



**Starvation, Malnutrition and Malnutrition Related  
Deaths of Children in 15 Tribal Districts of  
Maharashtra - Report of an Enquiry**

**Conducted by  
Dr. Lakshmidhar Mishra IAS (Retd.), Former Special  
Rapporteur, NHRC in June-October, 2007**

**PART-I**

**(Conceptual, Definitional, Legal & Administrative Issues)**

**NATIONAL HUMAN RIGHTS COMMISSION  
INDIA**



**Starvation, Malnutrition and Malnutrition Related  
Deaths of Children in 15 Tribal Districts of  
Maharashtra - Report of an Enquiry  
Conducted by  
Dr. Lakshmidhar Mishra IAS (Retd.), Former Special  
Rapporteur, NHRC in June-October, 2007**

**PART-I  
(Conceptual, Definitional, Legal & Administrative Issues)**

**NATIONAL HUMAN RIGHTS COMMISSION  
INDIA**

Starvation, Malnutrition and Malnutrition Related Deaths of Children in 15 Tribal Districts of Maharashtra - Report of an Enquiry Conducted by Dr. Lakshmidhar Mishra IAS (Retd.), Former Special Rapporteur, NHRC in June-October, 2007, PART-I (Conceptual, Definitional, Legal & Administrative Issues).



**National Human Rights Commission**

Manav Adhikar Bhawan  
Block-C, GPO Complex  
INA, New Delhi – 110023  
E-mail: [covdnhrc@nic.in](mailto:covdnhrc@nic.in)  
Website: [www.nhrc.nic.in](http://www.nhrc.nic.in)

© 2013, National Human Rights Commission, India

First Edition : 2013

Printed at Arihant Offset, B-8, Suneja Tower-II, Dist. Centre, Janakpuri, New Delhi-110058



## CHAIRPERSON NHRC

### Foreword

Between 2003 and 2006 NHRC received a spate of complaint petitions mostly on the basis of newspaper reports on starvation and malnutrition related deaths of children in the 15 tribal districts of Maharashtra. Considering the seriousness of these complaints the full commission passed an order of enquiry into deaths of these tribal children on 23.04.07. The enquiry was entrusted to Dr. Lakshmidhar Mishra, IAS (Retd.) former Union Labour and Parliamentary Affairs Secretary who had joined the Commission on 18.08.06 as a Special Rapporteur.

Dr. Mishra took up the enquiry in right earnest in consultation with the State Govt., Divisional Commissioners and District Magistrates in May 2007 and visited all the fifteen districts in 2 spells between May – June' 2007 and September – October, 2007 (July to August, 2007 being a heavy rainfall period not many visits except one to Thane were ordinarily possible). He visited Anganwadis, PHCs, CHCs, dispensaries, hospitals, nutrition rehabilitation centres, IEC Institutes, State level training Institute etc and interacted with a large number of households, pregnant and lactating women and mothers, NGOs, Voluntary Social Action Groups, Social Activists, PHC and CHC-in-charge, Medical Officers, Lady Health Visitors, Auxilliary Midwife and Nurses, Multipurpose Health Workers & Health Assistants, Anganwadi Workers, Members of Rugna Kalyan Samitis and Members of Health and Sanitation Committees. At the State level and in the wake of completion of field visits he interacted with Chief Secretary and Secretaries to Govt. of a number of concerned Departments (Agriculture, Animal Husbandry & Veterinary, Fisheries, Forest, Food and Civil Supplies, Housing, Labour & Employment, Planning, Public Health, Revenue, Rural Development, Tribal Development, Women & Child Development) and shared with them the perceptions and problems related to production and distribution of food grains he had gathered from field visits in a bid to find solution to those problems. At the national level, he interacted with Secretaries to Govt. of India in charge of Ministries of Agriculture, Animal Husbandry and veterinary, Food & Consumer Affairs, Public Distribution, Health & Family Welfare, Tribal Development, Women and Child Development, Rural Development etc. to have access to authentic and up-to-date data, to share with them micro-level

---

problems obtaining from his field visits and seeking their intervention to the solution of some of those problems.

Dr. Mishra submitted his report to the Commission in 2 volumes, the first being the report of enquiry into starvation and malnutrition related deaths of children and the second being a summary of field impressions emanating from the visit and interaction with all institutional functionaries of all the 15 districts. The first part of the Enquiry Report also carried a detailed study of the current position of food supply and the extent by which the various schemes initiated by the Tribal Development Department, Govt. of Maharashtra have contributed to solve the problems of starvation and infant mortality on the ground.

The full Commission had considered the Enquiry Report of Dr. Mishra in 2 volumes, in its meeting held on 20.01.08, had endorsed the observations conclusions and recommendations and had commended them to Govt. of Maharashtra for implementation.

The NHRC has accorded utmost importance to the issues of poverty, hunger and malnutrition as major violations of human right to life as in Art 21 of the Constitution. It has consistently maintained that right to food is an integral part of such right to life. It has always taken prompt cognizance of such violations for necessary preventive and corrective actions. The prompt and proactive intervention of the Commission in the matter of Starvation deaths in Kalahandi, Balangir and Koraput (KBK) districts of Odisha has earned it accolades from the apex court of the country.

The Commission would like to record its deep sense of appreciation for the thorough, participative, objective and dispassionate manner in which Dr. Mishra proceeded to conduct the enquiry, the pains taken by him to cover all the 15 tribal districts in a very short time and for the very comprehensive content of the report, covering all aspects of nutrition, malnutrition and malnutrition related deaths of children. The entire report mostly written in a bulletised style in simple and intelligible language with a wide range of conclusions and recommendations makes a fascinating reading.

It is against this background, considering the comprehensive nature of the report as also the relevance of a series of sound and sensible recommendations made in the report, the Commission has taken a decision to have the two voluminous reports published in shape of a book.

It is hoped that this publication will be of immense professional and academic value to social scientists engaged in action research in the field of hunger, starvation and malnutrition.



(K. G. Balakrishnan)

---

## In the author's own words

---

Conducting social enquiries/investigations is always a difficult and unenviable act. This is on account of a number of reasons. To start with, despite most earnest efforts, people and stakeholders in general do not come out to the open to unfold the true and full story; truth, therefore, remains illusive. Secondly, there are powerful vested interests all around who do not want the lid to be broken, the mask to be uncovered and truth to come out, and, therefore, the process of discovery of truth is often inhibited. Thirdly, barriers of language i.e. language spoken by the people at the grassroots level and language spoken by the social investigator may be different from each other. This creates a hiatus in communication which often leaves truth half revealed and half concealed. Fourthly, the constraints of covering a vast geographical area and interacting with large cross sections of civil society with all the diversities of human characters and situations and limitations of time robs social investigation of a comprehensive and representative character.

I have been a socio legal investigating Commissioner of the Supreme Court on more than one occasion and have experienced all the problems associated with social investigation as enumerated.

These constraints and challenges were also there before me in full measure when NHRC appointed me as a social investigator in April, 2007 to investigate into malnutrition related deaths of children in 15 tribal districts of Maharashtra. I nevertheless accepted this both as an opportunity as well as a challenge. It was an opportunity of learning by sharing for one like me who is a non-paediatrician and non-dietician. It was a challenge on account of the fact that (a) I was to conduct the investigation single handed (b) the area involved was large and a large number of members of tribal communities were unapproachable as they lived in remote, interior and inaccessible dense forest tracts (c) even though I am quite adept in communicating in Hindi, I was not quite sure if I would succeed in making myself intelligible to the members of tribal communities many of whom speak and understand a dialect quite different from Hindi.

---

These constraints and challenges notwithstanding I proceeded with the investigation in right earnest in a planned, coordinated and concerted manner right from day one. The process was facilitated in no small measure by the willing cooperation of officers of the State Govt. right from the Resident Commissioner in Maharashtra Sadan at Delhi to the Chief Secretary and Secretaries of all concerned departments at the Mantralay, Mumbai, the Divisional Commissioners and DMs at the district level and all Chief Executive Officers, Zilla Parishad and down below. They also made the task of communication easy by translating my statements from Hindi to Marathi and the relevant tribal dialect wherever there was need for such translation.

In an enquiry/investigation of this kind there are bound to be a few silver linings and a few grey areas of concern. Some of the most conspicuous silver linings are:

- Maharashtra has a high GDP percapita next only to that of Punjab;
- 1.6 percent of the poor are being lifted above the poverty line every year;
- Percentage of breast fed children has gone up (23 percent to 52 percent);
- Percentage of women with BMI below normal (18.5 to 23) has registered decline from 40 to 33;
- IMR, MMR and CMR are low compared to the national average;
- Except Amravati, malnutrition rates are not alarming;
- The death figures both in terms of percentage and absolute number are declining.
- The main tribals in Maharashtra i.e. Bhils, Gonds, Mahadeo, Kolis, Madias, Pawaras, Thakurs and Warlis are simple, guileless, hospitable, amenable to ideas and suggestions and once convinced about the efficacy of a particular idea or approach they would unhesitatingly go ahead in implementing the same.

The grey areas in terms of right to food, food security and factors contributing to malnutrition are many such as:

- Maharashtra is a high deficit State;
  - It is quite low in terms of food availability;
  - It has an unstable cereal production;
  - There are 20 to 50 percent landless labour households who consume less than 2300 calorie value of food;
  - Production of jawar & bajra is coming down;
  - These are being substituted by cash crops i.e. cotton and sugar cane;
-



- It is unlikely that this trend will be reversed;
  - Ironically and tragically enough, farmers growing these cash crops are committing suicides in large number as they are unable to recover the high cost of production from sales and unable to repay the heavy debts incurred by them from village sahuikars/money lenders;
  - Soyabean has high nutritive value (100 gm = 432 kilo calorie) and its production is picking up but people of Maharashtra do not consume it substantially;
  - Per capita availability of milk which is rich in calcium is 172 gram per person per day against the recommended norm of 272 gram per person per day;
  - Per capita availability of eggs is 35 eggs per person annually as against the recommended norm of ½ an egg per person per day (180 eggs annually per person);
  - There is huge deficit between the recommended norm and what is available for consumption in respect of cereals, sugar, pulses, vegetables, fruits, oil/fat, milk, meat and fish;
  - The existing PDS does not distribute coarse cereals such as jawar, bajra and ragi for which members of tribal households have a preference.
  - PDS caters to only 50 percent of the requirements of a family (the average family size in tribal households exceeds five).
  - For the remaining 50 percent, it is compounded by the following:
    - Inadequate number of mandays of employment;
    - Non-enforcement of minimum wage;
    - Minimum earning vis-à-vis large family size being low, need for supplementing limited family income for feeding additional mouths gives rise to incidence of child labour;
    - Women wage earners in Maharashtra receiving 40 to 60 percent lower than what is paid to their male counterparts;
    - The number of families below poverty line identified through the household survey of 2002 is 20 lakhs in excess of the norm fixed by the Planning Commission (the number of BPL families according to this norm should be 45 lakhs while 65 lakhs have been identified as BPL);
    - 78,479 shelter less tribal families out of 3,75,711 families in the 15 tribal districts have been assisted under IAY; 2,89,677 shelter less families have been in the wait list for a period ranging between 2 to 25 years; this has generated a lot of bitterness and frustration alaround.
-



- Access to potable water is extremely limited;
- Nitrate and fluoride content in water is increasing and nearly 1000 villages in Amravati, Akola & Buldhana are getting affected by salinity.

In regard to the factors contributing to malnutrition and child mortality, there are a number of grey areas such as:

- Proportion of fully immunized children has declined;
- Percent of anaemic children in 6-35 months is going up;
- Overall percent of anaemic children is 77 percent in rural areas and 66 percent in urban areas;
- Percent of married women who are also anaemic is 49.
- Proportion of underweight children below 2 years is very high such as:
 

38 percent	-	stunted;
15 percent	-	wasted;
40 percent	-	underweight
- Percent of neo-natal and infant mortality in some of the tribal districts like Thane, Nashik, Nandurbar, Amravati and Gadchiroli is quite high.

A number of structural and systemic factors (factors relating to low production of coarse cereals and pulses, vis-à-vis preference of tribal households, flawed identification of BPL families, resulting in exclusion of generally poor and deserving families from the BPL list, deficiencies in management of PDS, deficiencies in management of ICDS, deficiencies in management of public health institutions etc.) have contributed to the above sorry state of affairs and these have been analysed at length in Part – I of the enquiry report at the appropriate place. I would, however, like to focus on two other factors which according to me have contributed equally and substantially to the overall scenario of malnutrition and malnutrition related deaths of children. These are (a) lack of social communication through a design of appropriate IEC materials and (b) lack of convergence among departments and agencies concerned with prevention and control of malnutrition.

Social communication is a two way process. At the one end we have the designer and at the other end we have the receiver of the message. If the designer is able to perceive and internalise the genuine needs, preferences and interests of the receiver and designs a message which will be socially and culturally relevant for the receiver, the latter will not only imbibe and assimilate the nuances of the message but would also make serious and sincere efforts to apply it in his/her day to day life.

---

In such a situation, social communication will promote better understanding of concepts and issues/better; understanding will lead to conviction and conviction will lead to better application or productive utilization of ideas in concrete action.

This process is called designing an IEC package. Every such package will have a central message which will have the following:

- It should be well visualised and illustrated;
- Its language should be simple and intelligible;
- It should be rich in terms of human appeal;
- There should be a logical and coherent link between various components of the message;
- The message should be clear, cogent, unambiguous, relevant and should be capable of being implemented.
- Such a message will serve a number of useful purposes such as:
  - It will remove fads, mistaken and ill perceived notions, obscurantist ideas and practices;
  - It will inspire and motivate the target groups;
  - It will sensitise the callous and insensitive;
  - It will produce better results in terms of social spending;
  - The gap between expected outcome and actual outcome will be reduced to zero.

To illustrate, in one of the tribal blocks located in an interior forest tract in Gondia district it was observed that members of tribal households are not consuming milk on the mistaken notion that this will produce some dermatological (related to skin) disorders. When it was pointed out to them that milk is rich in calcium absence of which would cause osteoporosis, they said this was being told to them for the first time. In other words, there was no evidence of any extension effort having been made by the Animal Husbandry and Veterinary Department to remove these notions or make beliefs.

Similarly while on tour to Dahanu taluka in Thane district it was observed that members of tribal households and even fishermen do not consume fish even though they are on the west coast with plenty of sea fish (due to Arabian Sea). On being told that fish had protein which is essential for physical and cognitive development, they said that they were influenced by the teaching of Pandurang Athavale, their spiritual preceptor not to kill fish. When they were further told that absence of protein would cause protein energy malnutrition (PEM) which will cause growth retardation in infants and young

---

children, they stated that nobody had shared such informations with them before. In other words, the officers of Fisheries Department had not played their extension role in designing appropriate messages and in transmitting such messages to people in a simple and intelligible manner to make sense to them and to produce the desired results.

These two illustrations reinforce the importance of social communication or what is known otherwise as IEC. In the context of malnutrition and malnutrition related deaths of children in the tribal districts (15) of Maharashtra, the central message in social communication or in any IEC package should be the following:

- Human life is the finest and best in creation.
  - Once deformed, damaged and destroyed, we cannot restore it to its original form.
  - This sacrosanctity of life has got to be acknowledged in general and for children who are our succeeding generation in particular.
  - Entire human life may be treated as a cycle.
  - It starts with conception or pregnancy.
  - It proceeds to different stages marked by the development and growth of the foetus, delivery and post delivery stage upto early childhood.
  - Each stage is fraught with risks and hazards. These need to be correctly identified and remedial measures found.
  - The prenatal phase begins 28 weeks after conception upto 7 days after delivery.
  - The risks and hazards associated with this phase are:
    - Congenital malformation;
    - Infection (jaundice);
    - Birth asphyxia.
  - The phase from 0 - 7 days is called early neonatal phase which is extremely crucial for survival and protection of the child.
  - The risks and hazards which are associated with this phase are:
    - Infection (bacterial);
    - Meningitis;
    - Hypothermia (reduced temperature);
    - Hypoglycemia (low blood sugar);
    - Sudden infant death syndrome (SIDS).
  - The phase from 8 days to 28 days is called late neonatal phase which is associated with the following risks and hazards such as:
-

- Infection (bacterial);
  - Upper and lower respiratory tract infection;
  - The neonatal phase comprises of 0 – 28 days and is fraught with the following risks and hazards:
    - Infection;
    - Problems associated with premature delivery;
    - Asphyxia.
  - The postnatal phase comprises of 28 days to 1 year and is associated with the following risks and hazards:
    - Pertusis;
    - Diphtheria;
    - Tetanus;
    - Respiratory diseases;
    - Diarrhoea.
  - Series of preventive and curative measures by way of checks and safeguards are needed to deal with these risks and hazards such as:
    - Quality antenatal care through 3 visits to the PHC by every pregnant mother;
    - Attendance of qualified and trained dais after birth;
    - Improving the PC of institutional delivery vis-à-vis home delivery;
    - Thermal protection (putting the baby in thermocol boxes);
    - Prevention of exposure to cold;
    - No bath to the baby;
    - Prevention of infection;
    - Exclusive breast feeding within half an hour of delivery and upto 6 months to be followed by composite feeding;
    - Extra care and protection for LBW children (who are born with a weight less than the normal weight of 2.5 kg) including admission to neonatal cardiac care unit (NICU) wherever the same exists;
    - Management of Associated Respiratory Infection (ARI);
    - Management of diarrhoea through ORS;
    - Commencement of the cycle of vaccination and carrying it to its logical conclusion.
-

All these messages in simple and intelligible language must be built into the IEC package and must be displayed prominently at the PHCs, CHCs, dispensaries, hospitals, anganwadi centres, Nutrition Rehabilitation Centres (NRCs) etc.

- They must also be displayed in school buildings, GP Offices, all other public and private health institutions, clinics for wider spread of awareness.

