



SNAP ASSESSMENT



# Malnutrition Treatment Centers

Jharkhand, September  
2013



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## **List of Abbreviations**

1. ANM: Auxiliary Nurse Midwife
2. AWC: Anganwadi Center
3. AWW: Anganwadi Workers
4. CMAM: Community based Management of Malnutrition.
5. DH: District Hospital
6. GHI: Global Hunger Index
7. ICDS: Integrated Child Development Scheme
8. MAM: Moderate Acute Malnutrition
9. MoHFW: Ministry of Health and Family Welfare
10. MDG: Millennium Development Goals
11. MTC: Malnutrition Treatment Center
12. NFHS: National Family Health Survey
13. NRC: Nutrition Rehabilitation Center
14. NRHM: National Rural Health Mission
15. PDS: Public Distribution System
16. RUTF: Ready to Use Therapeutic Food
17. SAM: Severe Acute Malnutrition
18. UNICEF: United Nations Children Fund
19. WHO: World Health Organization

## **ACKNOWLEDGEMENTS**

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Most importantly, our thanks are due to those mothers who shared their stories with us.

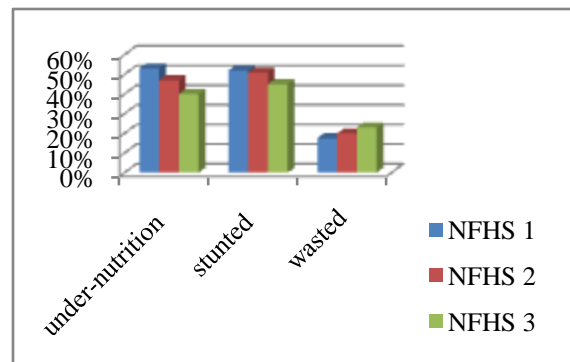
## BACKGROUND

Worldwide, in 2011, one in four children (26%, 165 million) was estimated to be stunted, whereas one in six (16%, 101 million) was underweight, and one in 12 (8%, 52 million) was wasted (UNICEF, WHO & World Bank, 2012). Nearly 20 million children suffer from severe acute malnutrition, which is a life-threatening condition requiring urgent treatment (WHO et al., 2007). Malnutrition is an impediment to the progress towards achieving Millennium Development Goals 1 (Eradicate extreme poverty and hunger), 2 (Achieve universal primary education), 3 (Promote gender equality and empower women), 4 (Reduce child mortality), 5 (Improve maternal health) and 6 (Combat HIV/AIDS, malaria and other diseases).<sup>1</sup>

### Child Malnutrition in India

India is home to 40 percent of the world's malnourished children and 35 percent of the developing world's low-birth-weight infants; every year 2.5 million children die in India, accounting for one in five deaths in the world. More than half of these deaths could be prevented if children were well nourished. India's progress in reducing child malnutrition has been slow. The prevalence of child malnutrition in India deviates further from the expected level at the country's per capita income than in any other large developing country.<sup>2</sup> India along with The Democratic Republic of Congo and Yemen show the weakest performance, with frail commitments and frail outcomes in the Nutrition Barometer 2012.<sup>3</sup> Nutrition Barometer looks at national governments' commitments to improve the nutritional status of children, and the progress they have made in 36 developing countries with high levels of under nutrition. The 2011 Global Hunger Index (GHI) developed by IFPRI ranked India 97<sup>th</sup> among 118 countries, far behind Brazil, China and Thailand. The GHI captures three dimensions of hunger a) the non availability of sufficient food b) child malnutrition and child mortality. Nearly two-thirds of India's alarmingly high GHI score is attributable to its high child malnutrition rate.<sup>4</sup> India ranks 117th of 119 countries on child malnutrition right before Bangladesh and Nepal and after countries such as Sudan, Cambodia, and Ethiopia. Prime Minister Dr. Manmohan Singh, in 2011 termed the high incidence of malnutrition among children a matter of national shame.

Graph 1 showing Malnutrition trends in India from three rounds of NFHS. (Source: NFHS)



### The Challenge: Accelerating Progress in Reducing Child Malnutrition in India<sup>5</sup>

To accelerate progress in reducing child malnutrition in India, the most urgent policy changes include expanding the scale, improving the targeting, and strengthening the implementation of existing programs and policies; building analytical and monitoring capacity; and ensuring that programs and policies are effectively pro-poor and pro-nutrition and that they focus on improving women's status. Special attention is needed in the states that carry the highest burden of child malnutrition. India has many nutrition and

<sup>1</sup> Comprehensive implementation plan on maternal, infant and young child nutrition, promoted by The Sixty Fifth Assembly World Health Assembly

<sup>2</sup> International Food Policy Research Institute. Accelerating Progress Towards reducing Child Malnutrition in India, Joachim von Braun et al, January 2008

<sup>3</sup> Save the Children Fund and World Vision International, Nutrition Barometer: Gauging National Responses to Undernutrition, 2012

<sup>4</sup> IFPRI, Concern Worldwide and Welthungerhilfe and Green Scenery, Global Hunger Index, October 2012

<sup>5</sup> International Food Policy Research Institute, Accelerating Progress Towards reducing Child Malnutrition in India, Joachim von Braun et al, January 2008

social safety net programs, some of which have had success in several states in addressing the needs of poor households. These programs include

- Integrated Child Development Services (ICDS);
- Mid-Day Meals Program;
- Public Distribution System (PDS);
- MNREGA; and
- National Old-Age Pension Program
- Annapurna Program.

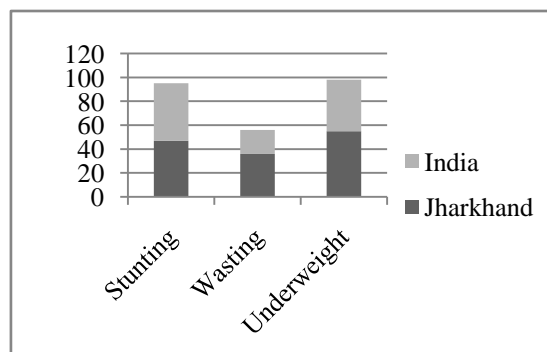
All of these programs have potential, but they do not form a comprehensive nutrition strategy, and they have not addressed the nutrition problem effectively so far. For example, several evaluations of ICDS have shown it to have low coverage, poor targeting, and little impact on reducing child malnutrition. Similarly, the PDS's poor targeting has been documented. Furthermore, the different programs are often poorly integrated, with some households receiving benefits from a number of sources and others remaining excluded. Stronger programs and better coordination among them would increase their efficiency and effectiveness. Although these programs absorb substantial public funds, India's level of public investment in nutrition is far below that of other developing countries. Thus there seem to be three problems that call for action: scale, design, and implementation. India needs greater accountability at all levels—not only for programs, but also for nutritional improvement in general.

