Only 3.6% of the women reported working under the scheme, that too only for about 15 days in most cases.<sup>4</sup> Currently, *anganwadis* (government-sponsored childcare and mother-care centres) do not have the mandate to provide shelter and care services to children below three years of age, under the Integrated Child Development Services (ICDS) scheme. It only provides take-home ration for these children. This policy denies support to families at a time that is crucial for the growth of children and which is stressful for mothers.

Our study found that even this service of supplementary food provision was highly infrequent and of poor quality. Only about 44% of the children had eaten any food received from the *anganwadis* in the last one week (Table 3). Interviews with mothers and spot assessments of the *anganwadis* in the area suggest that their low utilisation rate can be explained by infrequent, unpredictable and abrupt opening and closing hours as well as by the infrequent distribution and poor quality of food provided by them. Children from migrant households were even less likely to have benefited from the *anganwadis*, because the absence of men reduces the capacity of the family to access and benefit from public schemes.

### 3 Discussions on Potential Pathways

Any set of solutions that seek to address the high levels of child malnutrition in southern Rajasthan must be based on a full appreciation of the dynamics surrounding the factors of food and care, which in turn, are shaped by the area's tribal, high seasonal migration character. As for children specifically from migrant households, our study did not find any significant difference in their nutrition levels as compared to children from non-migrant, tribal households in the region.

**Table 3: Utilisation of Anganwadis by Children between 6 and 35 Months and Lactating Mothers**

Information	Number
Children between 6 and 35 months who are registered at any <i>anganwadi</i> (n = 407)	244 (60)
Mothers who received food for their child from the <i>anganwadi</i> in the last week* (n = 407)	125 (30.7)
Children who ate food received from the <i>anganwadi</i> in the last week, at least once (n = 407)	55 (13.5)
Children who were reported to have gone to the <i>anganwadi</i> at least once in the last week (n = 407)	50 (12.2)
Lactating mothers received food from <i>anganwadi</i> (n = 107)	26 (24.2)

Figures in parenthesis indicate percentages.

\*Median number of days for which *anganwadi* food received in last one month: 2

However, the former group exhibits greater vulnerability around care, and their families struggle more to access public entitlements due to the absence of male members. This probably, to some extent, explains why their limited marginal income gains from migration do not have an overall effect in improving the nutritional status of their children. Moreover, the study results suggest that our understanding needs to go beyond a migrant and non-migrant household comparison, and to view the larger tribal community from southern Rajasthan as unusually vulnerable, and its high outmigration character as symptomatic of this deep level of deprivation.

The findings of this study highlight that there are two underlying issues that programmatic interventions in this area

must engage with. First of all, there is a need to recognise that poor nutritional outcomes for children mainly emerge out of resource constraints, primarily of food availability at home, but also of those required for providing adequate care. Policies, therefore, must be geared at supplementing the endowments available at the household level and expanding the capacities of families to take care of children. Second, there is a need to address practices and community perceptions that adversely shape the nutritional outcomes of children. Our understanding is that these habits and attitudes have probably been shaped by the lack of resources itself. However, they seem to have undergone a degree of normalisation and habituation over time. Engaging with these therefore requires a process of transformation at the community level, which needs to be encouraged in parallel to policies that augment household resources. Based on this understanding and secondary review of evidence and experience, we propose three complementary and mutually reinforcing approaches to address this critical situation.

**(1) Growing Nutritious Food for Family's Consumption:** A large part of the community's narrative on the resource crisis they face revolves around water. As highlighted above, water was cited as the reason for poor agricultural produce, low yields of milk from livestock and therefore, diminishing amount of food available at home. Migration from these arid, unproductive lands has emerged as a survival strategy, yet it has not increased their income levels enough to purchase adequate food for the family. We argue that in this tribal, unskilled migration context of southern Rajasthan, the most promising pathway for improving the food intake of children is to invest in simple, innovative technologies to overcome water scarcity, which in turn, would allow families to grow more food that has higher nutritional content, such as fruits and vegetables, for their own consumption.

Agriculture is the most proximate and direct source of nutrition for families engaged in farming. Therefore, supporting the household's farm activity and boosting their output's nutritional content can have a significant effect on the nutritional intake of family members, including of the children. There is evidence for this association at the macro level. Gulati et al (2012) have shown a strong negative correlation between agricultural production and child malnutrition through a 20-state study. There is also an increasing recognition that the "disconnect" between nutrition and agriculture in policy and practice in India is particularly severe (Gillespie and Kadiyala 2011: 1). Haddad (2013: 1) has argued for the need to unleash the "elusive potential" of agriculture in India towards better nutrition for deprived groups in the country. Based on such pieces of evidence, key organisations and initiatives including the International Fund for Agricultural Development (IFAD), the Food and Agricultural Organization (FAO) and Leveraging Agriculture for Nutrition in South Asia (LANSA) are now advocating homestead farming for household consumption as one of the key and most direct pathways to reducing childhood malnutrition.<sup>5</sup>