Additionally, the IEC package must also contain the following messages:

- Family size must be limited;
  - Minimum spacing of 3 years between 2 children must be observed;
  - We must put an end to early child marriage and teenage pregnancy which are injurious to mother's health and health of the child to be born;
  - Nutrition is both an art and science;
  - It is a science of food in relation to health;
  - It is the art of bringing about a balanced combination of carbohydrate, protein, oil/fat, trace minerals and vitamins;
  - There is no place for blind faith or quackery in this;
  - Gr. III & Gr. IV malnourished children need to be admitted to and treated in hospitals;
  - Such treatment cannot be arranged at home and home cannot be a substitute for the hospital;
  - Mothers should not commit the folly of taking away the children against medical advice (LAMA) before the full course of treatment has been completed;
  - Even after discharge from hospitals there has got to be strict and timely compliance with the advice given by the doctors in terms of drugs, diet and day to day care and attention;
  - In particular, children discharged from NICU will have to be wrapped round a baby woolen blanket or kept in a thermocol box so that exposure to cold and hypothermia are prevented (their body temperature is controlled at 36.5° Celsius by the warmer (thermo regulator) once they are inside the NICU);
  - Children need milk and eggs since 80 percent of the brain is formed in the first 2 years of their life; we cannot afford to deny them any of those micro-nutrients;
  - Bundles of fads are associated with breast feeding and these need to be replaced by a rational and scientific understanding of breast feeding for both children and mothers.
  - In Maharashtra, IEC materials are being produced and supplied to all AWCs
-

centrally by the ICDS Commissionerate. Simultaneously, the State Bureau of IEC at Pune is also designing IEC materials but they do not find way to AWCs for dissemination of the central message. There is no synergy between the 2 State level bodies and what is being produced amounts to duplication. Additionally, the materials suffer from the following deficiencies:

- They have not brought out fully various stages in the cycle of life either in 0 – 6 age group or beyond;
- There is no logical and coherent link between various IEC materials produced;
- They are not well visualised or well illustrated;
- There is a lot of repetition and no convergence between various messages and processes involved in producing them.

Convergence is not fusion or amalgamation or loss of identity. It simply means 2 objects tending to converge or meet. We have different forms of micro-nutrient malnutrition such as (a) iron deficiency or anaemia (b) vitamin 'A' deficiency (c) iodine deficiency disorder and (d) protein energy malnutrition (PEM). We have three distinctly different target groups such as pregnant and lactating mothers, adolescents and children in 0 – 6 age group/with different health and nutritional needs. Multiple Strategies are needed to bring about the much needed change in their health and nutritional status.

We have different agencies (Commissioner, ICDS, functionaries of health & family welfare department, agriculture, animal husbandry & veterinary, fisheries, food and civil supplies departments, officers of IEC and training institutions etc.) who have divergent functions but closely related in the context of promoting health and nutrition of our target groups.

It is incumbent that all these departments and agencies function in close unison and coordination (what is otherwise known as partnership) if we have to improve the nutritional status and improve the access to supplies and services for health and well being of the target groups. Such partnership involves thinking, planning and working together for a common cause with a unified strategy. This is the first component of functional convergence.

The second component of convergence is pooling financial resources from a variety of sources and integrating them imaginatively and skilfully so that maximum resources could be mobilized for achieving a number of objects in a short time and less cost.

The third component of convergence is pooling of knowledge, information and skill from multiple stakeholders and integrating them in the interest of improving content and quality of the programme. The fourth component of convergence relates to improving

---

the content and quality of interaction between functionaries of govt, local community members and beneficiaries to improve outreach and remove operational hurdles. Last but not the least promoting sustainability of any programme (in the present context for health and nutrition) is a component as also the desired outcome of convergence.

The enquiry into malnutrition related deaths of children in Maharashtra has clearly brought out that such convergence at all levels is sadly lacking which becomes a matter of deep concern.

In the ultimate analysis an honest and earnest effort has been made through the enquiry into malnutrition related deaths of children in Maharashtra to cover as wide a canvas as possible such as conceptual and definitional clarity on nutrition, malnutrition and under nourishment, magnitude of the problem of malnutrition at the macro and micro levels, interventions made at the macro & micro-levels to ease the situation of starvation and malnutrition, role of various Ministries/Departments/Agencies of Govt. of India and State Govt. in production and distribution of food grains vis-à-vis special preferences and needs of the members of the tribal community, the huge uncovered gaps and how to bridge them, importance of simultaneous increase in production of fruits, vegetables, edible oil, eggs, fish, meat and milk and ensuring their equitable distribution and last but not the least a scientific analysis of malnutrition as a cause or contributory factor of death of children. The fact that such deaths are taking place in a progressive State like Maharashtra which has the second highest GDP percapita in the country and is otherwise so advanced agriculturally, industrially and commercially is as much a reflection on governance as on historical and cultural factors responsible for underdevelopment of certain regions within the State (including the tribal belt). The enquiry which is also in the nature of a study reinforces the need for both structural and systemic change as also change in human behaviour, attitude and approach. It can be used as a wake up call for many other States/UTs where the scenario of management of public health and nutrition needs a similar critical reflection and analysis for adoption of timely preventive and corrective measures.



**Dr. Lakshmidhar Mishra, IAS (Retd.)**



# Contents

---

Background	23 - 28
Chapter – I Conceptual clarity on what constitutes hunger and starvation, malnutrition/under nutrition and what constitutes freedom from both.	29 - 35
Chapter – II Magnitude of the problem of hunger and Starvation at the national level.	36 - 39
Chapter – III Magnitude of the problem of malnutrition at the national level.	40 - 46
Chapter – IV Directions issued by the Supreme Court of India from time to time on right to food and nutrition.	47 - 50
Chapter – V Maharashtra State – geography, topography, demography and magnitude of the problem of hunger, starvation and malnutrition.	51 - 69
Chapter – VI A gist of interventions made as reported by the Government of Maharashtra to ease the situation of starvation and malnutrition and starvation and malnutrition related deaths of tribal children in the tribal districts of Maharashtra.	70 - 83
Chapter – VII A gist of discussion held with Chief Secretary and other Secretaries to Government on right to food and nutrition (Aug'07 and Nov'07).	84 - 134
Chapter – VIII A scientific analysis of malnutrition as a cause/ contributory factor of death and manner of reporting such death.	135 - 149

---

Chapter – IX Strategy and methodology adopted to conduct the investigation.	149 - 162
Chapter – X Information, Education and Communication (IEC) concept, strategy and methodology.	163 - 172
Chapter – XI Convergence – concept, strategy and methodology	173 - 189
Chapter – XII An executive summary of conclusions and Recommendations.	190 - 211
Annexure – I	212 - 219
Annexure – II	220

# Selected Abbreviations

---

ACDPO	-	Addl. Child Development Project Officer
ADHO	-	Addl. District Health Officer
ANC	-	Ante Natal Care
ANM	-	Auxilliary Nurse-cum-Midwife
AP	-	Andhra Pradesh
ARDS	-	Acute Respiratory Distress Syndrome
ASHA	-	Accredited Social Health Activist
ATMA	-	Agriculture Technology Management Agency
AWC	-	Anganwadi Centre
AWH	-	Anganwadi Helper
AWW	-	Anganwadi Worker
BAIF	-	Bharatiya Agro Industries Foundation
BAMS	-	Bachelor of Ayurvedic Medicine and Surgery
BCG	-	Bacille Calmette Guerin
BDO	-	Block Development Officer
BMI	-	Body Mass Index
BPL	-	Below Poverty Line
CBO	-	Community Based Organization
CBR	-	Crude Birth Rate
CDR	-	Crude Death Rate
CEO	-	Chief Executive Officer
CDPO	-	Child Development Project Officer

CDMO	-	Chief District Medical Officer
CHC	-	Community Health Centre
CMR	-	Child Mortality Rate
CL	-	Consumption Loan
CS	-	Civil Surgeon
DCH	-	Diploma in Child Health
DFS	-	Double Fortified Salt
DHO	-	District Health Officer
DHS	-	Director of Health Services
DPT	-	Diphtheria Pertusis Tetanus
E&D	-	Entitlement and Deprivation
ENT	-	Ear Nose Throat
ESCAP	-	Economic Commission for Asia Pacific
FAO	-	Food and Agriculture Organization
FDA	-	Food and Drug Administration
FPS	-	Fair Price Shop
FRU	-	First Referral Unit
GDP	-	Gross Domestic Product
GOI	-	Government of India
GP	-	Gram Panchayat
HA(Male)	-	Health Assistant (Male)
HA (Female)	-	Health Assistant (Female)
HFWTC	-	Health and Family Welfare Training Centre
HIV/AIDS	-	Human Immuno Deficiency Virus/Acquired Immuno Deficiency Syndrome

HP	-	Himachal Pradesh
HPS	-	High Performing States
IAY	-	Indira Awas Yojana
ICDS	-	Integrated Child Development Services
ICU	-	Intensive Cardiac Unit
ICMR	-	Indian Council of Medical Research
IDD	-	Iodine Deficiency Disorder
IEC	-	Information Education Communication
IMR	-	Infant Mortality Rate
IHNCI	-	Integrated Management of Neonatal Illness
IFA	-	Intravenous Folic Acid
ITDA	-	Integrated Tribal Development Agency
ITDP	-	Integrated Tribal Development Project
JSR	-	Janani Surakshya Yojana
JRY	-	Jawahar Rojgar Yojana
KM	-	Kilo Meter
KVK	-	Krishi Vigyan Kendra
LAMA	-	Leaving Against Medical Advice
LBW	-	Low Birth Weight
LHV	-	Lady Health Visitor
LPS	-	Low Performing State
MAY	-	Matrutwa Anudan Yojana
MADA	-	Modified Area Development Agency
MBBS	-	Bachelor of Medicine and Bachelor of Surgery
MC	-	Malnourished Children

MCI	-	Medical Council of India
MHU	-	Mobile Health Unit
MIS	-	Management Information System
MLA	-	Member of Legislative Assembly
MLC	-	Member of Legislative Council
MMR	-	Maternal Mortality Rate
MMS	-	Mobile Medical Squad
MP	-	Madhya Pradesh
MP	-	Member of Parliament
MO	-	Medical Officer
MPW	-	Multi Purpose Worker
MREGS	-	Maharashtra Rural Employment Guarantee Scheme
MS	-	Medical Superintendent
MSP	-	Monopoly Procurement Scheme
MT	-	Metric Ton
MW	-	Minimum Wage
NBA	-	Narmada Bachao Andolan
NCHS	-	National Child Health Statistics
NFHS	-	National Family Health Statistics
NGO	-	Non Governmental Organization
NICU	-	Neonatal Intensive Cardiac Care Unit
NMR	-	Neonatal Mortality Rate
NNMB	-	National Nutrition Monitoring Bureau
NHRC	-	National Human Rights Commission

NSSO	-	National Sample Survey Organization
NRHM	-	National Rural Health Mission
NRC	-	Nutritional Rehabilitation Centre
NREGS	-	National Rural Employment Guarantee Scheme
NSSO	-	National Sample Survey Organization
OT	-	Operation Theatre
PC	-	Percentage
PCO	-	Public Call Office
PDS	-	Public Distribution System
PEM	-	Protein Energy Malnutrition
PHC	-	Primary Health Centre
PHU	-	Primary Health Unit
PNC	-	Post Natal Care
PS	-	Panchayat Samiti
PUCL	-	People's Union for Civil Liberties
PWD	-	Public Works Department
RAT	-	Rapid Action Team
RCH	-	Reproductive and Child Health
RCC	-	Reinforced Cement Concrete
RH	-	Rural Hospital
RDA	-	Recommended Dietary Allowance
RO	-	Reverse Osmosis
RM	-	Regional Manager
SBA	-	Skilled Birth Attendant



SC	-	Supreme Court
SC	-	Scheduled Caste
SDP	-	State Domestic Product
SHG	-	Self Help Group
SIDS	-	Sudden Infant Death Syndrome
SNP	-	Supplementary Nutrition Programme
SRM	-	Sub Regional Manager
ST	-	Scheduled Tribe
TFR	-	Total Fertility Rate
TOT	-	Training of Trainers
TSP	-	Tribal Sub Plan
TT	-	Tetanus Toxoid
UT	-	Union Territory
UD	-	Urban Development
UNESCO	-	United Nations Educational Scientific and Cultural Organization
UP	-	Uttar Pradesh
WCD	-	Women and Child Development
WHO	-	World Health Organization
WFP	-	World Food Programme
WP	-	Writ Petition
YASDA	-	Yaswant Rao Chavan Academy of Development Administration
VHW	-	Village Health Worker
ZP	-	Zilla Parishad

# Background

The National Human Rights Commission, New Delhi from time to time and in particular between 2002 and 2006 has been receiving a spate of complaints about starvation and malnutrition related deaths of children in the tribal districts (15) of Maharashtra. Notable among the complainants are:-

- I Kishore Tiwari  
President, Vidarbha Jan Andolan Samiti  
'Shivalaya'  
11, Trisaran Nagar, Nagpur  
Date of the complaint : 19.9.2003
  - II Arun Bhatia  
Ex-Commissioner, Tribal Research and Training Institute  
Pune (Maharashtra)  
Date of complaint : 6.9.2002, 20.11.2002
  - III T. Duryodhan Reddy  
Village Pannapalli  
PO: Mendrajpur  
Distt.: Ganjam (Orissa)  
Date of complaint : 7.7.2004
- The complaints at Sl. No. I and III were based on:
    - the news item published in Daily Navkal dated 20.6.2003
    - the news item published in Tarun Bharat dated 18.7.2003
    - the news item published in Hitavad Vidarbha Line dated 18.9.2003.
    - the news item published in Hindu dated 25.7.2004.
    - the news item published in Frontline dated 23.9.2005.

- Simultaneously the Commission took suo moto cognizance of certain newspaper reports such as:-
  - the news report captioned, 'Health workers on flu trail find acute malnutrition' in Times of India dated 27.2.2006.
- The Hon'ble High Court of Judicature at Bombay also took suo moto cognizance of certain complaints relating to malnutrition of children in different grades (II, III and IV) and directed the State Government of Maharashtra to file a comprehensive affidavit on the status of malnutrition and compliance of its directions given from time to time. The details of the Civil Applications and writ petitions are:-

Civil Application No. 2974 of 2004  
with  
Civil Application No. 3004 of 2004  
with  
Civil Application No. 3007 of 2004  
in  
Writ Petition No. 5629, 5660 and 5661 of 2004

The High Court on its own motion – Petitioner  
versus  
The State of Maharashtra and others – Respondents.

Pursuant to the directions issued by the Commission in respect of each complaint the Government of Maharashtra had submitted detailed reports. The Commission had considered these reports and in view of the urgency, importance and seriousness of concern expressed in several quarters decided on a detailed enquiry at the spot. The enquiry as envisaged in full Commission's order dated 23.4.2007 was to comprise of the following:-

- I Enquiry into starvation and malnutrition related deaths of children in the tribal districts (15) of Maharashtra.
- II A detailed study of the correct position of food supply and malnutrition in the tribal districts of Maharashtra.
- III A detailed study of how the various schemes initiated by the Tribal Development Department, Government of Maharashtra have solved the problems of starvation and infant mortality on the ground.

By the same order, the enquiry was entrusted to me to be completed in 12 weeks. There are 15 tribal districts (out of 35 total number of districts) in Maharashtra such as (in an alphabetical order):-

- Ahmednagar

- Amaravati
- Chandrapur
- Dhule
- Gadchiroli
- Gondia
- Jalgaon
- Nagpur
- Nanded
- Nandurbar
- Nasik
- Pune
- Raigad
- Thane
- Yavatmal

In consultation with the Secretary General of the Commission who is incidentally from the Maharashtra cadre IAS, Chief Secretary to Government of Maharashtra, Resident Commissioner, Government of Maharashtra, Divisional Commissioners and Collectors of districts concerned, my visit was divided into 5 phases, first phase comprising of 5 districts, the second, third and fourth phase comprising of 3 districts each respectively and the fifth phase comprising of 1 district. The following is the order in which the districts were divided into 5 phases:-

- |           |   |  |
|-----------|---|--|
| I Phase   | : | Yavatmal (4.6.2007)<br>Amravati (5.6.2007 and 6.6.2007)<br>Nandurbar (11.6.2007 to 13.6.2007)<br>Gadchiroli (20.6.2007 to 23.6.2007)<br>Thane (2.7.2007 to 4.7.2007) |
| II Phase  | : | Nasik (9.9.2007 and 11.9.2007)<br>Dhule (12.9.2007)<br>Jalgaon (13.9.2007)   |
| III Phase | : | Pune (26.9.2007 and 27.9.2007)<br>Ahmednagar (28.9.2007)<br>Raigad (29.9.2007)   |
| IV Phase  | : | Chandrapur (8.10.2007)<br>Gondia (9.10.2007)<br>Nagpur (10.10.2007)  |
| V Phase   | : | Nanded (22.10.2007 to 23.10.2007)  |

- The duration of visit to a district depended on –
  - size of the district;
  - number of tribal taluks (full and partial);
  - nature of the terrain;
  - time taken to listen to public grievances and interaction with fuctionaries of Health - WCD Deptt. and cross sections of the society.
- It was thought appropriate to have two rounds of discussion with Secretaries to Government and Heads of Departments, Government of Maharashtra at Mantralay, Mumbai with the following objectives in mind:-
  - to share with them the problems and concerns pertaining to a specific area (which falls within the mandate of the department) which were raised in course of field visits;
  - to understand the policy and programme of action launched by the department to deal with the specific area of concern;
  - to understand the futuristic vision and contemplated strategy of the department to deal with the areas of concern.
- These 2 rounds of discussion took place in August, 2007 and November, 2007 respectively with the Secretaries and other senior officers of the departments such as:-
  - Agriculture;
  - Animal Husbandry and Veterinary;
  - Fisheries;
  - Forest;
  - Food and Civil Supplies;
  - Housing;
  - Labour,
  - Planning
  - Public Health;
  - Revenue;
  - Rural Development;
  - Tribal Development;
  - Women and Child Development.
- The outcome of these meetings and the discussions which took place has been placed in shape of Chapter VII.

- The enquiry had to spill over a period longer than the 12 weeks duration fixed by the Commission on account of the following reasons:-
  - during July and August, 2007 (except the first week of July, 2007) no visit could be undertaken to any other tribal district due to problems of communication, transport and accessibility on account of heavy rains;
  - Vinayak Chaturthi being a premier State festival I was advised by the Chief Secretary to Government in course of our meeting in August, 2007 not to undertake any visit to the State between 14.9.2007 to 24.9.2007;
  - Similarly no visit to the State was advised during the festival period commencing with Navratra on 12.10.207 and ending with Dusshera on 21.10.2007.
  - I had not designed any specific questionnaire and circulated the same before undertaking the tour in the five tribal districts in the first phase. This is on account of the fact that the visit to Yavatmal, Amravati, Gadchiroli, Nandurbar and Thane in the first phase had to be undertaken in June, 2007 and July, 2007 soon after receiving orders of the Commission and this did not leave any time for preparation of the questionnaire. Subsequently, on the basis of the experience gained, I designed a detailed questionnaire covering the geography, topography and demography of the district, child health profile, ICDS profile and miscellaneous issues covering basic entitlements (land, water, electricity, housing, sanitation etc.) and circulated the same through the State Government to the administration of the 10 tribal districts proposed to be visited by me between September, 2007 and October, 2007.
- A copy of this questionnaire is placed at Annexure-I for ready reference.
- A resume of my impressions, observations and conclusions emerging from the field visits to all the 15 districts of the State is placed at Part-II of the report captioned 'Field Impressions'.
- There were 3 complainants on whose written complaint the present enquiry has been ordered. The names of the complainants have been mentioned at page 1 of this report. Of the three, the first is based at Yavatmal, the second at Pune and the third at Berhampur (Orissa). Efforts were made through the Divisional Commissioner, Amravati and Collector, Yavatmal to establish contact with the first but since he was away on the day of visit I could interact only with his authorized representatives. As a matter of fact, they were with me throughout my Yavatmal tour on 4.6.2007. The second complainant was contacted on the eve of my departure for Pune on 26.9.2007 but since he was on his way to Delhi that day he regretted his inability to make himself available for discussion at Pune during my

visit to Pune from 26<sup>th</sup> to 28<sup>th</sup> September, 2007. It was not considered necessary to contact the third complainant who is based at Berhampur (Orissa) and who is not directly concerned with starvation-cum-malnutrition related deaths of children in tribal districts of Maharashtra.