While aggregate levels of malnutrition in India are alarmingly high, there are significant inequalities across states and socio-economic groups with girls, rural areas, the poorest people, and scheduled tribes and castes being the worst affected. Six states- Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan, and Uttar Pradesh-account for over half of India's malnutrition cases.<sup>6</sup>

### Jharkhand: A high burden state

Jharkhand with unacceptable levels of undernutrition, higher the national average, is one of the most vulnerable and high burden states in India. Out of 24 districts in Jharkhand, 6 districts figure among '200 worst Child Nutritional Districts' (World Bank 2007). As per the India State Hunger Index (ISHI 2008) Jharkhand stands the 16th rank in the state hunger index ranking (second last in the studied 17 states). The proportion of underweight among children <5 years in Jharkhand is 57.1% which is alarmingly high. The severity of hunger index for the state is 28.67 which come under alarming category.<sup>7</sup> The HUNGaMA report 2011 has surveyed 13,310 children in 14 districts of the state to understand the level of malnutrition in the state. The report highlights the high level of malnutrition in the state. The districts Chatra, Deoghar, Dumka, Garhwa, Giridih, Godda, Gumla, Kodarma, Lohardaga, Pakaur, Palamu, Pashchimi Singhbhum, and Sahibganj covered under the HUNGaMA study showed high levels of undernutrition. In many of these districts, the level of acute malnutrition exceeds globally accepted WHO emergency threshold of 15%.<sup>8</sup>

Graph 1: Showing the percentage of undernutrition among children below 3 years in Jharkhand vs. the national average (Source: NFHS 3)



<sup>6</sup> Source: NFHS 3

<sup>7</sup> India State Hunger Index, 2008.

<sup>8</sup> Source: Sphere India and Welthungerhilfe

In a survey conducted by World Vision India in 2012 in eight urban slums in Ranchi, out of 32213 children surveyed 26.3% children were identified as SAM, 22.3% as MAM and 26.4% were mildly malnourished.<sup>9</sup>

Malnutrition in India, as in other developing countries, results from a series of interrelated factors rooted in poverty, including a lack of access to food, health care, safe water, sanitation services, and appropriate child feeding and caring practices. These interrelated factors are in turn exacerbated by poor households' and communities' lack of access to human, financial, social, natural, and physical capital, combined with social discrimination, lack of education, and gender inequality.<sup>10</sup> A set of six papers published in the Economic and Political weekly in August 2013 provide evidence to explain that the high rates of childhood stunting in India are due to a perfect storm of risks and deprivations on children and women comprising: poor infant feeding practices, very poor diets in infancy and early childhood, poor access to and use of sanitation facilities, early marriage and early pregnancy, and the poor nutritional, health and social status of women.<sup>11</sup> Realizing the significance of this interconnectedness, IHD and UNFPA developed a food insecurity outcome index and a food security index<sup>12</sup> of different districts of Jharkhand. The food insecurity outcome index was prepared by ranking the districts on two indicators of undernutrition in children and child mortality, whereas the food security index was a combined index of three important indices of availability, access and absorption of food, the values of which were obtained by ranking the districts on various social, economic, health, and education indicators. It was found that the districts ranking low on the food insecurity outcome index are also placed low on the food security index further strengthening the interconnectedness between undernutrition and the various factors affecting the high incidence of it.

Graph 2: Showing the trend of undernutrition among children below 3 years from NFHS 2 to NFHS 3

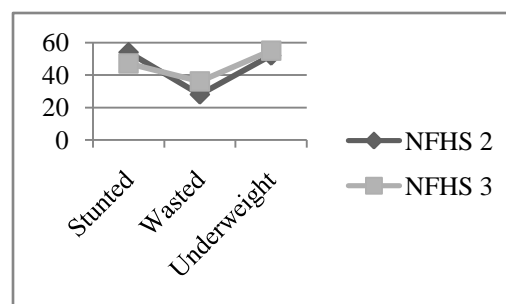


Table 1: showing ranks of districts on composite the food insecurity outcome index and food security index of districts of Jharkhand.

District	Food Security Index		Food Security Outcome Index	
	Index	Rank	Index	Rank
Bokaro	0.344	8	0.684	1
Chatra	0.282	18	0.458	13
Deogarh	0.344	9	0.601	5
Dhanbad	0.444	1	0.634	2
Dumka	0.371	3	0.491	11
Garwha	0.323	14	0.344	18
Giridih	0.300	16	0.480	12
Godda	0.372	2	0.534	7
Gumla	0.321	15	0.434	16
Hazaribagh	0.366	4	0.576	6
Koderma	0.365	5	0.491	10

<sup>9</sup> World Vision India

<sup>10</sup> IFPRI

<sup>11</sup> Economic and Political weekly

<sup>12</sup> Food Security Atlas of Jharkhand, 2008



Lohardaga	0.323	13	0.532	8
Pakur	0.333	10	0.505	9
Palamu	0.333	11	0.458	14
Paschimi Singhbhum	0.326	12	0.449	15
Purbi Singhbhum	0.299	17	0.619	3
Ranchi	0.361	6	0.613	4
Sahibganj	0.347	7	0.411	17

IHD and UNWFP through food insecurity outcome index and food security index have identified those districts that are placed extremely low both on the food security outcome index and food security index as high priority districts. It is expected that districts that have very high rates of child undernutrition and mortality and at the same time rank poorly in terms of availability, access and absorption should be identified as districts requiring topmost attention of development planners.

Table 2 showing the FSO and FSI ranks of the high priority districts

District	FSO Rank	FSI Rank
Garwha	18	14
Gumla	16	15
Chatra	13	18
Giridh	12	16
Paschimi Singhbhum	15	12
Palamu	14	11
Sahibganj	17	7
Lohardaga	8	3

### Government Initiatives

In the backdrop of rising global concern on malnutrition, its importance in achieving MDG's and high incidence of malnutrition in Jharkhand, the GoI and State Government of Jharkhand have responded with increased efforts to address malnutrition. However, the CSO's working for nutrition and food security and Supreme Court food commissioner to Jharkhand Mr. Balram Jo believe that lack of political will and commitment to address the issue is responsible in extremely slow rate of progress. Jharkhand is one of the eight states selected for intensive implementation under the ICDS-IV project under the 12<sup>th</sup> five year plan. Mid Day Meal Scheme which was launched in Jharkhand in Nov. 2003 on a pilot basis in 3140 Government Primary schools in 19 districts, is now covering all the districts in Jharkhand with an increased coverage of schools. Government of Jharkhand in association with UNICEF started a programme called the Dular strategy (2010) in some selective districts of Jharkhand. The Dular programme trains thousands of volunteer village women, called LRP (local resource people), to teach new mothers about the benefits of proper breastfeeding. These volunteers also help local anganwadi or female childcare workers to provide information on health and nutrition for older children and mothers.<sup>13</sup> In a recent attempt to address malnutrition in Jharkhand, the state government announced the launch of Jeevan Asha scheme in February 2013. The scheme aims to identify, train a select group of staff, sensitize the community about the problem, provide food and therapy and monitor the scheme case- wise at ground

