

WORKING OF MALNUTRITION TREATMENT CENTERS

An Assessment of Malnutrition Treatment
Centers in Rajasthan



RAJASTHAN
May 2013



Working of Malnutrition Treatment Centers: An assessment of MTCs in Rajasthan
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Assessment was done by Richa Sharma

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I hope this document would be useful to all users working for the Right to good health of children

Pairvi Team

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List of Abbreviations

AWC's	Anganwadi Centers
BIMARU	Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh
BMI	Body Mass Index
CHC	Community Health Center
EAG	Empowered Action Group
HDI	Human Development Index
ICDS	Integrated Child Development Scheme
IMR	Infant Mortality Rate
MTC	Malnutrition Treatment Centre
MUAC	Mid-Upper Arm Circumference
NFHS	National Family Health Survey
OPD	Out Patient Department
SAM	Severe Acute Malnourishment
SD	Standard Deviation
SRS	Sample Registration Survey
UNICEF	United Nations Children's Fund
UNWFP	United Nations World Food Programme
WHO	World Health Organization

Preface

India is one among the many countries where child malnutrition is severe and also malnutrition is a major underlying cause of child mortality in the country. In India, it is expected that 9 million children, are suffering from severe acute malnutrition. This is almost 50 percent of children with severe acute malnutrition (SAM) worldwide. According Global Hunger Reports malnutrition directly or indirectly results in deaths of 5million children every year, which transits into one child death every 10 second. However, these deaths can be prevented with appropriate nutritional and clinical management. Therefore, Under national rural Health Mission, nutrition rehabilitation Centers have been set up with the intention to improve the quality of care being provided to children with SAM and to reduce child mortality.

In December 2000, the Rajasthan Department of Women and Child Development, and UNICEF jointly initiated Anchal Se Angan Tak (ASAT) strategy as a community based care model in seven districts viz. Jodhpur, Tonk, Dholpur, Alwar, Rajsamand, Baran and Jhalawar. Under ASAT, Special Plan of Action for Management of Severe Child Malnutrition was initiated in 2005 in 14 blocks of seven districts using WHO standards based on a two pronged strategy viz. Hospital Based and Community based. The Department of Medical and Health Services, Department of Women and Child Development, Government of Rajasthan, and UNICEF took the lead in addressing acute undernourishment in children, by operationalizing Malnutrition Treatment Centers (MTCs) as a pilot initiative. Anganwadis have also been trained in adopting WHO protocols. The activities at the angawadis are (i) on going mapping of severely malnourished children in village, (ii) regular weighing of children with involvement of mothers, (iii) tracking and listing, referral services, home visits by Anganwadi Helpers, (iv) special visits to the homes of the children discharged from MTC, and (v) involvement of community volunteers. Children falling in Grade III and IV of malnutrition are monitored for signs and symptoms of infections and referred to Public Health Centers, FRU or Community Health Centers for treatment. The success of the initiative and positive outcomes have led the Government of Rajasthan to announce the replication of the model in all 32 districts.

Key Milestones of MTCs

- 9 MTCs set up in Rajasthan: Seven in District Hospitals and two MTCs at Community Health Centre
- Average weight gain at the MTC- 460grms
- Average Duration of Stay at MTC- 9 days
- Mortality rate while hospitalized – 0
- Mortality post discharge- 1 %

This report develops an analysis of the situation from field perspectives, to screen the performance of MTCs in treatment of severe acute malnutrition and raise major gaps in management of malnutrition. The study reviewed 6 Malnutrition Treatment Centers in the four districts i.e. Udaipur, Dungarpur, Baran and Tonk. The quality of data places a limit on the assessment, especially related to population and registered beneficiaries, since only few beneficiaries present in the center, moreover the detailed address was not the recorded in the registers. The data collection covers the indicators mentioned in the planning and implementation section of the operational guidelines by the Govt. of India. During the visit the team couldn't meet the chief medical officers, NRHM officials, WCD department, discharged children and Asha Sahiyoginies / AWWs of the respective districts. Due to Limited resources and limited information available and the time constraint the study does 'not covers the budgetary analyses of MTCs.

Understanding Malnutrition

What is malnutrition

Malnutrition is a general term. It most often refers to under nutrition resulting from inadequate consumption, poor absorption or excessive loss of nutrients, but the term can also encompass over-nutrition, resulting from excessive intake of specific nutrients. In subsequent text, we would use the words malnutrition and under nutrition interchangeably. An individual will experience malnutrition if the appropriate amount of, or quality of nutrients comprising for a healthy diet are not consumed for an extended period of time.¹

What are the types of under nutrition

The three indices - weight-for-age, height/length-for-age, weight-for-height/length are used to identify three nutrition conditions: underweight, stunting and wasting, respectively. Each of the three nutrition indicators is expressed in standard deviation units (Z-scores) from the median of the reference population based on which under nutrition may be further classified as moderate or severe.

Underweight

Underweight, based on weight for-age, is a composite measure of stunting and Wasting and is recommended as the indicator to assess changes in the magnitude of malnutrition over time. This condition can result from either chronic or acute malnutrition, or both. Underweight is often used as a basic indicator of the status of a population's health as weight is easy to measure. Evidence has shown that the mortality risk of children who are even mildly underweight is increased, and severely underweight children are at even greater. An underweight child has a weight-for-age Z-score that is at least two standard deviations (-2SD) below the median in the World Health Organization (WHO) Child Growth Standards.²

Stunting

As described in the operational guidelines given by the Govt. of India, stunting is described as failure to achieve expected height/length as compared to healthy, well-nourished children of the same age is a sign of stunting. Stunting is an indicator of linear growth retardation that results from failure to receive adequate nutrition over a long period or recurrent infections. Stunted child has a height-for-age Z-score that is at least two standard deviations (-2SD) below the median for the WHO Child Growth Standards.

Wasting

Wasting represents a recent failure to receive adequate nutrition and may be affected by recent episodes of diarrhea and other acute illnesses. It indicates **current or acute malnutrition** resulting from failure to gain weight or actual weight loss. A wasted child has a weight-for-height Z-score that is at least two standard deviations (-2SD) below the median for the WHO Child Growth Standards.

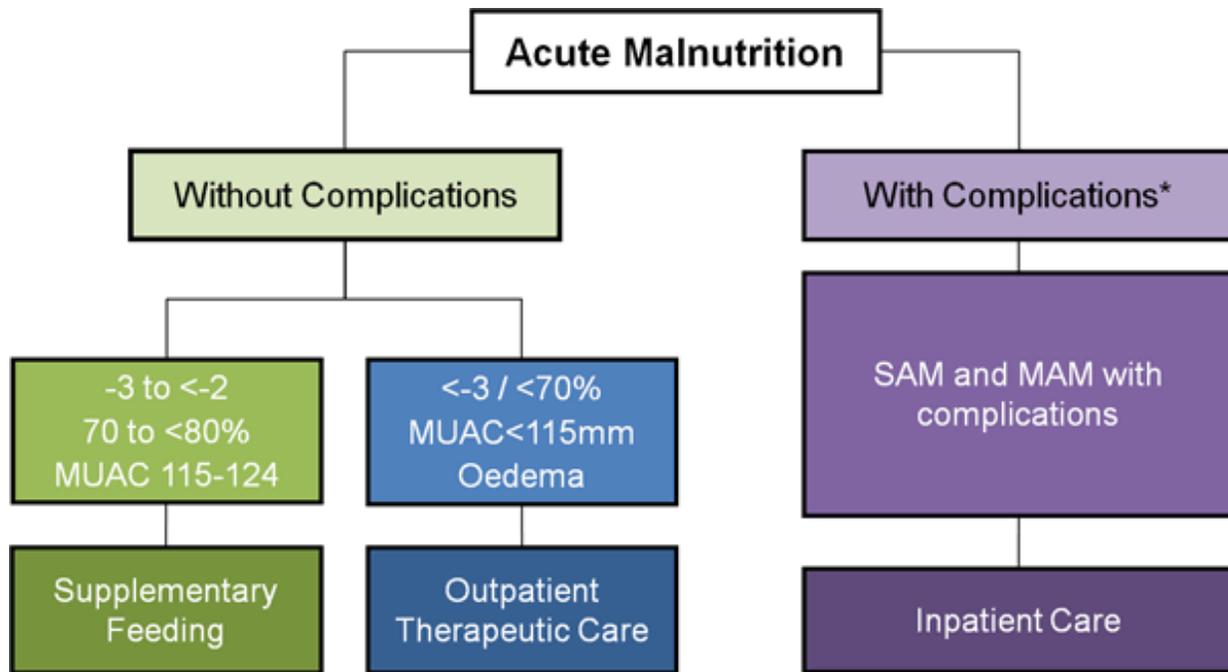
¹ Operational Guidelines on Facility Based Management of Children with Severe Acute Malnutrition, Ministry of Health and Family Welfare Government of India, 2011

² WHO Growth Standards

What is Severe Acute Malnutrition (SAM)

Severe acute malnutrition is defined by very low weight-for-height/length (Z- score below -3SD of the median WHO child growth standards), a mid-upper arm circumference <115 mm, or by the presence of nutritional oedema. SAM increases significantly the risk of death in children under five years of age. It can be an indirect cause of child death by increasing the case fatality rate in children suffering from common illnesses such as diarrhea and pneumonia. Children who are severely wasted are 9 times more likely to die than well-nourished children.³