- With a view to having a scientific understanding of the dimension of the problem of (a) starvation (b) malnutrition and (c) starvation and malnutrition related deaths it was thought appropriate to divide the enquiry report being presented to the Commission now into the following chapters:-

- I Total conceptual clarity on
  - what constitutes freedom from hunger and starvation;
  - what constitutes freedom from malnutrition/under malnutrition.
- II Magnitude of the problem of hunger/starvation at the national level.
- III Magnitude of the problem of malnutrition/under nutrition at the national level.
- IV Directions issued by the Supreme Court of India on right to food and nutrition.
- V Maharashtra State – geography, topography and demography and magnitude of the problem of hunger, starvation and malnutrition.
- VI A gist of interventions made by Government of Maharashtra to ease the situation of starvation and malnutrition as also to bring down starvation-cum-malnutrition related deaths of tribal children in the 15 tribal districts.
- VII A gist of discussion held with Chief Secretary and other Secretaries to Government concerned with right to food and nutrition (22.8.2007 to 24.8.2007 and again on 1.11.2007).
- VIII A scientific analysis of malnutrition as a cause/contributory factor of death and manner of reporting such death.
- IX Strategy and methodology adopted by me to conduct the investigation.
- X Information, Education and Communication (IEC) – Concept, strategy and methodology.
- XI Convergence – concept, strategy and methodology.
- XII An executive summary of conclusions and recommendations.



# Chapter- I

---

## **Conceptual clarity on what constitutes hunger and starvation, malnutrition/ under nutrition and what constitutes freedom from both:**

- Let me start with hunger.
- Hunger is one of the aspects of food insecurity. Food insecurity exists ‘when all people at all times do not have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life’ (FAO, 1996).
- A nation or a community or a household is considered to be free from hunger if the following 6 conditions are met:-
  - if food is available in plenty at all times;
  - if food that is available is also culturally acceptable;
  - if food that is available is also affordable;
  - if food that is available is easily physically accessible;
  - if food that is consumed has the requisite nutritional value for a healthy life;
  - if people have also simultaneous access to potable water and environmental sanitation which is free from contamination, from chemical and bacteriological impurities, from the content of iron, sulphur, magnesium etc. beyond the desired level as also free from excess fluoride content.

The above analysis clearly establishes that the 2 components of right to food namely removal of hunger and removal of malnutrition/under nutrition are inextricably interlinked and it is not possible to view one in isolation from the other.

- Before coming to the formulation as to what constitutes freedom from malnutrition let me throw some light on the concept of nutrition, malnutrition and under nutrition.

- Nutrition is the science of food in relation to health.
- Health is not mere absence of disease or infirmity; it is a state of complete physical, social and mental well being of an individual (WHO).
- It is evident that without nutrition health cannot be at its best.
- In dealing with this science of food we have to necessarily deal with the following:-
  - nature of nutrients in food;
  - distribution of nutrients in food;
  - their metabolic effects;
  - consequences of inadequate intake of food.
- Viewed in this sense, nutrition is a balancing act between production, distribution, consumption and absorption of foodgrains. All the 4 constituents must be seen in totality as also in the sequence in which they have been mentioned as slightest imbalance in one is bound to adversely affect the other as a continuum.
- It is important to understand what constitutes nutrients as also macro and micro nutrients.
- Nutrients are certain chemical compounds in food which are absorbed in the body and which promote health. Macro-nutrients are:-
  - carbohydrates;
  - fats;
  - protein;
  - macro minerals;
  - water.
- Macro nutrients supply energy and essential nutrients which are needed for the growth and maintenance of the body and sustenance of body activities.
- The micronutrients include vitamins and essential trace minerals. They are essential for good health, day to day functional efficiency and productivity of human beings (children, adolescents and adults alike).
- Intake of wholesome and adequate food at appropriate intervals enhances nutritional status. Such food provides all the nutrients according to the needs of the body. Such food is described as a balanced diet which contains different types of food (from all food groups) in such quantities and proportions as would meet the needs of all nutrients.
- Nutrition is important for promoting

- physical growth and development;
  - cognitive development;
  - adequate immuno competence.
- Nutritional requirements may vary according to age, sex, level of activity, climate and physiological stress (pregnancy in case of women). Recommendatory Dietary Allowance (RDA) is the average dietary intake level that is sufficient to meet the nutritional requirement of all individuals in a particular life stage, gender group and life cycle. To illustrate, according to ICMR 420 gms per day of cereals is the minimum RDA for an adult and consumption of cereals below this level will not meet the nutritional requirements of the body.
  - Malnutrition is the disparity between what the body needs and what it consumes and absorbs while under nutrition results from the body taking less than what it needs. Malnutrition is caused by a sustained deficiency, excess or imbalance of supply of kilo calorie and nutrients or both which are available for use of the body. It is also caused by infection, cultural taboos (intra familial distribution of food, women members of a household being the last to take food, girls being fed less than boys etc.) and socio-economic deprivation. Under nutrition results from the consumption of inadequate quantity of food over an extended period of time resulting in deterioration of physical growth.
  - Protein energy malnutrition (PEM), Vitamin A deficiency, anaemia, iodine deficiency etc. are various forms of malnutrition. PEM causes severe malnutrition which is indicative of body weight for an age which is less than 50% of the standard weight particularly in case of preschool children (0-5 years). There is a standard weight for children soon after birth which is 2.5 kg. The following is the breakup of the extent of malnutrition amongst the 4 grades of malnourished children:-
    - Normal – 17% (of the total population of children in 0-6 age group) (the weight of normal children conforms to the standard weight laid down by WHO for different age groups);
    - Gr. I malnutrition – 42% (of the total population of children in 0-6 age group) (90% of the standard weight);
    - Gr. II malnutrition – 35% (of the total population in 0-6 age group) (75% of the standard weight);
    - Gr. III malnutrition – 6% (of the total population in 0-6 age group) (50% of the standard weight);
    - Gr. IV malnutrition – (less than 50% of the standard weight).

- Most of the growth process (nervous system and brain) is completed in the first 2 years of the life of a child.
- An infant weighing 3 kg. at birth doubles its weight by 6 months (6 kg), triples the weight by one year (9 kg.) and the body length increases to one and half times more than at birth.
- Malnutrition is a cause of special concern in early childhood as (a) it retards physical growth (b) it retards cognitive/intellectual development and (c) it contributes to infant mortality. The co-relation between malnutrition, infection and death is a vicious cycle in as much as (a) reduced immunity as a result of poor diet gives rise to frequent infections (b) the combination of poor diet and infectious diseases is a lethal one which leads to growth retardation in children and causes physiological damage to the immune system. Children may be permanently crippled for the rest of their lives; they may be blinded, congenitally deformed and mentally retarded.
- Various forms of malnutrition:
- Vitamin A deficiency:
- Vitamin A is useful for a number of functions of human body such as:-
  - it is indispensable for normal vision;
  - it contributes to retinal pigments which are needed for vision in dim light;
  - it is necessary for maintaining the integrity and normal functioning of glandular and epithelial tissue which lines intestinal, respiratory and urinary tracts as well as skin and eyes;
  - it supports skeletal growth;
  - it is anti infective.
- Vitamin A deficiency causes –
  - increased susceptibility to infection;
  - lowered immune response;
  - night blindness;
  - conjunctival xerosis;
  - Bitot's spots;
  - Corneal xerosis;
  - Keratomalacia.
- Vitamin A deficiency is a major public health problem in the country especially among the preschool children from low income groups in backward, drought prone, hilly, tribal and forest areas.

- A nation wide survey of blindness conducted during 1986-89 recorded 6.01% of Vitamin A deficiency in children under 6 years of age. Maharashtra accounted for 3-6% of Vitamin A deficiency in children of this age group.
- Animal foods rich in retinol are liver, eggs, butter, cheese, whole milk, fish and meat while the cheapest source of Vitamin A is green leafy vegetables such as spinach. The darker the green leaves higher the carotene content.
- Nutritional anaemia:
- Nutritional anaemia is the end result of iron deficiency in human body. It is not a disease but a syndrome caused by malnutrition in its widest sense.
- Iron is necessary for a number of functions in the body including formation of haemoglobin, brain development and function, regulation of body temperature, muscle activity etc. Lack of iron directly affects the immune system.
- The table below would show that nutritional anaemia would be confirmed when haemoglobin falls below certain levels as under:-

**Cut off points for diagnosis of anaemia**

<b>Haemoglobin Content</b>		<b>MCHC (PC)</b>
Adult males	13	34
Adult females (non pregnant)	12	34
Adult females (pregnant)	11	34
Children (6 months to 6 years)	11	34
Children (6 to 14 years)	12	34

- There are 2 forms of iron i.e. haem-iron and non-haem iron. Haem-iron is better absorbed than non-haem iron. Foods rich in haem-iron are liver, meat, poultry and fish. Foods containing non-haem iron are those of vegetable origin i.e. cereals, green leafy vegetables, legumes, nuts, oilseeds, jaggery and dried fruits.
- It is estimated that 40 to 60% preschool children are anaemic while 25 to 30% of women of child bearing age and half of pregnant women in their third trimester of pregnancy suffer from anaemia.
- Apart from being an important cause for maternal mortality it contributes to poor learning ability of school children and low productivity of adults.
- Iodine Deficiency Disorder (IDD):

- Iodine is an essential micro nutrient. It is required for the synthesis of the thyroid hormones, thyroxine (T<sub>4</sub>) and triiodothyronine (T<sub>3</sub>) containing respectively 4 and 3 atoms of iodine. Iodine is needed for the normal growth and development of all human beings.
- Iodine deficiency disorders (IDD) refer to all the effects of iodine deficiency on human growth and development which can be prevented by correction of such deficiency.
- The most obvious consequence of iodine deficiency is goiter but recent studies have indicated that there is a much wider spectrum of disorders such as:-
  - hypothyroidism;
  - retarded physical development;
  - impaired mental function;
  - increased rate of spontaneous abortion;
  - still birth;
  - neurological cretinism; deaf mutism;
  - dwarfism and severe mental retardation.
- The requirement of iodine for adults is placed at 150 micro grams per person per day. This amount is normally available through well balanced diet and drinking water except in regions where food and water are deficient in iodine.
- The best sources of iodine are sea foods. Smaller amounts are also available in milk, meat, vegetables, cereals etc. The iodine content of fresh water is small and variable i.e. 1-50 micrograms.
- An ICMR epidemiological survey of endemic goiter and cretinism (1989) of 14 districts recorded an overall goiter prevalence rate of 21% and cretinism prevalence rate of 0.7%. Goitre surveys conducted in 216 districts of 25 Indian States have identified 186 districts as IDD endemic goiter.
- The situation is likely to worsen in the coming years with continuous depletion of iodine from natural resources.
- What constitutes freedom from malnutrition:
  - Body weight and heights of children and adolescents are according to NCHS (now according to the new norms laid down by the WHO which have been accepted by Government of India and communicated to all States/UTs by the Deptt. of Women and Child Development, Government of India on 27.8.2007); copies of both the norms are placed at Annexure-II and III for ready reference;

- If the energy expenditure on various physical activities corresponds to a particular calorie as has been prescribed (to illustrate 1000 calorie for pre-school children and about 2000+ calorie for adults who put in hard manual labour);
- If the nutrient requirements and RDA (recommended dietary allowance) laid down by ICMR in 1998 are complied with.
- To achieve this freedom the following conditions will have to be fulfilled:-
- Stable employment, income and education of parents;
- A roof above the head, adequate lighting and ventilation in the dwelling unit, clean home, potable water, fuel, toilet, personal and environmental hygiene;
- Timely and easy access to affordable and nutritious food;
- Good dietary habits and patterns;
- Adequate and proper feeding of infants/children at regular intervals;
- Health and nutritional status of mothers;
- Education of mothers (including pregnant and lactating mothers) and imparting critical consciousness to them about importance of children's lives as also importance of nutrition as key to their physical, mental and cognitive growth;
- Efficacy of health services, vis-a-vis prevalence of specific communicable and non-communicable diseases;
- Responsiveness and sensitivity of all the health functionaries at the hospital and down below to treat all malnourished victims (children in particular) with care and affection;
- Rational and scientific understanding of various facets of malnutrition and under nutrition;
- Overall position of women in society (non discriminatory treatment, treatment with dignity and decency).



## Chapter – II

---

### **Magnitude of the Problem of Hunger and Starvation at the National Level**

Every individual regardless of the form of Government and the quality of governance has a right to live and food is necessary for such survival. Every individual, however, is not food secure. Globally 842 million people go to bed hungry every day. Despite strides in food production (it has been estimated to be 216 million MTs in the current year) it has been estimated that food security at the household level is yet to be achieved substantially and that a large number of urban and rural poor go to bed hungry everyday. According to the NSSO Survey of 1983-84, 7% of the rural households and 3% of urban households did not have two square meals a day throughout the year. In percentage terms this has come down substantially to 0.5% for rural areas and 0.1% for urban areas but since the population has also increased, in terms of absolute number it would be 5.5 million in rural areas and 1.5 million in urban areas (approximately). According to the survey conducted in 2003-2004, the actual total number of persons in both rural and urban areas who do not have 2 square meals a day is of the order of 71.6 lakh. Of this West Bengal is at the top.

The survey notes that ‘getting enough food every day’ means that a person gets, by and large ‘sufficient food to eat’ daily.

In ‘Food Insecurity Atlas of Rural India’ brought out by M.S. Swaminathan Research Foundation (Centre for Sustainable Agriculture and Rural Development) and World Food Programme (FAO of United Nations) (2000) food insecurity has been clearly and precisely defined. According to this definition ‘Food insecurity exists when all people, at all times, do not have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO, 1996). According to this definition, hunger is just one aspect of food insecurity. Hunger is difficult to measure since perceptions of hunger differ from one person to another.

Such a large population in India is hungry not because there is scarcity of food but because they simply do not have the purchasing power to buy food. In the 80s Prof.

Amartya Sen came up with his E&D thesis (Entitlement and Deprivation) through which he challenged the hitherto prevailing perception that people are hungry because there is scarcity of food. This point may be illustrated with reference to 100 million + agricultural labourers majority of whom are landless. They put in a lot of hard manual labour to grow food on the land of others. They themselves are not entitled to consume the food so produced either on account of the legal nature of their contract with the owner of the land or the farmer (for whom they work). The nature of the contract gives them a right to receive only a wage in exchange for the labour sold. The wage may be low and the ruling food price at the time of exchange may be high. The food prices may keep on rising progressively without the prevailing wages rising correspondingly. Thus the wage earned by the labourer may not meet the aggregate food demand of his household.

This reality will be evident from the following figures. The average annual price rise during the decade of 80s has been 5.6% for rice, 5.7% for wheat and 11.2% for pulses. As against this the price rise during 90s has been steeper such as 10.2% for rice, 9.5% for wheat and 11.4% for pulses. Rise in price of food grains ipso facto indicates that economic access to food has been substantially reduced for the mute millions in India who survive at the margin and lead a biological existence.

To illustrate it further, the annual growth rate of wages of unskilled male agricultural workers was about 4.6% in 80s. This came down to 2.5% in 90s. During 1999-2000 the wholesale price index rose by about 8.8% annually as against 6.9% during the corresponding period in the previous decade.

Despite impressive increase in total output of foodgrains our current availability of cereals per capita is only 435 grams and per capita availability of pulses is about 31.2 grams per day. Nutritionally for a healthy life per capita availability of cereals and pulses per day together should be at least 510 grams per day. The current per capita availability is, therefore, below the acceptable level for a healthy life. The average Indian is, therefore, hungry as he or she does not get the food which will give him or her the required nutrition.

There is yet another dimension of the problem. On an average daily food consumption should provide us about 2400 kilo calorie (per person). But for the poorest 30% of people in India their food intake provides them with only about 1600 kilo calorie. In other words, 30% of the poor in India would lack the energy which comes from food to put in their very best in any job, occupation and process requiring that minimum energy. This is bound to adversely affect the percapita productivity of labour or labour output.

Prof. Amitabh Mukherjee, a distinguished economist and currently a consultant to ESCAP, Bangkok carried out a scintillating study in 2001-02 of the extent of micro level

hunger in India in a few villages of Haryana, U.P., West Bengal and Orissa. Some of the major findings of this study are:-

- there are seasonal variations in availability of food;
- consumption of certain food items reaches their peak in some months of the year and comes down to the lowest level in certain other months of the year;
- consumption of both primary and secondary food systems does not provide the much needed protein, vitamins and other nutrients;
- people suffered from differentiated hunger. They are hungry throughout the year but are more so during certain months;
- there is a high degree of correlation between income and food intake;
- food produced in a particular village meets only half the quantity of food needed. People have to buy food from the open market in exchange of goods, labour or money;
- barely 25% of the earnings are spent on food; another 25% on non food items (liquor included). This has serious implications on social capital, health, literacy and food security.