Admittedly, it is very challenging to promote homestead farming of fruits and vegetables in water-scarce areas, with small landholdings and limited human resource due to male migration. Fortunately, there are a few initiatives emerging from similar contexts that have developed innovative solutions to overcome some of these constraints, in order to dovetail homestead farming with nutritional improvements at the household level. One of them is BAF's Wadi programme, which demonstrates the feasibility and potential of homestead farming in high migration, tribal areas with water scarcity. The programme is operational across nine states in India, covering over 1,80,500 tribal families. It supports their family-farm operations focused on growing nutritious fruits and vegetables, mainly for the household's consumption, but also for livelihood enhancement where possible. We visited their operations in Banswara district in southern Rajasthan, where the resource constraints were very similar to the ones in our study area—small plot size of one acre or less; limited availability of water (since the chosen families were from the non-command areas of the nearby Mahi dam); and high male migration such that the workload of the farm falls disproportionately on women.

The Wadi programme has been managing these constraints through innovative strategies: (i) the programme uses local materials to build low cost, easy to maintain and simply designed irrigation systems as a substitute for the costlier drip irrigation system; (ii) the alternative watering system requires households to headload water from community handpumps to the field, potentially increasing the workload on women. To prevent this, the Wadi programme funded the building of community bathrooms near handpumps, enabling women to bathe and wash clothes there. This reduced their existing burden of carrying water to their homes for these activities, limiting the overall increase of workload on them due to the programme; and (iii) the programmatic training on growing new crops was accompanied by recipe demonstrations, since local tribal populations have little experience in cooking and eating a wide variety of vegetables. While the programme has not been rigorously evaluated, case studies from the project suggest that despite the water and labour constraints prevalent in southern Rajasthan, it is possible to successfully pursue homestead farming in the region, by innovating and adopting simple, but effective technologies and local solutions.<sup>6</sup> The homestead farm production–consumption improved nutrition impact pathway is promising, and must be explored. Efforts in this direction, however, should build in tracking systems to assess its impact on nutritional outcomes of children, and be designed to overcome any potential barriers such as intra-household allocation bias against girl children or unsustainable depletion of ground water.

**(2) Moving from Food Security to Nutrition Security:** Homestead farming could potentially provide a significant proportion of the nutritious foods required by tribal families in the long run, but the PDS must play an important supportive role in buttressing the food endowments at home, especially during lean or bad seasons. The PDS in India is well-positioned

to offer a critical form of assistance to poor, tribal households in the region. It can act as a vital safety net against malnutrition by distributing nutritious food items such as pulses and oils, which can supplement diet diversity within the tribal, migrant communities of southern Rajasthan.

There is a common and entrenched public view that the PDS in India is wholly dysfunctional. In line with this, our study pointed to poor implementation of the scheme in the region. A quarter of the households we studied did not possess ration cards; over 40% did not receive any wheat; and almost 90% received no sugar in the last one month. Given the poor state of implementation of the scheme, a recommendation to expand the system further runs the risk of being dismissed as costly, inefficient and imprudent.

However, we argue that it is possible for the PDS to be reformed and work well in Rajasthan. There is growing evidence of the revival of the PDS and the important contribution it is increasingly making towards food security and poverty reduction in different parts of the country (Chatterjee 2014; Khera and Drèze 2013; Himanshu and Sen 2013; Khera 2011). For instance, Chatterjee (2014) highlights the crucial role played by the PDS in the predominantly tribal area of Koraput district in Odisha. The community here, much like the ones in southern Rajasthan, suffers from high child malnutrition, and relies on subsistence agriculture as well as income from casual labour as their main sources of livelihood. Chatterjee (2014) highlights that the food distributed through the PDS is so vital for poor households in these parts, that it is not uncommon to find families that associate the absence of the PDS with death by hunger.

Respondents to her survey, especially those without land, highlighted that the PDS often serves to protect these families from starvation, especially during bad weather or lean season for manual labour work. According to Chatterjee's (2014) study, households without PDS-access in Koraput reported a higher incidence of at least one member going without food for a day. Similarly, Khera (2011) highlighted that Tamil Nadu and Himachal Pradesh, which have a well-functioning PDS, report much lower levels of hunger than Rajasthan and Bihar where the PDS has worked poorly.