Chart 1



*Anorexia, LRI, High fever, Severe dehydration, anemia, not alert, hypoglycaemia, or hypothermia

Source:

https://ble.lshtm.ac.uk/pluginfile.php/20037/mod_resource/content/63/OER/PNO101/sessions/S1S10/PNO101_S1S10_040_070.html

³ Risk factors for severe acute malnutrition in children under the age of five: A case-control study, Solomon Amsalu, Zemene Tigabu

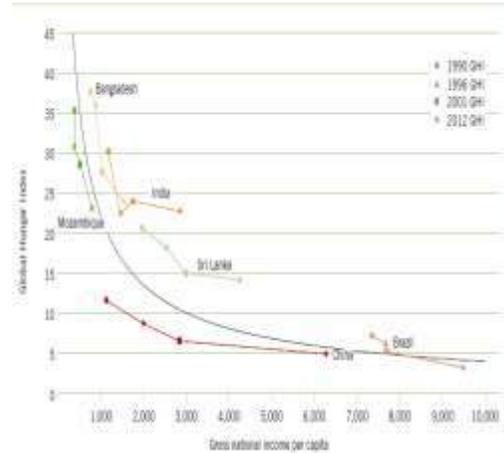
State of Malnutrition in India

In the last 15 years, India has successfully embraced economic reforms, which has led to GDP growth of 9%. India's gross national income (GNI) per capita almost doubled, rising from about 1,460 to 2,850 constant 2005 international dollar between 1995–97 and 2008–10 (World Bank 2012). India is suffering from alarming hunger, ranking 65 out of the 88 developing countries despite the strong economic growth. As the above graph shows, after a small increase between 1996 and 2001, India's GHI score fell only slightly, and the latest GHI returned to about the 1996 level. Seeing the present trends of hunger, the target of halving the hunger between 1990 and 2015 is unlikely to be met.

Apart from high rate of hunger, India accounts for highest prevalence of under-nutrition in children (under 5) i.e. more than 40% and ranked second to last on child underweight out of 19 countries.⁴ Under nutrition directly or indirectly results in deaths of 5 million children every year, which transits into one child death every 10 second.⁵

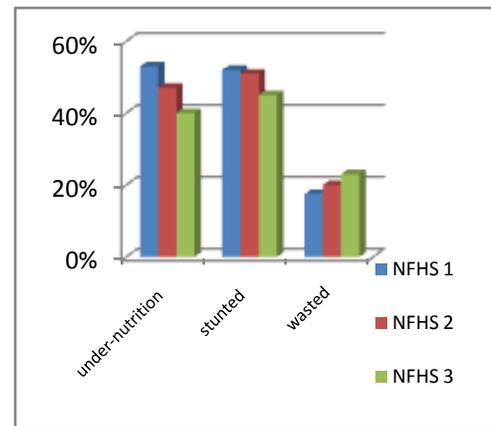
Though, Children's nutritional status in India has improvement since NFHS 1 and NFHS 2 but not by all measures (stunting, wasting and under nutrition). During the period between NFHS 1 (1992-1993), NFHS 2 (1998-99) & NFHS 3 (2005-06), decline has been observed for stunting and underweight among children under 3 years of age, whereas the percentage of children wasted has increased, which means chronic under-nutrition is less widespread, but acute under-nutrition is still a major problem in India. NFHS 3 shows that about 19.8 per cent of children under-age five are wasted, 43 % children are underweight and 48 per cent (i.e. 61 million children) are stunted due to chronic under-nutrition. Therefore, the country is in the curious position of having very high levels of malnutrition since half of the Indian children are chronically malnourished.⁶ The incidences of underweight children under five years of age are visible in almost all part of the country. The worst performing states with underweight children under five years

Chart 2



Source: GHI Report 2012

Chart 3
Trends of malnutrition



Source- NFHS 1, 2, 3

⁴ The GHI trends show that Bangladesh, India, and Timor-Leste have the highest prevalence of underweight in children younger than five – more than 40 percent in all three countries. According to the latest data on child undernutrition, from 2005–10, India ranked second to last on child underweight out of 129 countries— below Ethiopia, Niger, Nepal, and Bangladesh.

⁵ GHI Report 2011: key findings

⁶ As per NFHS 3, 48% of children under age five years are stunted (too short for their age) which indicates that, half of the country's children are chronically malnourished. Acute malnutrition, as evidenced by wasting, results in a child being too thin for his or her height. 19.8% of children under five years in the country are wasted which indicates that, one out of every five children in India is wasted. 43% of children under age five years are underweight for their age. Children in India 2012 – A statistical Appraisal, GOI

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of age are Madhya Pradesh (60 per cent), Jharkhand (56.5 per cent) and Bihar (55.9 per cent) and some states like Goa (34%), Kerala (36%), Manipur (13%), Mizoram (23%), Punjab (33%) and Sikkim (10%) have lower levels.

India also lags in reducing the IMR, which is the crucial indicator of health and well-being of children. According to a report released by UNICEF 'State of the World's Children 2013' ranks India at 49th place out of 195 countries in U5MR. At present, Infant Mortality Rate is 44 per 1000 live births in the country per 1000 live births (SRS 2011) against MDG target of 28 per 1000 live birth. Though IMR for the country as a whole declined by 33 points in the last 20 years at an annual average decline of 1.65 points, it declined by six points between 2008 and 2010 with IMR at national level being 47 in 2010. With the present improved trend due to sharp fall during 2008-09, the national level estimate of IMR is likely to be 44 against the MDG target of 27 in 2015. On the basis of state wise data it is clear that clearly evident that as many as twenty out of twenty nine States of the country are likely to miss their U5MR targets by 2015. The States of Goa (10), Kerala (13), Manipur (14), Nagaland (23) have achieved the national MDG target for IMR. Only the State of Manipur is likely to achieve the State level MDG target by 2015. The States which are likely to miss their MDG target by huge margin are Meghalaya (40 points), Assam (32 points), Rajasthan (26 points), Haryana (24 points), Bihar (23 points), Uttar Pradesh (24 points), Andhra Pradesh (22 points), Madhya Pradesh (20 points) and Gujarat (20 points). A few States will be missing their MDG targets by a small margin i.e. Arunachal Pradesh (1 point), Tamil Nadu (3.4 points), Goa (5.2 points), Kerala (6.1 points) West Bengal (6.2points) and Maharashtra (6.8 points).

Chart 4
India's Position



Source: <http://www.economist.com/node/17090948>

State profile: Rajasthan

Rajasthan located in the north western region of India Known as "The land of kings" is the largest state of the Republic of India. This northwestern State of India is part of the "BIMARU" and Empowered Action Group (EAG) states and fairs poorly on the health and epidemiological parameters. Rajasthan has rich mineral deposits and also possesses comparative advantage in agricultural and animal husbandry products. About half a century's planned development has made rapid strides especially in the commodity producing sectors. Yet the State continues to be in the lowest quartile in terms of major indicators like literacy and the per capita income.⁷ According to Food Security Atlas of Rural Rajasthan (study by Institute for Human Development and World Food Programme), India's western state of Rajasthan is under the grip of severe food insecurity with 22 of its 32 districts being labeled as 'most food insecure'. The percentage of household poverty, percentage of land holding less than 1.0 ha, and percentage of marginal workers to total workers indicates the accessibility of food in the State.

Percentage of household poverty: Poverty denotes the level of spending below a cutoff point that is linked to per household consumer expenditure derived from the basket of goods and services and also relate to calorie intake. Over the five year period 1992-1997, the number of families identified below poverty line increased by 8% or at the rate of 1.6 % per year.⁸ As of March 2011, Rajasthan has an estimated 1.12 cr BPL population (BPL 2002 census), of which 38.49 lakh are estimated as OBC, 34.62 lakh as ST, 28.17 lakh as SC and 10.74 lakh are estimated as others. The BPL population is about 16% of total population of the state. Ten districts (Udaipur, Banswara, Dungarpur, Barmer, Bikaner, Jodhpur, Jalore, Bhilwara, Ganganagar, and Chittorgarh) alone comprise about 50% of BPL families.⁹ The fast depleting forests, uneven terrain, and rainfed agriculture in the region adds to its poverty.