Prof. Utsha Patnaik, a distinguished economist of JNU is far more specific in depicting the overall picture of hunger and food insecurity in the article captioned 'feasting and fasting' which was published on 27th April, 2004 in Hindustan Standard:

- per capita absorption of food in 1950 – 152 kg;
- per capita absorption of food in 1991 – 178 kg;
- per capita absorption of food in 2002-03 – 155 kg;
- In 2000-01 an average Indian family of 4 members was absorbing 93 kg less of food grains than before;
- The fall was unprecedented entailing a fall in average daily intake of 64 grams per head or a fall in calorie intake of 250 calorie of food grains;
- There is a dichotomy in the current consumption situation in as much as average per capita income is rising but per capita food grains availability and absorption is declining;
- There is a difference of nearly 20 kg. per head between output and absorption which is accounted for by way of addition to stocks held at increasing cost and into exports.
- Eight million hectares of food grains growing land has been diverted to exportable crops between 1991 and 2001;

- The yield has not risen enough to compensate the huge gap between rising demand and low output.
- Milk, fish and meat are rarely in the diet of the poor people;
- Villagers consider a family as hungry if it manages no more than one meal during the period the family remains totally hungry;
- Agriculture remains at the heart of the livelihood system; it is a major source of employment, food and fodder;
- Marginal farmers who own less than 1 acre of land largely suffer from food insecurity;
- Agricultural labourers are out of employment for half the year and during this period, to have easy access to food is a nightmarish proposition for them;
- People may not be facing starvation but the quantity and quality of food they consume leave much to be desired;
- When people have nothing surplus to sell, they are cash strapped and they hack back consumption;
- The success of the community to preempt hunger revolves round producing and selling green vegetables as are conducive for the body in parts of the year;
- The hunger months for the women are greater than that of their male counterparts;
- Rice, pulses and spinach are the most commonly consumed food items. Vegetables and animal protein are rarely part of a villager's diet;
- Women's food basket rarely contained pulses.

# Chapter – III

---

## **Magnitude of the Problem of Malnutrition at the National Level**

The level of child malnutrition in India judged by the standards of under weight of children is very high and even higher than the average for the whole of Sub-Saharan Africa. This has been established beyond doubt by the findings of NFHS-I, NFHS-II and NFHS-III. The time span between NFHS-I and NFHS-III is almost 13 years but ironically and tragically, the findings of NFHS-III show very limited progress in terms of achieving universal health services and care to children under 3 years of age as also to mothers and adolescent girls. The findings confirm continued neglect of health and nutrition and failure to assure children their fundamental right to nutrition.

There are 3 commonly used measures of child malnutrition among children under 3 years such as:-

- stunting (deficit in height for age);
- wasting (deficit in weight for height);
- underweight (weight for age).

These 3 measures may be further explained as under:-

### **I Deficit in height for age (stunting):**

This is a measure for linear growth retardation. Stunted children are short or puny in terms of height. If there is a standard deviation unit (Z score) from the median, children who are more than 2 standard deviations below the median of the reference population in terms of height for age are stunted children. This state reflects a failure to receive adequate nutrition over a long period of time or from chronic or recurrent diarrhoea. It does not vary with the season.

### **II Deficit in weight for height (wasting):**

This indicates the thinness of children and also a state of acute malnutrition. It is the

result of a failure to receive adequate nutrition during a particular season and to that extent may reflect seasonal variations in food supply or episodes of illness.

### III Deficit in weight for age:

There is a scientific co-relation between a particular age and weight and to the extent the weight falls short of the standard it is a case of under weight which captures elements of both stunting and wasting i.e. chronic as well as acute under nutrition.

There are clear mathematical formulae for all the 3 measures of child malnutrition. These are illustrated as under:-

#### I Deficit in height for age (stunting)

$$\text{Formula: } \frac{\text{Height of the child}}{\text{Height of a normal child at the same age}} \times 100$$

#### II Deficit of weight for height (wasting)

$$\text{Formula: } \frac{\text{Weight of the child}}{\text{Weight of a normal child at the same height}} \times 100$$

#### III Deficit of weight for age

$$\text{Formula: } \frac{\text{Weight of the child}}{\text{Weight of a normal child of the same age}} \times 100$$

On the strength of the above mathematical formulae it is easy to determine the nutritional status of a child in respect of each category. This may be illustrated as under:-

#### I Deficit in height for age (stunting):

Normal child	> 95
Mildly impaired	87.5 – 95
Moderately impaired	80 – 87.5
Severely impaired	< 80

#### II Deficit of weight for height (wasting):

Normal	> 90
Mildly impaired	80 – 90
Moderately impaired	70 – 80
Severely impaired	< 70

#### III Deficit of weight for age (under weight):

Normal	:	Between 90 and 110%
First degree	:	mild malnutrition – between 75 and 89%

Second degree : moderate malnutrition – between 60 and 74%  
 Third degree : severe malnutrition – below 60%

It is important to remember the following mathematical formulae for assessment of weight, height and head circumference of a child:-

<b>Weight</b>	<b>Kg.</b>
Birth	2.5
3-12 month	$\frac{\text{Age (month)} + 9}{2}$
1-6 years	$\text{Age (year)} \times 2 + 8$
7-12 years	$\frac{\text{Age (year)} \times 7 - 5}{2}$
<b>Height</b>	<b>Cm</b>
Birth	50
3 months	60
6 months	66
1 year	75
2-12 years	$\text{Age (year)} \times 6 + 77$
<b>Head Circumference</b>	<b>Cm</b>
Birth	35
Infant	$\text{Length (cm)} \div 2 + 9.5 + 2.5$
3 months	40
6 months	43
1 year	47
2 years	49
3 years	50
4 years	50.4
5 years	50.8

Calculated on the basis of the mathematical formulae as above the prevalence of underweight, stunting and wasting among 6-24 months children in 8 major States is provided in Table-I.

An analysis of the trends obtaining in these 8 States indicates the following:-

- The overall prevalence of under weight is 50.6% of which 17% was severe and 33% was moderate. The overall under weight ranged from a low of 26% in the State of Kerala to a high of 65% in Madhya Pradesh. In Maharashtra, the State of present enquiry it was 53.4%.
- About 41% of the children in general were stunted. The prevalence of severe stunting was about 17% while that of moderate stunting was about 24%. The overall stunting ranged from a low of 20% in the State of Maharashtra to a high of 59% in Madhya Pradesh.
- The overall prevalence of wasting was observed to be about 18%. The prevalence of severe wasting was 2% while that of moderate wasting was 16%. The prevalence of wasting ranged from a low of 4.5% in the State of Kerala to a high 35% in Maharashtra.

**Table – I**

<b>Table 1: State wise prevalence of under nutrition in 6-24 months children by SD Classification*</b>				
<b>Period of Survey</b>	<b>N</b>	<b>&lt; Median- 3 SD</b>	<b>Median – 2 SD to Median – 3 SD</b>	<b>&lt; Median – 2 SD</b>
<b>HEIGHT FOR AGE</b>				
Kerala	200	5.5	20.5	26.0
Tamil Nadu	501	13.2	30.5	43.7
Karnataka	318	10.7	38.4	49.1
Andhra Pradesh	372	12.1	28.2	40.3
Maharashtra	322	16.1	37.3	53.4
Gujarat	337	24.9	38.0	62.9
Madhya Pradesh	333	28.2	36.3	64.6
Orissa	390	22.1	34.4	56.8
West Bengal	270	20.0	33.0	53.0
Pooled	3043	17.3	33.3	50.6



WEIGHT FOR AGE				
Kerala	200	15.0	21.0	36.0
Tamil Nadu	501	6.4	19.4	25.8
Karnataka	318	19.2	36.8	56.0
Andhra Pradesh	372	5.6	19.6	25.2
Maharashtra	322	5.0	15.2	20.2
Gujarat	337	31.2	22.8	54.0
Madhya Pradesh	333	32.7	26.7	59.4
Orissa	390	25.9	27.2	53.1
West Bengal	270	17.4	25.2	42.6
Pooled	3043	17.2	23.6	40.8
WEIGHT FOR HEIGHT				
Kerala	200	1.0	3.5	4.5
Tamil Nadu	501	2.6	15.2	17.8
Karnataka	318	0	7.2	7.2
Andhra Pradesh	372	1.1	16.7	17.7
Maharashtra	322	3.7	31.1	34.8
Gujarat	337	5.6	16.3	21.9
Madhya Pradesh	333	2.1	10.5	12.6
Orissa	390	3.1	16.4	19.5
West Bengal	270	1.9	24.1	26.0
Pooled	3043	2.4	16.0	18.4
<b>*Using NCHS Standards</b>				

Of the above 3 indicators the proportion of underweight children is the most comprehensive measure of malnutrition. According to NFHS-III the findings in relation to proportion of underweight children are quite disturbing. To quote from the findings of that survey:-

- 46% of children below three years of age were underweight;
- 38% were stunted;
- 19% were wasted;
- The proportion of underweight children in urban areas was 36% as against 49% in rural areas;
- The levels of stunting and wasting are also higher in rural than urban areas.

On certain other parameters which contribute to prevention of malnutrition/under nutrition and which provide better immuno competence such as immunization and breast feeding the findings are:-

- 44% of children in 12-23 months were fully immunized;
- 23% of children under 3 years were breast fed (within one hour of birth);
- 46% of children in 0-5 months were exclusively breastfed;
- 56% of children received solid or semi solid food and breast milk after 6 months;
- 26% of children with diarrhoea were given oral rehydration salt (ORS);
- 64% of children suffering from acute respiratory infection or fever were taken to a health centre.

On the status of health of pregnant and lactating mothers the findings of the survey are:-

- 51% of the mothers across the country had atleast 3 ante natal care visits during pregnancy;
- 48% of the births were attended to by a trained birth attendant (doctor, nurse, lady health worker, auxiliary nurse-cum-midwife);
- One third of Indian women have a Body Mass Index (BMI) which is below normal i.e. below 18.5.
- Between 1998-99 when data pertaining to NFHS Phase II were presented and 2005-06 when data pertaining to NFHS-III were presented the progress has been slow as would be evident from the following:-
  - Proportion of stunted children below 3 years has come down only by 8% (from 46 to 38) over 7 years;
  - Proportion of wasted children below 3 years has gone up from 16 to 19%;
  - Proportion of underweight children below 3 years has come down by 1% (from 47% of 46%) only.

However, as far as anaemia among mothers and children are concerned the findings of NFHS-III are quite disturbing. The figures are:-

- The proportion of anaemic children of 6-35 months has risen from 74% in 1998-99 to 79% in 2005-06;
- Among married women in 19-49 age group the prevalence of anaemia has risen from 51.8% in 1998-99 to 56.1% in 2005-06;
- No less than 57.9% of pregnant women suffer from anaemia.

The following important conclusions emerge from the NFHS-III:-

- There has practically been no change in rural – urban differentials over the last 7 years in the proportion of stunting, wasting and underweight;
- Such high levels of child malnutrition can be straightaway attributed partly to limited access to maternal and child care as also poor quality of health services and partly to poor quantity and quality of feeding and infrequent intervals at which feeding is being given to children. These are responsible for the onset of malnutrition at the early stages in the life of a boy or girl;
- Within States there are glaring shortfalls in women's access to maternal care services;
- Even levels of child malnutrition vary widely among States;
- On the whole, the progress in reduction of under nutrition/malnutrition among children has been very poor and unsatisfactory.

#### **Foot note on Body Mass Index (BMI):**

This is a measurement of relative body fitness to evaluate risk factors associated with obesity. It is based on a mathematical formula such as:-

$$\frac{\text{Weight in kgs}}{(\text{Height in meters})^2}$$

BMI between 18.5 to 23 is normal.

BMI below 18.5 is underweight.

BMI above 23 is overweight.

# Chapter – IV

---

## **Directions issued by the Supreme Court of India from time to time on Right to Food and Nutrition:**

- Ensuring right to food, amongst many other things is an integral part of ensuring right to health. Both flow from Right to Life as enshrined in Article 21 of the Constitution of India. Such a right is inviolable, immutable and inalienable. Similarly nutrition is an essential input as well as a key indicator for national development. Nutrition and health being two sides of the same coin right to food also includes right to nutrition (Article 39(e) & (f) Article 47).
- In any system of having access to rights there are 3 major elements such as:-
  - the rights holders; their rights;
  - the duty bearers; their obligations;
  - the agents of enforcement/accountability.
- The third one i.e. the State will have to make sure that those who have the duty carry out their obligations to those who have the rights.
- Those who hold rights should have the access to a procedure through which they can complain and have their grievance redressed or situation remedied in less time and cost in case they do not get the benefit to which they are entitled.
- Rights are not only about establishing norms or standards; they are also about establishing institutional arrangements to assure that those norms are met.
- Whenever there is a right there must be a remedy exemplified by the Latin adage, 'Ubi jus ibi remedium' meaning thereby that every one has the right to an effective remedy by competent national tribunals for acts violating the fundamental rights granted to him/her by the Constitution or the law.
- Whether it is right to health or right to food or right to nutrition it should be articulated in the law along with other rights together with a description of the remedies which are available if an individual's rights are violated.
- This is where the Supreme Court which is also the apex Court of the country sets in. Under Article 141 of the Constitution of India, the law declared by the Supreme Court shall be binding on all courts within the territory of India. Under Article 144

all authorities, civil and judicial in the territory of India (and that would include High Courts as well) shall act in aid of Supreme Court.

- There are several judgements of the Supreme Court which over a period of 50 years or so have come like breaths of fresh air and have provided the much needed timely relief to the poor, deprived and disadvantaged. This proactive role of the highest judiciary of the land received a further fillip when in a seminal decision the SC held, 'where there is a denial of the Constitutional or legal rights of the poor who cannot on account of their poverty or disability or socially or economically disadvantaged position approach the Courts for vindicating their rights, any member of the public or social action group acting bonafide can approach the Court for judicial redress on behalf of the poor. This need not be done by filing a regular writ petition through a lawyer but may be done even by addressing a letter to a judge of the Court'.
- Against this very broad and liberal perspective and strategy adopted by the apex Court, let me come to the specific directions issued by the Supreme Court in the matter of exercise of individual citizen's (including a child's) right to food and nutrition.
- In April, 2001, People's Union for Civil Liberties (PUCL, Rajasthan) submitted a writ petition to the Supreme Court seeking enforcement of the right to food. The basic line of argument made out in this writ petition was the following:-
  - right to food is an aspect of the fundamental 'right to life' enshrined in Article 21 of the Constitution;
  - the Supreme Court has itself made it clear that the right to life should be interpreted as a right to 'live with dignity' which includes the right to food and other basic necessities;
  - in *Maneka Gandhi Vs. Union of India* AIR 1978 SC 597 the Supreme Court had stated, 'Right to life enshrined in Article 21 means something more than animal instinct and includes the right to live with human dignity'.
  - in *Shantistar Builders Vs. Narayan Khimalal Totame* (1990 1 SCC 520) the Supreme Court had stated, 'The right to life is guaranteed in any civilized society. That would take within its sweep the right to food'.
- The public interest litigation initiated by the PUCL petition is known as 'PUCL Vs. Union of India and others W.P. (Civil) 196 of 2001'.
- The final judgement is still awaited but the apex Court has, in the meanwhile, issued a series of 'interim orders' aimed at safeguarding various aspects of the right to food. The first major order dated 20.11.2001 directed the Government to implement the following:-

- in every hamlet in the country, ICDS should provide services to every child upto 6 years of age; every pregnant or lactating woman and every adolescent girl;

In other words, the interim order of the apex Court went beyond converting existing benefits into legal entitlements; it directed the Government to universalize the programme in the following manner:-

- every child upto 6 years of age is to get
  - o 300 calories and 8-10 gms of protein;
  - o Each adolescent girl to get 500 calories and 20-25 gms of protein;
  - o Each pregnant woman and each nursing mother to get 500 calories and 20-25 gms of protein;
  - o Each malnourished child to get 600 calories and 16-20 gms of protein;
  - o Every settlement is to have a disbursement Centre (anganwadi).

#### **Interim order dated 29.4.2004**

- All 0-6 year old children, adolescent girls, pregnant women and nursing mothers shall receive supplementary nutrition for 300 days in the year.

#### **Interim order dated 7.10.2004**

- The number of anganwadis shall be increased from 6 to 14 lakh.
- The minimum norm for the provision of supplementary nutrition should be increased to Rs. 2/- per child per day.
- All sanctioned anganwadis shall be operationalized immediately.
- All SC/ST hamlets shall have anganwadis as early as possible. Hamlets with high SC/ST population should receive priority in the placement of new anganwadis.
- All slums shall have anganwadis.
- Contractors shall not be used for the supply of supplementary nutrition.
- Local women's Self Help Groups and Mahila Mandals should be encouraged to prepare and make available the supplementary food distributed in anganwadis. They can make purchases, prepare the food locally and supervise the distribution.
- The Central Government and State Governments/UTs shall ensure that all amounts allocated are sanctioned in time so that there is no disruption in the feeding of children.
- All State Governments/UTs shall put on their websites full data for the ICDS programme including number of anganwadis which are operational, the number of beneficiaries category wise, funds allocated and used and related matters.

Regretfully the interim orders of the apex Court dated 28.11.2001, 29.4.2004 and 7.10.2004 have received little or no attention for several years and there has been relatively little improvement in terms of the situation on the ground. The expansion of ICDS from 6 lakhs to 14 lakhs is quite slow and there is little evidence of substantial quality improvement. This is notwithstanding a good number of nucleating agents like some of the AWWs known for their ability for excellent mobilization and organization on the ground as exceptions being present in the AWC all the time, organizing preprimary education for children in 3-6 age group, overseeing supplementary nutrition, assisting the MO from the PHC to conduct the check up of health of children, visiting 5 households every day and counselling pregnant and lactating mothers. There is very little incentive – monetary and non-monetary by which the pains taken and contribution made by an AWW can be compensated in a true sense.

# Chapter – V

---

## **Maharashtra State – Geography, Topography, Demography and Magnitude of the Problem of Hunger, Starvation and Malnutrition**

Situated in the western part of India between 15° 45 to 22° north latitude and 72° 45 to 80° 45 east longitude, the State is the second largest State in India both in terms of area (3.08 lakh sq. km.) and population (9.6752 Crores).

A few salient features of the State obtaining from the decennial Census of 2001 are as under:-

Census Population: Total Persons	9,67,52,247
Male	5,03,34,270
Female	4,64,17,977
Rural Persons	5,57,32,513
Male	2,84,43,238
Female	2,72,89,275
Urban Persons	4,10,19,734
Male	91,032
Female	1,91,28,702
Total No. of districts including Mumbai.	35
Number of Villages	43,722
Number of Municipal Corporations	22
Number of Municipal Councils	222
Number of Cantonment Boards	7



Decadal Population growth rate	22.75%
Urban Population	42.4%
Sex ratio	922
	Rural – 959
	Urban – 874
Sex ratio 0-6 years	917
Literacy rate	Total – 77.27%
	Male - 86.27%

In terms of physical infrastructure, basic facilities and amenities, the State is quite well off compared to others. This would be evident from the following:-

- Eighty two percent of the total households have supply of electricity (96% in urban and 71% in rural);
- Access to clean potable water is in respect of 74% of the households (91% in urban and 60% in rural);
- Access to flush toilet facility is in respect of 82% urban households while 85% of the rural households have no toilet facility at all;
- In regard to housing, 46% of the households are kuccha, 25% are semi pucca and 28% are pucca houses (53% in urban areas and 10% in rural areas).