The above-mentioned body of evidence points to the fact that a defeatist attitude towards the PDS is outdated. With appropriate reforms, the PDS has served well to supplement our food security goals and Rajasthan's own performance in this respect has been improving post-2010 reforms (Khera and Drèze 2013). It points to a real potential that the PDS has to support efforts in nutrition security as well, by distributing pulses and edible oils that are important sources of proteins and essential fats. Indeed, in some states such as Chhattisgarh, Tamil Nadu (TN), Andhra Pradesh (AP) and Himachal Pradesh (HP), the PDS fair price shops are providing these nutritious food items at highly subsidised rates to shield poor households against food price inflation and to increase their access to nutrient-rich food (Das 2013; Hindu 2008; Khera 2011).

Some evidence proving the pathway between distribution and food intake is also emerging. Based on their primary

household level study, Jha et al (2011) found significant effects from the PDS on nutrient intakes in households with PDS utilisation. Khera's (2011) study further highlights that the proportion of households that reported not having consumed any pulses in the last one week was very high in states such as Rajasthan and Bihar, where this item is not distributed by the PDS. Conversely, this proportion was negligible (1%–3%) in AP, HP and TN, where the PDS supplies pulses.

This suggests that the PDS can work efficiently to modify the food consumed at the household level, such that the provision of nutritious food can open up a direct pathway to increasing the nutrient intake within a family. We argue that Rajasthan should draw from the experiences of such success cases, to strengthen its own PDS and implement the distribution of nutrient-rich commodities. We believe that this shift is critical in southern Rajasthan where fewer than 9% of the children and less than half of the mothers we studied were consuming any pulses, even though it constitutes the main source of protein in their diets.

**(3) Role of Crèches and Women's Collectives:** The study revealed that besides food availability, there are other resource constraints such as time and energy that mothers face in their efforts to care for young children, which is further exacerbated among the migrant families, where women, in the absence of their husbands, are further stretched and forced to prioritise household chores over childcare. These constraints interplay with lack of awareness and unhelpful community perceptions around malnutrition. We argue that community-based crèches, monitored and integrated with village-level women's collectives can offer a solution to the problem of care, both at the level of resources and transforming unsuitable habits and attitudes around child malnutrition.

This argument is based on our own experience of managing such crèches in predominantly tribal, high migration areas of southern Rajasthan over the last two years as well as that of other organisations operating in similar contexts such as Jan Swasthya Sahyog in Chhattisgarh and the Action Against Malnutrition.<sup>7</sup> We believe that such crèches and collectives can act as a valuable platform for promoting growth and development of the most vulnerable children in the community. Moreover, our experience suggests that proper care and better meals provided at such crèches have an effect at reducing the incidence of illness among children. Currently, anganwadis do not provide such childcare services to children below three years of age. Extending the ICDS framework to include such community-managed crèches, which provide care services such as food, shelter, and a stimulating environment for children, including those under the age of three years, could strengthen the anganwadi system and improve its reach to remote, tribal communities.

Women's collectives are envisioned to function as a focal point for triggering transformations in community perceptions, attitudes and practices around the issue. As we have highlighted before, the study found that in 66% of the cases where the mother reported her child to be normally nourished,

the child was actually found to be malnourished. It is important to recognise here that this is not wilful ignorance, but an indication of high levels of deprivation in the area. Among tribal, migrant communities of southern Rajasthan, discomfort, illness and undignified life have become normalised. Perceptions related to child malnutrition should be viewed as part of these structural features that shape the everyday existence of these families. In this environment of persistent destitution, weak and underdeveloped bodies of children that are prone to illnesses have become the prevailing norm. An important role of women's collectives is to challenge this world view and to create a community-level vision and discourse around child well-being. Our experience suggests, that with some support and resources, such collectives can be powerful agents of change.

Women's collectives also provide an opportunity for empowerment of women, which is widely understood as having a positive impact on the nutritional outcomes of children. The Coalition for Sustainable Nutrition Security in India (2012) brings together evidence from six countries including Bangladesh, Brazil, China, Mexico, Thailand and Vietnam to highlight the widespread relevance of this aspect. In southern Rajasthan, the absence of male heads of family in many migrant households typically reduces the social capital possessed by women and makes it harder for them to navigate the public sphere to access their entitlements or to seek cooperation from the community.

However, this vacuum also creates an opportunity for women to emerge as de facto heads of family, to find their voice, and engage in actions to improve the nutritional aspects of their child's life. These collectives could emerge as creative, supportive spaces for women to sit together and identify their needs in the context of child malnutrition and evolve feasible local solutions. The collectives could potentially act as an important convergence point to drive the mutually-reinforcing solutions proposed in this paper: encouraging homestead farming of nutritious foods among women in the community; supporting women in seeking their PDS entitlements; spreading awareness on malnutrition; managing or monitoring the crèches; and devising quick recipes and other solutions for busy mothers to provide appropriate feed and care to young children.