<sup>13</sup> Food and Nutrition Bulletin, Intensifying efforts to reduce child malnutrition in India: An evaluation of the Dular program in Jharkhand, Tamara Dubowitz et. al, vol. 28, no. 3, 2007



zero. Toward this end, nearly one lakh Anganwadi workers are planned to be trained for carrying out door to door survey in every village of Jharkhand. After the SAM child was brought out from the danger zone, the parent will be handed over a cash of Rs 1500 per month provided the health of this child showed improvement visibly confirming that the mother/father/relative had taken care and utilized the money during the period.<sup>14</sup> The CSOs working on the issue in Jharkhand are divided on the distribution of RUTF<sup>15</sup> as one of the preventive measures in the scheme. RUTF is a solution to severe acute malnutrition, in specific circumstances. But it is not, as now seems to be suggested, the solution to malnutrition overall. Following are the major problems with RUTF, the way it is being used and promoted now<sup>16</sup>:

1. Commercially produced RUTF, bought and distributed by UN agencies and non-governmental aid organizations, is a totally unaffordable option for most people who live in poverty.
2. The promotion of RUTF may undermine breastfeeding: both exclusive breastfeeding, up to 6 months of age, and sustained breastfeeding, for children of 6-24+ months of age,
3. The promotion of RUTF is now medicalising and commercializing the prevention of malnutrition, which is better achieved by local measures to improve food intakes, health services and child care.
4. It is unrealistic and even irresponsible, to suggest that RUTF could be provided worldwide to the very many millions of children identified as having mild malnutrition or chronic hunger.
5. There are as yet no universally agreed upon guidelines for the use of RUTF.

A pilot project of C-MAM with distribution of RUTF has been initiated by the government of Jharkhand in a Gram Panchayat in Mandar block of Ranchi; however, in the absence of a control group promoting the use of locally available nutritious food and concerns about RUTF in the preventive framework, there is no consensus among CSOs about the effectiveness of the programme. (as shared by Mr. Balram Jo)

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<sup>14</sup> <http://www.jharkhandstatenews.com/malnourished-children-in-jharkhand-get-hope-of-life-scheme-jeevan-asha/#.U160ZbdSmx4>

<sup>15</sup> ‘Ready-to-use therapeutic food’ is a term that could be used generically to refer to any food known or reliably believed to have special benefits as therapy, in particular in cases of severe acute undernutrition. However, as now used, the term refers to a nutrient-dense and energy-dense peanut-based paste originally designed primarily for the treatment of severe acute malnutrition in young children. It can be consumed directly by the child, and does not need to be mixed with water. Any child consuming RUTF will, however, need water in addition. It can be stored for three to four months without refrigeration, even at tropical temperatures. (Source: World Nutrition, Journal of the World Public Health Nutrition)

<sup>16</sup> World Nutrition. Journal of the World Public Health Nutrition Association. [www.wphna.org](http://www.wphna.org) Volume 2, Number 2, February 2010

## INTRODUCTION

### **Understanding Malnutrition<sup>17</sup>**

Malnutrition is a general term. It most often refers to undernutrition 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 undernutrition 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.

The three commonly used anthropometric indices to measure nutritional status are:

- Weight-For-Age (known as underweight)
- Length-For-Age or Height-For-Age (known as Wasting)
- Weight-For-Length or Weight-For-Height (known as stunting)

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. Stunting is an indicator of linear growth retardation that results from failure to receive adequate nutrition over a long period or recurrent infections. It may be exacerbated by recurrent and chronic illness. It is an indicator of past growth failure. It is associated with a number of long-term factors including chronic insufficient nutrient intake, frequent infection, sustained inappropriate feeding practices and poverty. Wasting represents a recent failure to receive adequate nutrition and may be affected by recent episodes of diarrhoea and other acute illnesses. Wasting indicates current or acute malnutrition resulting from failure to gain weight or actual weight loss. Causes include inadequate food intake, incorrect feeding practices, disease, and infection or, more frequently, a combination of these factors. Each of the three nutrition indicators is expressed in standard deviation units (Z-scores) from the median of the reference population based on which undernutrition may be further classified as moderate or severe. If the Z scores on the respective anthropometric measures are below -2SD, the child is classified as underweight or suffering from stunting or wasting.

### **Inpatient treatment of severe acute malnutrition<sup>18</sup>**

Severe acute malnutrition is defined by a very low weight for height (below -3z scores of the median WHO growth standards), by visible severe wasting, or by the presence of nutritional oedema. It afflicts an estimated 8.1 million under-five children in India. Nearly 0.6 million deaths and 24.6 million DALYs (disability adjusted life years) are attributed to this condition. Although the median under-five case-fatality rate for severe acute malnutrition typically ranges from 30% to 50%, it can be reduced substantially when physiological and metabolic changes are taken into account. Management of severe acute malnutrition according to WHO guidelines reduced the case-fatality rate by 55% in hospital settings and recent studies suggest that commodities such as ready-to-use therapeutic foods can be used to manage severe acute malnutrition in community settings. Severe acute malnutrition is a major public health issue.

### **Nutrition Rehabilitation Center<sup>19</sup>**

(NRC) is a unit in a health facility where children with Severe Acute Malnutrition (SAM) are admitted and managed. Children are admitted as per the defined admission criteria and provided with medical and

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<sup>17</sup> National Operational Guidelines for the Facility Based Management of SAM, MoHFW, 2011

<sup>18</sup> <http://www.who.int/nutrition/topics/malnutrition/en/>

<sup>19</sup> National Operational Guidelines on the Facility Based Management of SAM, MoHFW, 2011

nutritional therapeutic care. Once discharged from the NRC, the child continues to be in the Nutrition Rehabilitation program till she/he attains the defined discharge criteria from the program (described in technical guidelines).

Objectives of facility based management of SAM:

1. To provide clinical management and reduce mortality among children with severe acute malnutrition, particularly among those with medical complications.
2. To promote physical and psychosocial growth of children with severe acute malnutrition (SAM).
3. To build the capacity of mothers and other care givers in appropriate feeding and caring practices for infants and young children
4. To identify the social factors that contributed to the child slipping into severe acute malnutrition.

