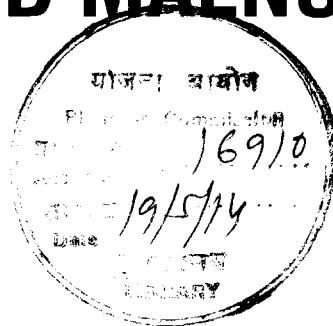


# **REPORT OF THE TASK FORCE TO STUDY THE PROBLEMS OF CHILDHOOD MALNUTRITION**



**Planning Commission**  
Government of India  
New Delhi, August 2009

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## ABBREVIATIONS

AIE	:	Alternate Innovative Education
ANM	:	Auxiliary Nurse Midwife
ASHA	:	Accredited Social Health Activist
AWC	:	Anganwadi Centre
AWW	:	Anganwadi Worker
BMI	:	Body Mass Index
BOS	:	Beneficiary Oriented Scheme
BPL	:	Below Poverty Line
BRGF	:	Backward Region Grant Fund
CAPART	:	Council for Advancement of People's Action and Rural Technology
CED	:	Chronic Energy Deficiency
DLHS	:	District Level Health Survey
ICDS	:	Integrated Child Development Services
IFA	:	Iron Folic Acid
IMNCI	:	Integrated Management of Neonatal and Childhood Illness
IMR	:	Infant Mortality Rate
ISM	:	Indian Systems of Medicine
KBK	:	Kalahandi Bolangir Koraput
LBW	:	Low Birth Weight
LHV	:	Lady Health Visitor
MDG	:	Millennium Development Goals
MDM	:	Mid Day Meal
MIS	:	Management Information System
MMR	:	Maternal Mortality Rate
NCHS	:	National Council for Health Statistics (USA)
NCMP	:	National Common Minimum Programme
NFHS	:	National Family Health Survey
NGO	:	Non Governmental Organization
NNMB	:	National Nutrition Monitoring Bureau
NNP	:	National Nutrition Programme
NREGP	:	National Rural Employment Guarantee Programme
NRHM	:	National Rural Health Mission
PHC	:	Primary Health Centre
PMGY	:	Pradhan Mantri Gramoday Yojna
RCH	:	Reproductive & Child Health
WCD	:	Women and Child Development

## GLOSSARY

Aanganwadi Centre	A Village Level Centre under Integrated Child Development Scheme.
Ante-natal care	It is the care of the woman during pregnancy, aim of which is to achieve at the end of a pregnancy a healthy mother & a healthy baby. Minimum ante-natal care includes at least three antenatal checkups, TT immunization and IFA supplement.
Anthropometry	The physical measurement of the body is referred to as anthropometry. The measurement can be of length, height, weight, arm circumference, etc. Often measures are expressed in ratios of one to another, e.g. weight for-height.
Birth Rate :	The number of live births per 1000 estimated mid year population, in a given year.
Body mass index	Body weight in kilograms divided by height in metres squared. This is an index for measurement of body fat. A BMI greater than 25 indicates overweight and that lesser than 18.5 indicates underweight.
Calorie	A calorie is a unit of measurement for energy. In most fields, it has been replaced by the joule, the SI unit of energy. However, it is used for the amount of energy obtained from food.
Crude Birth Rate	The crude birth rate (CBR) is defined as the number of live births in a year per 1,000 of the midyear population.
Crude Death Rate	The crude death rate (CDR) is defined as the number of deaths in a year per 1,000 of the midyear population.
Death Rate	The number of deaths per 1000 estimated mid-year population in one year, in a given place.
Fertility	Fertility means the actual bearing of children during a woman's reproductive period i.e. roughly from 15 to 45, a period of 30 years.
Fertility Rate	The number of live births during a year per 1000 female population aged 15-49 years at the mid point of the same year.
Foeticide	Induced termination of a pregnancy with destruction of the fetus or embryo; therapeutic abortion.

Infant Mortality Rate	Infant mortality rate (or IMR) is defined as the number of infant deaths in a year per 1,000 live births during the year
Life expectancy at Birth	The average number of years that a newborn could expect to live, if he or she were to pass through life exposed to the age and sex-specific death rates prevailing at the time of his or her birth, for a specific year, in a given country, territory, or geographic area.
Low Birth Weight	Birth weight less than 2500 grams (up to and including 2499 grams)
Malnutrition	Malnutrition is a general term for the medical condition in a person caused by an unbalanced diet-either too little or too much food, or a diet missing one or more important nutrients. Most commonly, malnourished people either do not have enough calories in their diet, or are eating a diet that lacks protein, vitamins, or trace minerals
Maternal Mortality Rate	Number of deaths from puerperal causes per 1,000 live births
Maternal Mortality Ratio	Annual number of maternal deaths per 100,000 live births. A maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.
Neo-natal Mortality Rate	Number of neonatal deaths in a given year per 1000 live births in that year. Neonatal deaths are deaths occurring during the neonatal period, commencing at birth and ending 28 completed days after birth.
Non-formal Education	Any organized, systematic educational activity carried on outside the framework of the formal system to provide selected types of learning to particular sub-groups in the population, adults as well as children
Panchayati Raj :	Three tier system of local government in India (District/Taluk or block/village)
Peri-natal Mortality Rate	Peri-natal mortality rate includes late foetal deaths (28 weeks gestation & more) and early neonatal deaths (first week) in one year per 1000 live births in the same year.

Post-natal Mortality Rate	Number of deaths of children between 28 days and one year of age in a given year per 1000 total live births in the same year.
Pre-School Child	A child in the age group of 3-6 years. This period extends from about three years of age until entrance into formal school at five or six years of age
Primary Health Care	Essential health care that is technically valid, economically feasible and socially acceptable. Primary health care includes eight essential elements: education concerning prevailing health problems and the methods of preventing and controlling them; promotion of food supply and proper nutrition; an adequate supply of safe water and basic sanitation; maternal and child health care, including family planning; immunization against the major infectious diseases; prevention and control of locally endemic diseases; appropriate treatment of common diseases and injuries; and provision of essential drugs.
Sex Ratio	The number of females per 1000 males.
Still Birth Rate	Number of deaths of fetuses weighing 1000g (equivalent to 28 weeks of gestation) or more during one year in every 1000 total births.
Total Fertility Rate	Number of children that would be born per woman assuming no female mortality at childbearing age and the age-specific fertility rates of a specified country and reference period.
KBK Districts	KBK districts were three districts of Orissa namely, Kalahandi, Bolangir and, Koraput identified for peculiar socio-economic problems of primarily tribal inhabited area. These were later divided into eight districts: Kalahandi, Nowrangpur, Koraput, Malkangiri, Rayagada, Bolangir, Nuapada, Sonepur.

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## Chapter - I

# Background

Childhood malnutrition which has always been a national concern in India has emerged as an even greater cause for concern. The 2005-06 National Family Health Survey (NFHS)-3 has highlighted the very disappointing situation of malnutrition in the country. The percentage of underweight children under 3 years is as high as 46 in 2005-06 (NFHS-3) and shows a marginal decline from 47 in 1998-99 (NFHS-2). Out of children under 3 years, 19% are victims of wasting and 38.4% suffer from stunting as per NFHS-3 against 15.5% of wasted and 45.5% of stunted

children as per NFHS-2. Anaemia among children and women, on the other hand are on the rise. 74.2% of the children in the age group of 6-35 months were anemic as per NFHS-2 which increased to 79.2% as per NFHS-3. Similarly, the percentage of married women in the age group of 15-49 being anaemic has increased from 51.8% in 1998-99 to 56.2% in 2005-06 and that of pregnant women of 15-49 years age group has increased from 49.7% in 1998-99 to 57.9% in 2005-06. Such widely prevalent high levels of malnutrition are not an indication of a healthy nation.

Sr. No.	Indicator	NFHS-2 (1998-99)	NFHS-3 (2005-06)
1	Percentage of underweight children under 3 years old	47	46
2	Percentage of under 3 year olds afflicted with wasting	15.5	19
3	Percentage of under 3 year olds afflicted with stunting	45.5	38.4
4	Percentage of children in the age group of 6-35 months who are anaemic	74.2	79.2
5	Percentage of married women (15-49 Years) who are anaemic	51.8	56.2
6	Percentage of pregnant women (15-49 years) who are anaemic	49.7	57.9

Table1: Showing Maternal and Child health Indicators of India; Source NFHS-2 and 3

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Malnutrition amongst children brings in multifarious problems - it adversely affects the physical and mental growth of children; prevents them from growing into healthy human beings; exposes children to the constant risk of diseases; and subjects otherwise poor families to un-necessary medical expenses. Malnutrition also retards the physical and cognitive potential of human beings resulting in reduced working and earning capacity among adults, impaired learning potential among children, reduced capacity to recover from illness, thus, eroding a sizeable portion of our human resources. Collectively, this negatively impacts economic development with high mortality and morbidity rates adding to the health costs of the nation. (Mrs. Veena S. Rao, *Malnutrition, Emergency: What it costs the Nation*, CAPART, February 2008).

The Prime Minister in his Independence Day address on 15th August 2008, declared the problem of malnutrition to be a "curse that we must remove" from India. He appealed for the "nation to resolve and work hard to eradicate malnutrition within five years."

## 1.1 Introduction

Malnutrition is a vicious intergenerational cycle of poor health, high death rates, poor quality of life, decreased physical and mental capacity and reduced worker productivity. The improvements in nutrition are essential for a healthy and productive quality of life as well as for continued economic growth and development.

Therefore, on the behest of the Prime Minister's Office (PMO), a Task Force was set up vide Planning Commission's Office Order No.PC/SW/1-2 (15)/2007-WCD

dated 27.12. 2007, under the Chairpersonship of Dr. (Ms.) Syeda Hameed, Member to 'study the problems of childhood malnutrition and suggest ways for eliminating them in time - bound manners'. The following were the members of the Task Force :

- (I) Additional Secretary/Joint Secretary dealing with ICDS and Nutrition, Ministry of Women and Child Development (WCD)
- (ii) Additional Secretary/Joint Secretary, in-charge of the subject, Ministry of Health & Family Welfare (H & FW)
- (iii) Additional Secretary/Joint Secretary, in-charge of the subject, Department of Elementary Education, Ministry of Human Resource Development
- (iv) Additional Secretary/Joint Secretary, in-charge of the subject, Ministry of Rural Development (RD)
- (v) Additional Secretary / Joint Secretary, in-charge of the subject, Ministry of Panchayati Raj
- (vi) Additional Secretary/Joint Secretary, in-charge of the subject, Ministry of Tribal Affairs
- (vii) Dr. (Ms.) Prema Ramachandran, Director, Nutrition Foundation of India, C-13, Qutab Institutional Area, New Delhi - 110 016.
- (viii) Dr. Jean Dreze, GB Pant Social Science Institute, Allahabad
- (ix) Dr. Ashok Gulati, Director in Asia, International Food Policy Research Institute, National Agricultural Sciences Centre (NASC) Complex, C.G. Block, DPS Marg, Pusa, N. D. - 110012
- (x) Sr. Adviser, Health, Nutrition and Family Welfare, Planning Commission
- (xi) Sr. Adviser (WCD), Planning Commission - Member-Convener

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- (xi) Sr. Adviser (WCD), Planning Commission - Member - Convener

The Task Force was expanded subsequently vide Planning Commission's Office Order No.PC/SW/1-2 (15)/2007-WCD dated 2.7.2008, by including the following as additional members :

- (i) Dr. S. Gopalan, Nutrition Foundation of India, C-13, Qutub Institutional Area, New Delhi -110016
- (ii) Dr. (Ms) Veena Shatrughan, Deputy Director, National Institute of Nutrition, Jamia-Osmania, Hyderabad - 500007
- (iii) Dr. K. Ashok Rao, Swami Sivanand Memorial Institute, Road No.31, East Avenue, East Punjabi Bagh, New Delhi -110026
- (iv) Shri K.B. Saxena, Flat No.-158, Rasbihar, IP Extension, Plot No. 99, Patparganj, New Delhi-110092
- (v) Shri Ujjval Uke, Maharashtra State Cooperative Cotton Growers Marketing Federation Ltd., Khetan Bhavan, 6th Floor, 198, Jamshedji Tata Road, Church Gate, Mumbai - 400020
- (vi) Shri Rakesh Sarwal, Secretary, Social Welfare and IT, Government of Tripura, Agartala
- (vii) Shri Biraj Pattnaik, Pr. Adviser, Office of the Commissioner to the

Supreme Court, B-102, Sarvodaya Enclave, New Delhi-110017

- (viii) Dr. T. Sundaram, Executive Director, 1/2 Taj Apartment, Rao Tula Ram Marg, New Delhi-110022

- (ix) Shri K.D. Raju, Pr. Secretary, Department of Health, Family Welfare and Ayush, Government of Uttaranchal.

Ms. Manjulika Gautam, Sr. Adviser (WCD) and Ms. Alka Sirohi, Pr. Adviser (WCD), Planning Commission functioned as ex-officio member-convener of the Task Force.

The Task Force met twice; on 20.2.2008 and 4.8.2008 and had detailed deliberations regarding criteria for measuring childhood malnutrition, the magnitude of the problem in India, nutrition related on-going programmes including good practices across the country to tackle childhood malnutrition and policy and programme options to address the problem. Members were also requested separately to share their knowledge and information regarding good practices to address the problem of childhood malnutrition. The remaining chapters of the report deal with different aspects of the childhood malnutrition that the Task Force had deliberated upon followed by the recommendations in the last chapter of the report.

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## Chapter-II

# Criteria for Measurement of Malnutrition

### 2.1. Introduction

Nutritional status of an individual can be assessed by looking for clinical signs of malnutrition, biochemical indicators and anthropometry. The deficits in nutritional intake lead to diminution of functional capacity and results in adverse health outcomes. These adverse outcomes vary with the different levels of severity of malnutrition. The children adapt to these deficits in nutritional intake initially by limiting the physical activity and in case the deficit persists, through slowed growth. As the degree of malnutrition advances the growth rate slows further down and biochemical abnormalities begin to show. But it is at advanced stages of malnutrition when all growth ceases that the clinical signs of malnutrition are manifested. Anthropometry thus has an ace over clinical and biochemical indicators in identifying malnourished children at an early stage. This is also so as anthropometric indicators are sensitive over the full spectrum of malnutrition rather than clinical, biochemical indicators which are sensitive only at extremes of this spectrum of impact of malnutrition. Also, though less specific than other indicators, anthropometric indicators are inexpensive and relatively easy to measure.

The idea of using these anthropometric indices is to measure malnutrition which could not be measured directly from weight and height. Though many intervening factors affect nutrient intake other than age and sex but even in the presence of such

natural variation due to genetic composition or environment, it is possible to use physical measurements to assess the adequacy of diet and growth, in particular in infants and children. The anthropometric measurements tend to do so by comparing distribution of indicators with healthy reference group and identifying extreme or abnormal departures from this distribution.

### 2.2. The Reference Standards

The reference standard comprises of a sample of population of children of a certain age group for which various anthropometric indicators are calculated and the median values of the indicators for this sample population are considered as normal for that age group. The choice of these reference groups significantly affects the proportion of children which are identified as malnourished and thereby has vital affect on the management of the malnourished children through nutritional programmes like Integrated Child Development Services (ICDS) scheme.

Till 2005, the National Center for Health Statistics (NCHS) standards were used as the reference standards. And most of the available data on prevalence of under-nutrition in children was based on NCHS reference standards for height for age, weight for age and wasting. The sample population for NCHS standard comprised of American children who were primarily bottle-fed. The reference standard for the

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Health Organization through a multi country study which had an internationally constituted reference population as opposed to national populations in earlier NCHS reference group. This new International reference population includes children from all regions of the world, who are growing in unconstrained environments. The results of this multi-country study were published by World Health Organization in 2007 as standards for weight, height and Body Mass Index for age for boys and girls in the age group 0-18 years. This new International reference by WHO also includes children from India and a comparison of the Indian children with others in the International reference demonstrates that children growing in healthy environments in India show very similar patterns of growths as other children in the developed regions of the world and very low levels of under nutrition (6% underweight, 3% stunting and 6% wasting). This leaves no doubt that (1) the international growth reference is indeed appropriate for assessing the growth of Indian children and (2) that given appropriate care and feeding, and protection from illness, Indian infants display very low rates of under-nutrition.

### **2.3. Expressions of Nutritional Indices**

After setting up the standards for reference, to assess nutritional status the anthropometric indicator measured for a child should be compared vis-à-vis the reference population. To compare the anthropometric indicators of a child to that of reference standards certain statistical terms are used. For this purpose the three statistical terms used are percent-of-median, Z scores (standard deviation scores) and percentiles. These are described below.

#### **2.3.1. Percent of median**

The percent of median is expressed as percentage of physical measure (viz. height/length, weight) of the individual child relative to the average physical measurement of the comparable children in the reference population. The Gomez classification uses the percent-of-median which does not use normalized populations.

#### **2.3.2. Standard Deviation or Z-score**

The standard deviation is a measure of variability of the indices from median value for the reference standard. The Z-score is the difference between the value of physical measurement for an individual and the average value of the comparable reference population for the same age or height, divided by the standard deviation of the reference population. As the Z-score expression takes into account the standard deviation of the distribution it standardizes weight deficiencies, regardless of the height of the child. It is for this reason the Z-score is recommended by WHO and is universally accepted international expression of anthropometric indices.

#### **2.3.3 Percentile**

A percentile is the expression of value of a physical measurement of an individual below which a certain percentage of the reference population falls.