Percentage of land holding less than 1.0 ha: Livelihood access of population can be accessed in terms of the area of holding per person. More the land holding more the income he is likely to earn and therefore greater the possibility of food access. The people with very less land holding and landless labourers are the most vulnerable people as far as poverty is concerned. Average size of landholding is going down year by year. According to revenue department, Rajasthan average land holding was 5.56 ha in 1970-1971 got reduced to 3.96 ha by 1995-1996.¹⁰ Dungarpur, followed by Dholpur, Udaipur, Rajsamand, Banswara and Bharatpur, has the highest percentage of holding (57) that is less than 1.0 ha.¹¹

Percentage of Scheduled Caste and Scheduled Tribe population: Scheduled Caste and Scheduled Tribe population are the most economically backward population. They are the most disadvantaged in terms of assets, education, income and land ownership when compared to other castes. Historically tribal population have been poor and backward and lived on poor nutrition. From Food Insecurity Atlas of Rural India it can be observed the tribal dominated districts of Rajasthan i.e. Dungarpur, Udaipur, Banswara, fall under the extreme low category in food access, which very well explain that they are the most vulnerable people among the population.¹²

⁷ 4th Common Review Mission of the National Rural Health Mission, GOI

⁸ Food insecurity in Rajasthan, secondary data analyses 2011, WFP

⁹ Rajasthan Microfinance Report 2011, The World Bank, Centre for Microfinance

¹⁰ Rajasthan Human development Report 2002

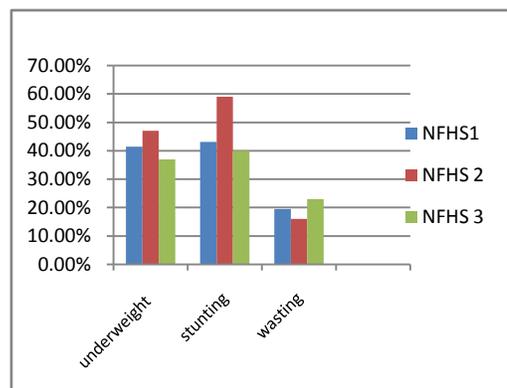
¹¹ Food insecurity in Rajasthan, secondary data analyses 2011, WFP

¹² ibid

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Apart from high rate of, the State is reeling under the devastating effects of malnutrition. Although the nutritional status of children in Rajasthan has improved considerably over the period of time, it is fifth highest in the country. According to the recent Sample Registration Survey (SRS) 2011, among children under age three years, stunting decreased from 59 percent to 40 percent between NFHS-2 and NFHS-3 and underweight decreased from 47 percent to 37 percent. If the stunting has seen an important decrease between NHFS-2 and NFHS-3, underweight remain relatively high (close to the national average of 43%) and wasting has also worryingly increased. Therefore, despite the improvements over time in stunting and underweight, under nutrition is still a major problem in Rajasthan. From the demographic groups, children from Schedule Tribes had highest prevalence of SAM (8.4%) compared to children from Schedule Castes (7.4%) and other Backward Classes (5.2%).

Chart 5
Malnutrition Trends in Rajasthan



Source: NFHS

Table 1

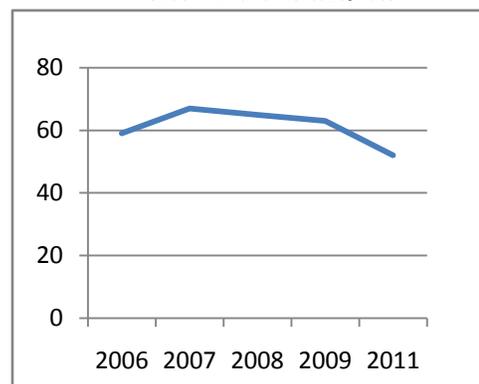
District	Underweight		Stunting		Wasting		MUAC	
	Severe	Moderate	Severe	Moderate	Severe	Moderate	Severe	Moderate
Banswara	25	50	38	59	6	20	4	17
Baran	13	40	22	50	2	12	1	10
Jaisalmer	11	33	27	50	2	10	2	10
Jhalawar	20	48	32	54	6	18	1	10
Dholpur	18	45	40	62	2	10	2	16
Dungarpur	29	58	31	53	8	20	2	19
Barmer	18	39	31	55	4	12	2	15
Bharatpur	21	46	28	53	4	10	3	16
Karauli	18	41	29	50	3	11	2	8
Kota	13	38	19	43	4	15	2	16

All figures are in %age and are approximation of the actual value

Source: Hungama Survey, 2011

According to Sample Registration Survey (SRS) 2011, among children under age three years, stunting decreased from 59 percent to 40 percent between NFHS-2 and NFHS-3 and underweight decreased from 47 percent to 37 percent. Despite the improvements over time in stunting and underweight, under nutrition is still a major problem in the State. The NFHS-3 in 2006 found that 20% of children under-3 years of age in Rajasthan were wasted, 34% were stunted and 44% were underweight. 20.4% of the children under-5 suffered from wasting and 7.3% suffered from severe acute malnutrition. From the demographic groups, children from Schedule Tribes had highest prevalence of

Chart 6
Trends in infant mortality rate

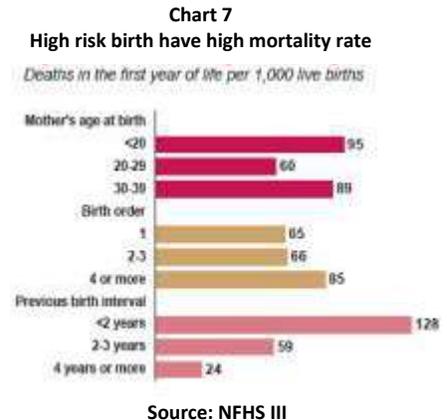


Source: Sample Registration Survey Report

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SAM (8.4%) compared to children from Schedule Castes (7.4%) and other Backward Classes (5.2%). The Hungama (Hunger and Malnutrition) survey carried out recently by Naandi Foundation indicates that the situation in many districts has worsened when compared to what it was about a decade back. The survey included 10 districts (Banswara, Baran, Barmer, Bharatpur, Dholpur, Dungarpur, Jaisalmer, Jhalawar, Karauli and Kota), 7,683 mothers and 11,319 children. According to the study, Most of these districts are still plagued by problems of Stunting and Wasting.

According to the latest IMR report, infant mortality in the state came down by three points in 2009 compared to the previous year, which is equal to the amount of decrease in the IMR in the country but it is still high with 59 deaths per 1,000 children born, which is much above the national average of 50.¹³ But, Rajasthan is still one among few states which have higher IMR in comparison to the national average which is now 44 deaths per 1000 live births. The other states which have higher IMR than the national average are Madhya Pradesh with 59, UP and Odisha with 57. Assam, Chhattisgarh and Meghalaya have also have IMR above national average. The health department has a daunting task ahead in bringing down the IMR as the Centre has assigned 'difficult' targets. As per the approved state programme implementation plan 2012-13, the Centre has laid out goals and service delivery targets specifically for the state's health department, under which the health department has been given the targets to reduce IMR to 37 by the end of 2012-13. The Centre has set target for the state government to reduce IMR to 25 per 1000 live births by the end of 2014-15.



Highest number of kids born underweight¹⁴

The weight of a new born is a proxy of the nutritional wellbeing and health status of the mother during the pregnancy. It determines the survival chances of the child and has long-term health, physical and psychological development. Annual Health Survey (AHS) of the State uncover the alarming fact that; Rajasthan has topped the list of states with kids being born underweight. In about nine states in northern, central and eastern India, where nearly half of the country's population lives, a quarter of the children born in 2010-11 were underweight, that is, less than 2.5kg in weight at the time of birth. The urban rate of underweight newborns is 31% which shoots up to a shocking 42% in rural areas of the state.¹⁵ The root for underweight newborns is maternal malnutrition. According to pediatrician and health activist Chronic malnutrition amongst girl child leading to stunting leading to low birth weight is the pathway for the so called intergenerational propagation of malnutrition. The main cause for underweight newborns is maternal malnutrition. This is not just restricted to the pregnancy period, according to child health experts. "Chronic malnutrition amongst girl children leading to stunting leading to low birth weight is the pathway for the so called intergenerational propagation of malnutrition. Underweight babies suffer inherently higher risks of malnutrition, disease and death in childhood because their tiny bodies are already compromised "- Vandana Prasad, a pediatrician and health activist.¹⁶

¹³ Sample Registration Survey Report 2011, Ministry of Health and Family Welfare, GOI

¹⁴ Annual Health Survey (AHS), 2012 conducted by the Census office, GOI

¹⁵ Rajasthan tops the list of underweight births, TOI, 4th August 2012

http://articles.timesofindia.indiatimes.com/2012-08-04/jaipur/33035261_1_underweight-newborns-rajasthan-tops-list

¹⁶ ibid

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One of the major reasons of underweight newborns is **high prevalence of anemia during pregnancy**. Findings of the National Family Health Survey-III, points out that more than half (53.1%) of the women aged 15 -49 years are anemic in Rajasthan.¹⁷ Also a recent study on Life style behavior affecting prevalence of anemia among women in EAG states of India by International Institute for Population Sciences (IIPS) found that High percentage of women suffering from severe anemia in Rajasthan (2.5%) where as it is lowest in Bihar and Madhya Pradesh each having (0.9 %).¹⁸

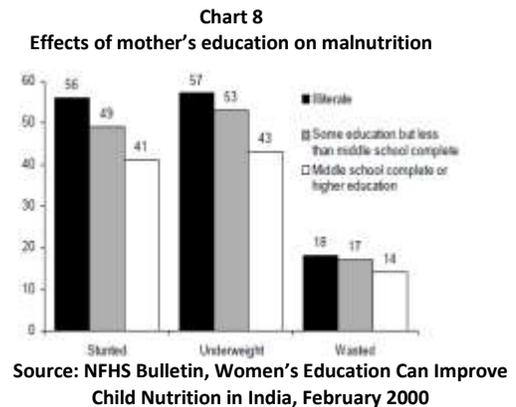
Other major reason resulting in low birth weight is **early marriage**, resulting in early child birth.¹⁹ Therefore, children born to teenage mothers are more likely to die in infancy than children born to mothers in the prime childbearing age of 20-29 years. India's latest Sample Registration System (SRS) survey recorded the highest percentage of women (13%) who got married before the legal age of marriage in Jharkhand followed by Rajasthan (10.1), West Bengal (8.2%).²⁰ Consequently, children born in these states are at higher risk to die in infancy than any other children.