#### 4 Conclusions

In this paper, we have argued that child malnutrition among tribal, migrant communities of southern Rajasthan emerges directly from the harsh living conditions prevailing in the region. Its dry, arid geography with small unproductive landholding translates into scarce resources at the household level. Our study found many households with low quantities of food, especially food with no key nutrition at all. Negligible incomes from casual manual labour were reported as being highly insufficient for purchasing adequate amounts of nutritious food. It is hardly surprising that a child growing up in such an environment are under and inappropriately fed and cared for according to her/his age. The devastating effect of a highly

inadequate diet is compounded by incapacity of households to provide sufficient childcare due to resource constraints faced by mothers such as time and energy, especially in migrant households.

We also found that child malnutrition has become normalised within these communities, such that mothers often perceive their malnourished children to be (developmentally) normal, unless they are very sick or severely malnourished. We ascribe this to the larger phenomenon of extreme and structural deprivation in the region. Busy, exhausted mothers, over half of whom are malnourished themselves, were found to be taking care of their children with extremely limited resources or opportunities to develop their knowledge on nutrition. Therefore, we have argued that it is the dual burden of lack of food and care that is interacting insidiously at the household level to undermine the nutritional status of children in southern Rajasthan.

Our position is that overcoming structural shortcomings is not an impossible task. Solutions, models and experiments that hold lessons for southern Rajasthan are available. Among them, investments in nutrition-focused, homestead agriculture, aimed at diversifying diets within households, deserve immediate attention.

We believe that there is a promising, direct pathway from family farming to improved food intakes by children in homes and that the disconnect between these two needs to be addressed with highest priority. Furthermore, we have highlighted literature and evidence that gives us reason to believe that with appropriate reforms, the PDS has the ability to supplement nutrition security of families, by modifying the food consumed at the household level and increasing its nutritional content.

We have argued that state-level reforms in some parts of the country have enabled the PDS to perform well for food security, and even in nutrition security in some cases. We stress on the need for the PDS in Rajasthan to learn from these cases. Finally, we have argued that the role of community-managed crèches is doubly important for high migration areas, where women have limited time and resources to take care of their young ones. We envision the role of women's collectives to be crucial in being able to tie all of these efforts on the ground, enabling the community, led by women, to change perception and habits that impede nutritional achievements of children; to promote farming in one's own backyard for family consumption; and to access public entitlements that are essential support systems for poor, tribal, seasonal migrant families.

#### EPW Index

An author-title index for *EPW* has been prepared for the years from 1968 to 2012. The PDFs of the Index have been uploaded, year-wise, on the *EPW* website. Visitors can download the Index for all the years from the site. (The Index for a few years is yet to be prepared and will be uploaded when ready.)

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## NOTES

- 1 "Other" has been used to denote a residual group of children excluding those from vulnerable categories of Scheduled Caste, Scheduled Tribe and Other Backward Classes (Gol and UNICEF 2014a, 2014b).
- 2 Prevalence of malnutrition among children between three and five years is typically found to be lower than children under three years. This may have exacerbated the gap between child malnutrition rates found through our study and that from the RSoC.
- 3 The survey was conducted during the pre-harvest period. Therefore, it is possible that the food stock levels available at the households under study were not as low as in the non-lean periods.
- 4 Some of the mothers under study were in post-natal stage, which could, to some degree explain the overall low rate of utilisation of MGN-REGA scheme.
- 5 Information on IFAD, FAO and LANSAs work on agriculture and nutrition can be found on the following web-links: [http://www.ifad.org/pub/thematic/nutrition/nutrition\\_e\\_web.pdf](http://www.ifad.org/pub/thematic/nutrition/nutrition_e_web.pdf), <http://www.fao.org/3/a-as601e.pdf> and <http://lansasouthasia.org/>.
- 6 Unfortunately, BAIF has not conducted a systematic review of the nutritional impact from the Wadi programme on participating households. This, however, seems to be a global trend. Webb (2013) argues that most agricultural interventions fail to assess the nutritional impact of their project on participating households, even if improved nutrition was stated to be one of the goals of the project.
- 7 Information about these organisations' work with crèches can be found on these web links: <http://www.jssbilaspur.org/activities/creches.php> and <http://phrsindia.org/action-against-malnutrition/>.

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## Oral History Archives

On behalf of *EPW*, the Centre for Public History, Srishti School of Design, Bengaluru, has put together extended interviews of 30 individuals associated with *Economic Weekly* and *EPW*.

These are interviews with present and former staff, readers, writers and trustees, all closely associated with the journal.

The interviews cover both the *EW* and *EPW* years, some are of the 1950s, others the 1960s and some even later. Each interview lasts for at least an hour and a few are multi-session interviews.

The interviews maintained in audio files (with transcripts) are available at the *EPW* offices in Mumbai for consultation by researchers.

Individuals interested in researching those times and the history of *EW/EPW* may write to [edit@epw.in](mailto:edit@epw.in) to explore how the files may be heard and used.