### **2.4. Measuring Malnutrition**

There are many anthropometric indices which are used for assessing nutritional

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status but the three most commonly employed anthropometric indices to measure protein-energy malnutrition are weight for height, height for age, and weight for age. Recent researches have pointed to inclusion of Body mass index as another anthropometric index for more comprehensive assessment of nutritional status. These indicators vary in the extent of measuring acute and chronic malnutrition as is discussed further in this section.

#### **2.4.1. Weight for height**

Weight for height is an anthropometric measurement of current nutritional status and is often used to identify acute changes in nutritional assessment. This anthropometric index measures the thinness.

#### **2.4.2. Height for age**

Height for age measures linear growth and helps measure chronic nutritional status or "shortness" of children. The deficits in this indicator indicate inadequacy of nutrient uptake in the past.

#### **2.4.3. Weight for age**

Weight for age is a composite measure of height for age and weight for height indices. This index helps identify the "underweight" children when weight for age deviates two standard deviations below the standard reference group. This index is usually used to monitor growth and malnutrition over time but cannot be used to identify acuteness of the nutritional deficit.

#### **2.4.4. Body Mass Index for age**

In the new international reference standards, for the first time WHO had

provided the standards for Body Mass Index (BMI) for age, which were earlier not available. The Body mass index is calculated by dividing body weight in kilograms by height in metres squared. This is used as an index for measurement of body fat. A Body Mass Index greater than 25 indicates overweight and that lesser than 18.5 indicates underweight. BMI for age can be used for detection of both over and under-nutrition in children. The BMI-for-age is likely to be recommended in populations where the predominant nutritional problems pertain to under-nutrition. This was very timely considering the emergence of dual nutrition burden in many developing countries where stunting is common and overweight short children can get misclassified as undernourished (underweight for age and stunted). Also, a comparison of BMI-for-age and the three other indicators of nutritional status among children in Bangladesh indicate that BMI-for-age is most comparable to wasting (low weight for height) and thus, for South Asian populations with high level of under-nutrition (rather than obesity) provides information on short-term or acute malnutrition.

### **2.5. Classification of Nutritional Assessments**

The nutritional status is defined from the anthropometric indices by identifying certain cut-off values from the normal distribution of the reference population. The cut off point is expressed usually in one of the three statistical terms viz. percent-of-median, percentile, standard deviations or z-score away. Over time the various anthropometric indices have been expressed differently and so many classifications have evolved. These

reference population of Mexican children. The work done by Gomez assigned clinical value to malnutrition and helped in defining the prognosis of malnutrition and paved way for further research in the area of anthropometry. In the now used Gomez classification, the anthropometric index of weight for age is expressed as percent of median of standard reference population to classify severity of malnutrition into four grades as shown in the table.

Percent of reference weight for age	Interpretation
90 % - 110 %	Normal
75 - 89%	Grade I: mild malnutrition
60 - 74%	Grade II: moderate malnutrition
< 60%	Grade III: severe malnutrition

Table 2 : Showing Gomez classification for grading malnutrition

When the weight for age for a child lies below 60 percent of the median reference for weight for age, it is identified as having Grade III or severe malnutrition; and when it lies from 60 percent to 74 percent of median value of reference weight for age, the children are identified as having Grade II or moderate malnutrition; while those children with a weight for age lying within 75 to 89 percent of median value of reference weight for age are said to be having Grade I or mild malnutrition. The children with a weight for age lying from 90 per cent to 110 percent of the median value of reference population are considered to be having a normal growth rate as per Gomez classification.

## 2. Indian Academy of Paediatrics (IAP) Classification

In 1972 the Indian Academy of Paediatrics (IAP) came up with "modified Gomez

Percent of reference weight for age	Interpretation
>80 %	Normal
71 - 80%	Grade I: mild malnutrition
61 - 70%	Grade II: moderate malnutrition
51-60%	Grade III: severe malnutrition
<50%	Grade IV: severe malnutrition

Table 3: Showing IAP classification for grading malnutrition

classification" for malnutrition also known as IAP classification. It used the percent of median for classifying the anthropometric index of weight for age of the children against the NCHS reference standard.

In this classification when the weight for age for a child lies below 50 percent of the median reference for weight for age, it is identified as having Grade IV or severe malnutrition; and when it lies from 51 percent to 60 percent of median value of reference weight for age, the children are identified as having Grade III, also classified as severe malnutrition; while those children with a weight for age lying within 61 to 70 percent of median value of reference standard are said to be having Grade II or moderate malnutrition. The children with a weight for age lying from 71 per cent to 80 percent of the median value of reference population are considered to be having Grade I or mild malnutrition whereas all the children having a weight for age more than 80 percent of median value for the reference population are interpreted to be having a normal growth rate as per modified Gomez classification or IAP classification.

## 3. Waterlow's Classification

The classifications discussed till now took only one anthropometric indicator to classify malnutrition which did not present

a very comprehensive picture of the state of malnutrition. The Waterlow's classification attempted to classify nutritional status more comprehensively by employing two anthropometric indices namely, weight for height and height for age expressed in standard deviations for comparison with NCHS reference standard. The waterlow's classification is shown in the table as under :

Height for age Weight for height	Normal (>-2 SD HAZ)	Stunted (<-2 SD HAZ)
Normal (>-2 SD WHZ)	Normal	Stunted
Wasted (<-2 SD WHZ)	Wasted	Underweight (Low wt for age)

Table 4: Showing Waterlow Classification of Nutritional Status of Children by Anthropometry; Adapted JC Waterlow BWHO 1977; 55: 489

In Waterlow's classification an extremely low weight for height lying more than two standard deviations below the average value for standard reference group identifies children which are termed "wasted". On the other hand, if this index lies two standard deviation above the standard reference group it helps identify obese children. An extremely low height for age lying more than two standard deviations below the median value for standard reference group identifies children which are termed "stunted". The children having weight for height as well as height for age lying two standard deviations below the average for the reference standard are considered to be stunted as well as wasted and are classified as having low for age.

## 2.6. Integrated Child Development Services Scheme

The ICDS scheme is a flagship scheme of

Government of India, started in 1975 in pursuance of the National Policy for Children formulated in 1974. Among other objectives, one major objective of the scheme is to improve the nutritional and health status of children in the age group of 0-6 years. This scheme is now discussed further from the nutrition policy point of view.

### 2.6.1. The Nutritional Indices in ICDS

The ICDS scheme uses modified Gomez classification for classifying malnutrition in four grades on the basis of weight for age as the anthropometric indicator of choice. In the "Road to Health Charts" currently used in ICDS, the weight of children attending Anganwadi Centres (AWC) is supposed to be taken and plotted against age and graded in four nutritional grades using percentage of median based on the "modified Gomez classification" or "IAP classification" using NCHS reference standards. As the statistic used for expression for classifying in aforementioned classification is percentage of median, the results are not as suitable as the Z-scores for the reasons discussed earlier in the report.

### 2.6.2. The Anomaly of Malnutrition

Though improvement in nutritional and health status of children below the age of six years has been a long standing objective of ICDS, results of National Family Health Survey (NFHS-3, 2005-06) have brought into focus the continued prevalence of the problem in India, and need for greater focus on reducing child malnutrition. NFHS looks at underweight, wasting and stunting besides prevalence of anaemia to present



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followed for measurement of malnutrition is only weight for age. By this criterion about 45% of Indian children are undernourished (underweight). Height for age is also used for assessment of nutritional status. By this criterion about 50% of the children are undernourished i.e. stunted. However, if the criterion of weight for height (Wasting) is used only about 15% of the Indian children are undernourished. There is therefore a missing comparability between the findings of NFHS and ICDS.

### **2.6.3. Discussion on Current Anthropometric Indices**

In order to have a suitable policy option and formulation of programmes and schemes, it is essential that the criteria adopted for measuring the level of malnutrition are uniform so that it can present reasonably similar picture about the level of malnutrition in the country. Furthermore, to manage the current burden of malnutrition in the country suitable nutritional indices should be selected for measuring malnutrition as what gets measured well, gets managed well. The utility of a selected nutritional index depends on its ability to correctly identify gender disaggregated cases of malnutrition at the individual and population levels; being useful in monitoring the impact of corrective interventions; and being comparable to the indicators used at global and national levels. The current nutritional indices fail in its objective of completely and correctly identifying malnourished children, or monitoring their and programme's achievement for the reasons listed below:

1. The use of weight for age is an omnibus index that combines effect of two

disparate indices with corresponding loss in specificity and utility for corrective action for the reasons specified earlier.

2. The use of percentage of the median to compare a child's reading to the median value of children of the same age and gender in the reference population uses the data which is not normalized.
3. Lack of a gender disaggregated growth reference and lack of correspondence with the international reference globally and with National Family Health Surveys, the National Center for Health Statistics (NCHS, 1978) reference population is used as a standard. The findings from the "Road to Health Charts" currently used in ICDS have little correspondence with the results from NFHS, making it impossible to either identify pockets of malnutrition or monitor the impact of interventions.
4. Use of IAP (1972) reference and underweight (low weight-for-age) alone to identify undernourished children in the ICDS has been reported to underestimate the true prevalence of under nutrition by as much as 21.9%. Largely because of poor correspondence to national level survey statistics, data on growth monitoring under ICDS is not subject to any timely or rigorous system of reporting to higher levels, or used for programme monitoring.

The use of current anthropometric index fails, for the reasons listed above, to either convey with any precision the health of population, or individual children. Under the current system, the critical task of screening of high risk children is left to the discretion of the AWW, based on past history of growth of each child. In practice,

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other than comparing the growth of the child to its own past record, the current reference curves fail to provide any desirable benchmark, or to guide the mothers or the AWW on desirable child care practices. Previous studies have also concluded that growth monitoring as done currently did not have an impact on the nutritional or health status of children.

#### **2.6.4. Policy Options for a Better Programme**

The availability of World Health Organization's Growth Reference for Infants and young children (WHO, 2006), in weight for age, height for age, and weight for age, along with Z score based bands at  $\pm 2$  and  $\pm 3$  SD levels has opened the possibility of mitigating the gaps in current system of measuring children under ICDS. WHO (2006) uses as reference an international population of breastfed babies, in contrast to those under NCHS (1978) or IAP (1972) standards, living under favourable conditions and fed according to WHO feeding recommendations, and represents the growth and development potential that children living in favourable environments all over the world are capable of achieving. It is learnt that the Ministry of Women and Child Development have prescribed the use of WHO growth reference for use in ICDS.

Full benefits of the opportunity presented by WHO growth reference will not be tapped if the only indicator to be plotted is weight for age. It is critically important to also introduce the following changes in the child growth monitoring system in the country :

- a. Measure the height of children in addition to weight, so that information relating to wasting (low weight for height), and stunting (low height for age) can also be separately obtained. These indices will help ICDS staff identify children needing admission to malnutrition treatment centres, against those needing AWC or community based health & nutritional care, counselling and motivation of their mothers, including by Positive Deviance approach respectively. Low weight for height is argued to be the indicator of choice in screening malnourished children who are at increased risk of dying. Children falling below - 3 Z weight for height will need immediate admission to hospital where they can be observed, treated and fed day and night. Since faltering in length/height of children starts immediately after birth and continues till three years of age, but is irreversible thereafter, length of children should be measured and plotted as soon as practically possible, which is 6 months onwards.

Availability of both height and weight will make plotting of Body Mass Index possible to screen out obese children, which though appears avoidable as similar results can be obtained using weight for height index.

- b. Measurement of weight and height should be done monthly, to capture the changes during this period. With some training, AWWs can be expected to accurately measure weight and height (2 years and above) / length (below 2 years, or 85 cms.) of children. Since currently used Salters spring balance and bathroom scales fail to report with

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- c. Data on nutritional index of children attending AWC should be monitored, and aggregated at district, state and national levels. The accuracy of measurement of such data from routine monitoring can be compared with surveys, as National Family Health Surveys, done by professional agencies from time to time. Intensive monitoring of percentage of children below three years that remain wasted, stunted or both should be done, and accepted as the principal indicator of effectiveness of ICDS.
- d. Future National Family Health surveys should use the WHO, 2006 standard to classify malnutrition among children in the states of India. Till that happens, the data on weight and height collected at AWCs can be used to compute all the standard Z based indices using NCHS (1978) standards to make comparison with NFHS-3 at state and national levels possible.

Since the new WHO (2006) growth reference is prescriptive and represents the potential attainable by all children, its use under ICDS will enable programme managers to target and bring down the proportion of children falling below -2 Z weight for height and height for age in the 0-3 year age category. Since these indicators will have diagnostic, prognostic and programmatic utility, their use at the level of AWC and among programme managers is likely to increase with consequential realization of the goal of reducing malnutrition.

### **2.6.5. Views of the Task Force on ICDS**

The above discussion relates to the use of anthropometrics indicators for making

policy and planning programmes. As discussed earlier, each of the anthropometric indices has their purpose and it is important to weigh the information obtained from each of them for policy framing in nutritional programmes like ICDS. In the context of policy for nutritional component of ICDS, the views of some members may be summarized as under.

The Task Force felt that Weight for age is an operationally feasible criterion, but does not give much lead on the cause of malnutrition and is thus of limited actionable value. In view of this, the following need to be kept in view while deciding about specific criteria for measuring childhood malnutrition:

- i) Weight for age along with weight for height should be the criteria for measuring malnutrition up to 2 years. Since most of the damage is done by age of two years, length for age and weight for length/height charts are available for 0-2 years, and international data as of NFHS includes this age group, it is of utmost importance to start measuring length/height and weight from birth onwards.
- ii) There are advantages of using BMI for age for assessment of nutritional status of children in India. A third of Indian children are born with low birth weight and length. Birth weight and length are important determinants of growth in childhood. Over the next two years there is further increase in underweight and stunting rates. About half of Indian children are short by current WHO

norms. After first 2 years reversal of stunting is difficult. Weight for age picks up lean children who are normal in height or those who are short and lean but misses tall lean children. BMI for age is an index that enables early detection of both under and over nutrition in children because it takes into account the current age, gender, weight, and height for assessment of nutritional status. In Indian context of high stunting levels and emergence of dual nutrition burden, BMI for age provides a method for early detection and correction of both under and over nutrition.

iii) Indices to be adopted for measuring malnutrition should be based on desirability and should be actionable. The indicators used should enable early identification of the problem. The data on malnutrition should include both weight and height since wasting and stunting require different management. The anganwadi workers should plot data on weight for age. There should also be a mechanism for measuring and plotting weight for height to identify wasted children who need immediate protein - energy supplementation and also height for age to identify and target stunted children with long term deprivation.

Arguments against use of BMI for age in field settings:

Examples of Futility of Measuring BMI in underweight, stunted children					
Gender	Age	weight (Kg.)	height (meters)	BMI	Comments
Boy	11 Months	7.2134	0.68	15.6	Child is stunted (below -2Z), underweight (below -2Z), mildly wasted (below -1Z) but still having a normal BMI
		9.7853	0.792	15.6	Child is very tall (+2 Z), has normal weight but the same BMI as of a wasted, stunted child
Girl	24 Months	8.3537	0.767	14.2	Child is stunted (below -2Z), underweight (below -2Z), mildly wasted (below -1Z) but still having a normal BMI
		12.225	0.929	14.2	Child is very tall (+2 Z), has normal weight but the same BMI as of a wasted, stunted child

Table 5: Showing examples of futility of measuring BMI in underweight, stunted children

1. BMI can be misleading, by failing to spot cases with both low height and weight as examples below demonstrates
2. Being a recent international indicator, it lacks past data references for comparison.
3. BMI conveys little above what is known after computing length/height for age and weight for length/height.
4. BMI requires three variables at the same time – age, weight, height; while each of the remaining three indicators provide useful information based on any two of three variables.
5. The chart of BMI between ages 0-5 years is relatively flat, compared to other three charts which show an exponential growth trajectory, thereby making it difficult to convey the message of growth lagging to mothers.

Arguments for the use of BMI in detection of under-nutrition :

1. Dr. Ramachandran felt that in India where many of the young children are short and weigh less as compared to

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NCHS norms but have appropriate weight for their height, BMI (weight / height<sup>2</sup>) for age is the more appropriate indicator for assessment of nutritional status. The rationale for use of BMI for age for detection of under nutrition is that low BMI for age is an accurate measure of current energy deficit; early detection correction of this deficit will enable the child to continue in its growth trajectory for weight and height. Only about one sixth of the children have low BMI for age; therefore, its detection and correction feasible under programme conditions.

iv) However, as of now, at the anganwadi level, height monitoring may be a difficult proposition. The anganwadi workers do not have the required skill and infrastructure for measuring the height. Measurement of BMI at anganwadi level therefore is still a more difficult proposition. Measurement of height however can be ensured by dovetailing ICDS with health and school systems. Another limitation of this criterion lies in the difficulty posed in accurate measurement of height in children and complexity in computing the BMI for age (because unlike the situation in adults, BMI varies with age in children).

#### **2.6.6. Suggested criteria to be followed**

Given the different consequences of each of the manifestations of malnutrition, it is important to track progress on all recommended indicators of nutritional status nationally and at the state levels.

(i) For global comparisons, policy making and programme planning stunting (Height-for-age) is most useful to ascertain the amount of chronic malnutrition, its distribution and its determinants.

(ii) Wasting (Weight-for-height) is used in acute malnutrition, which requires measuring weight as well as height.

(iii) If weight and height are both measured one should also examine BMI to ascertain whether obesity is a problem in the population.