Level of poverty

Rajasthan has recorded the decline in the number of persons below the poverty line. As per the estimates released by the Planning Commission for 2009-10, over 24 lakh people have come out of the poverty line in Rajasthan since 2004-05. In 2004-05, a total of 34.4 % of the state's population (estimated at 5.65 crore under Census 2011) was below the poverty line, which has now come down to 24.8 %.²¹ The decline in poverty level has been significant when compared to other states in the BIMARU category. Though Bihar, UP and Chhattisgarh have also shown a decline in poverty but the rate has been very slow. In Bihar, the total percentage of people below the poverty line is 53.5 %, for Uttar Pradesh it is 37.7 % and Chhattisgarh 48.7 %. Compared to these states, Rajasthan has recorded a 9% dip in poverty levels which is significant.

Female Literacy Rate

Literacy rate among women in Rajasthan has increased from 43.8% to 52.1% over the past 10 years. In 2001, literacy rate in Rajasthan stood at 60.41 percent of which male and female were 70.32 percent and 43.85 percent literate respectively. However, the difference between the male-female literacy is still high at 27.1%.²² Among the Indian states Rajasthan has the lowest female literacy rate and. NFHS Bulletin has shown that Children whose mothers



¹⁷ NFHS III

¹⁸ Life style behavior affecting prevalence of anemia among women in EAG states, India by Rakesh Kumar Sing, International Institute for Population Sciences (IIPS) <http://paa2012.princeton.edu/papers/121761>

¹⁹ NFHS-3, children born to mothers younger than age 20 or age 30 and over are more likely to die in infancy than children born to mothers in the prime childbearing age of 20-29 years. Moreover, infant mortality rate is 95 per 1,000 for teenage mothers, compared with 60 for mothers age 20-29.

²⁰ TOI, Child marriages least in Delhi, Kounteya Sinha, 4th April, 2012

http://articles.timesofindia.indiatimes.com/2012-04-04/india/31286908_1_child-marriages-unicf-rural-females

²¹ Press Note on Poverty Estimates, 2009-10, Planning Commission, GOI

²² Census 2011

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have some education are much less likely to be stunted, wasted, or underweight than are children whose mothers are illiterate. The results presented in Figure 3 show that mother's education has a strong independent effect on a child's nutritional status even after controlling for the potentially confounding effects of the 12 other demographic and socio economic variables.

Status of Health service delivery in the state

The health care infrastructure forms a significant part of health service delivery and investing in increasing health infrastructure in rural areas will provides base for extending health services to poor. It is believed that People who lack primary health-care services are at greater risk for poor health outcomes. Low-income people and communities are among the most vulnerable. Access to primary health care can reduce avoidable hospitalizations, help to manage chronic conditions, and lead to less serious episodes of illness. As medical "homes" for low-income individuals, CHCs are the first line of defense. Studies show that both uninsured and insured patients without access to PHCs/ CHCs were twice as likely to go without the care they need, even those who were privately insured.²³

Table 2
Gaps in Infrastructure

District situation in	CHC	PHC	Sub-centers
Tribal	0	24	0
Desert area	39	78	0
General area	104	139	0

Source: Rajasthan 4th CRM of NRHM Report

In Rajasthan, the health care system is depicting threatening fact that most of needed persons are left without any benefits of the facilities due to lack of requisite numbers of health centers. Even though, the Rajasthan Govt. has taken many initiatives for infrastructure up gradation, construction work has been phased according to priority and availability of funds. At most of the facilities, bed occupancy has increased considerably. However, expansion of infrastructure has not kept pace with the rising demand. This may be due to low spending of funds allocated for infrastructure by medical and health department. Consequently the construction work is behind schedule at those locations, where the work is being executed by Medical and health Department and not by Public Work Department. Moreover, civil works construction shows skewed pattern and inadequate prioritizing, with critical elements required for service delivery at the grassroots level yet to be completed (just 30 per cent of sanctioned sub centers; less than half or sanctioned labour rooms under JSY constructed; and less than half of sanctioned renovations of CHC/PHCs completed). Besides this, the state has witnessed persistent gap between required and posted health functionaries exists at all levels.²⁴ Realizing that the state is suffering from inadequate numbers of trained health personnel, particularly medical officers, the DOHFW/NRHM of the GOR have undertaken significant steps to address at the first instance the dearth of medical officers at PHC/CHC/FRU level. The state also consider the setting up of specialized cell which is manned with facility planners, hospital architects and biomedical engineers , since hospital architectural planning needs a specialized workers. And also assures quality checks at all levels by an independent agency.

²³ Community Health Centers: A Vital Strategy for Community Development
http://www.frbsf.org/publications/community/review/vol5_issue3/sporte_donovan.pdf

²⁴ 4th Common Review Mission of the National Rural Health Mission, GOI

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Status of food service delivery for children in the state

Integrated Child Development Scheme

Started by Government of India in 1975, the Integrated Child Development Scheme (ICDS) has been instrumental in improving the health and wellbeing of mothers and children under 6 by providing health and nutrition education, health services, supplementary food, and pre-school education.²⁵

The world's largest community based outreach programme for early child development, has witnessed unparalleled expansion over the last three decades, with the larger part of expansion (more than 50%) having taken place post 2005. The programme has evolved and been enriched by innovations in different areas and components and is poised for universal coverage reaching 14 lakh habitations during the Twelfth Plan. However while the ICDS Scheme has been well conceived, there is need for comprehensive programmatic, management and institutional reforms. A major challenge lies in implementation gaps that arises out of inadequate resource investment, inadequate funding, lack of convergence, lack of accountability of those managing and implementing the programme, especially, at the level of anganwadi centers and supervisory level, lack of community ownership and the general perception about ICDS being a "feeding" programme and not an Early Childhood Development programme.²⁶

Human resources

The concept of providing a package of services under the scheme is primarily through the network of anganwadi workers. The success of ICDS will depend largely on the motivation and competencies of AWWs and other functionaries associated with it. Rajasthan is attempting to build up its infrastructure of trained AWWs at the community level though a much larger pool of functionaries is needed at the community level to make an impact.

Though AWW are available at most centers, vacancies exist for supervisors, Anganwadi helpers (Sahayika) and ASHA Sah yoginis. The report of impact assessment of ICDS in Bharatpur, Kota, Jaipur, Udaipur and Bikaner district of Rajasthan confirm revealed the problem of understaffing in the districts, since on 57% AWW were working out of the total sanctioned posts in the districts. Due to which, lady supervisors have been entrusted the responsibility to supervise 40-102 anganwari centers. In such situation 50% lady supervisors are not visiting all centers every month. Situation in districts in Jaisalmer, Churu and Baran needs immediate attention. Although AWW are available at most centers, poor educational status of the AWW is one of the major problems in the State. Out of the 144 centers studied by Jaipur based organization (Resource Institute of Human Rights), only 70 had AWWs who had studied up to Class 8.²⁷ The CRM team emphasized in their 4th review report that though the onset of malnutrition was captured by the AWWs at an early stage, the

Table 3
Shortfall of AWW

District	Sanction	Working
Baran	56	30
Jaisalmer	23	8
Karauli	48	34
Sirohi	34	23
Churu	58	30
Total	219	125 (57%)

Source: Impact Assessment of ICDS Programme
Social policy Research Institute

²⁵ Evaluation Report on ICDS, 2011, Planning Commission of India, GOI
http://planningcommission.nic.in/reports/peoreport/peo/peo_icds_vol1.pdf

²⁶ Report of the Inter Ministerial Group on ICDS Restructuring, Planning Commission, GOI

²⁷ Rajasthan Mein Anganwadi Kendron Ki Sthiti – Ek Adhyayan, A report by Resource Institute for Human Rights

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AWWs were not sufficiently capacitated to educate and influence the dietary patterns and habits of mothers and children. The State may appoint Additional AWW in ICDS for improving family contact, nutrition counseling and care for pregnant and breastfeeding mothers and children under two years of age. This should be done initially in the most vulnerable and high burden districts and then progressively scaled up. The State must implement best Practices in Community-based Early Childcare Model (Anchal Se Angan Tak) extensively and life cycle approach to improve the health, nutrition and psychosocial status of children with special focus on children under 3 years of age, pregnant and nursing mothers, and adolescent girls. Besides, the crisis of Child Development and Protection Officers (CDPOs), who has an overall charge of implementing the programme at the block level, is quite grave in the State. And the ones that have been recruited do not inspect anganwadi centers (AWCs) regularly.²⁸

Visits made by the CDPO were found to be very low in almost all states, with the average being just one in six months. Again, for almost all the AWC across India, CDPOs were mainly concerned with book keeping and almost ignored the function of preparing charts. The following table shows that in Rajasthan also CDPOs were mainly concerned with book keeping and almost ignored the function of preparing charts.