### **Economic Status and Occupational Structure:**

The work force primarily comprises of persons working in agriculture (55.4%). The contribution of income from this sector, however, is only 16% while the contribution from the secondary and tertiary sector is 73% and 33% respectively. This is an anomaly in as much as the share of agriculture and allied activities in the net State Domestic Product declined from 36% in 1961-62 to 16% in 2001-02. The comparable shares for all India are 47 and 28.3% respectively. The share of State's rural labour force employed in agriculture was, however, as high as 80% even in 2001. In terms of certain features of the geography vis a vis agriculture it is quite redeeming in as much as:-

- The net sown area is 57% of the geographical area;
- The cropping intensity is 128%;
- The rainfall is 3000 mm in western ghats while it ranges between 600-700 mm in other parts.

The grey areas in agriculture are:-

- Nearly 28% of the paddy area is irrigated but the yield at 12-17 quintals per hectare is lower than national average yield at 17.44 to 21.02 per hectare;
- The area under coarse cereals is showing decreasing trend over the years;
- The productivity is also lower than national average;
- The productivity of agriculture in Marathwada and Vidarbha is quite low.

Over 33% of rural households do not own any agricultural land. This coupled with the fact that 63% of the households own non-irrigated land, the per capita food grain production is very low (103 kg) which is 15<sup>th</sup> among 17 major States.

The per capita income went up from Rs. 7,612/- in 1990-91 to Rs. 24,248/- in 2001-02 which is about Rs. 6500/- higher than the average national per capita income and comes marginally lower than Punjab and Haryana.

Nowhere the contrast between affluence and poverty could be as stark as in Maharashtra, the only silver lining being that the population below poverty line decreased to 25% in 1999-2000 from 36.9% in 1993-94 and 53.2% in 1973-74.

## **A few Demographic Profiles:**

### **I Life Expectancy:**

Maharashtra has a life expectancy of more than 65 years.

### **II Sex Ratio:**

There is a decline in sex ratio from 934 in 1991 to 922 in 2001 Census. In the lower age group i.e. 0-6 the sex ratio has declined from 946 in 1991 Census to 917 in 2001 Census. Such a ratio is clearly adverse for girls and women.

### **III Age of Nuptiality:**

According to the findings of NFHS III 18% of the women in 20-24 age group stated that they were married below the age of 18 years.

### **IV Literacy:**

There has been a perceptible improvement in the rate of literacy from 64.87% in 1999 to 77.27% in 2001. Female literacy rate has also gone up from 52.3% to 67.51% for the same period. The State average is much higher than the national average (65.38%). Nandurbar represents the lowest literacy rate (56.06 for male and 45.55 for females).

## **V (a) IMR**

In 1999 IMR was 48 which has declined now to 36. Maharashtra has, however, a high female infant mortality rate compared to male infant mortality. Similar gap persists between rural and urban areas, between general population and SC/ST population.

### **(b) MMR**

The current rate is 149 maternal deaths for every 1,00,000 pregnant women.

### **(c) NMR**

The current rate is 29 for every 1000 live births.

## **VI Density of population:**

The density of population ranges from 67 persons in Godchiroli district to 48,215 persons per sq. km. in Mumbai urban district. Twenty eight districts have population density less than the State average (314 per sq. km.) while 7 districts exceed the State average. The latter is below the national average of 324 and the State ranks 17<sup>th</sup> at national level.

## **VI Migration:**

Migration is of 2 types. One is skill related migration and the second is distress migration. When cane cutters of Khandesh migrate to Gujarat they do so to make the best use of their skills for cane cutting with high dexterity which they have acquired over a period of time for higher earnings. This comes under the first category. When the landless agricultural labourers of Thane migrate to other parts of the State (outskirts of Mumbai) or other parts of the country to work in brick kilns and stone quarries to eke out a biological livelihood that comes under the second.

Both low density of population and migration have serious implications in terms of planning social and economic development for a State or a region or a district. There are human settlements (hamlets/padas) which have a population below 1000 (ranging between 100 to 500). Unless these hamlets and padas have all weather road connectivity mobility of the field functionaries will be limited, messages of health and nutrition cannot be easily transmitted and the fruits and benefits of progress cannot reach these areas and sections of the population for whom they are meant. In Maharashtra 67% of the population lives in 59.7% of such villages which have a population below 1000. Of these, 34,483 have all weather roads, 1397 have fair weather roads and 532 villages are not connected at all. In other words, 94.7% of villages in Maharashtra have all weather road communication (compared to 100% in Kerala and 99% in Punjab). This is buttressed further by (a) PCOs (telephone and mobile connectivity), (b) internet/broadband connectivity (c) 330 regional newspapers and (d) reasonably efficient public transport provided by Maharashtra State

Road Transport Corporation. These are assets in terms of (a) spread of socially relevant messages (b) human resource placement and training.

These benefits will be neutralized if people do not stay in their native habitat but migrate to cities both inside and outside in search of better avenues of employment and livelihood. Series of adverse consequences will follow such migration such as (a) children will be victims of educational deprivation (b) health and nutrition of children will be jeopardized (c) mothers will become victims of sexual exploitation and so on. People are aware of such occupational disadvantages of migration but they are left with little or no alternative choice to migration as avenues of employment perse are extremely limited within the place of origin.

### **Magnitude of the problem of food insecurity in Maharashtra:**

By food is meant all items of food which are essential for a healthy living, including cereals, pulses, tubers, sugar, edible oils, fruits, vegetables, milk, eggs and fish. Cereals consist of wheat and rice. Coarse cereals consist of jower, bajra and ragi. Tubers consist of potato, sweet potato and tapioca. Pulses include Bengal gram, red gram, green gram, black gram, lentils etc. Sugar may include molases or gur.

Magnitude of the problem of food insecurity will have to be assessed with reference to the norms which were indicated at page 29 of the report namely:-

- if food is available in plenty at all times;
- if food that is available is also culturally acceptable;
- if food that is available is also affordable;
- if food that is available is also easily physically accessible;
- if food that is consumed has the requisite nutritional value for a healthy life;
- if people have also simultaneous access to environmental sanitation and potable water which is free from chemical and bacteriological impurities.

For the purpose of the present analysis I would prefer to keep the last two norms aside for the subsequent chapter i.e. magnitude of the problem of malnutrition in Maharashtra.

Let me start with percapita net production of vegetative food items. Net production percapita is more meaningful than the aggregate production. Net production for different components of food means the following:-

- I Cereals } Production less seed, feed and wastage @ 13% for cereals, tubers, pulses and vegetables.

II Edible oil } Production less seed, feed and wastage @ 70%

III Fruits } Production less seed, feed and wastage @ 50%

IV Sugar } No wastage.

There are wide variations in percapita net production of various food items as would be evident from the following:-

## **CEREALS**

### **First Category:**

I Punjab, Haryana, U.P., H.P. and Rajasthan

- Punjab produces more than 2 kg. percapita per day
- Haryana produces more than 1.2 kg percapita per day
- U.P and H.P. produce more than ½ kg percapita per day
- Rajasthan produces close to 1.2 kg percapita per day

### **Second Category:**

II Kerala

- Kerala produces as little as 66 gms of cereals percapita per day.
- Tamil Nadu and Maharashtra produce around 270 gms of cereals per capita per day.
- Gujarat produces 221 gms per capita per day.

## **PULSES**

### **First Category:**

- M.P. and Rajasthan produce 100.22 gms and 89.27 gms per capita per day respectively.
- Maharashtra produces 43 gms per capita per day.

### **Second Category:**

- Haryana, U.P., Karnataka, Gujarat and A.P. produce 45.98, 33.62, 29.49, 28.96 and 22.68 gms per capita per day.

## **EDIBLE OIL**

### **First Category:**

- Rajasthan, M.P., Gujarat and Haryana produce 48.19, 46.62, 44.01 and 37.10 gms per capita per day.

## **Second Category:**

- A.P., Karnataka, Tamil Nadu and Maharashtra produce 27.28, 26.26, 24.11 and 18.45 gms per capita per day.

## **TUBERS**

### **First Category:**

- Kerala, Tamil Nadu, U.P., West Bengal produce 197.09, 123.47, 116.76, 210.85 gms per capita per day.

### **Second Category:**

- Punjab, Assam, H.P., Bihar, Gujarat and Orissa produce 85.37, 58.01, 50.88, 42.48, 28.96 and 28.20 gms per capita per day.

Maharashtra with a poor 3.95 gms per capita per day (except Rajasthan which is a desert State) is at the lowest rung of the ladder as far as tuber production is concerned.

As far as production of cereals, pulses, eggs, meat and edible oil are concerned, Maharashtra is a deficit State by almost 25 to 30%. In milk production a lot more needs to be done to improve the total and per capita production base from the current 1.01 gms per capita to at least 4.00 gms per capita (the mean between the base in Punjab and Haryana). In productivity of fruits and vegetables, Maharashtra has done comparatively better.

What is more important than daily production per capita is whether the production of food meets the requirements of food of an average consumer or not. For this, the ICMR has recommended a daily allowance for a person as indicative of the average requirement of food. The joint study conducted by M.S. Swaminathan Research Foundation and World Food Programme as referred to earlier confirms that while Maharashtra produces four and half times its requirement of sugar, it is deficit in terms of production of milk, eggs, cereals, tubers, pulses and edible oil almost by 25 to 30%.

As the study has further confirmed (a) in a bad agricultural year the surplus available in some States will be lower leading to higher prices in deficit States making consumption thereby extremely difficult by the poor and marginalised sections of the society and (b) there is a significant positive correlation between the deficit in production over the consumption requirement and the percentage of population consuming less than 1890 calorie. This deficit has a significant negative correlation with the calorie consumption of the lowest income deciles across the State.

According to the findings of the study the classification of the States in terms of surplus versus deficit is as under:-

- |     |   |   |                          |
|-----|---|---|--------------------------|
| I   | Punjab and Haryana  | - | Surplus                  |
| II  | H.P., Uttaranchal, U.P., M.P., Chattisgarh                                      | - | moderately surplus       |
| III | Rajasthan, Karnataka, Tamil Nadu, Andhra Pradesh, Orissa, Andamans, West Bengal |   | are moderately deficit.  |
| IV  | Gujarat, Maharashtra, Jharkhand, Bihar and Assam                                |   | are high deficit States. |
| V   | Kerala  |   | is extremely deficit.    |

To illustrate, according to Ministry of Agriculture (1995-96) and 50<sup>th</sup> round of NSSO Survey (1993-94), the following picture of total production of cereals, net production of cereals in gms per capita per day, consumption of cereals in gms per capita per day will prove the point as to why Maharashtra is considered as a high deficit State.

**Maharashtra: Cereal Production, Distribution and Consumption:**

- |     |  |   |                 |
|-----|--|---|-----------------|
| I   | Total population<br>(1994)   | - | 83,88,2000      |
| II  | Triennial average of<br>3 years production<br>(1991-92 to 1993-94) | - | 10,342,000 tons |
| III | Net production of cereals<br>per capita in gms per day             | - | 297.95 gms      |
| IV  | Consumption of cereals<br>per capita gms per day                   | - | 379.67 gms      |
| V   | Production versus<br>Consumption of cereals                        | - | 1: 1.274        |

According to the study there has been an instability in cereal production between 1987-88 to 1997-98, the instability rate in Maharashtra being 29%.

Sustainability of food production in the long run depends on (a) protecting the nutrients of the soil (b) arresting the levels of degradation of the soil (caused by soil erosion and desertification) and (c) reducing the level of ground water exploitation. With more ecologically friendly practices of production, preservation of forest land and less exploitation of the static component of ground water would sustain production of food grains for longer periods. Judged by all the 3 norms and standards the study has termed Maharashtra as environmentally unsustainable though moderately.

**Food availability and access:**

The food availability mapping index has classified the States in the following order:-



- |     |   |   |
|-----|---|---|
| I   | High availability                       | - Punjab, Madhya Pradesh and Kerala.  |
| II  | Moderate availability                   | - U.P., Uttaranchal, H.P., Assam,<br>Tamil Nadu, Orissa and Andhra Pradesh. |
| III | Low availability                        | - Maharashtra, Haryana, Karnataka, West Bengal.                             |
| IV  | Very low availability                   | - Rajasthan, Bihar and Jharkhand.   |
| V   | Gujarat has extremely low availability. |   |

There is a clear rationale behind this classification. To illustrate, Kerala is deficit in cereal production, but there is stability in production, better levels of environmental sustainability and less consumption because of smaller population which is unaffected by natural disasters. Punjab has problems of environmental sustainability but has a very high and stable cereal production and is less disaster prone. M.P. is environmentally fully sustainable, has no shortage of food and is not prone to disasters. Thus Kerala, Punjab and M.P. occupy a high place in the index map of food availability.

### **Food Access:**

Availability and access are not co-terminus. While availability refers to presence of the buffer-stock in godowns or fair price shops physical access to food implies that (a) cost of food is affordable (b) people have the means to buy food and (c) there is no discrimination in regard to use of food on the basis of gender or otherwise.

The daily allowances (RDA) of various foods recommended by the ICMR may be used in the context of adequacy of consumption of cereal and non-cereal food items. According to this 420 gm of cereal per capita per day is adequate. The consumption in rural areas of Maharashtra is below this level. Pattern shift to non-cereal items or a more diversified food basket may be the reason for this. Sugar is consumed in adequate quantity in Maharashtra but not so encouraging is the position with regard to consumption of fish, meat, eggs, milk, fruits and vegetables. This is how Maharashtra has a moderate level of calorie consumption which is far below the national average.

According to the study reflected in 'Food insecurity atlas of rural India' the level of calorie consumption of the lowest expenditure deciles represents the depth of hunger or calorie deficiency in various States. This is taken as one of the indicators of physical access to food by the poor. The FAO (2000) defines the depths of hunger as deficiency of a diet from the norm in terms of calories. The larger the gap, the deeper is the intensity of hunger.

According to this study in States like Punjab, Haryana, Rajasthan, Himachal Pradesh and West Bengal even the calorie intake of the lowest ten percentage of the population exceeds 2000 calorie per consumer per day. In Tamil Nadu and Kerala this is around 1550



whereas in Maharashtra and Gujarat it is around 1750. These 4 States are at the bottom of the calorie intake of the poorest. In Maharashtra the percentage of households consuming less than 2400 calorie is 57.40 and less than 1890 calorie 21.90. The percentage of landless labour households in Maharashtra is around 20 and 50% of them consume less than 2300 calorie. As far as cultivators are concerned, this percentage is also high i.e. 42.

There are clear findings in the study about (a) number of persons consuming zero meals and (b) members of households not getting 2 square meals a day. In Maharashtra out of 1000 persons in all Classes 17 persons report zero meals. This number goes up to 22 in the lower expenditure groups getting below Rs. 190 per month. In Maharashtra again out of 1000 households the number of households not getting meals (for some months as well as throughout the year) comes to 45 while the same is 154 in Orissa, 141 in West Bengal, 91 in Assam, 78 in Kerala, 66 in Bihar, 35 in Karnataka, 34 in U.P., 29 in A.P., 28 in M.P. and 24 in Tamil Nadu.

The study has also noted yet another disquieting trend regarding affordability of adequate food. Food being the most basic need should get the first priority in expenditure among all households (including the poor). Access to food is, therefore, dependent partly on the income of the people and partly on the prices prevailing in the market. Both of them vary from region to region and place to place within the same region as also from month to month. If incomes rise at a slower rate than food prices the poor who have a low income can afford only smaller amounts of food which inevitably will lead to lower calorie consumption.

Of late, there is yet another disquieting trend. On the one hand, there is rise in per capita income and emergence of fast food junks resulting in decline in cereal consumption and on the other, deficient calorie consumption among the poor due to disparity between their incomes and prices of the market. Secondly, lay off, retrenchment and displacement of industrial and mining workers which is more frequent now than ordinarily expected on account of the distortions and imbalances suffered by the industry in marketing its products (due to the LPG syndrome) leads to loss of income and food insecurity. Thirdly, natural calamities (flood, cyclone, supercyclone, tsunami, earthquake, landslide, drought) leads to a lot of dislocation in family life, loss of income, shortage of food and food insecurity.

Since increasing per capita income does not necessarily mean higher purchasing power of those who have access to that income as also does not mean an assurance of adequate food consumption of the desired calorie value, a multi-pronged strategy will have to be in place. In concrete terms this will mean (a) augmentation of income (b) availability of and access to food articles (c) regulation and control of prices of food articles in the market and (d) a revamped public distribution system which will facilitate easy access

of BPL families to food articles of their choice and interest. I shall deal with this in the subsequent chapters.

## **Magnitude of the problem of malnutrition/under nutrition in Maharashtra:**

### **Backdrop:**

Nutrition is an essential input as well as a key indicator for national development. Nutrition and health always go together. Just as nutrition is a vital component of health, good health is the ultimate objective of nutrition.

Malnutrition in general adversely affects survival, growth, health, productivity and economic growth which are but different stages as well as components of the total development process.

Malnutrition is a multifaceted problem caused on account of both food as well as non food factors. While inadequate and poor quality diet, poor nutrition of adolescent girls, maternal malnutrition and anaemia, late initiation of breast feeding, delayed and inadequate complementary feeding, household food insecurity etc. are the food factors, poverty, illiteracy, low income and purchasing power, early marriage of girls, teenage pregnancies, low birth weight babies, poor hygienic practices in feeding infants, restricted access to health care services and immunization, absence of safe drinking water and sanitation, prevalence of disease and infection are the non food factors .

### **Scenario and magnitude of the problem of malnutrition (both mothers and children) in Maharashtra:**

As usual with many other States there are positive indicators and negative indicators for Maharashtra as are indicated below:-

#### **Positive indicators:**

There are certain basic socio-economic indicators which have a bearing on health and nutrition of mothers and children. These are:-

- Per capita State Domestic Product at current prices (2004-05);
- Annual average rate of growth in percapita SDP (1998-99 to 2003-04) in percentage terms;
- Population below poverty line; average annual change in proportion of poor (1993-94 to 2004-05);
- IMR (death of infants per 1000 live births);
- Literacy rate.