As regard criteria weight monitoring (weight for age) was recommended at regular intervals for the first two years at AWCs. Also as linear growth retardation is irreversible after two years, the rationale of growth monitoring would be defeated if length is not measured during the critical 0-2 year interval. As measuring height is not too technical so AWWs can be trained to measure length. As with present skills it would be unrealistic to expect from AWW to calculate BMI; at AWCs children may be identified as stunted, or stunted and wasted by using the three indicators other than BMI and can be suitably managed. Body Mass Index which involves relatively difficult calculation is inappropriate for use in the field and, if needed, can be computed at Headquarters level. However, it was understood that the present state of the programme will require capacity building of the AWW with grassroots level coordination from the health functionaries for this to take effect. Also, considering the

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pros and cons of the different criteria the Task Force was unanimous in its decision that Nutrition Monitoring is crucial. It is suggested that for better monitoring and gauging the impact of the programme regular surveys be required for generating sex disaggregated data at the district level. It was noted during deliberation that the criteria of weight for age followed presently under ICDS are easy and simple both operationally and for regular monitoring. Moreover, the WHO standards on weight

for age are to be incorporated to monitor malnutrition under ICDS.

Thus, the parameters which could form the basis for policy options for measuring childhood malnutrition could be weight for age, weight for height, height for weight and body mass index (BMI). It was further emphasized that programmatically the criteria to be adopted should be simple and easy to adopt.

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# Chapter-III

## Causes and Consequences of Malnutrition

### 3.1. The Causal Framework of Malnutrition

The extent and level of prevalence of malnutrition in India has been summarized in Chapter-I. In order to evolve a suitable policy option and to devise appropriate strategy to tackle the problem, knowledge about the causes and consequences of childhood malnutrition is essential. One

way of projecting this, is the UNICEF causal framework of child malnutrition conceptually outlined below tracing the course and complexity of child malnutrition from causes to outcomes. It classifies the causes depending upon the proximity of the causes to the outcome of malnutrition and its consequences. The conceptual causal framework of child malnutrition is summarised, in the figure below (UNICEF 1990).

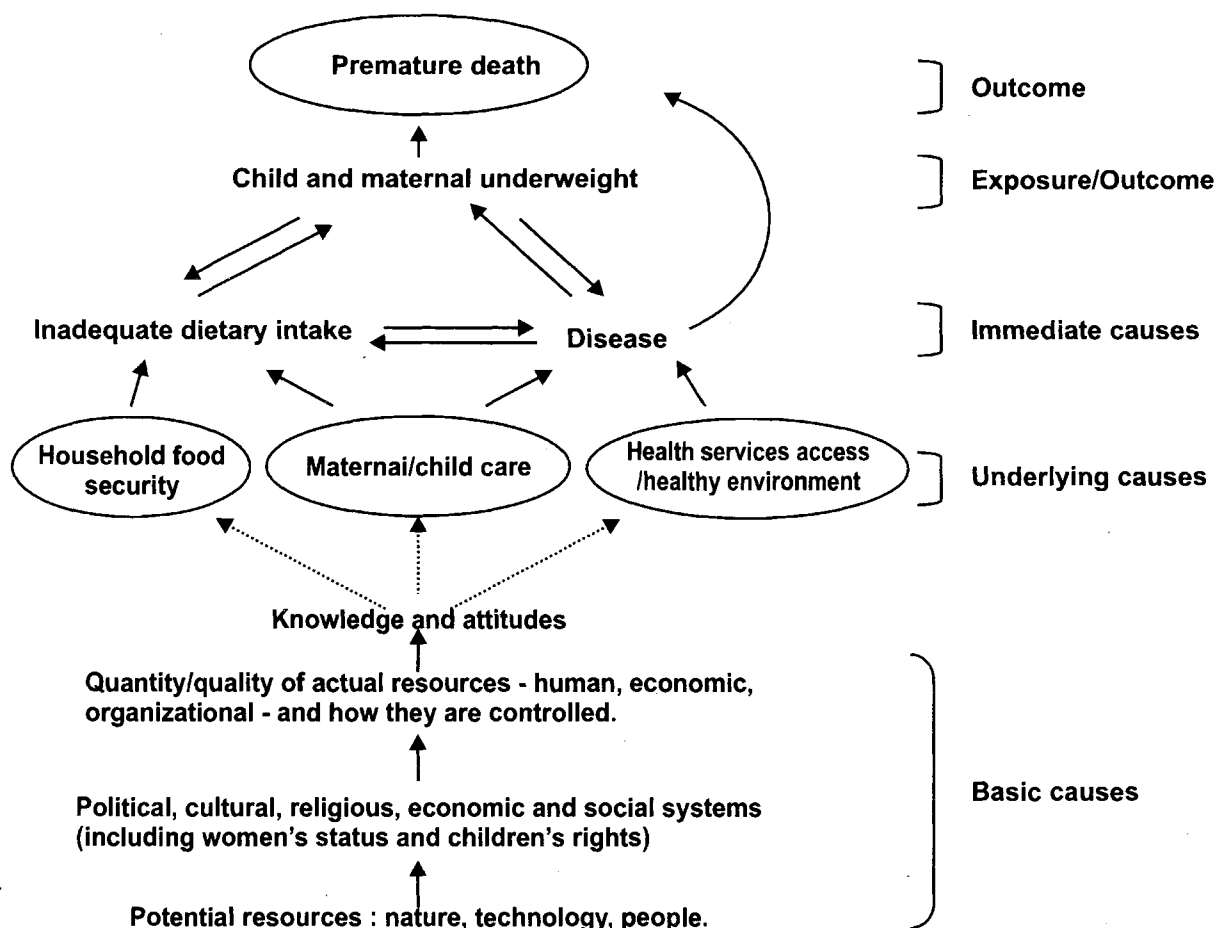


Figure 1: Causal Framework of for child malnutrition; Adapted from UNICEF (1990)



**3.2 The causes / indicators of malnutrition reflected in NFHS are summarised in the Table below.**

<b>Indicators (in percentage)</b>	<b>NFHS-1 (1992-93)</b>	<b>NFHS-2 (1998-99)</b>	<b>NFHS-3 (2005-06)</b>
Women married by 18 yrs.	54.20	50.00	44.50
Women age 15 -19 already mothers or pregnant at the time of survey	N.A.	N.A.	16.00
Mothers who had at least 3 ante -natal care visits for their last birth	43.90	44.20	50.70
Mothers who consumed IFA tablets for 90 days or more when they were pregnant with their last child	N.A.	N.A.	22.30
Births assisted by Doctor/ Nurse/ LHV/ANM/Other Health Personnel	33.00	42.40	48.30
Institutional births	26.10	33.60	40.70
Mothers who received post-natal care within 2 days of delivery of last birth	N.A.	N.A.	36.40
Children 12-23 months fully immunized	35.50	42.0	43.50
Children with diarrhoea in the last 2 weeks before survey who received ORS	17.80	26.90	26.20
Children with diarrhoea in the last 2 weeks taken to a health facility	61.90	65.30	58.0
Children with acute respiratory infection or fever in the last 2 weeks taken to a health facility	N.A.	N.A.	64.20
Children under 3 yrs. Breastfed within one hour of birth	9.50	16.0	23.40
Children age 0-5 months exclusively breastfed	N.A.	N.A.	46.30
Children age 6 -9 months receiving solid or semi -solid food and breast milk	N.A.	N.A.	55.80
Children under 3 yrs. Who are stunted	N.A.	45.50	38.40
Children under 3 yrs. who are wasted	N.A.	15.50	19.10
Children under 3 yrs. Who are underweight	51.50	47.0	45.9
Women who Body Mass Index is below normal	N.A.	36.2	33.0
Children age 6-35 months who are anaemic	N.A.	74.2	79.2
Pregnant women age 15-49 who are anaemic	N.A.	49.70	57.90

*Table-6: Status of indicators that are Causes of Malnutrition; Source NFHS I, II and, III*

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### 3.3. Causes of Malnutrition

The causal framework outlines the diverse causes of malnutrition. The causes can be physical, attitudinal, socio-economic & historical and governance related. (Malnutrition, an Emergency: What It Costs the Nation -Mrs. Veena S. Rao, 2008).

#### 1. The Physical causes

The physical causes that contribute to malnutrition are – hunger, calorie deficit, micro-nutrient deficit, low consumption of energy giving protective foods (i.e. protein, iron, vitamins, minerals etc.), infection and diseases. The hunger, calorie and micro-nutrient deficit aspect can be directly related to the extent of poverty in the country. As per the survey of 2004-05 the country has 27.5% of families still living Below Poverty Line (BPL). Poverty obviously deprives children of adequate intake of food and makes them victims of hunger and calorie deficit. Children from such families hardly have any scope for consumption of any food that compensates for their micro-nutrient deficiency. As regard energy giving and protective food, the NFHS-3 shows that only 22.3% of the mothers in India are able to consume IFA tablets for 90 days or more during their pregnancy. NFHS-3 also shows that 16% of the women are already mothers or pregnant between the age of 15-19 years. The outcome of such poor nutrition status of mothers together with marriage at a very young age is high prevalence of low birth weight babies. Malnutrition of the child begins in-utero. Almost a third of babies born in India weigh less than 2.5 kgs at birth (NFHS-3).

### 2. The Attitudinal Causes

There are also attitudinal causes for high prevalence of malnutrition. Prevailing social customs and attitudes do not encourage colostrum feeding of the new born which is very essential for development of a proper immune system in the child. Exclusive breastfeeding, in the early months is equally essential for the healthy growth of the child. The NFHS findings however, do not point towards wide prevalence of breastfeeding practices in India. 24.3% of the children are breastfed within one hour of birth and only 46.3% are exclusively breastfed up to 5 months after birth (NFHS-3). Introduction of complementary feeding at an appropriate time is another significant aspect to prevent the onset of malnutrition amongst children. However, only 55.8% of the children of 6-9 months in India are provided solid or semi-solid food in addition to breast milk. The other attitudinal causes that lead to malnutrition amongst children are discrimination against the girl child and low female literacy, besides early marriage and early and multiple pregnancies as mentioned earlier.

### 3. Socioeconomic Causes

Poverty and low income is a dominant socio-economic factor that leads to malnutrition. The extent of poverty prevailing in India has already been mentioned earlier. Other factors in this category are ignorance and lack of awareness about proper dietary practices and proper health and nutritional care etc even when poverty does not exist.

#### 4. Governance Issues

The governance related issues like inadequate and poor health and child care services such as inadequate immunization coverage, low percentage of institutional deliveries, absence of ante-natal care etc., also contribute largely towards prevalence of malnutrition amongst children. It could be seen from table 6 that less than 50 % of births (48.3%) in India are assisted by health personnel, only 40.7% are institutional deliveries and just 36.4% of the mothers received post-natal care. Further only 43.5 % of children were fully immunised in 2005-06 which is just a marginal improvement over 42% of 1998-99.

#### 3.3. Malnutrition : An Intergenerational problem

The malnutrition is said to be an inter-

generational problem which passes invisibly from one generation to other.

Malnutrition passes on from one stage of life to the other; from infancy to childhood to teenage and on to motherhood. The inter-generational aspect of the malnutrition may assume the dimension of a vicious circle unless tackled properly. The cycle may start with a low birth weight baby, growing to be stunted/wasted/under-weight and then to a malnourished adolescent girl and subsequently to a malnourished and under developed mother resulting ultimately in birth of a child with low birth weight [Figure 2].

The causes and consequences of malnutrition vary with the various stages of the life cycle. These causes could be direct causes or indirect causes and have been summarized vis-a-vis the life stages in the Table given below:

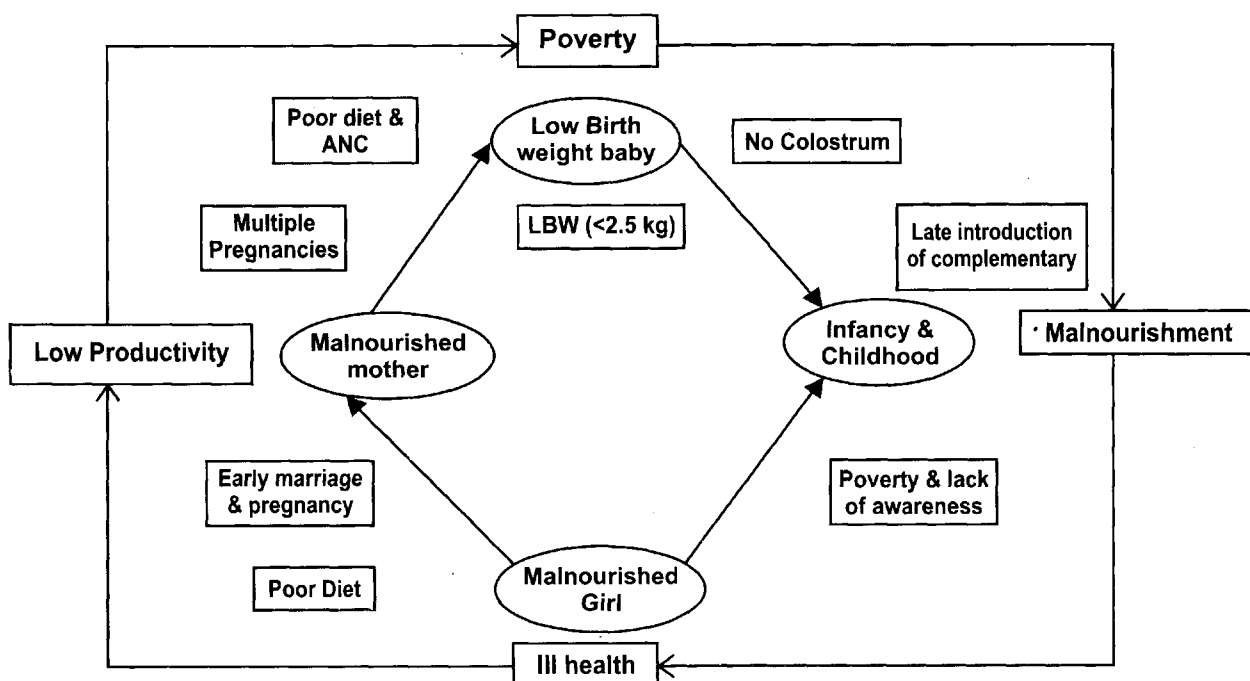


Figure 2: The Intergenerational cycle of malnutrition and Ill-health; Source CAPART

Life Stage	Direct Causes of malnutrition	Indirect causes of malnutrition	Consequences of malnutrition
Infancy and Childhood	<ul style="list-style-type: none"> <li>• Low Birth weight</li> <li>• Discarding of Colostrum</li> <li>• Delayed initiation of breast feeding</li> <li>• Not exclusive breast feeding</li> <li>• Delayed introduction of Complementary Foods</li> <li>• Micronutrient Deficiency</li> <li>• Lack of immunization</li> </ul>	<ul style="list-style-type: none"> <li>• Poverty</li> <li>• Lack of information and awareness</li> <li>• Inadequate care of children</li> <li>• Unsafe water and lack of sanitation</li> <li>• Lack of personal and food hygiene</li> <li>• Worm infestations</li> <li>• Frequent infections and prolonged diarrhoea</li> <li>• Low immunity</li> <li>• Lack of access to health services</li> </ul>	<ul style="list-style-type: none"> <li>• High Infant and Child Mortality Rates</li> <li>• Low Birth Weight/ Underweight</li> <li>• Stunting and Wasting</li> <li>• Protein Energy Malnutrition</li> <li>• Anaemia</li> <li>• Diarrhoeal Deaths</li> <li>• Vitamin A deficiency</li> <li>• Infections and Diseases</li> <li>• Impaired physical and cognitive development</li> <li>• Reduced learning power</li> </ul>
Adolescent Girls	<ul style="list-style-type: none"> <li>• Low calorie intake/ consumption</li> <li>• Lack of consumption of protein and iron rich foods</li> <li>• Micronutrient Deficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Poverty</li> <li>• Gender discrimination</li> <li>• Lack of information and awareness</li> <li>• Lack of education</li> <li>• Early marriage</li> <li>• Adolescent Pregnancy</li> <li>• Frequent child bearing</li> <li>• Frequent infections</li> <li>• Worm infestations</li> <li>• Unsafe Water and lack of sanitation</li> <li>• Lack of personal and food hygiene</li> <li>• Lack of access to health services</li> </ul>	<ul style="list-style-type: none"> <li>• Under Weight</li> <li>• Stunted Growth</li> <li>• Lower Cognitive ability</li> <li>• Iron Deficiency Anaemia</li> <li>• Iodine Deficiency</li> <li>• Less physical strength and low productivity</li> <li>• In the case of married adolescents, most of the consequences that mothers and women face, are also consequences for married adolescents / adolescent mothers</li> </ul>
Mothers and Women	<ul style="list-style-type: none"> <li>• Low calorie intake/ consumption</li> <li>• Lack of consumption of protein and iron rich foods</li> <li>• Micronutrient</li> </ul>	<ul style="list-style-type: none"> <li>• Frequent child bearing</li> <li>• Lack of access to basic health services</li> <li>• Lack of information and awareness</li> <li>• Frequent infections</li> </ul>	<ul style="list-style-type: none"> <li>• Small stature and increased complications of pregnancy</li> <li>• Low immunity</li> <li>• High Maternal Mortality Rates</li> <li>• Chronic energy deficiency</li> </ul>

Table-7 : Causes and Consequences of Malnutrition for Infants, Adolescent Girls and Women\*  
Source : Malnutrition, an Emergency: What it Costs the Nation, Mrs. Veena S. Rao, 2008

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As could be seen from the table, the growth during infancy and childhood depends on birth weight, adequacy of infant feeding and absence of infection. All major nutritional surveys in India (NNMB, NFHS, DLHS) have focused on dietary intake and nutritional status of preschool children. All these surveys have shown that the message of exclusive breast-feeding up to six months and gradual introduction of semisolids from six months (which are critical for the prevention of under-nutrition in infancy) has not been as effectively communicated. Inappropriate infant and young child feeding and caring practices appear to be responsible for the relatively slow reduction in under nutrition rates between the three NFHS surveys. Too early introduction of milk substitutes and too late introduction of complementary food are associated with increased risk of infection. Infections, if not, detected and treated effectively in the primary health care settings, will result in under-nutrition. Also malnourished infants tend to be affected with diarrhoea more adversely resulting in death and adverse outcomes compared to well-nourished children. The undernourished children are more often than not deficient in important nutrients predisposing them to infections and diseases, anaemia, reduced learning

power, wasting and stunting in later life. Also if an adolescent girl consumes low calorie food which is lacking in essential nutrients due to poverty, gender discrimination, lack of education or awareness it leads to under nutrition and stunted growth. The resulting short stature predisposes this girl to have complications during her pregnancy owing to difficult labour and/or small pelvis. The micronutrient deficiency among adolescent girls may lower cognitive ability, physical strength and productivity as well as anaemia and iodine deficiency. The latter two conditions may lead to adverse birth outcomes in future pregnancies.