Following services are provided at the facility

1. 24 hour care and monitoring of the child.
2. Treatment of medical complications.
3. Therapeutic feeding.
4. Providing sensory stimulation and emotional care.
5. Social assessment of the family to identify and address contributing factors.
6. Counseling on appropriate feeding, care and hygiene.
7. Demonstration and practice- by -doing on the preparation of energy dense child foods using locally available, culturally acceptable and affordable food items.
8. Follow up of children discharged from the facility

**Nutrition Rehabilitation Centers in Jharkhand<sup>20</sup>:**

It should be noted that NRCs are known as Malnutrition Treatment Centres in Jharkhand. As per the NFHS 2005-06, nearly 35 percent of total children in the state –roughly 45,000 -were malnourished. Among them 55 percent were identified as SAM.<sup>21</sup> To combat malnutrition NRHM (National Rural Health Mission Jharkhand had a vision for Management of Severe malnourished Children in state which was envisaged in 2008 using WHO standards, based on Hospital/Facility Based Management. Services provided in MTCs include: medical care, feeding therapeutic diet, micronutrient supplementation, counselling on infant and young child nutrition.

The state initiated seven units of Malnutrition Nutrition Centers (MTC) in four districts - Ranchi, East Singhbhum, West Singhbhum and Garhwa in the year 2009. Observing the success of these units, the state replicated and operationalised MTCs all over the state by 2010. Keeping in view the heavy load of malnourished children, the number of beds was increased in some of the units to ten to fifteen extra beds. Malnutrition Treatment Centers (MTCs) target severe acute malnourished children of the state through hospital based management. It is planned to set up MTCs in every district hospital and tribal area to cover all the Severely Acute Malnourished children from the present level of 96 MTCs.

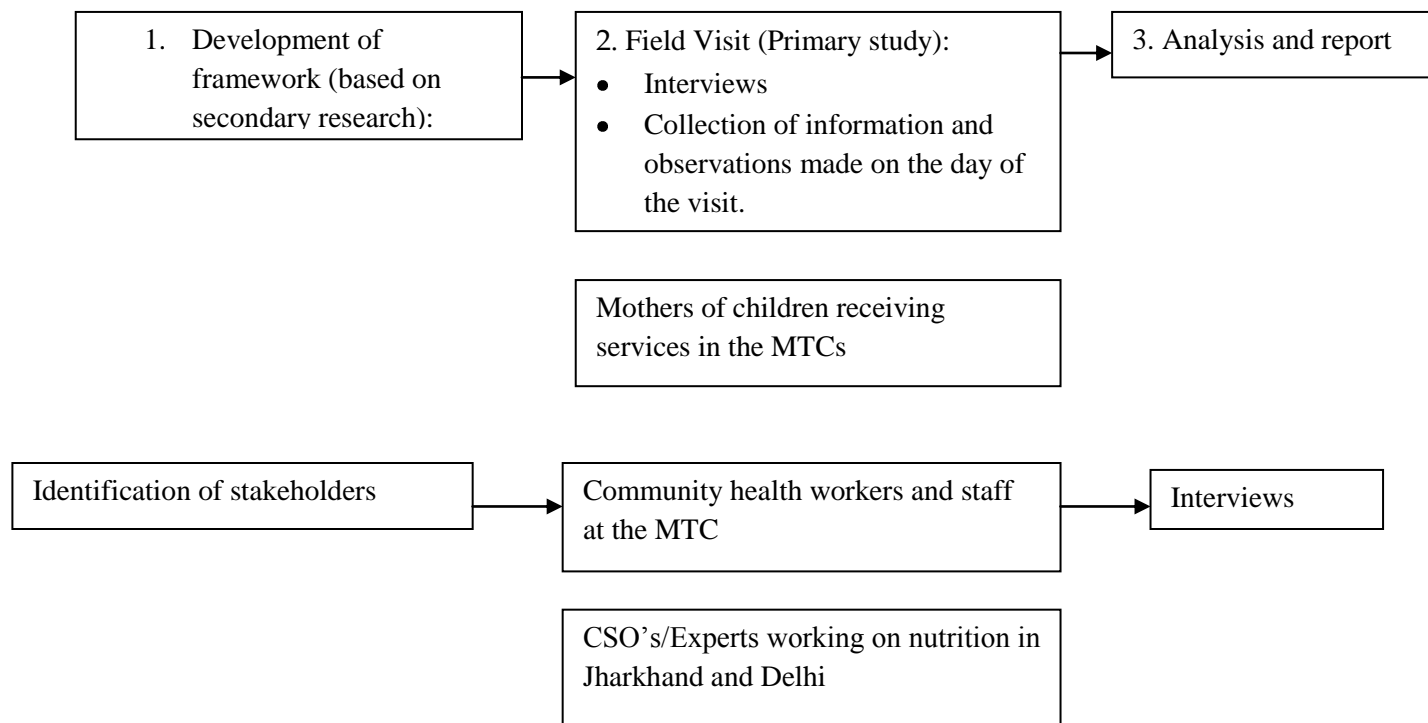
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<sup>20</sup> Jharkhand State Guidelines for the functioning of Malnutrition Treatment Centers

<sup>21</sup> Soucre:UNICEF

## PROCESS AND METHODOLOGY OF THE STUDY

The exercise entailed the following process:



**Preparation of framework:** The purpose of preparing a framework was to have a set of standards against which the assessment could be conducted and information could be collected. The making of framework involved the following:

- Indicators from the National Operational Guidelines by MoHFW, 2011
- Jharkhand state guidelines and various other notifications issued by the various state government departments with respect to the functioning of MTCs
- Various other literature related to standard facilities for children were referred
- Experts working in the field of malnutrition were interviewed to understand various dimensions of the programme.
- The framework is essentially a set of standards for the facility based management of children with SAM. It involves various dimensions – a) Location and infrastructure b) Human resource and training C) Process and Protocol.