- Maharashtra is miles ahead of many other States in respect of these indicators as would be evident from the following:-
  - I     SDP - Maharashtra has a per capita SDP of Rs. 32,170/- at current prices (2004-05);
  - II    Annual average rate of growth in per capita SDP – 3%.
  - III   Population below poverty line – 25%
  - IV   Average annual change in proportion of the poor – 1.6% (1993-94 to 2004-05). This means that every year 1.6% of the poor are being lifted above the poverty line or going out of the BPL category.
  - V     IMR – 36 in 1000 live births (progressively on the decline);
  - VI   Literacy rate – 77% (2001) 86% male and 67% female).

### **Other Positive indicators:**

- Children under 3 years breastfed within one hour of birth has substantially improved from 23% in NFHS-II (1998-99) to 52% in NFHS-III (2005-06). This percentage, however, comes down to 40 when we talk of infants under 4 months.
- Children with diarrhoea in the last 2 weeks who received ORS has registered improvement from 33% in NFHS-II (1998-99) to 38% in NFHS-III (2005-06).
- The percentage of women whose BMI is below normal has registered decline from 40% in NFHS-II (98-99) to 33 in NFHS-III (2005-06).
- The percentage of ever married women who are anaemic in 15-49 age group was 49 in NFS-II; it continues to be 49 in NFHS-III.
- There is marginal improvement over the proportion of under weight children below 3 years such as 38% (stunted), 15% (wasted) and 40% (under weight) (in relation to age) from NFHS-II to NFHS-III.

### **Negative indicators:**

- The proportion of under weight children is still very high i.e. 40% in all areas, 35% in urban areas and 44% in rural areas (the excess of rural over urban being 9%). Twenty PC children have both low weight and low height also called wasting which is associated with failure to receive adequate nutrition during this period.
- The proportion of fully immunized children (BCG, measles, 3 doses of polio/DPT) has declined (from 78% in NFHS-II to 59% in NFHS-III, a decline of 19%).
- In terms of percentage of children aged 6-35 months who are anaemic Maharashtra has recorded 1% increase from 71% (NFHS-II) to 72% (NFHS-III). Anaemic children

are at greater risk of infection, impaired cognitive development, poor physical development and poor school performance.

- The percentage of such children is 66% in urban areas and 77% in rural areas.

According to the survey conducted by the Government of India through National Nutrition Monitoring Bureau (N.N.M.B. 2002) the percentage of children with mild, moderate and severe malnutrition in Maharashtra State is as under:-

<b>Nutritional grades</b>	<b>Percentage</b>
Normal	8.2
Mild	39.2
Moderate	45
Severe	7.2

According to sample registration scheme, the profile of IMR during 1991 to 2004 is depicted in the lakh as under:-

<b>Year</b>	<b>IMR</b>	<b>Year</b>	<b>IMR</b>
1991	60	1998	49
1992	59	1999	48
1993	50	2000	48
1994	55	2001	45
1995	55	2002	45
1996	48	2003	42
1997	47	2004	36

The malnutrition situation in the most nutrition sensitive tribal districts (upto July, 2004) is indicated in the table as under:-

S. No.	District	0-6 children	Gr. III Number	Gr. III %	Gr. IV Number	Gr. IV %	Total No.	%
1.	Thane	179894	821	0.46	191	0.11	1012	0.57
2.	Nasik	179141	829	0.46	142	0.08	962	0.54
3.	Nandurbar	128936	1198	0.92	313	0.24	1511	1.16
4.	Amravati	38008	985	2.59	105	0.27	1090	2.86
5.	Gadchiroli	55754	173	0.31	26	0.05	199	0.36

The profile of neonatal and infant mortality rate of major tribal districts and the State average is given in a table as under:-

Sl. No.	District	NMR	IMR
1.	Thane	31	45
2.	Nasik	33	49
3.	Nandurbar	28	39
4.	Amravati	39	48
5.	Gadchiroli	26	47
6.	Maharashtra	32	45
Source SCO 2002			

Child mortality figures in tribal districts of the State are given in a table as under:-

Sl. No.	Name of the District	April 2003 to March 2004			April 2004 to July 2004		
		0-1	1-6	Total	0-1	1-6	Total
1.	Thane	1045	468	1513	118	46	164
2.	Nasik	813	425	123	104	44	148
3.	Nandurbar	1515	930	2445	115	91	206
4.	Amravati	267	270	537	24	19	43
5.	Gadchiroli	243	173	416	14	8	22
6.	Other tribal districts	529	613	2142	98	45	143
	<b>Total</b>	<b>5412</b>	<b>2879</b>	<b>8291</b>	<b>473</b>	<b>253</b>	<b>726</b>

The table indicates that maximum deaths are taking place in Nandurbar district followed by Thane district. A comparison of April to July deaths of last 4 years for the above 5 major tribal districts and the trend of deaths of children taking place in these districts will be known from the table as under:-

Sl. No.	Year	0-1 death	1-6 death	Total	Difference
1.	2001-2002	1505	773	2278	Base Line
2.	2002-2003	1473	658	2131	-147
3.	2003-2004	1647	823	2470	+192
4.	2004-2005	1554	815	2369	+91

The cause wise breakup of deaths in 0-6 age group in the 15 tribal districts of Maharashtra during 2004-05, 2005-06 and 2006-07 is given below:-

Cause of death	Thane			Nandurbar			Nashik			Amravati			Gadchiroli			Jalgaon			Ahmednagar			Dhule		
	04-05	05-06	06-07	04-05	05-06	06-07	04-05	05-06	06-07	04-05	05-06	06-07	04-05	05-06	06-07	04-05	05-06	06-07	04-05	05-06	06-07	04-05	05-06	06-07
Year																								
Injuries during delivery	-	1	-	50	19	36	3	1	-	-	-	-	-	-	-	3	-	-	-	-	-	1	-	-
Birth defect	-	-	-	28	-	-	-	-	43	-	-	-	-	-	26	1	-	-	3	-	-	2	-	1
Jaundice at Birth	-	18	23	159	97	134	15	10	3	-	1	3	-	-	13	1	-	3	3	3	3	6	-	-
Respiratory Obstruction	-	-	-	3	-	-	-	-	-	-	-	-	5	-	64	2	-	-	-	-	-	-	-	-
L.B.W.	141	171	203	118	118	165	146	120	101	34	32	15	29	21	86	5	5	2	16	15	17	11	13	3
Premature	160	116	117	144	109	152	119	74	62	35	35	30	6	8	52	25	24	17	37	31	38	38	69	78
Asphyxia	42	98	-	56	-	16	69	47	62	26	35	5	7	5	-	11	23	16	6	2	11	14	9	2
Pneumonia	251	304	421	60	59	45	245	143	-	94	80	86	42	38	60	17	31	25	34	35	52	33	62	85
Febrile Convulsion	-	-	-	15	-	-	8	-	22	1	-	-	9	-	102	1	-	-	-	-	-	2	-	-
Septicemia	118	212	260	34	134	37	68	74	87	88	63	52	18	6	70	-	-	-	3	6	7	13	5	2
A.R.I.	-	5	-	-	-	-	-	-	158	-	-	-	2	-	27	-	-	-	-	-	-	-	-	-
Aspiration Pneumonia	-	4	-	-	-	-	-	-	28	-	-	-	4	-	-	1	-	-	-	-	-	1	-	-
Hypoglycemia	29	3	18	-	-	-	8	4	12	18	14	12	7	1	36	1	-	-	6	2	2	1	-	-
Hypothermia	43		76	68	28	44	38	26	31	19	10	21	5	1	28	1	-	-	3	5	1	-	-	2
Accident	36	47	33	55	-	-	23	33	44	12	6	5	8	1	41	1	-	-	4	3	4	3	7	6
Meningitis	4	36	33	4	-	-	18	15	11	2	-	-	-	-	-	1	3	2	-	3	2	6	6	7
Food Poisoning	-	7	7	-	-	-	5	4	1	4	-	2	-	1	-	-	-	-	-	-	1	1	1	1
Physiological Jaundice	-	-	-	-	-	-	1	14	9	-	-	-	-	-	-	-	-	1	-	-	2	1	-	-
Diarrhoea	4	5	5	137	79	56	20	39	22	8	21	15	-	-	-	-	-	-	1	2	1	5	1	-
Dysentery	4	-	4	95	68	42	4	4	9	14	20	13	-	-	-	-	-	-	1	-	-	2	1	-
Sudden Infant Death Syndrome	-	-	-	-	-	-	-	21	6	32	17	29	-	-	18	-	-	-	-	-	-	-	-	-
Heart Disease	-	-	-	7	-	-	15	-	22	4	-	-	-	-	10	-	-	-	5	11	6	-	-	-
Anaemia	-	11	10	-	-	-	4	3	11	8	18	8	-	-	-	3	3	-	-	1	3	1	5	-





Cause of death	Pune			Raigad			Yavatmal			Gondia			Chandrapur			Nanded			Nagpur			Total		
	04-05	05-06	06-07	04-05	05-06	06-07	04-05	04-05	05-06	06-07	04-05	05-06	06-07	04-05	04-05	05-06	06-07	04-05	05-06	06-07	04-05	05-06	06-07	
Year																								
Injuries during delivery	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	2	1	-	-	-	
Birth defect	2	1	5	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	
Jaundice at Birth	-	1	-	-	-	1	1	6	12	2	6	2	8	2	2	8	-	-	1	3	3	2	2	
Respiratory Obstruction	3	-	-	-	-	1	-	-	-	3	-	-	7	3	7	-	-	-	-	-	-	-	-	
L.B.W.	22	38	30	10	7	16	88	64	49	20	25	21	45	46	45	55	7	27	2	10	16	16	12	
Premature	12	8	19	10	13	19	57	61	42	19	27	23	34	29	34	27	33	27	41	19	16	13	743	
Asphyxia	7	14	18	4	6	18	35	28	-	22	11	-	16	17	17	30	20	9	16	10	8	-	345	
Pneumonia	21	13	9	-	-	11	71	77	68	68	44	24	39	61	39	-	18	34	28	21	13	15	1036	
Febrile Convulsion	1	-	6	21	1	-	4	-	-	4	-	-	7	-	7	-	-	-	-	-	-	-	73	
Septicemia	4	5	7	-	-	3	8	20	27	5	14	4	30	17	24	21	21	11	21	2	4	2	412	
A.R.I.	-	6	-	-	-	2	-	-	-	2	-	-	4	-	4	22	-	-	-	-	-	-	8	
Aspiration Pneumonia	-	-	-	-	-	-	-	-	-	1	-	-	1	-	1	4	-	-	-	-	-	-	8	
Hypoglycemia	3	-	-	-	-	-	6	7	21	3	2	-	-	-	-	4	-	6	11	1	-	1	82	
Hypothermia	6	1	2	-	-	-	3	18	28	17	2	2	7	20	7	11	28	8	3	-	1	2	252	
Accident	2	2	2	-	6	4	6	3	5	4	-	1	4	4	3	2	2	2	2	-	2	3	159	
Meningitis	1	-	-	-	-	2	6	3	-	-	-	-	2	2	1	9	2	1	-	-	-	1	46	
Food Poisoning	-	-	-	-	-	-	-	1	-	-	-	-	3	6	-	-	-	-	1	-	-	-	13	
Physiological Jaundice	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	4	
Diarrhoea	-	1	-	2	-	-	12	3	2	4	-	-	3	1	1	1	-	2	-	3	-	-	199	
Dysentery	-	-	-	5	-	-	-	1	3	4	-	-	3	-	3	-	3	5	-	-	-	-	132	
Sudden Infant Death Syndrome	-	-	-	-	-	-	-	-	-	1	6	14	31	9	31	45	-	-	-	-	-	-	42	
Heart Disease	7	4	3	1	-	-	-	-	-	7	1	3	2	5	5	8	-	-	-	-	-	-	48	
Anaemia	-	-	-	-	-	-	3	2	4	-	-	1	4	6	6	7	-	-	8	-	-	-	26	
HIV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	0	

T.B.	-	-	-	-	1	-	-	-	1	-	1	-	-	3	-	2	-	-	36	38	34
CCF	-	-	-	-	10	3	1	1	2	1	-	-	6	4	-	2	-	-	252	218	124
Convulsions	-	4	-	2	51	52	28	2	4	3	3	2	7	14	12	2	4	5	321	332	191
Renal Failure	-	-	-	-	1	4	-	1	2	1	1	5	-	-	1	-	1	-	170	198	77
Acute Abdomen	2	-	-	-	8	7	4	1	16	7	13	6	4	-	10	-	-	-	569	497	450
Epilepsy	-	-	4	-	3	12	3	2	3	-	2	6	-	6	-	-	-	-	87	56	73
Head injuries	-	-	-	-	4	2	1	-	1	-	6	2	-	-	3	-	2	-	67	66	61
Burn	-	-	-	-	1	-	1	6	1	1	1	-	-	1	-	-	-	-	16	26	22
Snake Bite	-	-	-	-	-	1	-	1	2	4	-	1	-	-	1	-	-	-	57	52	52
Dog Bite	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	1	-	5	5	5
Unknown Bite	-	2	1	-	1	1	2	1	-	-	1	1	1	1	7	1	1	-	52	88	80
Haematimesis	-	-	-	-	9	6	2	-	2	1	-	5	3	-	5	-	1	-	109	59	30
Drowning	-	-	-	-	-	4	-	-	3	3	3	2	3	-	5	1	2	-	53	75	71
Nefrotic Syndrome	-	-	-	-	2	2	-	1	1	3	-	1	-	-	1	-	-	-	97	96	83
Suffocation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Death	-	-	-	-	-	4	4	-	-	-	2	6	5	1	5	-	1	-	99	151	61
Encephalitis	1	-	-	-	3	5	-	-	-	3	2	3	-	-	-	-	1	1	24	16	5
Congenital Anomaly	2	-	-	-	22	25	18	3	5	-	5	9	8	-	-	-	3	2	135	227	170
Pulm Heammorage	-	-	-	-	-	-	-	-	-	15	1	3	-	1	2	-	-	7	12	0	0
A.R.D.S	2	-	-	2	1	20	10	15	2	10	2	5	10	-	-	-	1	-	155	226	239
Esophegial Stenosis	-	-	-	-	-	-	7	-	1	-	-	-	-	-	-	-	-	-	152	53	51
Asthama	-	-	-	-	-	-	-	-	2	4	-	-	-	-	-	-	-	3	13	17	17
Twins	-	-	-	-	10	4	-	-	6	-	5	7	5	-	1	-	3	6	99	139	182
Aspiration Asphyxia	-	-	-	-	-	-	30	-	-	8	-	-	-	-	-	-	-	13	-	-	218
Others	2	1	-	40	13	21	-	43	5	13	4	24	40	39	25	-	1	15	858	378	712
Total	102	101	96	97	50	105	447	215	211	158	323	336	334	186	196	142	100	96	8003	7303	8003

## Chapter – VI

---

### **A Gist of Interventions made as Reported by the Government of Maharashtra to ease the Situation of Starvation and Malnutrition and Starvation and Malnutrition related Deaths of Tribal Children in the Tribal Districts of Maharashtra**

Eradication of malnutrition and reduction of malnutrition related deaths cannot be a one time operation; nor can they be the responsibility of one Ministry or Department or Agency. Sustained efforts on the part of a number of departments/agencies are needed to be backed by intensive monitoring and continuous evaluation of the pace, content, quality and impact of implementation of programmes to produce some worthwhile results. This is what Government of Maharashtra has been precisely doing and the fact that there is progressive reduction in the number of deaths is sufficient evidence that the efforts have started yielding results. The magnitude of the problem of malnutrition/under nutrition is, however, large and sustained efforts without any let up or hindrance will be needed for a few more years to produce the desired results.

#### **Positive measures taken by Government of Maharashtra:**

- Maharashtra has formulated a Population Policy in 2000 on the lines of National Policy with the following goals:-
  - Reduction of TFR from 2.5 to 2.1;
  - Reduction of IMR and MMR;
  - Improvement of health status of the family;
  - Improvement of accessibility of health services to small villages.
- Maharashtra compares favourably with the national level scenario in regard to some of the important health parameters:-

S. No.	Rate	Maharashtra	All India
1.	Crude Birth Rate(CBR)	19.1	24.1
2.	Crude Death Rate(CDR)	6.2	7.5
3.	Infant Mortality Rate (IMR)	36	58
4.	Neonatal Mortality Rate (NMR)	28	40
5.	Early Neonatal Mortality Rate (0-7 days)	20	27
6.	Late Neonatal Mortality Rate (8 days to less than 29 days)	8	13
7.	Perinatal Mortality Rate (PMR)(28 weeks –7 days after delivery)	29	35
8.	Still Birth Rate (SBR)	10	9
9.	Under Five Mortality Rate	10.4	17.8

According to the goals set by the State Government the position is likely to improve further by 2010 as may be seen from the table:-

Indicators	2004	2010
CBR	18	15
CDR	6.4	5
TFR	2.1	1.8
IMR	25	15
NMR	20	10
MMR	150	100

- A health and nutrition mission has been set up with emphasis on
  - 100% survey of all children in 0-6 age group;
  - Weighing every child in 0-6 age group;
  - Grading every child (Gr.I, II, III and IV).
- SHGs by and large (barring a few exceptions) are managing supplementary nutrition

in the AWC; some of the AWWs have themselves taken the initiative of formation of SHGs despite unstable employment and low earnings of women members.

- The provision for food has been increased from Rs. 1.50 to Rs. 1.98 per child/pregnant lactating mother.
- 12,864 new AWCs are being started during 2006-07.
- Check up of health of every malnourished child once a month by the MO of the PHC by personally visiting the AWC has been made compulsory; for all other children the visits are scheduled to take place once a quarter.
- 1st May and 14th November have been declared as days for deworming of children.
- IFA tablets and Vitamin 'A' are being supplied regularly through PHCs.
- Pregnant and lactating mothers are being given orientation in scientific breast feeding practices.
- Revised recipes incorporating soya flower have been circulated to all AWCs to provide
  - greater variety;
  - taste;
  - nutrition in food.

## **National Reproductive and Child Health Programme**

The Programme is being implemented in all the 33 districts according to the guidelines from Government of India to provide health services to mothers and children. The following are the components of the programme.

### **I Antenatal care:**

- 100% ANC registration at the PHC of all pregnant mothers is being insisted; all ANMs/LHVs and MPWs have been trained to play a proactive role in this;
- All ANC registrants are advised to attend ANC clinic which is held once a month in each village/pada of tribal areas;
- The mothers so registered are thoroughly checked (height, weight, BP, edema over feet, urine for sugar, protein, haemoglobin) during antenatal check up;
- They are provided with IFA tablets to prevent anaemia; they are also immunized for TT;
- The ANM recognizes the complications of pregnancy, if any, in time and refers the case without any loss of time to the MO or specialists for further management.