Later in life, undernutrition among women and expectant mothers due to similar reasons may lead to anaemia, unfavourable birth outcomes, chronic energy deficiency and high maternal mortality. Thus it can be seen that malnutrition at different stages of life is a result of different reasons and results into consequences which negatively affect the quality of life. An understanding of these causes and consequences is essential to ensure that policies take cognizance of and are sensitive to the micro picture of nutrition which can be used to formulate approaches to address different issues at all the stages of a girl's/women's life.

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## Chapter-IV

# On-going Programmes

### 4.1. History of Initiatives :

India has a long history of addressing the problem of malnutrition. Specific initiatives in this regard, started during the 7th Plan (1985-90) through identification and monitoring of 27 Beneficiary Oriented Schemes (BOS) in various developmental sectors including nutrition. The BOS monitoring was put into action in 1986 at the instant of the PMO.

The National Nutrition Policy (NNP) was announced in 1993. The policy recognizes children below 6 years and expectant and nursing mothers as nutritionally vulnerable and also as the 'high risk' groups. It accordingly provides highest priority to them in all policies and programmatic interventions. The policy advocates comprehensive inter-sectoral strategy for alleviating all multi faceted problems of under-nutrition and its related deficiencies and diseases so as to achieve an optimal state of nutrition for all sections of the society but with a special priority for women, mothers and children who are more vulnerable to malnutrition. Keeping this in view, ICDS was launched in 1975 to provide supplementary feeding to bridge the nutritional gaps of children below 6 years and expectant and nursing mothers. During the Ninth Plan the strategy to reduce malnutrition included screening of pregnant and lactating mothers per CED; identifying women with weight below 40 kgs; providing them adequate ante-natal, intra-

partum and neo-natal care under the RCH programme and, ensuring that they receive food supplementation through the ICDS.

In 2000-2001, under the Pradhan Mantri Gramodaya Yojana (PMGY), Government of India provided additional central assistance to the states through its nutrition component to prevent onset of under-nutrition in the age group 6-24 months, which has since been discontinued. Now, under the National Programme of Nutrition Support to Primary Education (also known as Mid-Day Meal Programme) supplementary nutrition is being provided to school going children at primary level.

### 4.2. On-going Initiatives by the Governments :

The on-going schemes/programmes relevant to childhood malnutrition of various Central Ministries/Departments are summarized below:

#### 4.2.1. Ministry of Women and Child Development

The ICDS is a country-wide flagship Centrally Sponsored Scheme under implementation in the country since 1975-76. It started on a pilot basis in 33 community development blocks. The scheme aims at improving the nutritional and health status of children in the age group

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of 0-6 years and pregnant and lactating mothers through a package of six basic services comprising - supplementary nutrition, immunization, health check up, referral services, pre-school non-formal education, and nutrition and health education.

At the beginning of the 10th Plan, there were 5652 sanctioned projects in the country. Following Supreme Court's directives to increase the number of AWCs so as to cover 14 lakh habitations and an agenda in the National Common Minimum Programme (NCMP) to provide a functional Anganwadi in every settlement and to ensure full coverage of children, the scheme has since been expanded. As of now, there are 6284 sanctioned projects and 10.53 lakh sanctioned anganwadi centres. Out of this, 6070 projects and 10.13 lakh anganwadi centres were operational upto February 2008 covering 8.43 crore beneficiaries (comprising 6.96 crore children and 1.47 crore mothers).

A major objective of ICDS is to enhance the nutritional status of children below 6 years and pregnant and lactating mothers. The scheme has been in operation for more than 3 decades. However, the level of malnutrition prevailing in the country, as revealed from the NFHS-3 suggests that the performance of the scheme has not been as expected. Some of the major shortcomings of the scheme that have emerged, as a result of various reviews and evaluations, including review of the scheme by the Planning Commission and World Bank (2005), are - inability of the States to share the cost of Supplementary Nutrition; delay

in release of funds by the State; centralization of food procurement process and standardization of food distributed; delay in some States in operationalization of the projects; too much emphasis provided to food distribution and lack of required attention to other effective interventions for child nutritional outcome, e.g. improving child care behaviours and educating parents how to improve nutrition using the family food budget; states with the highest level of under-nutrition having much lower level of programme funding and coverage; a weak pre-school education component etc.

Therefore, a strong need for the restructuring of the scheme was felt which has been got done in 2008-09 along with its universalisation. Under this scheme, 14 lakh AWCs and 7092 ICDS projects would be covered. Some of the major areas in which the restructuring has been done were recommended after reviewing the issues within the earlier structure. During implementation the following issues need to be addressed: ensuring regularity in supplying supplementary nutrition in anganwadis; decentralized procurement of food and distribution of food in anganwadis as per local taste and preference; employing most effective intervention for nutritional outcome by improving child care behaviours and educating parents how to improve nutrition using the family food budget; education to improve domestic child care and feeding practices; emphasizing disease control and prevention activities and micronutrients supplementation; greater coverage with the health sector i.e. by Reproductive and Child Health Programme; better targeting of the

scheme toward the most vulnerable age groups (children under three and pregnant women); involving communities, SHGs, Mother Groups in the implementation and monitoring of ICDS; strengthening of the pre-school education component etc. While monitoring and evaluation activities under the scheme need to be streamlined through the collection of timely, relevant, accessible, quality information, the suggestions were also for adequate focus on promotion of breast feeding as well as maternity entitlement in the form of Conditional Maternity Benefit.

#### **4.2.2. Ministry of Health and Family Welfare :**

The Ministry of Health and Family Welfare under the umbrella of National Rural Health Mission (NRHM) integrates all family welfare and women and child health services with the explicit objective of providing beneficiaries with the need based, client centred, demand driven, high quality integrated reproductive and child health services. The NRHM provides for initiatives directed towards nutritional well being through Reproductive and Child health (RCH) programme.

The RCH programme under the umbrella of NRHM provides effective maternal and child health care; micronutrient interventions for vulnerable groups, reproductive health services for adolescent, etc. Some of the micronutrient initiatives dealt with in the RCH programme are enumerated as under :

- a. For controlling Iron Deficiency Anaemia: Iron and Folic acid tablets are being distributed through sub centres (SC) and Primary Health Centres (PHC) to targeted population viz. pregnant women, lactating women, family planning acceptors and children (1-5 years old).
- b. To prevent Vitamin A deficiency: Vitamin A supplementation is provided to children in the country with measles vaccination as well as through bi-annual drives.
- c. National Iodine Deficiency Disorders Control Programme: The programme involves making iodised salt accessible to the population in the endemic areas.
- d. Control of Diarrhoeal Disease: Zinc has been added as an adjunct to ORS administration for all diarrhoeal cases to reduce mortality and morbidity associated with diarrhoea. Zinc tablets are administered to all children above 6 months suffering from diarrhoea.
- e. Infant and Young Child (IYC) Feeding In order to promote early initiation of breastfeeding, exclusive breastfeeding till 6 months, timely and adequate complementary feeding from 6 months and continued breastfeeding till 2 years in order to address childhood under-nutrition.
- f. In addition, the RCH programme is carrying out the following activities as well :



- Implementation of a State wise behaviour change effort promote breastfeeding by involving all grassroots workers viz., ASHAs, AWWs, ANMs, village practitioners, link volunteers etc., panchayats, self help groups, agents of change opinion leaders, NGOs and employing mass media.

- Augmentation of ANMs/AWWs' contacts with mothers. Promotion of home visits by ASHAs, AWWs in the antenatal and postnatal periods as a part of IMNCI activities and use of contacts to promote breastfeeding.

- Use of immunization sessions and field visits of ANMs and male health workers for feeding counseling and strengthening of breastfeeding promotion efforts.

- Improvement of feeding counseling skills of providers. Training ASHAs, AWWs, ANMs, LHVs, link volunteers, as well a physicians (government, private general, specialists; modern, ISM) and nurses in lactation and feeding counseling techniques through pre-service and in-service training and education.

- Promotion of appropriate and adequate complementary feeding. Strengthening the ASHAs/AWW's role through supportive supervision and monitoring, use all health related contacts to counsel mothers about solid foods; emphasize portion size and calorie density; promote

culturally acceptable, low cost, balanced and locally available infant foods.

- Monitoring of breast feeding rates through early initiation rates, exclusive breast feeding rates and complementary feeding rates on a regular basis.

As per a Common Review Mission, Assam, Gujarat, Tamil Nadu, West Bengal, Andhra Pradesh and Rajasthan are the 'best performing' states under NRHM. The 'average' performing states are Bihar, Madhya Pradesh, Orissa, and Tripura and the States ranked 'worst performing' are Uttar Pradesh, Chhattisgarh, Jammu & Kashmir.

Some of the issues that need to be addressed for better performance of NRHM are lack of uniformity in the increase in OPD or IPD attendance; too much focus on physical infrastructure rather than on quality of services; critical gaps in human resources at all levels – especially nurses & specialists and poor quality of trained personnel; biased selection and inadequate training, narrow focus on incentivised functions i.e. irregular payment; lack of credibility with community – clash with village level functionaries; unavailability of adequate drug kits; poor quality care, lack of infrastructure for delivery, over reporting of centre based deliveries, non-payment of money to ASHA/ANM/AWW under Janani Suraksha Yojana (JSY); missing logistical support for doctors appointed under AYUSH, missing communitization and decentralization; inordinate focus on

disease control and RCH programme; little systematic involvement of NGOs; inadequate efforts towards identification, replication and upscaling of best practices; inadequate MIS system etc.

#### **4.2.3. Ministry of Panchayati Raj**

The Ministry of Panchayati Raj implements the Backward Region Grant Fund (BRGF), (originally Rashtiya Sam Vikas Yojana) under which funds provided could be used for interventions relating to nutrition of children by panchayat in rural areas and municipalities in urban areas. The nutrition component of the scheme is especially provided for the KBK districts of Orissa because of the high incidence of infant mortality, under-five mortality, high prevalence of child malnutrition and wide prevalence of anaemia and malnutrition amongst adolescent girls and women in these districts. The assessment of the programme in KBK districts shows that its performance has been highly satisfactory. The percentage of children (0-3 yrs. age) suffering from severe malnutrition has decreased from 3.4% in 1998 to 2.01% in 2007. Similarly, percentage of children (3-6 yrs. age) suffering from severe malnutrition has decreased from 1.74% to 0.58%.

#### **4.2.4. Ministry of Human Resource Development**

In the Ministry of Human Resource Development under Department of School Education and Literacy the Mid Day Meal (MDM) scheme was launched on 15th August 1995, initially in 2408 blocks in the country with a view to enhancing

enrolment, retention and attendance and simultaneously improving nutritional levels among children. In September 2004 the scheme was revised to provide cooked mid day meal with 300 calories and 8-12 grams of protein to all children studying in classes I-V in Government and aided schools.

The performance of the scheme so far has been mixed across the states. Andhra Pradesh, Haryana, Karnataka, Kerala, Madhya Pradesh, Rajasthan and Tamil Nadu are in the 'very good' category and Chhattisgarh, Gujarat, Jharkhand, Maharashtra, Orissa, U.P., Uttaranchal and West Bengal are in the 'good' categories. All other states are in the 'average' category in terms of their performance. Only Chhattisgarh, Gujarat, Madhya Pradesh and Karnataka have also been providing micro-nutrients and de-worming medicines to the children under the scheme.

There are some issues concerning the scheme which need urgent attention viz., absence of base line survey for assessing outcomes, inadequacy of monitoring and management of structure in many states, poor attendance/retention in some areas including EGS/AIE centres in urban areas and drought/flood affected areas, in spite of MDM, mismatch between enrolment, attendance, children availing MDM, utilization of cooking attendance and lifting of food grains in spite of a multi-tier monitoring mechanism, problem of lifting and reaching of food grains to schools in difficult areas, inadequacy of quality control of food in some states etc. Some of the suggestions for improvement in the programme are - management and

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difficult areas, inadequacy of quality control of food in some states etc. Some of the suggestions for improvement in the programme are - management and supervision of MDM by local community and linking with incentives in order to increase attendance/retention rate and ensure better accountability in implementation of the scheme; states to be encouraged to provide micro-nutrient supplementation and de-worming tablets; variation in menu including green leafy vegetables, healthy food, managed and supervised by local community/PRI, safety norms regarding storage of food grains, gas cylinders and cooking etc.

#### **4.3. CAPART's Scheme to combat Malnutrition**

CAPART had formulated a Model Scheme

with a view to promote Community Initiatives to Combat Malnutrition and provide Income Generation in the Backward Regions of India. The Scheme serves the dual purpose of combating malnutrition as well as providing self employment to women's Self Help Groups, which produce, distribute and market the energy foods in the community. The scheme is constructed on the principles of the inter-generational, life cycle approach, with interventions to address the key stages of the life-cycle, viz. infancy and childhood, adolescence, and motherhood, through nutritional and health awareness and dietary supplementation by low cost, indigenous energy food locally prepared by Women's self help Groups.

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## Chapter-V

# Experiences of Nutritional Programmes: ICDS and Beyond

### 5.1. Approaches to improving Child Health and Nutrition

In this section, the different approaches to manage malnutrition from certain experiences in India and abroad are described. Broadly, two major approaches are identified to address childhood malnutrition (Figure 3). As can be seen from figure 3, there are multiple routes to achieving reductions in childhood malnutrition. These routes can be broadly clubbed into “short” or “long” routes

(World Bank, 2006) as under :

- (1) The “short route”, which entails focused actions that relate to the immediate causes of undernutrition and actions that are targeted directly to children and women
- (2) The “long route”, which entails broader actions that aim at alleviating some of the underlying causes of undernutrition, interventions and actions that are targeted more broadly to households and communities.

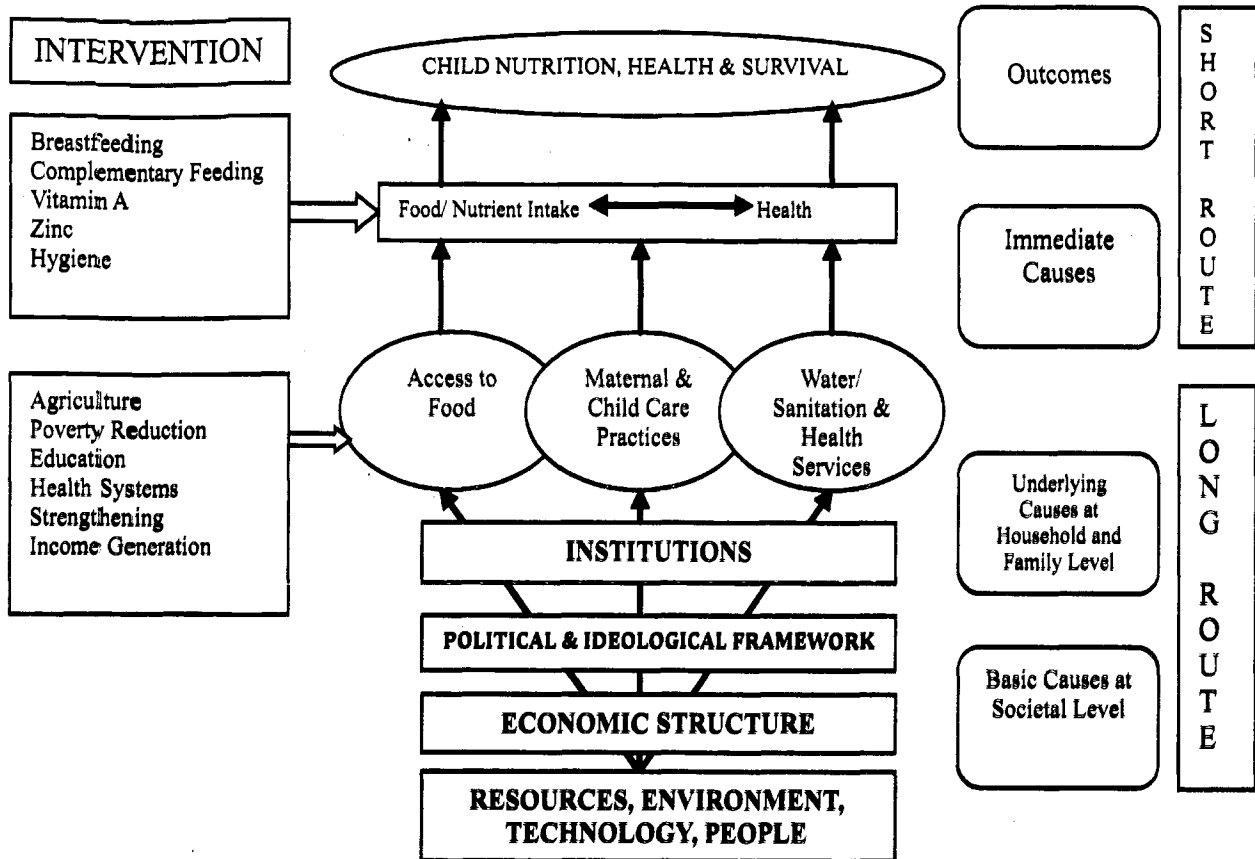


Figure 3: Routes for improving child nutrition: Adapted from UNICEF (1990)

## 5.2. International Experiences

This chapter now discusses four international experiences from developing countries (Thailand, China, Brazil and Vietnam) which through policy interventions have significantly reduced the burden of malnutrition.