**Field Visit:** Following eight MTCS were visited in five districts of Ranchi to collect information against the indicators in the framework

Doranda (Ranchi), Mandar (Ranchi), Khunti (Sadar), Gola (Ramgarh), Gumla (Sadar), Reidh (Gumla), Bhandra (Lohardaga), Kuru (Lohardaga)

## KEY OBSERVATIONS

1. The MCP card of children receiving treatment at the MTC did not have any record of their growth monitoring. The mothers informed that weighing is not a monthly feature at AWCs and even if the weight is taken, it is not reported in the MCP card. The mothers are often not informed of their child's weight or its implication. It is only when the children are referred to the MTCs that the mothers are informed that their child is '*kamjor*'. Experts working in the field of nutrition and food security are of the view that growth monitoring and identification of growth faltering are the most important yet much neglected area in addressing malnutrition. The mothers opinionated that since the distribution of THR, immunization and growth monitoring happens on the same day, AWW and ASHA workers do not have time for individual attention or counseling.
2. Accessibility: The MTCs were attached to a CHC (block level) or DH (District headquarters), with each MTC covering 2-3 surrounding blocks. Lack of good connectivity and poor transportation makes the access to MTCs extremely difficult. There is lack of awareness among parents, community health workers. Social sanctions of sending the female alone to the block or district hospital also hindered the accessibility to MTCs.
3. In the absence of specialized human resources<sup>22</sup>, the mothers attending the centers had limited knowledge regarding the basic concepts of nutrition, the Government Health Programmes on nutrition and the composition and preparation of therapeutic feeds at the centers. In many of the MTCs, children below two years who are required to be breast feed at regular intervals were accompanied by their grandmothers or an elder sibling/cousin during the day as the mother either had to look after other children at home or they had to go for work and could not afford to lose their wages.<sup>23</sup>
4. None of the centers were engaging children in a structured play or providing stimulation for social and emotional development of children, as the staff was preoccupied with preparing therapeutic feed and administering medicines.
5. Though all the MTCs visited promoted a child friendly environment by sporting painted cartoons and animals on the walls in the patient area and using cartoon print bed sheets, the lack of adequate infrastructure failed to give a child friendly environment to the place. For instance, the ventilation was insufficient in some MTCs, the patient area had closely placed beds with no space to move around, and the buildings in some MTC s were dilapidated with leaky roof and damaged floors.
6. The lack of a separate play area or a recreational space forced children to play in hospital corridors among out-patients, in the open with mud where the MTC was situated on ground floor while at some centers they played on the terrace without any supervision from the staff. Similarly, the mothers spent their free time sitting in the corridor or out in the open as there was no other space where they could sit and relax.
7. At a time when children are more susceptible to infections and diseases, many of the MTCs did not have a functional water purifier. In an MTC Bhandra (Lohardega) where the water purifier was not functional, a chappakal and well in the health facility compound were the source of drinking water.

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<sup>22</sup> National Operational guidelines for the Facility Based Management of SAM by MoHFW mandates that a MTC should have a MO –in-charge (an MBBS doctor from the health facility), nurses, nutrition counselor, medical social worker, cook cum attendant.

<sup>23</sup> Mothers are specifically kept at the centers so that they can be integrated into the effective care of the children and are taught the preparation of the therapeutic diets from locally available material. Surprisingly, this aspect is often ignored at the centers and much attention is paid to the improvement in nutritional status of the children, which is essentially considered to be the criteria of the success of the programme

8. Most of the MTCs did not have a pediatric doctor and/or a pediatric ward. The MO in-charge of the MTCs, who is supposed to examine each child every day<sup>24</sup>, did not pay a visit to the MTC regularly.
9. Follow-up: The turnout for follow-up was extremely poor, increasing dropout rates were observed with each successive follow-up. The low compliance during visits limits the overall success of the programme. In of the MTCs in Lohardega, the nurse on duty shared that even first follow-up visit was not taking place from past couple of months. The staff at the NRC attributed the poor compliance for follow-up to poor accessibility and lack of travel reimbursement.
10. The discharge details of children were not being communicated to respective AWW's or ASHA's as the MTCs did not have a resource directory of AWCs, raising concerns on follow-up.
11. An important area of debate is the amount of reimbursement paid to the mothers during their stay at the centers to compensate their wage loss. The present amount of Rs. 100 per day is much less as compared to the minimum daily wages presently paid through the labour schemes of Government of India. An important point to be made here is that most of the reimbursement money is exhausted in buying food for the caretaker and covering the travelling cost to MTCs.
12. It was observed that the number of girl children receiving in-patient treatment in MTCs was more than the number of boys, drawing attention the trend that girls are at disadvantage since an early age. Hence, requiring an early intervention to break away from the intergenerational cycle of malnutrition.
13. Children who are denied admission to NRCs because they are in I or II grade of malnutrition do not have access to any services that would prevent them from getting worse. The experts working on the issue in Jharkhand and India believe that without sufficient preventive measures in place, it is almost as if we are waiting for the child to fall into SAM to intervene.
14. Programme implementation is not well coordinated among different actors involved (MoHFW and Ministry of Women and Child Development) – this is evident in the institutional differences in screening, referral, and follow-up. (Please find a detailed analysis of the same in the next section of the report)
15. During interaction with mothers in various MTCs it was learnt that most of the children were born underweight<sup>25</sup>. Most of the mothers interacted were married at the age of 16-17 years and gave birth to the first child at the age of 18-19 years.
16. It should be noted that as a facility for in-patient treatment of children, the training of the staff in facility based management leaves out an orientation on child protection. Also, there was no child protection policy in place.

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<sup>24</sup> MoHFW, 2011, National Operational guidelines for the Facility Based Management of SAM

<sup>25</sup> realizing the birth weight as one of the global challenges to nutrition , The Sixty Fifth World Health Assembly has set 30% reduction of low birth weight by 2025 as one of global targets in comprehensive implementation plan on maternal, infant and young child nutrition

## ANALYSIS OF NATIONAL GUIDELINES: Inherent issues

The guideline says	Gaps
<p><b>Screening</b></p> <p><b>Who?</b> Frontline community workers (ASHA, AWW and ANM) have been given the responsibility of identifying SAM children.</p> <p><b>How?</b> <b>Active screening</b> at village level by AWW/ASHA through house to house visit with MUAC tape for all children (6 – 59 months) and looking for presence/absence of bilateral pitting edema. <b>Passive screening</b> during Growth Monitoring/Village Health and Nutrition Days (VHND) using MUAC for all children (6–59 months) and looking for presence/absence of bilateral pitting edema.</p>	<p>The guidelines leave out weight to height as one of the screening criteria at the village level. In a paper titled "Falling between two tools: operational differences in ICDS and NRHM, the researcher's make valid observations on screening and intake criteria as specified in the national guidelines. In practice, weight for age is used as screening criteria at AWCs. The data analyzed by the researchers' show that weight for age is simply not a sensitive enough test for identifying SAM.</p>
<p><b>Referral</b></p> <p>Once identified, these children with SAM need further assessment to determine if they require referral to health facility and facility based care or whether they can be managed at community level with visits as outpatients to a health centre or facility.</p>	<p>The guidelines do not identify the person responsible for carrying out such an assessment. Moreover, there is ambiguity on the process of establishing medical complications. There are no mechanisms for community based management of SAM children without medical complications.</p>
<p><b>Discharge</b></p> <p>Discharge criterion for all infants and children is 15 % weight gain and no signs of illness. This should be achieved through facility based care in NRC when community based programme is not in place.</p>	<p>There is a major concern with discharge criteria. 15% weight gain does not necessarily mean WFH &lt;-3SD.</p>
<p><b>Follow-up</b></p> <p>At the community level: AWW (and ANM) to conduct follow-up assessment and monitoring of growth and development during VHNDs till child recovers completely (All SAM children should be followed up by health providers in the program till s/he reaches weight for height of -1SD)</p>	<p>The ANM and AWWs as part of the growth monitoring component of ICDS measure weight for age, not weight for height.</p>