Table 4
Functions of CDPO

Visits by CDPO/ACDPO (No.)			What did he/she do? (%)							
During last 30 days	During last 90 days	During last 6 months	None	ensuring supply of food	Ensuring supply of other material	guidance for preparing growth charts	Record Keeping	target/priority setting	Help in organizing community meetings	Link with administration
0	0	1	22.2	16.3	9.3	3.0	39.0	3.7	0.0	6.4

Source: NCAER-ICDS Survey, 2009

Implementation gaps

Providing supplementary nutrition is considered the major component in improving nutritional status of women, adolescent girls and children, but a large part (around 71per cent) of budgetary allocation/spending (2008-09) is not being used for supplementary nutrition programme (SNP). The effectiveness of the programme is inspected by looking at its effective coverage. In Rajasthan Huge variations are observed at state-level disaggregations in all types of gaps i.e survey gap, service gap and delivery gap.²⁹ The State's 36.9 per cent of eligible children do not figure in the survey register and from those who registered 47.5 % are left out from the list of beneficiaries. Moreover, out of the registered children only 55.6% are receiving SNP. This is similar in the case of women and adolescent girls. Regardless of the prevailing poor health status of children, the State stands on the level of low performer state in terms of delivering supplementary nutrition as well as on spending on

²⁸ India: Inside An Anganwadi: World's Largest Child Development Programme Falls Short In Rajasthan, by Kumar, Rakesh,19th December, 2011

²⁹ Survey gap- The number of eligible beneficiaries not captured in the survey register by AWW. Service gap - gap between those registered and those actually delivering the services. Delivery gap- beneficiary recorded in the delivery register do not receive the food services.

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supplementary nutrition programme of the state. As a result, both coverage and the frequency of delivery appear to be the poor in the State. These estimates of gaps provide an idea about the extent of efforts that are needed to make ICDS a universal programme. The State must take Considerable level of efforts to ensure that the survey that is taken up to enlist all eligible beneficiaries into the survey register is carried out in a proper manner and at regular intervals. Such an exercise would provide a clear idea about the required resources – financial, human and institutional – to make this programme effective and successful.

1. **Community participation** - Self Help Groups and Mahila Mandals comprise women from the local community, it was envisioned that since the members would supply SNP to their own children and/or children from their own community, a natural incentive and feeling of ownership would exist to ensure that only the best food was provided. Community involvement is thus expected to positively impact on the quality of SNP provided.
2. **Community monitoring and accountability** - Accountability relates to the accountability of the SHG/MM to the beneficiaries, ensured by the Mothers' Committees (of women from the local community) instituted to conduct regular checks on the functioning of the kitchen as well as the quality of food.
3. **Local production of food** - The local production of food is believed to ensure that hot and fresh food is provided in a timely manner to beneficiaries, which in turn would result in higher levels of attendance.
4. **Empowerment** - The SHG/MM model added dimension of empowering women by providing employment, and allowing for economic and 'social capital' formation.

The State must strengthen the local production of supplementary nutrition by self-help groups from the community where the anganwadi centre (AWC) is located, which is believed to allow for better quality of food as compared to the centralized model, as well as have the added advantages of allowing for greater community participation, transparency and accountability.

Other services include immunization, health checkups and growth monitoring, preschool education and nutrition and health education.

Growth monitoring and promotion

Growth monitoring, nutritional surveillance and analysis of the nutritional status at the district level are important activities under ICDS at the field level. Looking at the ICDS evaluation report of GOI, health checkups and referral services are least provided in the State. While examining the mid - term assessment report of ICDS, it was found that in 16% Anganwari centers 3/10 in urban and 5/40 in rural have not recorded the weight of all children while in 18% centers either the weighing scale is out of order or it not available. Monitoring the growth of children in the State is neglected majorly, seeing that most of the AWCs in the state do not have sufficient Weighing scales which are one of the basic tools to assess the nutritional status and monitoring growth of children, low level of literacy and lack of exclusively training on growth monitoring.³⁰ Also a spot assessment study of Anganwadi Centers in Jaipur done by PUCL Rajasthan revealed that the performance of AWC in monitoring of malnutrition is highly inadequate. Since, the records were missing in AWCs. The data on malnutrition was reported only from 49 AWCs. Reason given for not having malnutrition data was changes in the WHO norms and non availability of weighing scale.

³⁰ Only 2% AWWs received exclusively training on growth monitoring, Social Policy Research Institute, Mid Term Assessment of ICDS Program.

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Immunization

Although percentage of fully immunized children has increased from 23.9%, huge chunk of children in the State between the age group 12-23 months have not yet received all vaccines against six major childhood illnesses: tuberculosis, diphtheria, pertussis, tetanus, polio, and measles. However, most children are at least partially vaccinated: 12 per cent have received no vaccinations at all.³¹

Involvement of community

Childcare is basically the responsibility of the family. A childcare programme cannot be confined to the child alone but has to be directed towards the family, particularly the mother. This calls for creating awareness among the community and households on childcare and involving them in the planning and monitoring process. Many efforts have made to mobilise community support through involvement of Panchayati Raj institutions, promoting women's empowerment through schemes like the Indira Mahila Yojna, and through involvement of NGOs. But the level of community participation in the State is recorded to be very low. Figure 9 represents the percentage of AWC getting help from different community agents. Hence, there is a need of having greater involvement of community leaders/PRIs in managing and monitoring to ensure improved delivery of services. New, innovative and effective mechanisms are needed to mobilize and engage the community, especially parents, in ensuring care and protection to the young child. With the conception of Village Health, Nutrition and Sanitation Committees (VHSNCs) as subcommittees of panchayat to report the panchayat, these panchayats should be recognized and incentivized by the State govt. who ensures that their village or urban area is malnutrition free.

Table 5
Involvement of community

Community participation	% of participation
Panchayat	17.6
Village leaders/committee	15.0
women's group	35.3
Mothers of beneficiary Children	35.0
ksy girls	13.6

Source: Mid Term Assessment of ICDS Program

Mid Day Meal Scheme

The Scheme 'National Programme of Nutritional Support to Primary Education' commonly known as Mid-Day Meal Scheme was launched nationwide scale to Improve the nutritional status of children at school. The first objective of the MDMS is to increase enrolment and daily class participation by entitling all enrolled children to a hot, cooked nutritious meal at school. Although the gross enrolment rate has increased in the State from 83, however, due to high rate of absenteeism of children at primary level, many children are starved of to be a beneficiary under the scheme. Rajasthan accompanied by Bihar and Uttar Pradesh have performed poorly in retaining schools kids at the primary level, which has led to a severe dent in the performance of UPA's flagship education programme, 'Sarva Shiksha Abhiyan'. Coverage of MDM against the total enrollment at the national level was 72% during 2011-12. However it was poor in Rajasthan (66%) followed by Gujarat (67%), and Madhya Pradesh (69%) and leaves a lot to be desired. This provides an indication that the resources allocated under the scheme have not been fully utilized in these States. Moreover, about one fifth of the recipients in the States of Bihar, Rajasthan and West Bengal reported inadequacy in meals at school

³¹ District Level Household Survey 3

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as consumption of food grains is less than the national average of 81%.³² At concurrently, the quality of food also shows discrepancies across the state. Mid Day Meal Scheme Monitoring Reports of Rajasthan shows that majority of the districts are not satisfied with the quality of food served in schools except Ajmer, Churu, Jhunjhunu and Hanumangarh, due to which large proportion of children are not taking MDM.³³ Besides this, Countless stories of caste segregation are found in the whole State. As a result, Caste-based discrimination continues to over shadow the flagship scheme in the State.³⁴ This is ironical; on the one hand the children in the State suffer from debilitating, malnutrition and anaemia, on the other hand available resources under MDM scheme are being utilized sub-optimally.

School Health Programme (SHP)

MDM scheme also provides nutritional support for the school children through distribution of micronutrients to the children. In convergence with National Rural Health Mission regular health checkups of school children are supposed to be carried out at least twice a year. In addition distribution of Iron Folic Acid, De-worming tablets and Vitamin A has to be undertaken for the school children, as per the schedule of the Department of Health. During, 2010-2011, majority of schools implemented school health programme and a health check up is carried out of all the enrolled children by the health department once a year and had also received the necessary supplements from NRHM.³⁵ However, according to Quarterly Progress Report, during 2012-2013 no child has been reported to be covered under SHP of the State, especially when sufficient funds are available under National Rural Health Mission to meet the health needs of the school children.

Monitoring and Evaluation

Monitoring is an integral part of implementation of the any scheme and also to fill the gaps in delivery system. Community participation i.e. Participation of parents, VEC members and PRIs in monitoring and Supervision of MDM was negligible across the State with no roaster system was being maintained for supervision of the MDM in the schools. Insignificant inspection has been carried out by the SPMU, DPOs while BRC/CRC and other block officers carried out quarterly inspection of the MDM. Moreover, the utilization of Monitoring and Evaluation funds shows the performance of the States/UTs in monitoring of the MDMS. The total allocation of MME fund for the State in financial year 2012-13 is Rs. 952.48 lakhs. As against this, only 74% has been utilized by the State.³⁶ Low utilization of MME fund indicates poor monitoring of the programme and therefore, more efforts needs to be taken for strengthening the monitoring mechanism and for proper implementation of the scheme.