### 5.2.1. Thailand :

Thailand halved malnutrition in the mid-1980s and sustained the reductions thereafter (see Figure 4 below). Thailand succeeded in halving child malnutrition between 1982 and 1986 (from 50 to 25 per cent in less than half a decade). Thailand's

Second National Health and Nutrition Policy (1982-86) focused on targeted nutrition interventions to eliminate severe malnutrition, as well as on education and communication efforts to prevent mild to moderate malnutrition. The policy instruments used in Thailand to reduce malnutrition included targeted nutrition interventions to eliminate severe malnutrition, and behaviour change and communication to prevent mild to moderate malnutrition. The Thai policy included social mobilization and relied on community-based primary health care as a delivery system for nutrition and health interventions. Their approach relied on social mobilization and community-based primary health care.

### Thailand : Reduced underweight rapidly in 15 years

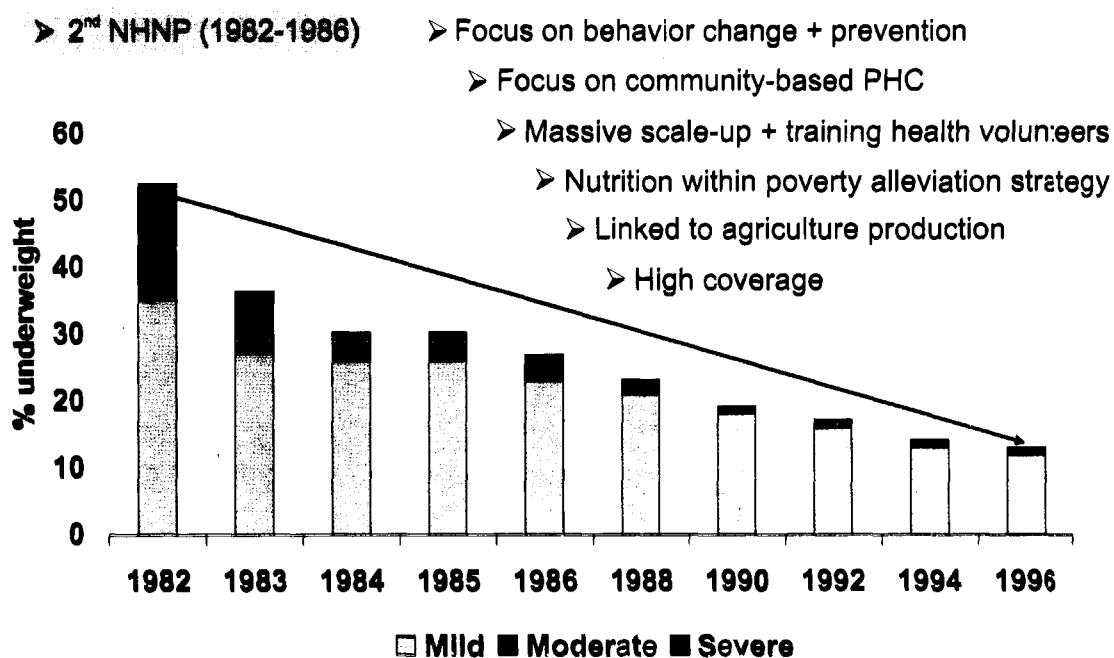


Figure 4: Reduction in childhood underweight in Thailand between 1982 and 1996.

The country invested in large numbers of health volunteers, with significant training. Health volunteers underwent extensive training and massively increased in numbers, reaching a ratio of 1 health volunteer for 20 households. This in turn ensured that the targeted, and achieved, coverage was high.

Factors that contributed to the successes in Thailand included clarity of vision and adequate planning for scaling up. Additionally, nutrition was integrated within the National Economic and Social Development Plan, and linkages between agriculture and nutrition were established, ensuring sustainability. Social mobilization and community-level involvement were

highly successful. A strong local, action-oriented surveillance system allowed for monitoring and evaluating progress. Last, but perhaps most importantly, the country made a large investment, accounting for approximately 20% of total government expenditure on health and a similarly high percentage on education during these years (Tontisirin and Bhattacharjee, 2001).

### 5.2.2. China :

China reduced child malnutrition by more than half between 1990 and 2002 (from 25% to 8% in 12 years) and achieved the MDG 1 on income and non-income poverty in 2002. Figure 5 shows the decline in percentage of underweight children in China.

## China: Reached MDG1 in 2002

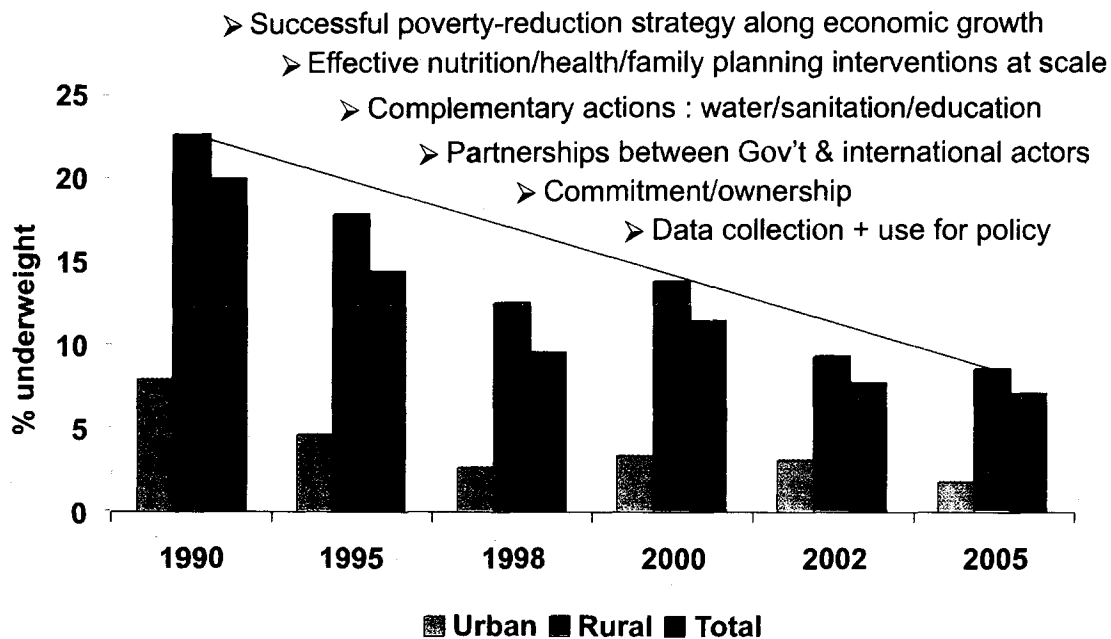


Figure 5: Reduction in percentage of children underweight from 1990 to 2005 in China.

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The policy instruments that contributed to China's success included that China pursued a successful poverty alleviation strategy along with rapid economic growth. At the same time, effective nutrition, health, and family-planning interventions were implemented at a large scale. Finally, 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% and the share of illiterate women fell from 22.5% to 7.0%).

Some important success factors in the China experience were that the central leadership was sincerely committed to the process and the establishment of local government ownership. 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 policy-makers and used for policy-making. Strong and effective partnerships were established between the Chinese government and international partners. Though in case of China the share spent on health was relatively low (~3–4%).

### 5.2.3. Brazil

Brazil was able to accomplish a 60 per cent reduction in child malnutrition (from 18 to 7 per cent) from 1975 to 1989, with reductions in infant mortality from 85 to 36 deaths per 1,000 live births in the same period. This followed a period of economic growth and

poverty reduction from 1970 to 1980. Brazil adopted a Zero Hunger Strategy which coordinated programmes from 11 ministries and which had strong national level leadership. The major inputs used in this strategy were increased numbers of health care providers, investments in public and private food distribution programmes and in social-sector spending on water and sanitation, health and education.

### 5.2.4. Vietnam

Vietnam was able to reduce child malnutrition from 45 to 27 per cent between 1990 and 2006. This followed a period of economic growth starting in the mid 1980s that showed poverty rates falling from over 60 per cent in 1990 to 18 per cent in 2004. The country created successful child health and family planning programmes and increased awareness of nutrition. Nutrition goals were included in Vietnam's Socio-economic Development plan and programmes and included a wide range of stakeholders such as the Women's Union, the Youth Union, and the Farmers Association. The proportion of health budget dedicated to nutrition programmes was (and still is) high: nutrition accounts for 25 per cent of national target programmes for health, even though nutrition is only one of ten target programmes.

### 5.2.5. Lessons from International Experiences

While one size does not fit all, the broad lessons learnt for designing a policy package to effectively ensure reductions in

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childhood malnutrition while also ensuring other public health and economic goals include:

- A combination of short- and long route interventions may be a good mix to address malnutrition;
- A significant scaling up of public spending will address issues of malnutrition;
- Strong government action coordinated across central, state and local levels; and across sectors;
- Commitment of leadership at the highest level to ensure attention across branches of government and regions to address issues of malnutrition;
- Inclusion of vulnerable groups and communities in terms of mobilization and information sharing; and
- A strong monitoring and evaluation culture that provides a basis for incentives and correction of policy actions in the context of implementation;

### **5.3. Experiences from India: ICDS and beyond**

The ICDS is a country-wide flagship Centrally Sponsored Scheme that has been going on in the country since 1975-76. It started on a pilot basis in 33 community development blocks. The scheme aims at improving the nutrition, health and development of children in the age group of 0-6 years and the nutritional status of pregnant and lactating mothers through a package of six basic services comprising -

supplementary nutrition, immunization, health checkups, referral services, pre-school education, and nutrition and health education. Although this programme includes an integrated set of interventions that attempt to address the problems of undernutrition both through short route interventions (supplementary food, immunizations, etc.) and long route interventions (improving education of young children), the programme has generally fallen short in obtaining optimal impacts on reducing the prevalence of undernutrition among its participants.

Due to these shortcomings, revisions to the programme have been made over the years and some of these have been successful in improving nutrition outcomes. A recent review examined some of the different practises within and outside ICDS and attempted to identify those that are considered promising and best practices according to a framework which examines the evidence of success and the replicability of the practices. According to this review the specific initiatives that are considered successful include 'Anchal Se Angan Taak' (ASAT), Dular, Positive Deviance (PD) and The Reproductive and Child Health, Nutrition and HIV/AIDS Programme (RACHNA). These initiatives have been able to demonstrate effectiveness in reducing malnutrition with rigour (compared to control) and replicability, as expansion of these are already taking place.

#### **5.3.1. Anchal Se Angan Taak (ASAT)**

The ASAT programme was initiated in February 2004 in Rajasthan by Department



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of Women and Child Development with support from UNICEF. The programme has demonstrated a positive impact on improving maternal and child health and nutrition outcomes. Specifically, the prevalence of stunting was lower in ASAT areas compared to control areas (35% vs. 45%) and the prevalence of diarrhea was also lower in intervention areas compared to control areas. Infant and young child feeding practices were also better in ASAT compared to non-ASAT areas. Mothers in ASAT areas were more likely to feed colostrums to newborns compared to mothers in non-ASAT areas (47% vs. 18%) and were also less likely to feed sugar water before the initiation of breastfeeding (40% vs. 51%). In addition, significantly more pregnant women received IFA tablets during pregnancy in ASAT compared to non-ASAT areas.

The programme targets children under three years of age; adolescent girls; and, pregnant and lactating women. The key factors that likely to have contributed to the success of this programme were increased support at the village, block and district levels, improved training, improved monitoring systems, provision of household level counseling and the introduction of specific days for providing health and nutrition services. To ensure adequate programme support ASAT introduced an additional worker to support the AWW (ASHA / Sahyogini) as well as introduced a new team of volunteers at the village level to support the work of the AWW. In addition, at the district level two teams were formed; one was used to monitor the progress of the programme and to provide on the job

training and the other was used to oversee implementation and to review overall progress as well as to improve coordination between sectors. The programme also aimed to improve training of staff and monitoring of progress through the introduction of new tools for both of these activities. In addition, the programme adopted / utilized Maternal and Child Health Days as well as Fixed weighing and counselling days. The use of these fixed days is likely to have resulted in improved utilization of programme inputs such as immunizations, vitamin A supplementation, iron and folic acid supplementation and, education related to maternal and child health nutrition issues.

### **5.3.2. Dular Strategy**

The Dular strategy was initiated in 2001 in Bihar and later on also implemented in Jharkhand, by Departments of Women and Child Development, with support from UNICEF. The Dular Strategy demonstrated a positive impact on both the prevalence of stunting and underweight among children. In Dular villages the prevalence of stunting was 62% compared to 72% in non-Dular villages and the prevalence of underweight was 56% in Dular villages compared to 65% in non-Dular villages. In addition, Dular villages had a significantly higher rate of colostrums feeding at 84% compared to non-Dular villages (64%). However, there was no difference in complementary feeding practices between the two areas.

This programme targeted children less than three years of age; adolescent girls; and, pregnant and lactating women. The Dular

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Strategy utilized community mobilization to increase awareness about maternal and child health and nutrition issues, household level counselling to improve knowledge and practices and regular weighing to monitor children's growth. To support the programme activities the Dular Strategy increased support at the village, district and state levels, increased training and improved monitoring systems both within the ICDS structure and at the household level. Support was provided through the introduction of a team of volunteers at the village level as well as through the utilization of a District Mobile Monitoring and Training Team (DMMTT) to monitor progress and provide on the job guidance to village teams. In addition, a team was formed to ensure adequate implementation of the programme and to improve coordination and monitor overall progress across the district. Monitoring at the household level was improved through the use of monitoring cards that were provided for children and adolescent girls. The cards for the children were used to monitor their growth and the cards for the adolescent girls tracked intake of iron and folic acid tablets and provided information on key health, nutrition and hygiene issues.

### 5.3.3. Positive Deviance

The Positive Deviance approach was started as "Kano Parbo Na" programme by Department of Women and Child Development, Government of West Bengal with support from UNICEF. Positive Deviance (PD) is a strategy to make severe and moderate grades of malnutrition 'visible' to the community and identify the

positively deviant families to share their knowledge and practices with the community for easy and fast track replication. The approach aims at reducing malnutrition in the age group of 0-3 years focusing on shared learning and practice of easy, doable and beneficial child care practices followed by a handful of families to nurture their babies. The initiative has been implemented in two districts of West Bengal. The budget earmarked for the intervention in West Bengal was about Rs.101.28 lakhs. The key factors that are likely to have contributed to the success of this programme were improved training for AWWs, community involvement, effective nutrition and health education sessions and an additional monitoring system specifically for PD. The Positive Deviance (PD) strategy had a positive impact on the prevalence of stunting among all children and on the prevalence of stunting and underweight among children 12-17 months of age. The prevalence of stunting was significantly lower in Positive Deviance areas as compared to control areas (27% vs. 32%). The difference in the prevalence of stunting between intervention and control areas was greater among children 12-17 months of age (25% vs. 37%) and the prevalence of underweight was also significantly lower in intervention areas as compared to control areas in this age group (46% vs. 63%). Some infant and young child feeding practices were also significantly better among mothers in PD areas compared to control areas including both breastfeeding and complementary feeding practices. In addition, a significantly higher proportion of children were fully immunized in PD versus non PD areas (86% vs. 68%) and more children received vitamin A supplements.

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### **5.3.4. Reproductive and Child Health, Nutrition and HIV/AIDS Programme (RACHNA)**

The RACHNA programme was initiated in nine states namely, Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, and West Bengal with support from Department of Women and Child Development and CARE. The RACHNA programme demonstrated a protective effect against wasting compared to a control area after 18 months – In control areas the prevalence of wasting increased from 6.7 to 13.8% and from 4.9 to 8.5% in intervention areas. In addition, a pre post evaluation indicated that the prevalence of underweight decreased by 8 percentage points over a period of 8 years. Infant and young child feeding practices, including both behaviours related to breastfeeding and complementary feeding, were better in intervention areas compared to control areas. And the proportion of beneficiaries receiving vitamin A and iron and folic acid supplementation was significantly higher in intervention areas compared to control areas.

The programme targeted children under two years of age and pregnant and lactating women and included activities such as fortified oil distribution and fixed days for distribution of take home rations combined with the provision of health services. Support for the programme was increased through the introduction of additional volunteers at the village level as well as additional support at the block, district and state levels. Training was improved through the use of structured training sessions and monitoring was improved through the

use of community monitoring and Rapid Assessments in Panel of Districts (RAPs). The RAPs were annual household surveys that were designed to measure programme outcomes and processes that could then be used to refine the programme.