A total number of 2,23,0,838 cases were registered in 2005-06; 13,20,176 ANC cases were given IFA for prevention of anaemia; 7,68,687 ANC cases were given therapeutic treatment and 20,53,54 ANC cases were immunized for TT.

## **II      Delivery Services:**

- A lot of persuasive efforts are being made by the ANM, LHV and MPWs to persuade/motivate pregnant mothers to go in for institutional delivery under Janani Surakshya Yojana in preference to home delivery.

The Janani Surakshya Yojana is a 100% centrally sponsored scheme which has been launched from 12.4.2005 with the primary objective of reducing maternal and neonatal mortality by promoting institutional delivery for making available medical care during pregnancy, delivery and post delivery period.

As in October, 2006, the scheme has enlarged its ambit by widening the eligibility criterion and the following women have been made eligible for cash assistance for institutional delivery as under:-

LPS States with lower levels of institutional delivery.	All pregnant women delivering in government health centres (PHC, Sub-centres etc.) and general wards of district and State hospitals or accredited private institutions.
HPS States with high levels of institutional delivery.	BPL pregnant women aged 19 years and above.
LPS and HPS.	All SC and ST women delivering in a government health centre, general ward of district and State hospitals or accredited private institutions.

The scheme has dispensed with the following requirements for pregnant women in LPS States:-

- Age certificate for all BPL pregnant women is not being insisted.
- The benefits of the scheme are extended to all BPL pregnant women in LPS States irrespective of birth orders.

### **Cash assistance under the Scheme:**

- In LPS and HPS States, BPL pregnant women aged 19 years and above and preferring to deliver at home are entitled to cash assistance of Rs. 500/- per delivery; the amount would be Rs. 700/- if the delivery is in a sub-centre or PHC or hospital.
- Such cash assistance would be available only upto 2 live births.

- The cash assistance to the mother is available even if a still child is born in a health institution.
- A sum of Rs. 250/- per pregnant mother is also admissible towards transport as a part of ASHA package.

### **III PNC:**

Orientation and training in all PNC cases are being given as to how to take care of the mother and child. Services under the Family Welfare Programmes are being regularly extended to them.

### **IV New born child care:**

Birth weight of every new born child is being recorded; mothers are being motivated for exclusive breast feeding (within half an hour) and warm room services are being provided to new born children to prevent infection.

### **V Immunization:**

Every new born child is protected by BCG, Polio, Diphtheria, Pertusis, TT and measles immunization according to a well formulated time schedule.

Some of the positive fall outs of the immunization drive all over the State in general and in the tribal districts in particular are:-

- Between NFHS-I and NFHS-II the protection of children who received no immunization dropped from 8% to 2%; this has dropped further according to NFHS-III;
- Proportion of children who received atleast one vaccine is nearly 98% while 59% are fully immunized.

The grey areas are:-

- Despite the drive and despite the high rates achieved in immunization more than 33% of illiterate mothers and children belonging to the ST community are not fully immunized.

### **VI Treatment of neonatal child:**

Diarrhoea and Pneumonia are major killers of the new born infants. Neonatal deaths (0-4 weeks) also account for a sizeable percentage of the total number of deaths of children. Neo-natal children are being treated by HBF and IMNCI activity.

### **VII IFA and Vitamin A doses:**

Children born of anaemic mothers tend to be anaemic. Such anaemia unless treated

in time and effectively would persist and could lead to death. The percentage of anaemia in the children below 5 years of age is comparatively high and is a cause for major concern. Such children are treated with IFA tablets. To prevent Vitamin A deficiency five doses of Vitamin A are given to children in 0-3 age group. The first dose of Vitamin 'A' is given with booster dose of DPT/Polio and the 5th (last) dose at the age of 30-36 months.

### **Nav Sanjeevani Yojana:**

Tribal population lives in remote, interior and inaccessible areas of the State. They have a limited opportunity for exposure to and interaction with the modern world. On account of ignorance, illiteracy, indifference and socio-economic backwardness they are inhibited from utilization of the limited health services. This has been accompanied by serious consequences such as:-

- Protein Energy Malnutrition
- Vitamin Deficiency Disorders
- High Infant and Childhood Mortality.

A number of schemes launched by the Tribal Development Deptt. and Health Deptt. have been clubbed together under caption 'Nav Sanjeevani Yojana' which started on 1.5.95.

- This is a State scheme which is being implemented w.e.f. 22.6.95 in 15 tribal districts of the State in which 5 most sensitive tribal districts (Thane, Nandurbar, Amravati, Nasik and Gadchiroli) are included. The central objective of the scheme is to reduce IMR and MMR in tribal areas. The health schemes which are being implemented under this are:-

### **Matrutwa Anudan Yojana:**

- Pregnant women in tribal areas do not attend health centres regularly for check up of their health during pregnancy; this is partly due to ignorance and partly due to difficult terrain and absence of transport.
- This results in many avoidable pregnancy and delivery related complications. LBW is the most important contributing factor for high infant mortality in tribal areas. Poor nutrition and avoidable hard manual labour during the last trimester of pregnancy are important factors contributing to LBW.
- Regular check up during pregnancy, adequate diet and consumption of IFA, multivitamin, protein preparations etc. and rest during pregnancy particularly during last trimester is crucial to avoid pregnancy related complications and birth of LBW babies.
- With a view to motivating tribal mothers to regularly visit the PHC/Sub Centre and particularly during the last trimester of pregnancy for health check up, to identify



pregnancy related complications and their timely management certain benefits are given to pregnant women. The benefits are:-

**A. Monetary benefit:**

- The benefit is given to tribal pregnant mothers only upto 3 live births with the understanding that delivery will be done in a hospital/PHC/Sub Centre or by a trained Dai.
- Rs. 800/- is the total quantum of benefit.
- Out of this Rs. 400/- is given in cash and balance Rs. 400/- in the form of medicines.
- The cash benefit is given in the following 4 instalments:-

- 16 weeks after ANC registration in PHC	- Rs. 100/-
- During 7th month	- Rs. 100/-
- During 9th month	- Rs. 100/-
- Immediately after delivery	- Rs. 100/-

**B Benefits in shape of medicines under the Scheme:**

Despite best efforts home delivery in the tribal households takes precedence over institutional delivery (in hospitals, PHCs, Sub Centres). Such deliveries are associated with a lot of risks and hazards. Such risks get compounded when untrained persons conduct the delivery. Such persons cannot recognize delivery complications and will not be able to resuscitate the new born after delivery. SBAs (Skilled Birth Attendants) are needed for this purpose. Training is imparted to Dais to impart basic skills of SBAs in conducting deliveries, ensuring cleanliness during deliveries and being able to resuscitate children if there is a possibility of asphyxia. In addition to being trained, Dais (4500) are called to PHCs regularly for continued medical education. Dai meetings take place in 993 sub centres in tribal areas. During the meeting the Dais are given information about deliveries conducted, new borns, weight of new borns, infant and maternal death etc.

**Pada Worker's Scheme:**

Remote small hamlets are called padas in tribal areas. They are mostly unapproachable or difficult to approach. Malaria, Cerebral Malaria, Filariasis, Gastroenteritis, Jaundice/ Hepatitis etc. are quite common in tribal areas. As and when these diseases develop into an epidemic form passing on the information about such outbreak to the PHC is vital so that immediate corrective measures can be taken. Pada workers serve this purpose; they act as agents of information and communication. They are appointed for all the padas (remote locations) in ITDP districts, to serve for a period of 11 months during May to March with

an honorarium of Rs. 300/- per month. So far 10,092 pada workers have been appointed under the scheme. They are given training in treatment of minor ailments, presumptive treatment of fever cases and dehydration, identification of mothers and children requiring referral and further treatment and actual referral, reporting of epidemic, chlorination of water etc.

### **Mobile Medical Squad (MMS):**

Though a PHC has to cater to a population of 20,000 in tribal areas, many padas have a low density of population and are ordinarily not served by the PHC. Honorary doctors are appointed at such remote locations with a view to improving the access of health services to tribal population. They are appointed during the period of May to December with an honorarium of Rs. 6000/- per month and medicine for Rs. 2000/- per month. Each squad medical officer is given one hired vehicle and para medical staff. So far 167 such mobile squads have been constituted. The honorary doctor is expected to stay at headquarters, have constant interaction with Sarpanch and other community leaders and is accountable to the MO in charge of the PHC.

### **Paediatric ICU:**

Paediatric ICU has been established at RH Dharni and RH Chikhaldara in Amravati district in order to reduce IMR in tribal area. Such ICU is started with the aim of giving appropriate treatment to high risk newborns in nearby tribal areas and reducing infant mortality, especially neonatal mortality. Paediatricians are deputed during the period June to December when (particularly during rainy season) the possibility of not being accessed, contacted and not getting treatment is high on account of the inaccessibility of the area. It is proposed to extend and implement the Melghat pattern as above in all the 15 tribal districts. For this, a sum of Rs. 18 crores has been released by the Health Department on 16.4.2004 and 39 more ICUs are being established.

### **Compensating the loss of wages:**

Parents of sick tribal children are not willing to keep the child admitted in hospital primarily due to loss of wages. There have been reports of reluctant admission as also withdrawal of the child after a couple of days from the hospital/PHC even against doctor's advice. This works havoc on the treatment and health of the child. With a view to warding off such contingencies Rs. 40/- is paid to the caretaker of a sick child (who brings the child to the PHC/hospital and who stays with the child during the entire period of treatment) to compensate the loss of wages to that person. Additionally, diet for the caretaker and the sick child @ Rs. 65/- per day is also provided by the PHC/hospital authorities in pursuance of an order issued by Public Health Department on 21st July, 2006.

## **Rajarshi Sahu Maharaj Scheme:**

The Scheme has been devised to support the backward districts (as per human development index) including tribal districts. A sum of Rs. 25 crores has been made available for tribal, hilly and other difficult areas under the scheme. The Health Department has supplied 250 new ambulances and a sum of Rs. 6.77 crores provided for purchase of medicines and equipments procured through the Zilla Parishad. Emergency supply of medicine, anti-snake venom, important antibiotics, intravenous fluids, epidemic control medicines are being made available to the PHCs in tribal areas.

## **Rajmata Jijau Mother and Child Health and Nutrition Mission:**

The Mission was launched on 11th March, 2005 with a view to safeguarding welfare of women and children. The first phase covers 5 sensitive tribal districts (Thane, Nasik, Amravati, Nandurbar and Gadchiroli) and involves the following innovative measures:-

- rank the districts based on recording efficiency, weighing efficiency and decide the treatment modality;
  - have interface between various related sectors for joint planning, joint training and joint review with a view to building up a team spirit;
  - review meetings at various levels to supervise execution;
  - a single dose of syrup albendazole and one tablet of albendazole is being distributed to children in the age group of 1-2 years and 2-6 years respectively. A total number of 1,27,645 children have been covered of which children in 2-6 years are 1,02,827 and the remaining are in 1-2 age group.
- The Mission is executing the following in a campaign mode:-

<b>Date</b>	<b>Beneficiaries and services</b>	<b>Beneficiaries and services</b>
From Nov 2006	Single dose of syrup Albendazole to children in 1-2 year.	One tablet of Albendazole to children in 2-6 years.
From Nov 2006	One dose of Vitamin A with syrup folipher with Vitamin C to children in the age group of 9 months – 2 years.	Tablet FS + FA+ Vitamin C twice a week for 25 weeks to children in the age group of 2-6 years.

## **Warm rooms in PHC:**

Warm rooms are made available in 156 PHCs to take care of temperature, LBW and hypothermic children.

## **Thormocol Boxes:**

With a view to maintaining the warmth of premature, LBW and hypothermic

children 18,105 thermocol boxes have been supplied to 15 tribal districts and are being used by pada workers, AWWs, ANMs and SBAs.

### **Ambulance services:**

For emergency referral cases, ambulance services are made available at Rural Hospital level in tribal areas.

### **Availability of paediatrician, gynaecologist and obstetrician:**

The services of all these experts are being made available in tribal/rural hospitals by deputation from non-tribal area.

### **Additional initiatives taken by the Tribal Development Department with a view to reducing infant mortality and improving health status of tribal families:**

- Establishment of anganwadis was a 100% centrally sponsored scheme administered by the Women and Child Development Department, Ministry of Human Resource Development, Government of India. For 2 years GOI has stopped sanctioning anganwadis. Consequently in tribal areas children of some villages and padas were not covered under ICDS as new anganwadis were not sanctioned.
- This happened notwithstanding the judgement of the apex Court that in every hamlet in the country (there are 14 lakh of them) ICDS should provide services to every child upto 6 years of age, every pregnant or lactating woman and every adolescent girl.
- Existing anganwadis are overcrowded. There is neither adequate space nor proper lighting and ventilation nor a proper and safe structure.
- Keeping the existing gaps, inadequacies and deficiencies in view 50 additional ICDS Projects and 600 new anganwadis have been sanctioned by the State Government under 'Tribal Sub Plan'.
- The new anganwadis are meant to cover hamlets/settlements with 100-500 population in 19 ICDS tribal projects in 8 districts which are not covered as per norms of GOI. The eight districts are:- Amravati, Yavatmal, Thane, Nasik, Gadchiroli, Chandrapur, Nandurbar and Raigad.
- An additional 3114 such AWCs are proposed to be sanctioned from 'Tribal Sub Plan' of the State Government in hamlets/settlements with 100-500 population to cover all 50 ICDS Tribal Projects in 15 districts.
- A special allowance of Rs. 100/- is being given by the State Government to motivate AWWs/AWHs working in sensitive and difficult areas in those 50 tribal/ICDS Projects.

- An additional honorarium of Rs. 400/- per AWW and Rs. 240/- per AWH is being paid by the State Government.
- The Tribal Development Department is involving Padmabhusan and Magasaysay award winner Dr. Arole in implementing an integrated rural health Project at Jamkhed. A sum of Rs. 10 crore has been sanctioned by the State Government as a part of funding the integrated rural health project in 7 tribal districts.
- The integrated rural health project involves training local women as health volunteer workers to tackle the following:-
  - child and maternal mortality;
  - prevention of communicable diseases;
  - health and environmental sanitation;
  - income generating activities;
  - A sum of Rs. 82.50 lakh has already been disbursed.

### **Jana Utkarsh Programme:**

- This is a five year Project meant for integrated development of 52,500 tribal families with a total financial outlay of Rs. 144 crore. It aims at assisting tribal families to take up horticulture, improve agriculture, other income generating activities, watershed development, health and environmental sanitation. A sum of Rs. 8.5 crore was released during 2003-04 and a budget provision of Rs. 4.40 crore has been made for the subsequent year. BAIF, Pune (an NGO of standing and repute) is implementing the programme in clusters of 20-25 villages in 15 tribal districts.

### **Consumption Loan Scheme:**

- Employment opportunity for the tribals is considerably reduced during the monsoon season resulting in a lot of privation and suffering.
- Under the CL Scheme eligible tribal families are provided loans to help them to meet the consumption requirements during the season;
- Earlier depending on the family size they were eligible for loans of
  - Rs. 400/-
  - Rs. 800/-
  - Rs. 1000/-
- As the tribals could not repay the loan, they became defaulters and could not take advantage of the CL Scheme.

- The State Government decided to write off the loans disbursed upto September, 2003 amounting to Rs. 41 Crore.
- The rates of consumption loan have since been revised to Rs. 2000/-, Rs. 3000/- and Rs. 4000/- respectively. A family of 8 would get Rs. 3000/- consisting of food grains costing Rs. 960/-, pulses costing Rs. 300/-, oil costing Rs. 240/- and Rs. 1500/- in cash.
- For this a sum of Rs. 60/- crore has been sanctioned by the State Government.
- As against the earlier scheme which was one of soft loan, the revised scheme will be one of loan and subsidy in the ratio of 70:30.

### **Special Action Plan for Nandurbar district:**

- Of the 6 talukas in this district, Dhadgaon and Akkalkuwa are the most difficult ones in respect of a host of indicators such as roads, communication and transport, water supply, sanitation, health, irrigation and electrification. A special action plan for infrastructural development of these 2 talukas to cost Rs. 219 crore and to be implemented over a period of 5 years is in place. Of this, Rs. 52 crores have been allocated for road development and Rs. 4.68 crore for providing water supply facilities.

### **Scheme of adoption:**

A malnourished child of Gr. III and Gr. IV severity is being offered for adoption by any functionary of ZP, Government or NGO. A good beginning has been made in a few such cases.

## **Training under RCH-II**

### **IMNCI Training:**

Integrated management of neonatal childhood illness is the centre stage of the newborn and child health strategy in RCH Phase-II. The strategy has the following 3 components:-

- I Improvement in management skills of health staff.
- II Improvement in health systems for effective management.
- III Improvement in family and community practices/services.

I Maharashtra has decided to take up IMNCI initiative in 9 districts in the first phase namely Thane, Nasik, Amravati, Gadchiroli, Osmanabad, Latur, Chandrapur, Nanded and Nandurbar. Of these excluding Osmanabad and Latur, the remaining 7 are tribal districts which also constitute the focus of my enquiry. In the second phase the districts proposed to be included are Raigad, Beed, Ahmednagar, Jalgaon, Dhule, Pune, Gondia, Yavatmal, Nagpur, Wardha and Buldhana. Of these excluding Beed, Wardha and Buldhana the



remaining 8 are tribal districts which come within the focus of my enquiry. This initiative in 2 phases mainly involves training doctors and para medical staff in early and correct diagnosis and proper management of common illnesses in infants and children below 5 years of age.

Two coordination groups – one at the State level and another at the district level have been formed in pursuance of the guidelines of the Government of India. Forty to fifty trainers in each district are required for undertaking training of health staff on a continuous basis. Two training of trainers (TOT) sessions have been held at HFWTC Aurangabad with collaboration of Government Medical College, Aurangabad.

## II

- IMNCI kit is being issued to PHCs, sub-centres and AWWs.
- FRUs are being developed as per Indian Public Health standards.
- Medicine kits are being provided to the trained ANM and AWW after completion of training.
- IEC campaign for awareness generation regarding breast feeding practices, illness recognition etc. is being launched.
- Counselling of care givers and families is being undertaken as part of management of a sick child wherever he/she is brought by health workers.

### **Arogya Sakhi Scheme:**

Due to difficult terrain which is mostly unapproachable as also bundles of make beliefs and superstitious practices the rates of MMR, IMR and wastage of pregnancy are high in tribal areas. The problem is acute in Thane, Nandurbar, Nasik, Amravati and Gadchiroli which deserve special priority attention.