³² Mid Day Meal 1st Quarterly Progress Report 2012-2013

³³ Meal Scheme Monitoring Report, Rajasthan(October 2010 to 31 March 2011): Ajmer, Baran, Bikaner, Chittorgarh
Monitoring of Implementation of MDM Programme,Rajasthan(1st 2010 to 31 March 2011): Jaipur, Bhilwara, Bundi
Monitoring of Implementation of MDM Programme,Rajasthan(1st 2010 to 31 March 2011): Churu, Jhunjunu, Hanumangarh

³⁴ TOI, August 6th 2012, Akshay Mukul, Caste shadow on Rajasthan's midday meals,
http://articles.timesofindia.indiatimes.com/2012-08-06/jaipur/33064218_1_upper-caste-dalit-children-mid-day-meals

³⁵ Mid Day Meal 1st Quarterly Progress Report 2012-2013

³⁶ Ministry of Human Resource Developmet, Mid-day Meal Scheme, Quarterly Progress Report 2012-2013
<http://mdm.nic.in/>

Nutritional Status of Children in the identified districts

Rajasthan is one of the significant states of India where many tribal live. After, Madhya Pradesh, Orissa, Bihar and Gujarat, Rajasthan have highest population of the tribal communities. Southern zone includes the districts of Banswara, Dungarpur and Udaipur in which 43.80% of the total tribal population of Rajasthan is settled. Bheel, Meena, Garasia and Damor are the tribes that are found in this zone. The tribal population of Udaipur is highly exposed to the incidences of child malnutrition. According to the Child Fund (India), one of the world's largest voluntary organizations working on child development, many children in the 0-6 age group in south Rajasthan's tribal belt (comprising the six districts of Udaipur, Banswara, Pratapgarh, Chittor and Rajsamand and Dungarpur) are Vitamin-A deficient; 60-70% of them suffer from malnutrition.³⁷ This southern zone of Rajasthan is also well known for its hunger deaths. Three years back in 2010 it was reported that on an average, three persons in every month died due to starvation in Jher village in Kotada block, an impoverished tribal-dominated area in Udaipur district.³⁸

Dungarpur district lies in the tribal belt of southern Rajasthan bordering the state of Gujarat. The district is predominantly a scheduled tribe (ST) inhabited area; ST population constitutes about 65 per cent of the total as per the census of India 2001. Dungarpur has been placed at the bottom among 33 districts, evaluated for Education, health and Human Development Index (HDI) across the state. The tribal population of the district is under the grip of child malnutrition. A baseline survey on ICDS conducted in 2000 highlighted that in Dungarpur, around 48% children in the age group of 0-6 years, who received SN from ICDS were found to be under weight, including nearly 18% who were severely malnourished.³⁹ During 2002-2004, the percentage of underweight and severely underweight children has mounted up to 57% and 34.60% respectively. Hungama survey conducted recently noted the decline in the percentage of moderate and severely underweight children in the district by 16 points and 14 points respectively. However, despite of such improvements, the percentage of SAM children (8%) in the district is highest as compared to the other districts.⁴⁰



26 months old Deepak, was admitted in MTC on 18-03-2013 with 7 kg weight and MUAC- 114 mm. He was treated and got discharge on 2-03-2013 with 8.1kg and MUAC-117mm. Her mother is feeding Him regularly the diet provided by CECOEDECON and now his situation has improved. He started playing with his siblings and his MUAC has also increased by 4 points.

³⁷ Hindustan Times, April 07, 2012, Udaipur

<http://www.hindustantimes.com/India-news/Rajasthan/The-hunger-belt-of-South-Rajasthan/Article1-837113.aspx>

³⁸ Reported by an English daily newspaper "Pioneer" coated in Starvation deaths reported in Rajasthan, D-sector.org,

<http://www.d-sector.org/article-det.asp?id=1292>

³⁹ Baseline Survey for World Bank Assisted ICDS-III Project in Rajasthan - Indian Institute of Health Management Research, Jaipur, Rajasthan (2000), stated in Research on ICDS, An Overview, Volume 3, National Institute of Public Cooperation and Child Development.

⁴⁰ The Hungama Survey Report-2011

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The District Baran is known to have around 21% tribal population, largely the Sahariya tribes “the only primitive tribe of Rajasthan”. Kishanganj and Shahbad are the two blocks where concentration of Sahariya tribe is high as compared to the other blocks of the district. According to the food security atlas of rural Rajasthan 2010 released jointly by the Institute of Human Development and the United Nations World Food Programme (UNWFP), Baran is one of those food insecure districts, needing immediate intervention to improve the status and is also identified as high focused district on the basis of health and nutrition status of the district. The Sahariyas living in Baran came to national attention in 2002 because of several hunger deaths in the community followed by deaths in 2004 and 2009. Moreover the Sahariya Welfare Fund for the 11th Plan period, 2007-2012 meant to stop chronic malnutrition and hunger deaths among Rajasthan’s 90,000 Sahariya tribals could not stop Sahariya children dying of hunger-related causes in 2009 and thousands living with hunger today. The investigation done by Hindustan Times in 2011 revealed how over the years the funds were either not released by the Union government or not used in time by the state government. When some of the money was indeed used, the state diverted portions of it to construct homes or on other official needs.⁴¹

According to the 2001 census, the probability of a child dying before attaining the age of five was shocking 99 per 1000 children in the region. The household survey of 2002-04 revealed that more than 67 per cent of the children in the district were underweight; the phenomenon is acute in Kishanganj and Shahbad tehsils of the district that has a predominantly Sahariya population. Taking a note on the situation of malnutrition in the district the State govt. established MTC in the district (in 2006). Hungama survey done in 2011 highlighted that with reduction in percentage of severely underweight children from 35.32% in DLHS 2 to 13.55% in 2011, the prevalence of SAM children has also reduced in the district.⁴²

The town of Tonk is situated 60 miles (95 km) by road south from Jaipur. The poor urban wards in Tonk are mainly inhabited by Muslims. The Muslim population represents 32%⁴³ of the total Tonk population. The chronic poverty within the Tonk Muslim community is emphasized by very low social position of women: limited working opportunities, high illiteracy, early marriages and pregnancies. Tonk is one among the districts with low health index and low human development index.⁴⁴

⁴¹ Live Mint and the wall street journal, Tribals hungry as Congress-ruled Centre, Rajasthan squabble, published on November 03, 2011

⁴² Hungama Survey Report 2011

⁴³ National Census 2001.

⁴⁴ District Human Development Report 2009, Department of Planning, Government of Rajasthan and Institute of Development Studies, Jaipur

Findings of MTC's Assessment

1. Infrastructure

- *Adequacy of beds:* The MTC in Udaipur district is the only 6 bedded treatment center in the whole district. The medical officer acknowledge that the being the only center in the district the at times it becomes difficult to handle the load and they have to keep two children on one bed. The local organization Astha working with tribals, enlighten that almost 50-60% children are malnourished in the region; and no MTC has being established till date. Therefore, SAM cases are referred to Udaipur MTC located approximately 300 Km away from that area. The centre being distantly located, many parents refuse to take their children; therefore many children remain out of its coverage. As a consequence of scarcity of medical facilities and moreover lack of education, the inhuman practice of branding kids with hot iron rod is still existing in the tribal community to cure them.

In the district of Dungarpur, two MTC are running, one at CHC level and the other at district level. MTC at the district level was running in a small room with four beds in Shri Hari Dev Joshi General Hospital of the district. The situation was same as it was in Udaipur MTC, i.e. scarcity of beds. The medical officer reported that due to lack of space they can't put more beds in the center when required. On the other hand, the MTC running at CHC level, has adequate space and beds but was found non functional since. In charge of the Center acknowledge that the MTC is closed because of low admission rate. She reported that last child was admitted two months back i.e. March, 2013) and since then, a few minutes back one child is admitted and would be treated in the general pediatric ward due to lack of facilities as well as the unfriendly location of the center.

Baran district is equipped with 32 beds in 10 MTCs. The visited Baran and shahbad MTC, which is 20 bedded and 12 bedded respectively. Though the malnutrition level is high in the district, the number of beds is also highest among all the districts visited.

The Tonk district has 4 Malnutrition Treatment Centers in the district. The center visited was seven bedded center in the district hospital. The local NGO, CECOEDECON, working on Tonk MTC from long time, informed that the center remain packed with SAM except during festivals, marriages and harvesting periods, and they have to admit two children on one bed due to unavailability of beds in the center.

- *Availability of kitchen area:* As per operational guidelines by Ministry of Health and Family Welfare Kitchen and food storage area should be attached to ward, or partitioned in the ward, with enough space for cooking, feeding and demonstration. On visiting the MTCs the team found that there is no kitchen area attached to any of the center visited and the food is prepared in the common kitchen of the hospital. The medical officer or the nurse prescribe the daily requirement as per number of children and receive the food from the common kitchen, except in Baran where nutrition counselor is provided by UNICEF.