### **5.3.5. Village Health and Nutrition Day (VHND)**

The practice of observing Village Health and Nutrition Day (VHND) is a social mobilization tool for awareness generation on health services to be provided under RCH II and is a platform for interface between the community and the health service providers. Under the umbrella of NRHM Rs. 32.50 crores were provided to conduct 23 lakh VHNDs across the country. VHNDs are held in Anganwadi Centres by the ASHAs, ANMs and AWWs with the support of the PRI members on a fixed day and fixed site basis offering a package of services directed towards preventive and promotive health care of pregnant women, children and adolescents. Key services directed towards nutritional improvement offered on this day include :

- Administration of Vitamin A solution to children
- Growth monitoring: Weighing of all children, with weight plotted on a card and managed appropriately to combat malnutrition
- Provision of IFA tablets (small) to children with clinical anaemia
- Provision of supplementary food for grades of mild nutrition

- Identification of children with Grade III and Grade IV malnutrition for referral
- Counselling for: better nutrition, exclusive breast feeding, weaning and complementary feeding.
- Counselling on and management of worm infestations.

Gujarat has modified the VHND scheme by establishing a Sandarbh (Referral Centre) in each block. These centres are manned by a paediatrician available at a fixed time on the day subsequent to the VHND.

### **5.3.6. Promotion of Nutrition through Bi Annual Drives**

In order to combat malnutrition and promote nutritional supplements, bi annual drives have been adopted by some states eg Madhya Pradesh, Assam, Uttar Pradesh and Chattisgarh :

#### **1. Bal Shakti Yojana (Madhya Pradesh): The scheme includes the following components :**

- Bal Sanjivni: a bi annual drive for children up to 5 years for screening of malnourished children, supplementation of Vitamin A and weight monitoring.
- Bal Poshan Mah: A bi annual drive to be conducted in two months, November and May designated as Bal Poshan Mah. The strategies include

VitaminA administration to 9 months to 5 years children, deworming of children, administration of Iron syrup to the children, promotion of exclusive breast feeding and timely initiation of complementary feeding and use of ORS and zinc in diarrhoea management.

#### **2. Mother and Child Health Month (Assam):**

A bi annual initiative (in September and March) in order to increase the awareness and ensure service delivery in all 27 districts. Activities include deworming of children and treatment of anaemia cases in children 1-5 years (IFA small tablets), treatment of Acute Respiratory Infections, and treatment of dehydration with ORS and zinc tablets.

#### **3. Bal Swasthya Poshan Mah (Uttar Pradesh):**

A biannual strategy (fixed - June and December) implemented in coordination with ICDS for vitamin supplementation (VAS) along with intensive promotion of exclusive breastfeeding, complementary feeding, iodized salt consumption and referral of severely undernourished children. These activities are linked to village wise routine immunization sessions organized as per the immunization/outreach session microplan of ANMs. State further plans to address under nutrition in 20 vulnerable districts in 2008-09.

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#### 4. Sishu Sanrakshan Maah (Chattisgarh):

Bi monthly drive (October and April) for child nutrition which includes Vit A supplementation, administration of vaccines, de-worming, provision of IFA to all pregnant women and children.

#### 5.3.7. Nutritional Rehabilitation Centres (NRCs)

Under this strategy, severely malnourished children (Grade-3 and 4) identified by health and ICDS workers are treated in Nutritional Rehabilitation Centres (NRCs) established in district hospitals and CHCs. Nutritional counselling to pregnant women is also offered in these NRCs. BCC activities for consumption of nutritious food and promotion of healthy food habits are also included.

The Nutritional Rehabilitation Centres (NRCs) are functional in the states of Bihar, Chhattisgarh, Madhya Pradesh, Maharashtra and Rajasthan. These and other states have planned to add another 1100 NRCs by end of 2009-10.

#### 5.3.8. Other Initiatives

Besides the above experiences, there are a number of other nutrition related initiatives:

- Ranking of Anganwadi on Malnutrition status of children (Maharashtra): In 2008-09, ranking of Anganwadis (into categories eg star 1 to star 5) based on facilities in the Anganwadi, nutrition grading of children etc was planned. The State plans to rank 5280

Anganwadis, for which there is a budget of Rs. 18.25 lakhs for the year 2008-09.

- Nutrition Support for pregnant women & mothers in convergence with Rural Development Department (Andhra Pradesh) : As a part of the SERP (Society for Eradication of Rural Poverty) programme, state has focussed on availability of nutritious food to the mother through common kitchens in tribal areas which are run by village level SHGs in Andhra Pradesh.
- Nutritional demonstration at village level (Maharashtra): In order to focus on the nutritional status of women and children in reducing morbidity and mortality, nutritional demonstration based on local culinary customs and availability of food materials to be taken up in Anganwadi centres in coordination with the ICDS functionaries and CBOs / SHGs. During VHNDs, demonstration of preparation of nutritive food containing all elements such as carbohydrates, proteins, fats, minerals, vitamins is undertaken.
- Regional Nutrition Support Unit in Gujarat : Setting Up of Regional Nutrition Support Unit on a pilot basis at state level in 08-09; the support unit is staffed by experts in the areas of nutrition, public health etc and is expected to carry out base line assessments, formulate plans and monitor progress / nutritional status.

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### 5.3.9. Lessons from Indian Experiences

The programmes described above were all successful in improving some maternal and child health and nutrition indicators. Since these are integrated programmes that utilized a variety of inputs and focused on improving different aspects of programme delivery and it is not possible to say conclusively which particular practices led to the impacts described above. However, some of the key factors that were common among the programmes and may have contributed to their success are :

- Focus on infant and young child feeding, and children under three years of age
- Continuous and in-depth counselling at the household level :
- Buttressing the existing manpower with additional workers and volunteers :
- Improved training and supervision;

- Improved monitoring systems;
- Community support and involvement;
- Improved support and supervision at all levels including community, district and state and;
- Integration with other health services and organizations.

In order to substantially improve the health and nutrition of women and children in India the government and other key stakeholders need to improve the delivery and utilization of effective interventions. These interventions can be implemented as new programmes or integrated into on-going programmes. In order to be effective, the design and implementation of these programmes should learn from and borrow from the practices and programme principles outlined above. As shown above, examples exist within India itself, of achieving better nutrition status, good coverage, convergence with the health sector, and nutritional behaviour change.

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## Chapter-VI

# The Way Forward and Recommendations

After discussing indicators, causes, consequences, ongoing programmes and experiences of nutritional programmes, the Task Force debated on the way forward to deal with the burden of childhood malnutrition in India. As seen in chapter 3 above, the problem of malnutrition is a result of multifactorial causality and hence requires a multi pronged approach at the policy level. The Task Force fully realised that to achieve sustainable development and economic growth the issue of malnutrition needs to be addressed as malnutrition leads to loss of GDP by lowering productivity. Malnourished children of today cannot grow into healthy, happy and productive individuals of tomorrow and nor can they reach their full potential, unless the issue of malnutrition is handled in time. India being a vast country with varied regional and cultural preferences in food and food practices prevalent over the country, a single model may not be the answer.

The Ministry of Women and Child Development has contributed by growth monitoring and supplementary nutrition of mother and Child through ICDS. As discussed in the earlier chapters it is known that the first year of the child is very critical in addressing the setting in of malnourishment. The growth monitoring and promotion of infant and young child feeding practices has to be reaffirmed as a strategy to address nutritional issue at the earliest stage in life. Furthermore, the identification of children of Low Birth Weight is very critical for

which the current indices used for capturing the level of malnutrition need to be re-looked at. Programmatically the criteria to be adopted should be as simple as possible and user friendly to adopt.

Based on their discussions, the recommendations of the Task force are given below :

### **1. Surveys and monitoring :**

In order to have a comprehensive strategy to address issues of childhood malnutrition, the existence of accurate, disaggregated by sex and geographical area data is essential. Nutrition Monitoring is crucial. An accountable and reliable system for monitoring the nutritional programmes to track achievements is equally important. The National level surveys like NFHS and DLHS are reliable but periodicity and high time lags are deterrents. Thus there is a need for monitoring of the programme at the grassroots level so that corrective actions could be taken quicker, as and when necessary. The Village Health and Sanitation Committee formed under NRHM can be used to monitor the nutritional programmes at the village level on village health and nutrition days (VHNDs) by conducting accountable nutritional surveillance at local level. Besides this, a regular annual survey under ICDS, of malnutrition rates may help in strategizing policy and monitoring district-wise performance.



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## **2. Criteria for Measurement of malnutrition :**

ICDS presently follows the criteria of weight for age. The criterion is easy and simple both operationally and for regular monitoring. The process to incorporate WHO standards on weight for age to monitor malnutrition is already underway. Weight monitoring (weight for age) at regular intervals for the first two years is adequate and can be done effectively through AWCs. Though weight for age is an operationally feasible criterion, but it alone cannot facilitate international comparison of malnutrition figures. The BMI would be a better indicator to capture the nutritional status of children in the age group of 2-18 years. However, the capacity and expertise of ICDS staff to do this is lacking at present and would require the assistance of health functionaries. Monitoring Height for age and weight for height are another possibilities to measure malnutrition. The option of dovetailing of ICDS with health and school systems may ensure measurement of height of children at and above the school going age. However for children less than 3 years of age the anganwadi workers would need to upgrade their skills along with provision of infrastructure for measuring the height. Thus, in the first instance, the introduction of BMI as another index for measuring nutritional status at anganwadi level should suffice.

## **3. In-Utero Malnutrition**

About a third of the Indian infants weigh less than 2.5 kgs at birth, which is most

commonly the result of in-utero malnourishment or pre term delivery among other causes. With prevalence of preterm births being about 12% it could well be presumed that a vast majority of the low birth weight (LBW) babies have poor intra-uterine growth. Malnutrition occurring after the birth of the baby can be addressed by supplementary feeding but the malnutrition occurring in-utero is irreversible. Hence, in order to reduce the incidence of low birth weight and in-utero malnourishment, proper attention has to be given to effective antenatal care. This should be both through regular health check-ups and health advice as well as conditional maternity entitlement to take care of nutritional requirements of expectant mothers.

## **4. Maternity entitlement**

There should be a provision of maternity entitlement both at pre and post natal stages in order to assure nutritional well being of the pregnant women and new born infants. For this the Conditional Cash transfer for Maternity Benefit scheme included in the 11th Plan should be implemented at the earliest. This can increase the purchasing power of the family and thereby increase food security and thus can contribute significantly to improve the nutritional status of the mother and child.

## **5. Adolescent Girls**

Special attention needs to be focused on health and nutrition of adolescent girls so that these adolescent girls grow up to be healthy mothers.

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## **6. Infant and Young Child Feeding (IYCF)**

Exclusive breast feeding provides adequate nutrients, prevents infection and promotes normal growth. The statistics by DLHS 2002-04 show that the percentage prevalence of children being underweight is only 30% following first three months of birth. After three months however extent of underweight increases due to early introduction of milk supplements and increased morbidity due to infection. At a later stage between 6-11 months the percent prevalence of under weight children further rises to 45%, partly due to inadequate complimentary feeding and in part due to increase in morbidity due to infections (WHO 2006). From 12-24 months of age there is a progressive increase in percent prevalence of underweight rates which is attributable to inability of meeting of nutritional requirement of growing child with decreasing breast milk of mother and inadequacy of nutritional content in the food cooked in the family being used to complement the feeding of the growing child. It is therefore critical that correct Infant and Young Child Feeding (IYCF) practices are promoted and adopted. The schedule for IYCF could be as follows:

- (a) Exclusive breast feeding period for the first six months;
- (b) Appropriate adequate complimentary feeding 3-5 times a day from 6 months of age ;
- (c) Continued breastfeeding and feeding family food 4-5 times a day upto 24 months ;

- (d) Feeding 2-5 years old children 4-6 times a day from family food consisting of cereals, pulses, vegetables, fruits etc., twice a day ;
- (e) Advise regarding timely immunization, measures to prevent infections, care during illness and convalescence. immunization, measures to prevent infections, care during illness and convalescence.

From funds provided under ICDS, among other options which can be considered is increased allocation of ration from PDS to pregnant women and families with children below 5 years.

## **7. Child specific growth monitoring cards**

Child specific growth monitoring cards should be prepared to enable comprehensive tracking of every child.

## **8. Nutrition Monitoring for Children who are 2 to 6 years of age**

A major problem is nutrition monitoring for children who are 2 to 6 years of age as they are not yet school going and ICDS can handle only weight monitoring. Many States like Tamil Nadu are now bringing in children who are 3+ into pre-primary schooling system and covering them under the school health programme. This may be studied with a view to extension/ adoption by other states. Monitoring for height for age and height for weight can be done through Health Department at the Sub Centres.

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## 9. Severely Malnourished Children

ICDS should give special focus to severely malnourished children and AWC should also provide feed back of such children to the nutrition providers wherever supplies are being made from outside AWC. The focus should be on the issues of management and not only on measurement. Clinical management of severely malnourished children is essential. This should be done through Nutrition Rehabilitation Centres at PHC level. The management of such children could be done through the following –

- Medical interventions ;
- Special foods;
- Counselling to parents.

## 10. Integration of Nutrition Programmes with NREGP

There should be an integration of nutrition programmes with NREGP and it should be ensured that all families which are poor or under-nourished are given job cards under NREGP so that their purchasing power is improved.

The programmes like NREGP can be integrated with the ICDS to provide food security to the families having pregnant women or children less than 5 years. Severely malnourished children should be tracked and their families be given priority in providing job cards under NREGP. Moreover, there is an increasing incidence of migration of poor families in search of employment and, children from these families are easily susceptible to under-

nutrition and related diseases due to insecure source of income leading to food insecurity and malnourishment.

## 11. Hot cooked meals and community participation under ICDS

Hot cooked meals should be the preferred option while providing supplementary nutrition under ICDS. The following should also be kept in mind :

- (a) Need for specialized knowledge of cooking ;
- (b) Economies of scale ;
- (c) Economic empowerment of women also as a goal ;
- (d) Adoption of appropriate technology for cooking/ fuel use ;
- (e) Proper place and cleanliness while cooking / serving food.

Community participation should be institutionalized for the purpose. Mothers' groups could be involved in quality check. Wherever cooking is being done outside the AWC, only genuine women's groups should be entrusted the responsibility. The programme should be very closely monitored.

## 12. Convergence with Other Programmes :

Convergence is vital for the success of nutritional programmes. This would be of two kinds :-

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- (a) Convergence of related programmes, for example, safe drinking water and sanitation, RCH, etc. with ICDS.
  - (b) Using funds available under various programmes for food security, e.g. BRGF, NREGP etc.

For success of the programme at the grassroots level the convergence of health, nutrition and sanitation is vital. For this anganwadi centres may form the platform for convergence of village level stakeholders in the village. Funds, functions and functionaries should be transferred to the Panchayati Raj Institutions for better implementation of ICDS. The possibility of utilizing funds under BRGF, which is implemented mainly through PRIs for construction of anganwadi buildings, may also be explored. ICDS should have a community level body to bring together ANMs, ASHAs and anganwadi workers on to a single platform for better implementation of the programme. The Nutrition Rehabilitation Centres at PHC level should also to be institutionalized by replicating models from states like Madhya Pradesh which already have such centres which can also serve as the platform for convergence of services. For convergence of the departments at the district level a commonly agreed district plan with disaggregated action for each line department should be worked out.

### **13. Village Health Group**

Village health groups should include grassroots functionaries viz. ANMs, AWWs, and ASHAs. There should be a system of joint training and joint visits to houses by this group. Moreover, the group can be jointly trained to work as a team

alongwith conducting joint meetings and touring at the block and district levels.

### **14. Migrant Workers**

The issues of migrant workers need special attention by ICDS and tracking of children of migrant workers should be done under universalized ICDS.

### **15. Capacity Building of Anganwadi Workers**

The capacity building of AWWs is imperative for the programme's success. It is essential to periodically up-date their skills and knowledge to deliver better services at AWCs. For any nutritional programme to be a success, the capacity building of service providers is crucial. This capacity building should include awareness / giving information about healthy and culturally acceptable feeding practices to the primary caretakers of the children. At present there are about 20 lakh Anganwadi Centres and after universalization of ICDS there will be a total of 14 lakh Anganwadis which will be involved in the distribution of meals/supplementary nutrition to the children. This task of capacity building and training of all service providers can be taken up by the Food and Nutrition Board of the Ministry of WCD.

### **16. Documentation and dissemination**

There is also a need for documentation and dissemination of the strategies which have worked in decreasing the burden of malnutrition anywhere across the country. This sharing of information will surely go a long way in understanding what works and what doesn't, in order to improve the nutritional status of children in India.