## FINDINGS AND ANALYSIS

### 1. LOCATION AND INFRASTRUCTURE

Location and infrastructure are important factors in a facility which caters to the facility based treatment of severe acute malnourished children. Design of the building, ventilation, adequate lighting, cleanliness, availability of separate play area for children, cheerful environment are important in order to make malnutrition treatment center a safe and child friendly space.

#### Findings and analysis:

It must be noted that as the MTCs had to be located in an existing health facility, they were accommodated in already inadequate space of a PHC/CHC/ District hospital and did not meet the specifications laid out in the Operational Guidelines on Facility based Management of Children with SAM issued by Ministry of Health and Family Welfare, 2011.

Table 3 showing the sanctioned no of beds in the MTCs vs. no of beds occupied, location and total no of MTCs in the districts visited

MTC Name	Sanctioned No. of beds	No of beds Occupied (at the time of visit)	No. of MTC's in the district	Location***
Doranda (Ranchi)	16	7	3	PHC
Mandar (Ranchi)	10	7	3	CHC
Sadar (Khunti)	5	5	3	DH
Gola (Ramgarh)	5	2	2	CHC
Sadar (Gumla)	16*	10	2	DH
Reidh (Gumla)	15	10	3	CHC
Bhandra (Lohardega)	5	5	3	CHC
Kuru (Lohardega)	5**	3	3	CHC

\*Due to lack of space, only 14 beds were available

\*\* One room of the patient area was no functional. 4 beds were adjusted in one room, reducing the capacity further.

\*\*\* National guidelines recommend one NRC of about 20 beds at the district hospital; supplemented with about 4 NRCs of 10 beds each at FRUs/CHCs/sub-divisional hospitals need to be set up for managing the expected number of children with SAM.

1. The lack of adequate infrastructure that was not designed primarily for a facility to cater to in-patient treatment of SAM children, failed to create a child friendly and cheerful space.
2. The space for patient area was not sufficient to meet the accommodation needs of children.
3. There was no separate play and counseling area in any of the MTCs visited. In MTC – at Lohardega, a verandah that could have been optimized as play area for children was being used as a parking space for CHC staff.
4. There were no separate toilets and bathrooms for adults (mothers and staff) and children. In MTC at Khunti (Sadar), children and mother had to walk through out-patient area to go the bathroom and toilet which was located in one end of the corridor.<sup>26</sup>

<sup>26</sup> The guidelines recommend two separate attached toilets and bathrooms for children and adults (mothers and staff).

5. Kitchens did not have sufficient space for food storage area, feeding and demonstration of feed preparation.
6. The beds in the MTCs did not have any side support to prevent children from falling off.
7. Due to lack of a separate counseling area, growth chart and other IEC materials were on display either in the nurse station or the patient area. It should be noted that many mothers were not literate and cannot read IEC material even if they are in Hindi.
8. Civil work: Some of the MTCs lacked adequate ventilation with no power back up, while some MTCs were running in a dilapidated building with broken ceiling causing water leakage when it rained which further resulted in damaged walls. One of the MTCs in Lohardega had to be shut down for a couple of days in August due to incessant rains and water leakage.
9. Safety arrangements were limited to the boundary wall of the health care facility. There was no security guard at the entrance of the health facility or at the hospital entrance or at MTC entrance (where the MTCs were functioning from a separate building area within a health facility compound).  
*Last month four mothers left the MTC without informing anybody while we were busy preparing therapeutic feed in the kitchen.*  
- One of the nurses on duty at MTC Gumla (Sadar).
10. The emergency helpline numbers were not displayed at a conspicuous location. There were no provisions in the infrastructure that support a disaster plan/ response, which itself is non-existent.

#### Recommendations:

1. The infrastructure should not be compromised and rationalized. An existing space in a health facility can be made use for MTC only if there is commitment and financial resources available to renovate and refurnish the place according to minimum standards laid in the guidelines.
2. Separate toilet and bathroom facility for mothers and children should be immediately addressed.
3. Supply of 24 hour water supply should be ensured in all the MTCs and alternative arrangements for storage of water should be made available.
4. There is an urgent need to replace or repair non functional water purifiers to ensure the availability of purified drinking water.
5. Separate play room and counseling area should be made available
6. There should be a provision of a visitor's room.
7. The daily schedule of MTCs should be displayed on a notice board.
8. Disaster/emergency protocol must be created.

## II. HUMAN RESOURCE AND TRAINING

The availability of quality human resources are a critical component of high quality care and services in the MTC. The job requires high motivation, energy and technical skills and knowledge. In this section of the report, information about adequacy of human resources is collected. We have also tried to understand the roles and responsibilities of the staff as against the guidelines.

#### Findings and analysis:

Table 4 showing the number of nurses appointed

MTC	Sanctioned No. of beds	No of beds Occupied (at the time of visit)	No of Nurses**
Doranda (Ranchi)	16	7	6
Mandar (Ranchi)	10	7	4
Sadar (Khunti)	5	5	4
Gola (Ramgarh)	5	2	3*

Sadar (Gumla)	16	10	9
Reidh (Gumla)	15	10	6
Bhandra (Lohardega)	5	5	4
Kuru (Lohardega)	5	3	3

\*Though 3 nurses were officially appointed for the MTC, one nurse was single handedly looking after the MTC as the other two nurses were designated on the field for immunization.