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- *Water and Sanitation:* The availability of safe drinking water and sanitation facility was assured by the hospital in all the centers visited. Mothers reported that the attached toilet and bathroom is well maintained by the hospital staff.
- *Correct weighing equipments:* The centre has appropriate digital weighing scale and Stadiometer to measure the standing height, except in Dungarpur district. Although availability of correct weighing scales comes under the basic minimum requirement of the MTC, the centers doesn't have weighing scales functioning properly, as reported by the incharge of the centers.

2. Human Resources

- *Availability of human resources:* All centers visited were equipped with the medical officer and the nursing staff to monitor the health of children. However, the centers were lacking in terms of nutritional counselor except Baran center. Though, the need of a cook is been fulfilled by the cooking staff in the hospital kitchen, but the need of a nutritional counsel is highly neglected in the centers. Due to unavailability of nutritional counsel, the role of planning the therapeutic diet for each child is carried out by the medical officer itself. All other function i.e. counseling mothers on various topics like nutrition and malnutrition, hygiene and sanitation, infant and young child feeding practices, immunization, family planning etc., detect the feeding problem in children and counsel mothers accordingly and also to demonstrate the preparation of low cost nutritious energy dense child food.

In Dungarpur, the scarcity of permanent staff is documented in the centers. The centers do have nurse and medical officer, but only for emergencies / when required and not for 24 hrs. The in-charge of the center puts out the scarcity of staff in the hospital due to which all staff members are over occupied with work and hence no fixed staff is available for the centre.

- *Availability of trained human resources:* Udaipur, Baran and Tonk centers functioning with trained staff. On the other hand, in Dunagrpur it was reported that the centers were equipped with non trained workers. The center in CHC level is functioning without a single trained worker and in the district level is functioning with the strength of 50% trained workers, who had received training few months back. The incharge officer reported that since two years the centre is running with untrained staff.

3. Record Keeping

- *Record of the admitted and discharge children:* The centers have maintained the record book to key track on the treatment of each SAM child admitted in the centre. The record available in Udaipur and Dungarpur MTCs showed that no child has referred from the AWC neither the follow-up visit following the discharge has happened. According to the medical officer, majority of SAM cases, except one or two, are referred from OPD. And only two or three children have come up for follow up in the last 10 months of his service in the center. He also reported that neither they have any record about the AWCs located in the community of the admitted children, nor do they contact or inform any child following the discharge. Consequently, the case fatalities are not documented

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till date. While the record available in the centers of Baran district showed that more than 86% and 50% of children has referred from the AWC in Shahbad and Baran MTC respectively and 40% are referred by local organization, CECOEDECON, during the last month. It is worth mentioning here that AWWs are becoming self efficient and active in detection and referral of SAM children in the district with the support of local organization working in the district.

In Tonk MTC records available in the centre showed that 30% of SAM cases are referred by AWCs and CECOEDECON and 40% are from OPD in the last month. The organization is supporting with AWWs in the referral process to bring maximum children to the center.

4. Other Services available

- *Counseling on appropriate feeding, care and hygiene:* As per operational guidelines, in addition to curative care, special focus is needs to be on improving the skills of mothers regarding the appropriate caring and feeding practice for the child. In addition, efforts should be made to build the capacity of mothers through counseling and support to identify the nutrition and health problems in their child. Since, the post of nutritional counselor is vacant in all the centers except Baran MTC, therefore the whole purpose of capacity building of mothers for identification and monitoring of malnutrition in children among children has vanished away. On inquiring, the mothers of the admitted children it was reported that no counseling session have been conducted so far. Consequently, the mothers have poor knowledge and understanding of malnutrition and its etiology.
- *Follow-up of discharged children:* The procedure of follow up of discharged children is missing from the entire model. Since few follow up and referral by AWC was recorded in the Udaipur and Dungarpur, which confirms the limited capacity for detection, referral and treatment of severe wasting and the lack of linkages between the services. While on the other hand in Baran and Tonk, though the rate of referral and follow up is not immense but is better than Udaipur and Dungarpur districts. The records available in the center showed that follow-ups are happening with the help of local organizations who are constantly monitoring the discharged children and bringing them for follow up visits. It is worth mentioning here that AWWs are becoming self efficient and active in detection and referral of SAM children in the Baran district with the support of ICICI Foundation, a local organization working in the district.

5. Key observation

- *Unfriendly atmosphere for Children:* While working in the field it has been observed that, MTCs are not child friendly. The beds provided in the centers do not have side rails to protect child from falling down. Play area or Toys were not available in the centers and the walls of the centers are not attractive and child friendly.
- *Mother's illiteracy:* It has been observed that the mothers of the admitted children are illiterate and do not posses knowledge regarding malnutrition and its treatment nor do they have any familiarity with the condition or

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improvement in the health of their children. Most of the mothers reported that they have not been to school ever.

- *Age of the mothers:* while interviewing the mothers of the admitted children, it was observed that none of them know their actual age. Most of them who know their age were below 20 years of age. Since early marriage resulting in early child birth is one of major reason resulting in low birth weight and weight of a new born determines the survival chances of the child and has long-term health, physical and psychological development. Therefore, children born to teenage mothers are at high risk of malnutrition and mortality.
- *Behavior of staff/doctors:* It has been observed that doctors are not sensitized towards the issue and severity of malnutrition. On inquiring that whether they contact any AWW or AWCs or do they have any record of AWCs located in the locality of admitted children or do they have the contact details of admitted children, they refused. It was observed that doctors or staff doesn't give any importance towards the counseling of mothers regarding the care and feeding practices of children. On inquiring parents, they reported that neither the doctor nor the staff nurses counsel them about the importance of nutritious food, cleanliness and clean drinking water for the child.

Annexure

Save the children

Recommendations for MTC/NRC functioning

Nearly half of India's children under 5 are chronically under-nourished due to poor diet and lack of nutrients in their food. Malnutrition stunts physical, mental and cognitive growth and makes children more susceptible to illnesses. Every year, thousands of mothers in India are losing their children to illnesses that are directly or indirectly linked to malnutrition, even though it is easily preventable. To fight this silent epidemic, Save the Children is working persistently to ensure that the most marginalized children have access to quality healthcare and nutrition. Here are some recommendations from Save the Children to strengthen the MTCs in Rajasthan.

Recommendation 1: Establish Child Friendly MTCs/NRCs

While working in the field it has been observed that, government has started the MTCs but the infrastructure and facilities are not up to the mark. MTCs are not child friendly. Parents do not want to admit their child in the MTC, as facilities are not adequate. Even toilets and washrooms are not available for the child as well as for the caregiver. The flooring is very hard. The beds provided are either kid's bed where mother cannot stay with the child as per the guideline, or the beds do not have side rails. Age appropriate and child friendly toys are not available at MTC. The walls are also not child friendly.

What are the essentials of creating Child-friendly Environment in the MTCs

- MTC staff to be sensitized on child friendly behaviour and communication
- Have special technical and interactive equipment available for servicing children.
- Separate toilet facility must be there for the kids along with kids friendly washbasin and children pot in the toilet.
- Caregiver/parents to stay with hospitalized children 24/7.
- Mother/caregiver to play with children to strengthen emotional bonding in a friendly environment
- There has to be a play area for children with child friendly toys
- Each and every corner of the MTC must be child friendly like door, chair, bed, bed sheet etc. and there should not be any sharp edged material lying in the ward
- The walls must be painted with bright colors, having images, learning material painted on it.
- There should be an activity calendar for mothers for 10 days where they are educated for care of a child.

Recommendation 2: MTC trained human resources needs to be deputed MTC/NRC

It has been observed that the Human resource is not provided as per Gol guideline. In Rajasthan, the general practice in MTC is placing any nursing staff for MTC whether trained or not, and many a times MTC trained nursing staff is doing duty elsewhere. As per guidelines, Nutrition counselor and Cook cum caretaker need to be placed in all MTCs. Government should recruit the staff as mentioned in the guideline. Or at least one Nutrition Counselor must be appointed at all District level MTCs. Government should recruit dedicated and trained nursing staff at MTC.

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All the MTC staff should be trained and their capacities are to be utilized at MTCs. MTC training module should have counseling and sensitization aspects. MTC module is to be translated in Hindi for the convenience of Nursing Staff

Recommendation 3: Strengthen Management Information System/ Data Management of NRCs/MTCs

As per our observation all the records are kept manually in the MTC. All the records are maintained in the registers. Data analysis is not done at facility level. There must be computerized reporting of the data. The report should be prepared on monthly basis and analysis of the report should be done at facility level too. Proper follow up mechanism should be planned for the reports.

Recommendation 4: Generating awareness of Government Guidelines and Support on MTC/NRC among general public and field level service providers

Though the Government and Non-Governmental Organizations are trying to improve the facilities at MTC but referral from the field is very less. Even the bed occupancy rate is also very low. The main reason behind this could be that the community is not aware about the problem of malnutrition. Frontline health workers don't want to refer any child to MTC due to fear of disciplinary action. Good IEC at AWCs and community level is required. Some job aids must be developed for front line health workers (FHW) for counseling of community. Areas with high risk of malnutrition, special IEC campaign should be launched. MCHN days could be a good platform for this activity. FHW must be aware about the criteria of referral and screening. Frontline health worker to be sensitized on referral of SAM children to MTCs and fear of disciplinary action on identification of SAM children needs to be removed at all possible forums.