# ANNEXURE I

## Experiences regarding improving nutrition levels from across the States

### 1. Experiences of ICDS in Goa

Practices	Meal Served	New Initiative	Bottlenecks/Constraints
<p>Enhancement of SNP Though the Ministry has enhance the rate of SNP recently from Rs.2, 2.30 and 2.70 to Rs.4, Rs.5, and Rs.7 respectively for the normal children, pregnant and lactating mothers and mal-nourished children, the State of Goa has determined and pays Rs.5, 8 and 9 respectively for the same even before.</p>		<p>In addition to the regular supplies under ICDS, all the Anganwadi centres in Goa are being supplied with cooking gas connections for better cleaner and and faster cooking. The estimated cost for the above is Rs.42 lakh.</p>	

### 2. Experiences of ICDS in Mizoram

Practices	Meal Served	New Initiative	Bottlenecks/Constraints
<ol style="list-style-type: none"> <li>Supplementary Nutrition is provided for adolescent girls for 300 days in a year</li> <li>AWCs construction is done by the respective community of the locality</li> <li>Mother's Committee contribution in the state is commendable. Material such as dustbins, gas cylinders, teaching aids, toys etc. are often contributed by them. Newly harvested foods are often provided for the children attending AWCs as a treat.</li> <li>At most of the AWCs receiving boards are constituted besides the existing coordination committees</li> <li>The AWWs are actively participating in the Village Health &amp; Sanitation Committee under NRHM. They organize monthly health days at AWC and participate in the Village Health Planning for NRHM</li> </ol>	<ol style="list-style-type: none"> <li>Khichiri – Dal khichiri, Rajma Khichiri</li> <li>Newly harvested crops eg. Papayas, bananas, passion fruit, oranges etc.</li> <li>Rajma &amp;</li> <li>fresh milk at certain places</li> <li>High protein soya noodles</li> <li>High protein soya cereals</li> <li>High protein soya milk</li> <li>Infant milk substitute (IMS)</li> <li>Motor Chana</li> <li>Ground nuts</li> </ol> <p>In addition Vitamin B complex, Calcium tablets and Multi vitamin tablets are also provided</p>	<ol style="list-style-type: none"> <li>Highlighting MPR on a notice Board in every centre.</li> <li>Register maintained for daily activities of Anganwadi workers.</li> <li>Highlighting the importance of National Flag amongst the children and the community as a whole.</li> <li>Maintaining uniformity of structure and colours of AWCs</li> </ol>	<ol style="list-style-type: none"> <li>Due to non availability /non provision of cooking gas cylinder, the AWCs are facing gre at difficulties resulting in deforestation</li> <li>Due to lack of all weather roads, transportation is badly affected and costs increase.</li> <li>Funding under Kishori Shakti Yojana (KSY) for adolescent girls is most inadequate and needs to be enhanced.</li> </ol>

### 3. Experiences of ICDS in Meghalaya

Practices	Meal Served	New initiative	Bottlenecks/Constraints
<p>Creating awareness and counseling for Mothers of malnourished children, regarding the importance of growth monitoring of every child by AWW.</p>	<p>Bengal gram, Dired Peas, Suji, Dahlia, Rice flakes, Green peas, Sugar Salt, Milk Soya Bean, and Ground Nut.</p>	<p>Village level Co-ordination committee is set up at every AWC to monitor that the AWW carries out the ICDS activities regularly.</p>	<p>Many AWCs require replacement of weighing scale to assess the nutritional status of children.</p> <p>Due to lack of computerization facilities at the CDPO level there is delay in timely submission of reports.</p> <p>Limited Govt. accommodation in rural areas for office building for CDPO and quarters for staff, result in heavy expenditure on rents.</p>

#### 4. Experiences in ICDS in Nagaland

Practices	Meal Served	New Initiative	Bottlenecks/Constraints
Village Anganwadi Boards have been revamped in all the AWCs for ensuring active community participation in the implementation of the Scheme	Noodles and Soya based food items.	Exposure visit by ICDS functionaries to ICDS projects of neighbouring N.E. States.	Shortage of Vehicles for CDPOs and other ICDS functionaries.

#### 5. Experiences in ICDS in Jharkhand

Practices	Meal Served	New Initiative	Bottlenecks/Constraints
Dular Project 1. Local Resource Persons identified in each Anganwadi service area to supplement ICDS activities regarding health & nutrition. 2. Fully decentralized purchase of SNP from local markets or haats by SHG s. 3. Accreditation of AWCs on the basis of performance or achievements.	1. Khichari (Rice, Dal and vegetables) 2. 3.	1. Food & Nutrition Board has been asked to prepare basket of recipes from locally available foods 2. Establishment of Mother Support Groups for health & nutrition. 3. Qualitative improvement on delivery of services by making AWCs more child friendly. 4. Special treatment for malnourished children who need intensive care.	1. Lack of interface at Project & District Level to monitor trend of impact of the programme. 2. Lack of monitoring. Research & Evaluation Wing to assess performance.

#### 6. Experiences in ICDS in West Bengal

Practices	Meal Served	New Initiative	Bottlenecks/Constraints
1. Positive Deviance 2. GIS Mapping (pilot)	Khichari	Pilot (GIS mapping in one district.	Deficiencies in infrastructural (only 17% of AWCs) and in own buildings) – this risks interruptions in SNP.

#### 7. Experiences in ICDS in Kerala

Practices	Meal Served	New Initiative	Bottlenecks/Constraints
1. Eliminated contractors/ middle men in procurement of raw materials – now only from cooperative stores. 2. TMRS is prepared by Self Help Groups only	Depending on local needs. Varied fare on a day-to-day basis.  A nutritional powder prepared under technical guidance of CFTRI	Providing computers and CDs in anganwadis so that AWCs are made community resource centres to benefit children, adolescents and mothers	There are 32,000 AWCs in Kerala. But we can only spend in this area @ 150 AWCs per year.

#### 8. Experiences in ICDS in Madhya Pradesh

Practices	Meal Served	New Initiative	Bottlenecks/Constraints
Bai Sanjeevni (CDS)			Started in 2001
Project Shaktiman (started in April, 2007)		3 meals	
Project Muskaan (started in July – 2007)			
Mangal Divas (Started in 2007) God -varai (mother) Anna P rasan (Infant) Both day (children) Kishori Balika)		All Tuesdays In celebrity style but with strong message for the target group	
NRC (Bai Shakti Yojana) ( Started in 2007)			

#### 9. Experiences in ICDS in Rajasthan

Practices	Meal Served	New Initiative	Bottlenecks/Constraints
SHGs/Mother's Committee/Women Cooperatives have been engaged to serve hot cooked meal at AWCs.	Khichari Dalia	Diversification of recipes is under consideration	1. Price fluctuations of ingredients. 2. Delayed payment due to procedural formalities. 3. Maintenance of quality 4. Lack of proper infrastructure for cooking at AWCs. 5. Lack of safe/ potable water

Provision of RTE for children below 3 yrs. and pregnant and lactating women & adolescent girls.	Baby Mix Wheat -40% Soyabean -25% Sugar -30% Oil-5%	RTE is prepared by SHGs. in 62 projects. It is proposed to cover 34 other project in the near future.	1. Price fluctuations of ingredients. 2. Delayed payment due to procedural formalities. 3. Maintenance of quality
Hot cooked meal to pregnant and lactating women at 12 urban projects in 10 centres	1. Khichari 2. Daliya, 3. Dal, Roti and vegetables.	At 12 urban projects in 10 centres with the assistance of UIT/JDA	1. Price fluctuations of ingredients. 2. Delayed payment due to procedural formalities. 3. Maintenance of quality 4. Delay in release of assistance by UIT 5. Daily visit by pregnant and lactating women to the AWC is difficult.

#### 10. Experiences in ICDS Chandigarh

Practices	Meal Served	New Initiatives	Bottlenecks/Constraints
The Municipal Corpn of Chandigarh is providing funds for the purchase of Darries, Steel Almirahs, Jali Almirahs for storage of SNP material, Chairs, Nail Cutters, Combs etc. under SJSRY Scheme.	Hot cooked food is being provided to the beneficiaries of ICDS by a NPO as under:-  6 mth to 1 year - Weaning Food 60 grm p/day  Undernourished Children - 120 grm p/day  1 year to 6 years - Channa & Rice - Sweet Dalia - Khichri - Dal & Rice - Nutritive Khichri	Since 6.10.2007, a NPO is supplying hot cooked food to AWCs. 1. All children between 0-6 yrs (even those that do not attend AWC) are weighed and graded and efforts are made to enroll the children in grade III or IV in the AWC. 2. The Health department plans to start a Day Care nutritional rehabilitation centre for the severely malnourished children where nutritious food will be provided as per the particular need of the child. 3. The Health Department has appointed 10 Medical Officers and para medical staff under NRHM exclusively for AWCs. 4. During home visits etc demonstration is given to mothers to prepare low cost nutritious complementary food and mixture.	1. Most of the children who come to AWCs belong to migratory families and they go back to their villages during festival time and summer holidays, thus disrupting their supplementary feeding which often makes them slip back in nutrition levels. 2. Whenever the Khachi colonies are demolished by the Enforcement Wing of administration, the Enforcement Wing of administration, the beneficiaries get displaced and some times the children may not attend any anganwadi centre. 3. The population in the colonies and slums often follow their own food habits and taboos although education is given to them regarding consumption of nutritious low cost food.

#### 11. Experiences in ICDS from Orissa

Practices	Meal Served	New Initiatives	Bottlenecks/Constraints
(i) Pustikar Diwas is a strategic intervention of Health and Family Welfare and Women & Child Development Departments which is held on 15 <sup>th</sup> of every month. Children identified in Grade II, III & IV malnutrition categories are referred by the AWW to the PHC / CHC for management and treatment where they undergo detailed examination, possible investigation, diagnosis and treatment. Essential drugs (up to Rs. 200/-) are also provided by the Health Unit and as also transportation costs of children & parents, accompanied by ASHA or AWW to the PHC / CHC. The AWW / ASHA who accompanies them has to follow up the case at local level.  (ii) Mamata Diwas The fixed Health & Nutrition Day is known as Mamata Diwas. It is a platform for convergence between Health & ICDS and also interfaces the community and the health system aiming at bringing about the much needed behavioural changes in the community and also induces health seeking behaviour in the community. ANMs and AWWs are responsible for the organisation of the day. Activities taken up on that day are ante-natal and post-natal checkup, weighing of children, identification of		1) Positive Deviance (PD) is a strategy being tried in Mayurbhanj district, to make severe and moderate grades of malnutrition 'visible' to the community and identify the positively deviant families to share their knowledge and practices with the community for easy and fast track replication. The approach aims at reducing malnutrition in the age group of 0-3 years focusing on shared learning and practice of easy, doable and beneficial child care practices followed by PD families. a handful of families to nurture their babies. Nutrition Counseling and child care session (NCCS) is the main component of the approach. NCCS includes health checkup and referral of children, immunization, deworming and Iron folic acid supplementation, weighing of children and counseling for growth promotion including advice on care of the child during illness, spot feeding of children, organization of subsequent NCCS.	



<p>malnourished children for referral services , treatment of minor ailments. De-worming &amp; Iron supplementation, health and nutrition counselling, meeting with VHSC to highlight existing health &amp; sanitation problem and discussion on a particular health topic.</p> <p>(i) Pustikar Divas is a strategic intervention of Health and Family Welfare and Women &amp; Child Development Departments which is held on 15<sup>th</sup> of every month. Children identified in Grade II, III &amp; IV malnutrition categories are referred by the AWW to the PHC / CHC for management and treatment where they undergo detailed examination, possible investigation, diagnosis and treatment. Essential drugs (up to Rs.200/-) are also provided by the Health Unit and as also transportation costs of children &amp; parents, accompanied by ASHA or AWW to the PHC / CHC. The AWW / ASHA who accompanies them has to follow up the case at local level.</p> <p>(ii) Mamata Diwas The fixed Health &amp; Nutrition Day is known as Mamata Diwas. It is a platform for convergence between Health &amp; ICDS and also interfaces the community and the health system aiming at bringing about the much needed behavioural changes in the community and also induces health seeking behaviour in the community. ANMs and AWWs are responsible for the organisation of the day. Activities taken up on that day are ante-natal and post-natal checkup, weighing of children, identification of malnourished children for referral services, treatment of minor ailments, De-worming &amp; Iron supplementation, health and nutrition counselling, meeting with VHSC to highlight existing health &amp; sanitation problem and discussion on a particular health topic.</p> <p>(iii) Verbal Autopsy To build a credible data base on the cause of deaths of infants and pregnant / lactating women in the State, mobility support to the ANMs / AWWs for detailed verbal enquiry into each and every case of death of infant and pregnant / lactating women in their area is provided, since 2006-07. These 2 functionaries submit a joint report to the supervising authorities i.e. Medical Officer and the CDPO.</p> <p>(iv) Observation of Hand Washing Day It is well known that in about 80% of diseases unclean hand and other unclean practises is the main culprit. Cleaning hands is encouraged to become a habit and a way of life, from early infancy. "Hand Washing" took on a campaign mode and is observed for one month ending on 14<sup>th</sup> November observed as the Hand Washing closure Day. Besides highlight the importance of hand washing with soap and running water before eating, before feeding and after defecation, women are encouraged to take a pledge to insist on / ensure hand washing by every member of the family.</p> <p>(v) Arnaprasan is an innovative method adopted in the AWCs to institutionalize the complementary feeding of the children after completion of 6 months by SHG members &amp; women of the village gathering in the AWC &amp; a puja being performed to mark the first complimentary feeding of the baby with payas (made out of rice, milk &amp; sugar). Other small babies of the AWCs are also fed dal vegetable soup with the mixture of iodized salt, oil &amp; ghee.</p>	<p>monitoring for assessing impact, self monitoring in NCCS.</p> <p>2) Implementation of ICDS on Public Private Partnership : Govt. of Orissa, Sterlite Foundation and Vedanta Alumina Ltd. Have</p> <p>1) Positive Deviance (PD) is a strategy being tried in Mayurbhanj district, to make severe and moderate grades of malnutrition 'visible' to the community and identify the positively deviant families to share their knowledge and practices with the community for easy and fast track replication. The approach aims at reducing malnutrition in the age group of 0 -3 years focusing on shared learning and practice of easy, doable and beneficial child care practices followed by PD families. a handful of families to nurture their babies. Nutrition Counseling and child care session (NCCS) is the main component of the approach. NCCS includes health checkup and referral of children, immunization, de-worming and Iron folic acid supplementation, weighing of children and counseling for growth promotion including advice on care of the child during illness, spot feeding of children, organization of subsequent NCCS monitoring for assessing impact, self monitoring in NCCS.</p> <p>2) Implementation of ICDS on Public Private Partnership : Govt. of Orissa, Sterlite Foundation and Vedanta Alumina Ltd. Have entered into an agreement for the NGOs to implement the ICDS Program in one of the Tribal Projects of Kalahandi District. They will provide supplementary child care services, i.e. noon meal, supplying Anganwadi equipment and supply of Pre-School materials for joyful learning of the children 3-6 years in the Anganwadi and provide health services. They will also help in monitoring and for better and more effective supervision they will engage local co-ordinators @ one for 10 AWCs as additional hands to the ICDS Supervisors. Apart from this, one Chief Co-ordinator will be posted to assist the CDPO on planning, monitoring and supervision. It is also proposed to extend this strategy to other Districts like Jharsuguda &amp; Rayagada.</p> <p>3) Mapping of Nutritional Status of children in Orissa analysis over time space Block-wise data of Mayurbhanj district, on nutritional status of children in Orissa are being analysed over time and space. Basing on these reports, CDPOs reappear assessment, analysis and action points specific to their project. They were given inputs on management of malnourished children. Supervisors and AWWs are instructed to make sector-wise, AWC-wise assessment, analysis and action regularly.</p>	
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## ANNEXURE-II

### **Summary Record of the Meeting of Task Force on Childhood Malnutrition held on 20.2.2008 under the Chairpersonship of Dr. Syeda Hameed, Member, Planning Commission**

1. The meeting started with a note of welcome to the participants by the Chair. The Task Force has been set up as per instruction from PMO. She, accordingly desired S. Adviser, Health, Nutrition and Family Welfare (HN & FW) to briefly present his views about the purpose and the task to be undertaken by the Task Force.
2. Sr. Adviser, HN & FW mentioned that childhood malnutrition is a multi dimensional issue. It requires involvement of multiple agencies and a synergy of their activities to tackle the problem. Problem of malnutrition is also associated with the problem of food and poverty. One third of the children in India suffer from calorie deficiency. It requires first to assess the problem and then devise action after its analysis. The problem of malnourishment starts in-utero and the strategy of dealing with childhood malnutrition has to start necessarily at this stage. The two other most important aspects, which follow this stage are ensuring breastfeeding and providing complementary feeding. There is also need for proper documentation of the best-practices in various places and their dissemination in other areas. He also reminded the participants about the constraint of time for the Task Force to submit its report. Possibility of any experimentation therefore is ruled out before submitting the report.
3. Director (WCD) appraised the Chair that the Task Force apparently is the outcome of the suggestion to the PMO by the International Food Policy Research Institute (IFPRI). Convenience of the Chair therefore was requested for Dr. Ashok Gulati, Director in Asia, IFPRI, to further apprise the participants about the background for setting up of the Task Force.
4. Dr. Gulati referred to the concern expressed by the Prime Minister during a recent meeting with him that the country cannot have sustainable growth rate of 9.4% unless the issue of malnutrition is addressed. The task is challenging but has to be addressed to in a limited time frame. IFPRI is working globally and can bring new perspective on the issue from the experience of working in other countries. Lessons can be learnt from some success stories in other countries like that in Thailand, Brazil etc. where there was a turn around in malnourishment scenario in less than five years. In case of India, a single model across the country, may not be a solution. At the moment the level of political commitment is very high to address the issue. As a starting point one has to look whether the existing structure which is delivering programme to address the issue is appropriate or need some restructuring. Under-nutrition of children has different trajectories and involves different issues. Director (WCD) clarified that only ICDS was implemented as a nutrition-oriented programme to address

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the issue of childhood malnutrition. All others were basically feeding programmes.