\*\*The national guidelines recommend a total of 9 staff for a 10 bedded facility and 16 for a 20 bedded facility. The staff comprises of a MO, Nutritional Counsellor, Nurse, Medical Social Worker, cook cum attendant and cleaner

1. The staff in MTCs comprised of nurses and a MO in-charge of the MTC. The absence of nutritional counselors, medical social workers and attendants compromises the quality of services.
2. There was a lack of sufficient human resources in the MTC. Except in MTCs at Ranchi and Gumla, there was only one nurse on duty on the day of the visit. There was no staff in MTC Gola (Ramgarh) at the time of the visit, as the only nurse on duty was engaged in CHC due to shortage of staff there.
3. In MTCs like Gumla (Sadar), and both the MTCs at Lohardega, there was lack of trained staff. In MTC Bhandra in Lohardega the nurse on duty expressed a need for refresher's training as the nurses who have received training on facility based management of children, face difficulty in recording anthropometric measures.
4. The nurses on duty were ill-equipped about the components of structured play, sensory stimulation and counselling on infant and young child nutrition.
5. The MO in-charge for the MTC is appointed from the already scarce and burdened human resources in the health facilities; thus, leaving him hardly any time towards his responsibilities to MTCs.

#### Recommendations:

1. The recruitment of specialized human resources as specified in the guidelines should be addressed on a priority basis.
2. There is a need for a standard module which could guide the health care professionals on capacity building and counseling of mothers, structured play and sensory stimulation.
3. The MO in-charge should examine each child every day.

### III.PROCESS AND PROTOCOLS

#### Findings and analysis

1. In practice, the screening in the community and referral to NRC is based on the criteria of weight to age, which is not a sensitive enough test for the identification of SAM.
2. It was learnt that not every AWC has MUAC measuring tape. Sometimes the children referred to NRC by AWW or ASHA had to be sent back because the AWW's do not follow the same measuring standard in MUAC. This often results in loss of trust from the community health workers.
3. The case history of the child was not being maintained and/or undertaken. So if the child had faltered and identified as SAM because of poor child rearing and nutrition practices or unhealthy habit, it could not be found out and addressed because case history was not taken and recorded.
4. There was no structured schedule or exercise for play or emotional stimulation. The nurses were more preoccupied with preparing the feed. Staff in all the MTCs complained about lack of a separate play area which limits them to carry out activities with children.
5. Surprisingly, the component of nutrition education was missing. Demonstration of feed preparation and capacity building of mothers on nutrition was not taking place. At MTC Bhandra

(Lohardaga) mothers who were there for more than 14 days said that they were there because the child was '*kamjor*, when asked about the purpose of their stay'.

6. There was no coordination between the AWCs and MTCs on follow-up. The respective AWCs were not being communicated list of children discharged.
7. The daily wage compensation for the entire duration of the stay was only given before the discharge. Thus making it difficult for mothers to manage their meals.
8. There was disinterest on the part of the mothers for follow-up, as it meant spending on travelling and losing a day's daily wages.

#### Recommendations:

1. Weight for age and MUAC should be used as the screening criteria in the community. Moreover, individual growth faltering be monitored rather than waiting for universal cut offs.
2. Structured play and sensory stimulation to children should not be ignored as the children with SAM are found to have delayed cognitive and physical growth.
3. Since mothers are an integral part of the treatment also in terms of their nutrition education after the child is discharged, her presence should be ensured.
4. There should be timely reimbursement of the daily wage compensation. Also, the amount of given as daily wage compensation should be increased in coherence with government employment schemes.
5. Food for mothers should also be provided at the NRC. In the absence of such a provision, the compensation is given is used for purchasing food and covering up the travelling costs.
6. Compensation of wages and travelling reimbursement should also be provided for follow-up visits.
7. A resource directory of AWC should be maintained with the contact details of AWWs, ASHA and key members of VHNC.
8. Two discharge summaries should be issued at the time of discharge. One for the AWC, so that they are aware of the follow-up plan as was being practiced in MTC Reidh (Gumla).
9. The AWWs should be trained in the preparation of feeds and infant caring and nutrition practices so that they can ensure proper follow-up. This would also act as preventive measure.

## MAJOR LIMITATIONS

1. The setting up of MTCs involves additional expenses for the community and government, and results in additional strains on a fragile economy.
2. The coverage is small in relation to the needs and the centers are difficult to access for a scattered rural population like Jharkhand.
3. The non availability of pediatric doctors and wards in most health facilities poses challenge in the treatment of severe medical complications.
4. In the absence of a community nutrition programme and dismal figures of follow-up, the effectiveness of interventions received in MTCs is still a concern.

## CONCLUSION & KEY RECOMMENDATIONS

NRCs cannot be the only tool to combat malnutrition; NRCs have a positive impact on the selected anthropometric indicators of severe malnourished children but lag behind in the educational aspect and ensuring proper follow-up visits.<sup>27</sup> The setting up of MTCs should not be treated as an isolated programme, much less a single solution to the treatment of child malnutrition. These centers should be considered as merely a link in the long chain of activities that should be undertaken to address malnutrition. It must be recalled at each step of design and implementation that a primary objective of this kind of a programme is the education of the mother and the community through the nutrition rehabilitation of children.<sup>28</sup> The effectiveness of service delivery and coverage depends largely on the availability of mechanisms and the human resources required for the implementation, the lack of which raises valid concerns. Also, rehabilitation centers have a role to play in certain circumstances, and should be developed within a framework of curative and preventive measures in different sectors. Adequate household food security, access to basic health services and adequate caring practices, are all necessary (and when all together are sufficient) conditions for good nutrition.<sup>29</sup> This point was further reiterated by the Associate Director of World Vision (Ranchi), Mr. Mukhia, who firmly believes that Malnutrition in Jharkhand needs an integrated and multi sectoral approach that should address the underlying causes of malnutrition.

1. Considering the accessibility, coverage and requirements, there is an urgent need for a community based programme for malnutrition where different kinds of malnutrition are addressed.<sup>30</sup> Such a programme would also mean that SAM children without any medical complications can be treated in the community settings. In turn, such an approach would free up scarce institutional resources for more intensive care for sick SAM children, who need such care.
2. Increased emphasis should be placed on preventive measures of individual growth faltering for early identification. Early detection of children with SAM will ensure that these children will be

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<sup>27</sup> A Study to Evaluate the Effect of Nutritional Intervention Measures on Admitted Children in Selected Nutrition Rehabilitation Centers of Indore and Ujjain Divisions of the State of Madhya Pradesh (India), Gunjan Taneja, Sanjay Dixit, and Sanjay Chaourasiya, Indian J of Community Medicine, 2012 April, 107-115

<sup>28</sup> [http://whqlibdoc.who.int/monograph/WHO\\_MONO\\_62\\_\(chp23\).pdf](http://whqlibdoc.who.int/monograph/WHO_MONO_62_(chp23).pdf)

<sup>29</sup> World Nutrition. Journal of the World Public Health Nutrition Association. [www.wphna.org](http://www.wphna.org) Volume 2, Number 2, February 2010