The mechanism of counseling should strengthen at MTC so that mothers will take their children for follow up. A checklist should be prepared for counseling at MTCs. If the counselor is not available, nursing staff should counsel the mother or some reading material in Hindi should be placed in the counseling area.

Recommendation 5: Institutionalize system of follow up of discharged/LAMA cases by frontline Workers

A proper follow up mechanism is not developed by the Health and ICDS departments. The cases must be followed properly. It is suggested to strengthen convergence between health & ICDS in regard to discharge of SAM child and their follow up. All the follow ups should be recorded and analysis of the follow up should be done.

Recommendation 6: Strengthen administrative and management systems at MTCs/NRCs

The management of MTCs needs to be improved. All the circulars and guideline issued by the State government regarding the functioning of MTC has to be maintained at MTCs (Person responsible at State needs to send a folder of all presently applicable circulars to all the MTCs). These circulars will help new joiners /transferred staff for better know-how. State specific MTC guidelines should be prepared and shared with respective MTCs. Recurring cost and other cost- The In-charge of the facility should know the budget of the MTC. She/he must be aware about the utilization guideline of the MTC.

World vision

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Recommendations for MTC/NRC functioning

1. **Functioning and monitoring:** The MTC/NRCs in the State are not functioning properly, except in Baran, since it is the highly focused area by the Government of Rajasthan. The monitoring mechanism of MTCs needs to be improved. The operational guidelines of MTC issued by the State government regarding the functioning and monitoring of MTC needs to be strictly implemented in the State.
2. **Human Resources:** The unavailability of trained staff and nutrition counselor in MTC/NRC is also one of the major problems in the State. The trained staff particularly Nutritionist Counselor and pediatrician needs to be deputed as per guideline in the Centre.
3. **Non functional Kitchen:** Unavailability of the trained cook in the centers is resulting in the non functioning of the separate kitchen for the MTC/NRC. Consequently the food for the admitted children is cooked in the general kitchen by an untrained cook.
4. **Admission and Discharged Criteria:** AWWs do not possess clear understanding about the admission criteria for SAM children, which is resulting in poor referral from the AWWs. The discharge criterion as per the govt. guideline is needs to be followed properly and a proper follow up mechanism needs to be put in place. Strong convergence between health & ICDS in regard to admission, discharge and their follow up of SAM children needs to be established.

CECOEDECON's Recommendations for Effective functioning of the Malnutrition Treatment Centres

According to NFHS-3, about 9 million out of the estimated 19 million severely wasted children under-5 years of age in the world live in India. Over the years many measures have been taken to tackle this problem, but the situation has hardly changed, though the underlying factors for this high level of malnutrition have evolved. The indicators for the measurement of under-nutrition as well as the understanding of its causes are now well accepted but the previous view of under-nutrition (only due to lack of food) still influences policy considerations and decision making. Complementary feeding practices have been extremely poor. The timing, frequency, type and quality of Supplementary food have not been appropriate.

CECOEDECON has been working on Sever acute malnutrition for the last 3 years in tribal areas like Kishanganj Block in Baran District of Rajasthan and Khaknar Block of Burhanpur District of Madhya Pradesh. SAM children are detected from the project area by measuring MUAC (Mid Upper Arm Circumference) and weight and then referred to the MTC closest to the field area. These SAM children are also followed up during their treatment at the MTC and also after their discharge.

Malnutrition Treatment Centre (MTC) has been envisioned as a vehicle of treating severe acute malnutrition (SAM) in India. But has it been successful is the big question. There have been lot of issues regarding its implementation.

Some of the issues are as follows,

- Lack of staff in these facilities has been a major setback. Even if the staff is available, they are not adequately trained as per the guidelines to properly treat the SAM children admitted at the MTC. It

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has been found in some remote areas that Doctors are not willing to work even if higher salaries are proposed for them by the District Administration.

- Difference in criteria of the Anganwadi centres and MTCs for admission of SAM children. Some SAM children referred to MTC are rejected as they do not fall under the criteria for admission.
- MTCs are not child friendly. Poor hygiene and Sanitation in the MTCs is another important factor that doesn't draw families to admit their SAM children. There are no toilets and washrooms available for the child and caregiver. Even if they are available, they are maintained very poorly.
- Follow up mechanism of children discharged from the MTC is poor which increases the risk of children becoming SAM again.
- There is no proper awareness of the MTC services in the community because of which many people do not utilize the services
- Referral services are insufficient which makes the bed occupancy rate very poor.
- Data management at the MTCs is not proper. The entry of data is manual in the registers leaving scope for errors and gaps in its completeness.

Recommendations for MTC/NRC functioning

Some of the important recommendations for improving the services at the MTC and making them effective in treating SAM children are listed below,

1. Staff Recruitment and Training: Required number of positions should be filled at the MTC as per the guidelines. Only those staff who received proper training on the MTC guidelines and treatment of SAM children should be deputed rather than deputing any nurse without proper training. Special focus should be on identification of the nutritional status and quality and quantity of the diet to be given to SAM children. Such staff should be specifically oriented to be child friendly while providing the services. Staff should also be given refresher trainings from time to time so that they are abreast with any latest amendments in the guidelines as well as to improve their quality of care. Post of a Nutrition Counsellor has to be created at the MTCs.

2. Criteria for identifying SAM to be Uniform: The admission criterion of the SAM children at the MTC varies from the criteria of identification of SAM at the Anganwadi centres. Thus, many children referred to the MTC are rejected for admission. A uniform criterion has to be followed by both ICDS and MTCs for SAM admission. MUAC and weight for height can be made the criterion for SAM detection and admission. For this, the Anganwadi workers and ASHA have to be properly trained in using MUAC so that there are no rejections at the MTC. Thus, coordination between NRHM and ICDS has to be good for addressing SAM.

3. Proper Infrastructure and Hygiene to make MTCs child friendly: Infrastructure of the MTCs has to be maintained well with regular cleaning and sanitization. Flooring should not be very hard. Separate toilet facility should be there for children. Play area has to be created for children with toys. The walls should be painted with bright colours and images of animated characters. All the necessary charts and posters for awareness should be pasted at appropriate places for caretakers/parents to see. MTC staff should be oriented on child friendly behaviour and communication.

4. Computerised Data Maintenance and improving MIS: Data should be computerised. Reports must be prepared monthly and analysis of the data has to be done at the facility level. The feedback of the

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monthly reports has to be ensured every month for improving the quality of the reports. A part time data entry operator must be deputed for the maintaining the MIS.

5. Increasing the awareness of MTC services at the Village level: Community has to be sensitized on the issue of Malnutrition as most of them are unaware of this problem. IEC material like posters and wall writings and paintings are an effective medium of communication. Services of the MTCs can be painted on walls for people to see and understand. In areas where Malnutrition is rampant, Campaigns should be organised to spread awareness on MTC services.

6. System of Follow up of Discharged children by Frontline Health workers: A proper system of follow up of SAM children discharged from the MTC has to be established by both the Health and ICDS departments. As mentioned earlier a convergence between the departments is essential for the same. The frontline health workers ASHA and Anganwadi workers should be oriented on the same and a report of the follow up needs to be developed.

Finally, it has been experienced around the world that only 10% of the SAM children (with Medical complications) require facility based treatment while 90% of them can be treated at home through Community based Management of Acute Malnutrition (CMAM). Awareness on the care practices like Breast Feeding, Complementary Feeding, Diarrhoea management, etc are vital to address the problem of SAM and focus should be on the same for a sustainable solution to the issue of malnutrition in India.

List of respondents

- Chakoli Bai , Udaipur
- Rupi Bai, salumber block Udaipur
- Sohani, Sarada block Udaipur
- sanki bai, kumbalgarh, Rajsamand
- leela, chandesara Block Udaipur
- Savita, village Dabela, Dungarpur
- Rekha, varda, Dungarpur
- Hantop, Dungarpur
- kainhyalal, Karwarikurd, Baran
- Mangey Lal, Suwans, Baran
- Bundu, Hathiadeh, Baran
- Ramlakhan, Kandelakari, Baran
- Lakhan, Jagdevpura, Baran
- Dr Manish, Udaipur
- Asha Yadav, (ANM) Dungarpur
- Chetna Joshi, Dungarpur
- Dr. Gaurav Yadav, Dungarpur
- Shyam laal, Astha Udaipur
- Raghuvir, Astha
- Shyam ji, Cecoedecon
- Chanchlesh, Cecoedecon
- Manish Elvin, World Vision
- Priscilla, World Vision
- Neeraj Juneja, Save the Children
- Vivek Yadav, Save the Children
- Mathias Grossiord, Action Contre la Faim (ACF) India
- Pradeep Shrivathav, ICICI Foundation Baran

PAIRVI

Public Advocacy Initiatives for Rights and Values in India (PAIRVI) was formed in 1998 with the aim to strengthen advocacy skills of grassroots organizations working in North India and especially in the Hindi speaking belt. PAIRVI grew out of a strong belief that reducing the gap between public policy and aspirations of people is a pre requisite for democracy, and civil society organizations have a key role in putting forward the voice of people in the policy making.



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