5. Dr. Prema Ramachandran was of the an unrealistic target regarding reduction of childhood malnutrition. The first year of the child is very critical in addressing the setting in of malnourishment. In this context, the practice of infant feeding has to be kept in mind. Chattisgarh has achieved a high level of improvement in child nutrition because of Mitamin. This shows that education, healthy practices and awareness etc. play a very critical role in dealing with the issue. Identification of children of Low Birth Weight is very critical. Dr. Ramachandran suggested that there is need for changing the indices used for capturing the level of malnutrition. The BMI for age is considered to be a correct index. Children in India are generally short in height. Changes in the height cannot take place overnight. The BMI for age, therefore will help in detecting undernourishment right from infancy. She also suggested for a proper monitoring format to monitor the progress in malnourishment.
6. The representative from the Ministry of Tribal Affairs informed that their Ministry has already mapped the districts with higher concentration of ST population. 134 such districts have been identified out of which in 23 districts STs constitute more than 50% of the population and 40% in 22 other districts. The information has been shared with the Ministry of Women and Child Development. A specific action plan is needed to address the need of tribals in these districts.
7. The representatives from the Ministry of Health and Family Welfare mentioned about the three approaches that can be adopted to address the problem of childhood malnutrition. These are Infant and Young Child Feeding; Early Breastfeeding; and Complimentary Breastfeeding. These are also parts of on-going RCH programme and NRHM. The other initiative of the Ministry to address the problem is through tackling micro nutrient deficiency, specifically iodine and zinc. The Ministry has also a programme for taking care of the new born through an Integrated Management of Neo-natal Care which also looks after the safe delivery of the new born.
8. It was informed by the representative from the Ministry of Panchayati Raj that they have suggested the Ministry of Women and Child to involve PRIs in the ICDS programme and make use of infrastructure of panchayats as well as the locally available grain bank. A response is awaited from the WCD Ministry.
9. Sr. Adviser (WCD) invited the attention of the Chair and the participants for a decision regarding some aspects of the working of the Task Force viz. whether the Task Force would be able to submit its report as per schedule by May 2008; frequency at which the Task Force should meet; the methodology to be used for going about the issues identified; how to consider and incorporate cross cutting issues regarding childhood nutrition dealt in several Ministries of the government of India and work out a broad policy framework to tackle the problem.
10. The Chair suggested that the recommendation of the task force has to be something different. The report should

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deal with the concept issue i.e. indices for measuring extent of childhood malnutrition besides success stories in different states and possibility of their replication in other states.

11. It was unanimously agreed that May 2008 will be too early and the Task Force can submit its report by September 2008. The term of the Task Force should be extended accordingly. The next meeting of the Task Force was also proposed for April 2008. It was also agreed that a concept note on childhood malnutrition including indices to be adopted to measure the same, mechanism to be suggested to address the problem, instances, if any of best practices etc. will be prepared each by Dr. Ashok Gulati and Dr. Prema Ramachandran and furnish the same to the Planning Commission for circulation amongst members before the next meeting of the Task force. Meanwhile, attempts should be made to collect and compile information regarding all schemes/programmes relevant to childhood malnutrition in various central Ministries/Departments.

12. The decision taken/Action Points thus that emerged through the deliberation in the meeting were as follows:

- The report of the Task Force should deal with the concept issue i.e. exact indices to be adopted for measuring extent of childhood malnutrition and documentation of the best practices in various places and their dissemination in other areas;
- The term of the Task Force should be extended up to September 2008;
- The next meeting of the Task Force should be held in April 2008;
- A concept note on childhood malnutrition including indices to be adopted to measure the same, mechanism to be suggested to address the problem, instances of best practices, if any etc. will be prepared each by Dr. Ashok Gulati and Dr. Prema Ramachandran and furnish the same to the Planning Commission for circulation amongst members before the next meeting of the Task force.
- Attempts should be made to collect and compile information regarding all schemes/programmes relevant to childhood malnutrition in various central Ministries/Departments.

The Meeting ended with a Vote of Thanks to the Chair.

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## ANNEXURE-III

### Summary Record of the Meeting of Task Force on Childhood Malnutrition held on 20.2.2008 under the Chairpersonship of Dr. Syeda Hameed, Member, Planning Commission

1. The meeting started with a note of welcome to the Members by the Chair. Principal Adviser (WCD), as desired by the Chair apprised the Members regarding the agenda for deliberation in the meeting. The Chair then reminded the members regarding the Terms of Reference (TOR) that the Task Force has to work with. There are basically two issues that that Task Force has to look at i.e. suggest - (i) suitable criteria for measuring childhood malnutrition, and (ii) appropriate interventions to address the problem. The observations made /issues raised during deliberations in the meeting were as follows:
  - (i) A decision has to be taken on the parameters to be adopted for measuring childhood malnutrition which could form the basis for policy options. The parameters could be weight for age, weight for height, and height for weight besides Body Mass Index (BMI). Programmatically criteria to be adopted should be as simple as possible and easy for adoption.
  - (ii) ICDS presently follows the criteria of weight for age. The criteria is easy and simple both operationally and for regular monitoring. It is under process to incorporate WHO standard also on weight for age to monitor malnutrition under ICDS.
  - (iii) Weight for age is an operationally feasible criterion, but it alone cannot facilitate international comparison. India, however, cannot insulate itself from development outside the country. The parameters, therefore also have to be in conformity with WHO's current reference standards. Weight for age should be the criteria for measuring malnutrition upto 2 years. After that height for age and weight for height should be the criteria that can be adopted. As of now, at the anganwadi level, height monitoring may be a difficult proposition. The anganwadi workers do not have the required skill and infrastructure for measuring the height. Measurement of BMI at anganwadi level therefore is still a more difficult proposition. Measurement of height however can be ensured by dovetailing ICDS with health and school systems.
  - (iv) The indices to be adopted for measuring malnutrition should be based on desirability and should be actionable. The indicators used should enable early identification of the problem. The data on malnutrition should include both weight and height since wasting and stunting require different management. The anganwadi workers should plot data on weight for age. There should also be a mechanism for measuring and plotting weight for height to identify wasted children who need immediate protein - energy supplementation and also height for age to identify and target stunted children with long term deprivation.

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- (v) In order to have reliable and holistic information about level of malnutrition, there should be regular survey of malnutrition status on the basis of criteria of weight for age, height for age and height for weight, and BMI.
- (vi) There are advantages of using BMI for age for assessment of nutritional status of children in India. A third of Indian children are born with low birth weight and length. Birth weight and length are important determinants of growth in childhood. Over the next two years there is further increase in underweight and stunting rates. About half of Indian children are short by current WHO norms. After first 2 years reversal of stunting is difficult. Weight for age picks up lean children who are normal in height or those who are short and lean but misses tall lean children. BMI for age is an index that enables early detection of both under and over nutrition in children because it takes into account the current age, gender, weight, and height for assessment of nutritional status. In Indian context of high stunting levels and emergence of dual nutrition burden, BMI for age provides a method for early detection and correction of both under and over nutrition.
- (vii) The Ministry of Health is going to have a new initiative through School Health Programme for tracking of children and growth monitoring. 26 States have already initiated the programme. Some states like Gujarat have incorporated cardiovascular test for children. Measurement of BMI could be introduced at the school level. The health sub centres could be associated in the process.
- (viii) The real issue at present is not of criteria but absence of a reliable monitoring system. NFHS is reliable but not timely. The time lag even for a DLHS is quite high. The periodicity of NFHS and DLHS should be more regular for monitoring of childhood malnutrition and introducing corrective measures as and when necessary. The issue regarding regular survey of malnutrition requires urgent attention in view of substantial enhancement of investment under ICDS to address the problem.
- (ix) 1/3rd of Indian infants weigh below 2.5 kg. at birth. Prevalence of preterm births is about 12%. Majority of low birth weight (LBW) babies are matured but had poor intra-uterine growth. Malnutrition that begins in-utero is almost irreversible. There should be specific programme to address the issues of maternal health and nutrition.
- (x) To tackle the problem of overall malnutrition in the country there is a need to focus on under-nutrition in early childhood. Under-nutrition in early childhood adversely affects growth, development and health status during childhood and adolescents. Childhood under-nutrition also influences the nutrition and health status through out the life span. This may also render them more susceptible to non communicable disease risk in adult life.
- (xi) Exclusive breast feeding provides adequate nutrients, prevents infection and promotes normal growth. As per DLHS 2002-04 (by WHO 2006), this has resulted in only 30% of children having underweight in first three months of birth. After 3 months however extent of underweight increases due to

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early introduction of milk supplements and higher morbidity rates due to infection. Between 6-11 months under weight rate further rises to 45%, partly due to inadequate complimentary feeding and partly due to increase in morbidity due to infections (WHO 2006<2SD). There is progressive increase in the underweight rates in 12-24 months of age and is attributable to decreasing breast milk and inadequate intake of family food. Nutrition education therefore is a critical intervention for prevention of under-nutrition of children from 0-60 months. Health education should focus on exclusive breastfeeding for the first 6 months, appropriate adequate complimentary feeding i.e. 3-5 times a day from 6 months of age, continued breastfeeding and feeding family food 4-5 times a day upto 24 months, feedings 2-5 years old children 4-6 times a day from family food consisting of cereals, pulses, vegetables, fruits etc., besides advise regarding timely immunization, measures to prevent infections, care during illness and convalescence.

(xii) ICDS provides for Rs.2/- per child per day for supplementary nutrition. The money provided for children below 6 months can be earmarked for promotion of breast feeding.

(xiii) The NRHM has provided a platform to pick up the best practices across the country. Andhra Pradesh has adopted the system of involvement of women SHGs for distribution of hot meals to mothers and children as well as tracking the growth of children.

(xiv) There should be a feed back mechanism from anganwadis to service provi-

ders (NGOs) for tracking children before two years. The feed back mechanism should include information about status of children and subsequent improvement if any after intervention was introduced.

(xv) An initiative regarding maternity entitlement both at pre and post natal stages can assure nutritional care to the children. The Ministry of Women and Child Development, in this context, should make up its mind for implementation of the Conditional Maternity Benefit scheme which has been included in the 11th Plan.

(xvi) Programmes which enhance the purchasing power of the families can contribute significantly to improve the nutritional status of the children. Programmes like NREGP being integrated with the ICDS can play a critical role. Severely malnourished children should be tracked and their families be given priority in providing job cards under NREGP.

(xvii) There is an increasing incidence of migration of poor families in search of employment. Children of such families are easily susceptible to under-nutrition and related diseases. The pregnant and lactating mothers of the migrant families and their children need special and focused attention under ICDS.

(xviii) So far as ICDS is concerned, instead of focusing on the technicality of measuring malnutrition it might be more appropriate to focus on the management of the programme which ultimately have implication on its outcome.



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(xix) Management of malnutrition requires coordination among related programmes like Mid Day Meal scheme and ICDS. The institutional mechanism also needs serious coordination. Under ICDS economies of scale in cooking, women empowerment through employment, fuel policy etc., all need to be considered. These need closer examination, especially in urban areas where anganwadis are located more closely. There is also a need for looking at the fuel requirement of anganwadis through solar energy. The Administrative Ministry of the Centre needs to be pursued in this regard.

(xx) Women SHGs are involved in providing Hot Cooked Meal under ICDS in most of the States. In Maharashtra 97% of the anganwadis are providing such meals through women SHGs. SHGs which are ready to take up the task out of love and affection for the children and on the consideration of profit should get priority for selection under ICDS.

(xxi) Capacity building / training of service providers is an essential requirement for success of any nutritional based programme. At present there are about 20 lakh schools and there will be a total of 14 lakh anganwadis after universalization of ICDS which are/would be involved in the distribution of meals/supplementary nutrition to the children. While the teachers in the school are not expected to have technical expertise regarding cooking and nutrition, anganwadi workers under ICDS also hardly have such knowledge. It needs a massive initiative for capacity building of all those service providers. The Food and

Nutrition Board of the Ministry of WCD should take up the task of capacity building and training of all service providers.

(xxii) The ICDS, which is a major on-going nutrition programme needs to be restructured considering the following aspects :

- A regular reliable and scientific nutritional monitoring mechanism ;
- Dedicated budget for promotion of breast feeding ;
- Special focus on low birth weight children who accounts for 30% of under-nourished children in the country ;
- Nutrition education;
- Universalization with quality;
- Provision of Hot Cooked Meal;
- Maternity entitlement;
- School Health Programme;
- Water and Sanitation;
- Micro-nutrient supplementation / fortification, only when necessary ;

(xxiii) ICDS should have a system of institutionalization of community ownership through panchayat. There should be convergence of health, nutrition and sanitation at the anganwadi level. Funds, functions and functionaries could be devolved to panchayats for better implementation of ICDS. The possibility of utilizing funds under BRGF, which is implemented mainly through PRIs for construction of anganwadi buildings may be explored.

(xxiv) It is very difficult to bring together ANM, ASHA and anganwadi worker to a single platform. ICDS should have a community level body which can bring them together.

(xxv) The Mid Day Meal scheme has been working reasonably satisfactorily at the stage. The responsibility of monitoring height can be entrusted to the school system.

(xxvi) The Nutrition Rehabilitation Centres at PHC level should also to be institutionalized. Some states like Madhya Pradesh have already such centres. These centres can also be the platform for convergence of services.

(xxvii) In order to facilitate focus on problem with convergence each district should have a commonly agreed district plan with disaggregated action for each line department.

2. The recommendations made through the deliberations in the meeting were as follows :

2.1 Nutrition Monitoring is crucial :-

(a) Weight monitoring (weight for age) at regular intervals for the first two years is adequate and can be don't effectively through AWCs.

(b) Height for age and weight for height (BMI) in addition to weight for age is appropriate for children in the age group of 2-18 years. However, this cannot be done by AWW and requires the assistance of health functionaries.

(c) Regular surveys to get district-wise disaggregated data is essential. The

periodicity of these surveys should be, at least, once every year. M/o H&FW are proposing annual DLHs. However, such survey cannot be in lieu of local data collection.

2.2 In-Utero Malnutrition is not reversible. Hence, in order to reduce the incidence of low birth weight, stress has to be given to effective ante-natal care. This should be both through regular health check-ups and health advice as well as conditional maternity entitlement to take care of nutritional requirements of expectant mothers.

2.3 Similarly, special attention needs to be focused on health and nutrition of adolescent girls so that these girls grow up to be healthy mothers.

2.4 Correct Infant and Young Child Feeding (IYCF) practices have to be promoted and adopted. A schedule for IYCF was discussed in the meeting. This included-

(a) Exclusive breast feeding period for the first six months;

(b) Appropriate adequate complementary feeding 3-5 times a day from 6 months of age ;

(c) Continued breastfeeding and feeding family food 4-5 times a day upto 24 months ;

(d) Feeding 2-5 years old children 4-6 times a day from family food consisting of cereals, pulses, vegetables, fruits etc., twice a day ;

(e) Advise regarding timely immunization, measures to prevent infections, care during illness and convalescence.

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- 2.5 Child specific growth monitoring cards should be prepared to enable comprehensive tracking of every child.
- 2.6 Best practices, like the A.P. model where SHGs provide hot cooked meals to expectant mothers, in India and abroad need to be examined and lessons therefrom be disseminated widely for inclusion in other on-going programmes.
- 2.7 Members will give details of best practices followed within the country and outside.
- Write-up on best practices to include:-
- (a) Problem;
  - (b) What was done;
  - (c) What was impact of the measures;
  - (d) Statistical data wherever available to substantiate.
- 2.8 A major problem is nutrition monitoring for children who are 2 to 6 years of age as they are not yet school going and ICDS can handle only weight monitoring. Many States like Tamil Nadu are now bringing in children who are 3+ into pre-primary schooling system and covering them under the school health programme. This may be studied with a view to extension in/ adoption by other states.
- 2.9 Monitoring for height for age and height for weight can be done through Health Sub Centres.
- 2.10 ICDS should give special focus to severely malnourished children and AWC should also provide feedback of such children to the nutrition providers wherever supplies are being made from outside AWC.
- 2.11 There should be an integration of nutrition programmes with NREGP and it should be ensured that all families which are poor or under-nourished are given job cards under NREGP so that their purchasing power is improved.
- 2.12 There should be a focus on issues of management and not simply measurement.
- 2.13 Hot cooked meals should be the preferred options while working out policies. The following should also be kept in mind:
- (f) Need for specialized knowledge of cooking;
  - (g) Economies of scale;
  - (h) Economic empowerment of women also as a goal;
  - (i) Adoption of appropriate technology for cooking/ fuel use;
  - (j) Proper place for cooking.
- 2.14 Community participation should be institutionalized for the purpose:
- (a) Mothers' groups could be involved in quality check.
  - (b) Wherever cooking is being done outside the AWC, only genuine women's groups should be entrusted the responsibility.
- 2.15 ICDS must be universalized and every child must be covered. The programme should be very closely monitored.

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2.16 Clinical management of severely malnourished children is essential. This should be done through Nutrition Rehabilitation Centres at PHC level. The programme to include :-

- (a) Medical interventions ;
- (b) Special foods ;
- (c) Counseling to parents.

2.17 Convergence for nutrition is essential. This would be of two kinds :-

- (c) Convergence of related programmes, for example, safe drinking water and sanitation, RCH, etc. with ICDS.
- (d) Using funds available under various programmes, e.g. BRGF, NREGP etc.

2.18 Village health group to include ANM, AWW, ASHA, etc.

There should be a system of joint training and joint visits to houses by this group. Similarly, there should be joint training, joint meetings and joint touring at the block and district levels for health and WCD functionaries.

2.19 Problem of migrant workers needs special attention and tracking of such children should be done.

2.20 Capacity building of AWWs to be paid attention to. There should be periodic up-dation of their skills and knowledge.

2.21. After receipt of inputs/write-ups from members Planning Commission will prepare a draft report and circulate to

all the members. Tentative time frame will be as follows:-

- (a) Note on best practices to be sent by members of the Task Force to Planning Commission. - One Week
- (b) Draft report to be circulated by Planning Commission after receipt of - (a) Three weeks
- (c) Comments of members on the draft report after its circulation - Two weeks

The Meeting ended with a **Vote of Thanks** to the Chair.



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