<sup>30</sup> For instance, there are a large number of children who are not SAM but severely stunted and it is equally important that this problem is addressed. Stunting is an indicator of long neglected inadequate growth that should have been attended to (Source: Falling between two stools: Institutional differences between ICDS and NRHM)

identified before they develop medical complications. This would mean management of many of them before their prognosis worsens and it would also reduce the need for hospitalized care.<sup>31</sup>

3. There is an urgent need to address institutional differences between ICDS and NRHM on screening, referral and follow-up and bring the much needed coherence, so that services do not result in exclusion of children who are in dire need of interventions.
4. The infrastructure specifications should be adhered to, as the adequate infrastructure plays an important role in creating a cheerful and child friendly environment. Infrastructure also becomes important when a lot of services to be provided in the MTCs are dependent on the availability of space. The infrastructure and the furniture should address child protection component.
5. Skilled capacity building of staff in all aspects of functioning and management of MTCs is an essential criteria for effective discharge of their roles and responsibilities. Appointment of specialized human resources is an area that needs to be looked into seriously, as in the absence of it the MTCs have reduced to feeding centers.
6. Effective measures are needed to improve the compliance rates for follow-up visits. Community mobilization needs to be done in the form of community vigilance group and the community should be made aware of the functioning of MTCs. AWWs should be trained in the preparation of feeds and management of discharged SAM children to ensure proper follow-up.
7. The optimal strategy to ensure rapid improvement of nutrition requires the implementation of a set of specific nutrition interventions and the integration of nutrition into health, agriculture, education, employment, social welfare and development programmes.<sup>32</sup> Experiences from other countries show how multi sectoral approach is effective in reducing stunting and undernutrition. (Annexure 1)

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<sup>31</sup>Indian Pediatrics, Vol 50, Apr 16, 2013, Dr. Panna Chaoudhry et al Consensus Statement of the Indian Academy of Pediatrics on Integrated Management of Severe Acute Malnutrition

<sup>32</sup>Maternal, infant and young child nutrition: draft comprehensive implementation plan by Sixty Fifth World Health Assembly Plan

## ANNEXURE-1

### Case Studies: Learning from examples

#### Learning from Maharashtra- The Rajmata Jijau Mother-Child Health and Nutrition Mission

- ♣ Enough food and the right kind of food
  - ⇒ Chronically undernourished
  - ⇒ Nurturing newborns
- ♣ Nutritional needs of young children
  - ⇒ Breastfeeding
  - ⇒ Complementary foods at the right age
  - ⇒ Continuous feeding during diarrhea
- ♣ Protecting children from infections
  - ⇒ Immunisation against common childhood diseases
- ♣ Diarrhoea prevention and management
  - ⇒ Safe water—harvesting, disinfection, treatment, purification, storage
  - ⇒ Hygiene and sanitation facilities
  - ⇒ Quality care when children fall ill
  - ⇒ Education programmes for healthcare providers
- ♣ Micronutrient deficiencies
  - ⇒ Iodine, Iron, Vitamin A, Zinc, ...
- ♣ Nutritional needs of girls and women
  - ⇒ Chronically undernourished women tend to bear low-birth weight babies
  - ⇒ stop the vicious cycle of under nutrition into the next generation

#### **Mitanin of Chhattisgarh: Involvement of Women leads to better results**

Chhattisgarh State pioneered village women (called Mitanin or friend) to monitor development schemes at the local level. Starting with education on health matters, the functions of the Mitanin broadened to include monitoring of every government development activity. They took up questions of absentee teachers, pilferage of food meant for Mid-Day Meals and so on. The success of the Mitanin program has encouraged the Health Ministry to consider extending it to other States in the country.

#### **Community-based interventions to reduce child stunting in Nepal**

Stunting prevalence among children under age 5 dropped from 57 per cent in 2001 to 41 per cent in 2011,86 showing that even in difficult conditions, impressive gains can be made. The success in reducing child stunting took place against a backdrop of economic growth and poverty reduction, but it was also driven by combining important health and nutrition strategies. Nepal facilitated the delivery of interventions through community-based programming facilitated by the nation's cadre of female community health volunteers (FCHVs) located throughout the country.



**Thailand- Halved child malnutrition between 1982 and 1986 (from 50 to 25 percent in less than a decade):** The reduction in the malnutrition levels were combined efforts of improvement in a number of different sectors-policy, financial expenditure and community involvement through social mobilization, thus highlighting the need for a multi-sectoral approach. Thailand's 2nd National Health and Nutrition Policy (1982–86) focused on targeted nutrition interventions to eliminate severe malnutrition as well as on behavior change and communication to prevent mild to moderate malnutrition. The policy used social mobilization and relied on community-based primary health care as a delivery system for nutrition and health interventions. On the financial front, the country made a large investment in health, accounting for approximately 20 percent of total government expenditure, and a similarly high investment in education during these years

**China: Reduced child malnutrition by more than half between 1990 and 2002 (from 25 to 8 percent in 12 years)** Besides, focusing on successful poverty alleviation strategy and direct intervention to reduce malnutrition; China also focused on complementary interventions to address other determinants of child malnutrition, such as water and sanitation (which help reduce illness from infectious diseases) and education (between 1992 and 2005, the share of mothers who had completed middle school increased from 32 to 57 percent and the share of illiterate women fell from 22.5 to 7 percent). China established an effective data collection system that provides regular data for monitoring progress, and the country's strong research institutions ensure that data and information are effectively communicated to policymakers and used for policymaking.

## Annexure – II

### Photographs

#### MTC Gola (Ramgarh)

The following pictures show a non functional water purifier in MTC Gola (Ramgarh) and the closely placed beds in the patient area. It is to be noted that the bed does not have a side support for children to prevent them from falling off.



#### MTC Sadar (Khunti)

Following are the pictures of a mother and a child suffering from TB who were kept in the patient area along with other children. The second picture shows a TV in the patient area which has never been put to use in the absence of audio visual IEC material.



### MTC Bhandra (Lohardaga)

Below are the pictures from MTC Bhandra (Lohardaga) which is functioning from a dilapidated building. The first picture is of the kitchen with inadequate civil work. The second picture is of the walls of one of patient area which has been damaged due to rain water leakage.



### MTC Kuru Lohardega

Seen below in the first picture is the crowded patient area. One of the patient areas in this MTC had to be closed and one of the bed had to be adjusted in other patient area making it extremely crowded. The second picture is of the patient area which had to be closed, which is now being used as a store room.



Following are the MCP cards of a child from MTC Sadar (Gumla) and MTC Bhandra (Lohardag). It can be seen that there is no record of the growth monitoring of the children in both the cards. The mothers seemed to be ignorant about the various colour zones on the card, despite at least a week of stay in the MTCs in both the cases.