Arogya Sakhi Scheme aims at removal of mindsets and superstitions, promoting better awareness among tribal households on the importance of safe, clean and scientific practices related to delivery and reducing maternal morbidity and mortality. The scheme is being implemented in 150 villages in 5 sensitive tribal districts as above where the basic public health infrastructure such as sub-centre, PHC, PHU and MHU are available. A village having a population of 1000 is selected. The 'Arogya Sakhi' should be a married woman of about 35 years, literate, resident of the same village where the scheme is to be implemented and should be willing to undergo training for 6 months at district/sub district/womens' hospital. After completion of training she will function as a trained birth attendant by providing ante-natal and post natal care, conducting normal deliveries,

treatment for minor ailments as well as referral cases. On completion of training she will be issued a delivery kit, honorarium and room rent for clinic delivery room for 4 years.

So far 88 Arogya Sakhis have been trained, 42 are currently under training and 20 are left to be trained. Those who have been trained (88) have already started functioning.

### **Dai training:**

High maternal mortality is an issue of major concern in all tribal districts of Maharashtra. Maternal mortality can be reduced only if the delivery is clean, hygienic and safe and this will be possible largely through institutional deliveries. However, the difficult terrain, poor accessibility, absence of all weather roads, weak public transport etc. make it difficult for a pregnant woman to travel to a sub-centre/PHC/hospital and get herself admitted in time for the delivery. This is how home deliveries are much higher in percentage terms than institutional deliveries. To minimize risks and hazards associated with home deliveries and make delivery as safe as it could be, training of dais at the village level is essential. So far about 6000 such dais or birth attendants have been trained in Thane, Nandurbar, Nasik, Amravati and Gadchiroli to make them SBAs. There are still 489 villages left in these 5 districts where birth attendants are to be trained.



## Chapter - VII

---

### **A Gist of 2 Rounds of Discussion held with Chief Secretary and other Secretaries to Government on Right to Food and Nutrition (22.8.2007 to 24.8.2007 and 1.11.2007):**

In course of my field visits in the first phase to the districts of Yavatmal, Amravati, Nandurbar, Gadchiroli and Thane (from 4.6.2007 to 4.7.2007) I had interacted with a large number of functionaries (MOs in charge of PHCs, ANMs, LHV's, MPW's, Pada workers on the public health side and CDPOs, Supervisors and AWW's on the ICDS side) as also with mothers of children, representatives of the people (ward members, sarpanches, President, Vice President and members of Zilla Parishads Panchayat Samitis, NGOs etc.). I had similarly interacted with much larger number of functionaries in course of subsequent visit to 10 districts (Nashik, Dhule, Jalgaon, Pune, Ahmednagar, Raigad, Chandrapur, Gondia, Nagpur and Nanded from 26.9.2007 to 24.10.2007). In course of these visits and interactions, a number of issues had been raised and it was necessary to have them sorted out with the concerned department at the State level. It was also necessary to know the thinking and planning at the level of State Government to deal with the problem of hunger and malnutrition on a short term and long term basis. This necessitated a 2½ day visit to Mantralay on the first occasion (August, 2007) and one day visit on the second occasion (November, 2007). A gist of what transpired in course of the meeting and discussion with the senior officials of the State Government between 22.8.2007 to 24.8.2007 and later on 1.11.2007 is indicated as under:-

### **22.8.2007 Meeting with Chief Secretary to Government – Mr. Johny Joseph (12.30 Noon to 2 PM ):**

In addition to the Chief Secretary, Principal Secretary, Public Health – Mrs. Chandra Iyengar, Secretary, Tribal Development – Shri Sunil Porwal and Commissioner ICDS – Shri Ujjwal Uke were also present.

At the outset I apprised the Chief Secretary about the background of the enquiry, the terms of reference for the enquiry and the broad strategy adopted by me to conduct and complete the enquiry in a time bound manner. I also apprised him about the field visits to the 5 sensitive tribal districts in the first phase and the various issues which have been raised in course of the visit. The issues raised are:-

**Some of the issues related to public health and anganwadis:**

- absence of departmental buildings for AWCs, hospitals, PHCs and sub centres; problems of electrification and water supply to these buildings;
- problems of repair and maintenance of the buildings (both departmental and hired premises);
- delay in installation of equipments, repair and maintenance of equipments;
- vacancies of CDPOs, Supervisors, AWWs, MS, MOs, para medical staff; inordinate delay in filling up the vacancies;
- problems of mobility and outreach, ambulance vans lying out of order, weak public transport;
- recruitment of BAMS graduates when the demand of the people is in favour of MBBS graduates;
- non-formation, delayed registration and non-functioning of Rogi Kalyan Samitis;
- MO incharge of PHC staying far away from the PHC headquarters, not opening the PHC in time, resulting in long waiting period for patients;
- Large scale absenteeism of PHC staff; no timely departmental action for lapses;
- X-ray machine installed but non-operational as no x-ray technician has been posted;
- X-ray technician posted but no x-ray machine installed;
- OT of a hospital not being electrified giving rise to formidable problems in conducting surgical operations;
- excessive load shedding and absence of effective power backup;
- delay in disbursement of honoraria to AWWs, AWHs;
- delay in release of allocations and consequential delay in disbursement of grant in Matrutwa Anudan Yojana and Janani Surakshya Yojana due to procedural bottlenecks;
- Over riding preference of mothers for home delivery vis-à-vis institutional delivery;

- absence of potable water in many areas responsible for water borne diseases;
- access to environmental sanitation through domestic toilet conspicuous by its absence;
- no effective answer as yet for prevention of fluorosis.

### **Issues related to basic entitlements:**

- Large number of people are without homestead land but no precise estimate of such persons is available nor is there evidence of any sincere effort being made for allotment of such land;
- Wherever people have homestead land, are desirous of having a roof above their head and have applied for assistance under IAY, they have to wait for long periods as the allocations under IAY are not adequate.
- Tribal people are cultivating forest land for agricultural purpose for generations and are desirous of getting the same allotted in their favour but no policy decision has yet been taken about such allotment. Such a decision would help removal of landlessness of large number of tribal households, would also improve production of foodgrains from land and ensure supplementary income from land;
- The notified minimum wage for 8 hours of work ranges between Rs. 66/- to Rs. 72/- in the 4 zones; similarly wages have also been fixed for piece rate work. Payment of such notified wages was nowhere in sight.
- Women and men do not receive the same wages for same or similar nature of work; women invariably get less than their male counterparts.
- There were a few complaints here and there that people are not receiving foodgrains and other commodities (sugar and kail) from the PDS as per their entitlement; wherever the entitlement is being met the same turns out to be of poor quality and inadequate (on account of the large size of the family). Besides, the PDS basket does not contain jawar, bazra, pulses, edible oil and non-edible items (soap, oil, detergents) which an average householder would look for.

### **Issues related to SHGs:**

- This is an excellent initiative on the part of AWWs to have mobilized women to form such SHGs despite low income and other family constraints. According to the direction of the Supreme Court and as per their own volition many SHGs are implementing SNP and many more are willing to implement it but the per child norm for SNP being too low i.e. Rs. 1.98/- and allocations being not received in

time, the SHGs have lost interest in a few places and have suspended the SNP operations. This needs to be sorted out urgently on priority.

### **Issues related to NGOs:-**

- There are a number of good, reliable and committed NGOs who are professionals, first rate visualizers and illustrators and are capable of designing excellent IEC packages on health, food and nutrition. Many of them, as a matter of fact, have designed such materials/packages. These are yet to be made use of by the district administration.
- Such NGOs should be taken into confidence and their experience and expertise should be harnessed in a few other areas which have a bearing on health, food and nutrition such as (a) managing the hospital canteen so that gr. III and gr. IV malnourished children in particular and other children in general get nutritious food (b) joint measurement of weight (c) joint check up of health (d) promoting institutional delivery (e) timely admission of pregnant mothers and gr. III and gr. IV malnourished children into PHCs/hospitals (f) preventing mothers to take away children from hospitals against doctor's advice with serious consequences etc.

**22.8.2007 (AN)**

**(2.30 PM to 5.30 PM)**

### **Meeting with Principal Secretary, Public Health – Smt. Chandra Iyengar:**

- She acknowledged that there were a number of PHCs and Sub-centres in the tribal districts which were without departmental buildings. Availability of land from Revenue Department was a major constraint earlier. However, now the Health Department has been authorized to construct new PHC and sub-centre buildings as also staff quarters.
- She clarified that the following procedure has been adopted with regard to repair and maintenance of departmental buildings:-
  - a panel of construction agencies has been drawn up at the district level;
  - the district society proposed to be constructed under NRHM has to draw up the order of priorities of works to be taken up;
  - the Superintendent incharge of the hospital or the MO in charge of the PHC has been delegated with the power to sanction the works.

The Director, NRHM apprised me about the progress achieved under NRHM in the State till date as under:-

- 75% of the village level health and sanitation committees have been formed. Funds have been released to the district for this purpose.
- The position with regard to constitution of Rugna Kalyan Samitis is as under:-
  - 26 committees at the district headquarters hospital level;
  - 381 committees at the Community Health Centre Level (sub divisional and rural hospital level);
  - 800 committees at the PHC level.
- A deadline has been given to the CEOs of Zilla Parishads to complete the process of formation and registration.
- ASHA is the lowest village level functionary in NRHM. She is to be provided for every village in the ratio of one per 1000 population relaxable in tribal, hilly and desert areas. She should be in the age group of 25-45 with formal education upto Class VIII.
- 9000 ASHA workers have been sanctioned for the State of which 1800 have already been recruited in the first phase. Recruitment for the remaining 7200 will be completed by end of August, 2007.
- The first phase of training will be completed in the first week of September, 2007.
- The choice of ASHA workers in tribal areas is severely restricted due to age limit, low percentage of tribal literacy, equally low percentage of literacy of tribal girls to be recruited and availability of such persons for this purpose.

The Principal Secretary, Public Health brought to my notice certain genuine difficulties in having services of MBBS graduates as under:-

- Soon after completion of the MBBS course the MBBS graduates prefer to go in for private practice;
- In a highly monetized economy where market forces of demand and supply rule the roost, the service ethos of the medical profession is no longer relevant;
- This is the reason why (a) specialists like gynaecologists and paediatricians relevant for dealing with child malnutrition at hospitals/PHCs are in short supply; (b) posts sanctioned by government remain vacant for a long period.
- Due to shortage of doctors in MBBS cadre, BAMS graduates have to be recruited. Out of 4000 MOs who are needed for 1818 PHCs, BAMS constitutes about 50% of the total sanctioned strength.
- There are not too many vacancies of ANMs, LHVs and MPWs but there are vacancies

of staff nurses. The Nursing Council of India does not recognize private nursing colleges and, therefore, the products of these colleges cannot be recruited.

The Principal Secretary shared with me a few redeeming features in the area of public health:-

- Forty rural hospitals located in the tribal districts have got NICUs to deal with gr. III and gr. IV malnourished children soon after birth.
- MOs of PHCs have been completely relieved from administrative responsibilities which have been entrusted to the District Programme Managers and District Finance and Accounts Managers. They have all the time now exclusively for looking after preventive and corrective aspects of health and medical care of all those who are in need of such care and in particular mothers and children.
- A sum of Rs. 65/- needed for meeting the diet charges of the mother accompanying the children is being given to DHO/CS who in turn would release it to the MO of the hospital/PHC concerned.

### **Commissioner ICDS – Shri Ujjwal Uke:**

- There are 13628 AWCs in the 15 tribal districts of the State. Of them, 7470 have their own buildings while the remaining are without them.
- The following sources have been tapped for locating accommodation for AWCs such as:-
  - JRY structures;
  - buildings constructed out of ZP fund;
  - buildings constructed out of MLA's fund;
  - vacant school buildings.
- During 2006-07, 12868 additional AWCs were sanctioned followed by 9000 during 2007-08. The latter includes mini anganwadis for small hamlets with a population of 150.
- For the new AWCs 12868 AWWs have been recruited.
- The AWWs for the AWCs sanctioned during 2007-08 are in the process of being recruited by a Committee headed by the local MLA.
- Soon after selection AWWs are being given induction training for 6 days followed by 30 days regular training. There are training centres at every district level. Master trainers are being identified from AWWs and Supervisors to make them effective communicators as also change agents.

- The opening of the AWC has been left flexible with the district administration. While fixing such timing they have to take note of the size of the village, number of households, occupation and convenience of the mothers, agro-climatic conditions etc.
- Similar flexibility in regard to fixation of the recipe for the SNP @ Rs. 1.98/- per child has been left to the district level.
- One day in a month is fixed for a get together of all pregnant and lactating mothers with their children for health checkup and mother's education.
- In supplementary nutrition, it was clarified, the emphasis is on kilo calorie and protein and not on micro-nutrients.
- Double fortified salt which will have iron and iodine as also a tasteless powder (sprinkles) which will have all essential micro nutrients are being proposed. A trial of sprinkles will take place in September, 2007 in 2 districts namely Thane and Gadchiroli.
- Deworming of children is being done twice a year i.e. 1st May and 14th November. Vitamin 'A' and folic acid (either in shape of syrup or tablet) are being given one week after deworming.
- For malnourished children the same recipe which is followed for supplementary nutrition is served but 4 times a day in addition to the therapeutic food.

The Commissioner, ICDS clarified that the status of malnutrition of children in Maharashtra (for the State as a whole) is showing signs of improvement year after year and over a period of last four years. In percentage terms the scenario may be described as in Table – II:-

**Table – II**

	2003-04	2004-05	2005-06	2006-07
Normal	45.02	46.23	48.81	52.11
Malnourished children Gr.I	38.82	38.50	38.46	37.44
M.C. Gr. II	15.78	14.91	12.42	10.21
M.C. Gr. III & IV	0.37	0.36	0.31	0.25

- It was further clarified that in the Nav Sanjiban area where the problem of malnutrition is more acute there are signs of improvement as in Table-III:-



**Table – III**

	<b>2003-04</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>
Normal	30.80	31.00	32.94	35.75
Malnourished children Gr. I	40.81	40.75	40.79	40.85
M.C. Gr. II	27.33	27.13	25.23	22.57
M.C. Gr. III & IV	1.06	1.12	1.04	0.83

- It was also clarified that the same is the trend in regard to IMR both for the State, urban and rural areas as well as tribal areas as would be evident from the following table (Table-IV) (computed as the number for 1000 live births) :-

**Table – IV**

<b>Year</b>	<b>Rural</b>	<b>Tribal</b>	<b>Urban</b>	<b>State</b>
2003-04	30	41	22	32
2004-05	29	39	18	31
2005-06	29	37	18	30
2006-07	26	34	12	27

- Further, according to Rajmata Jijau Mata Bal Arogya and Poshan Mission the incidence of severe malnutrition of children (Gr. III and IV) in the 15 tribal districts is as under:-
  1. Amravati - 0.82%
  2. Ahmednagar - 0.19%
  3. Chandrapur - 0.74%
  4. Dhule - 0.10%
  5. Gadchiroli - 1.11%
  6. Gondia - 0.40%
  7. Nandurbar - 0.68%
  8. Nagpur - 0.19%
  9. Nasik - 0.17%



10.	Nanded	-	0.15%
11.	Pune	-	0.02%
12.	Raigad	-	0.18%
13.	Thane	-	0.18%
14.	Yavatmal	-	0.55%
15.	Jalgaon	-	0.20%

**23.8.2007**

**Meeting with representatives of Agriculture, Horticulture, Rural Development, Revenue, Labour and Forest Departments:**

The position relevant to my enquiry obtaining from the statements made by the officials of these departments is summed up as under:-

**Agriculture:**

No information pertaining to the steps taken by the Government of Maharashtra for increasing the percapita production of cereals (including coarse cereals), pulses and tuber in the light of the observations made in 'Food Insecurity Atlas of Rural India' (April, 2001) prepared by M.S. Swaminathan Research Foundation and World Food Programme (a copy of which was shared with the officials concerned) was available.

It was generally stated that agricultural holdings of most of the adivasi farmers are small, of inferior quality and of low productivity. The office of Commissioner, Agriculture, Pune has forwarded an action plan for 5 years for farmers belonging to ST communities in TSP and OTSP areas. The total financial implication of 5 schemes to be implemented over a period of 5 years comes to Rs. 150 Crores. It could not be explained as to when and how these 5 schemes would be pressed into action what is the mechanism for monitoring, coordination and evaluation and what has been achieved so far.

A strong dose of agricultural extension, by way of demonstration, training etc. is required to be in place to instil the concept of high farm productivity of tribal holdings into the minds of the farmers. A lot more planned, coordinated and dedicated efforts are needed which was not visible on the ground.

On the side of horticulture it could not be adequately explained as to how the initiatives under the 'National Horticulture Mission' are going to improve the nutritional status of tribal households. It was mentioned that under the Mission employment under NREGS would be linked to plantation of saplings of fruits such as mango, cashew, sweet

lime, mandarin orange, Kagjee lime, coconut, papaya, pomegranate, betelnut and jackfruit. No vegetable production programme was included in the scheme. There was a plan for vegetable seeds production for which 50% subsidy was payable to farmers but on the whole such schemes will not benefit small and marginal tribal farmers with a very small land holding and, therefore, will not have much impact on improvement of the nutritional status of these farmers' households.

### **Revenue:**

Details about (a) number of tribal households going without any homestead land (b) number of tribal households going without any agricultural land (owned by them) (c) tribal agricultural labourers who work for and in the land of absentee landlords and (d) tribal share croppers could not be furnished. In the absence of these informations it is difficult to conceive of any plan for removal of landlessness of tribal households. Rule 29 of Maharashtra Land Revenue (Disposal of Government Land) Rules, 1971 provides for allotment of homestead land to landless labourers free of cost. Apparently the Revenue Department functionaries were unaware of this; they could not throw any light on the steps taken for allotment of such land in favour of homesteadless tribal people.

There are, however, 2 areas in regard to protecting the interests of tribals vis-à-vis their land and rehabilitation (in respect of those who are displaced) which sounded encouraging. These are described as under:-

### **Tribal Land alienation:**

New Section 36A of Maharashtra Land Revenue Code and Tenancy Laws (Amendment) Act, 1974 which came into force from 6th July, 1974 imposes severe restrictions on future alienation of tribal land to non-tribals. No tribal can, with effect from 6.7.74 transfer his land to non-tribals. Where any land of a tribal is transferred to a non-tribal in contravention of statutory provisions it shall be forfeited to Government. Such forfeited land is to be granted to the original tribal land owner on nominal price (48 times the assessment) to such an extent that after the grant his holding does not exceed one economic holding i.e. 16 acres of dry crop land including any other land held by him as an owner tenant or lessee.

Maharashtra Restoration of Lands to Scheduled Tribes Act, 1974 provides for restoration to a tribal his land which has gone into the hands of a non-tribal during the period from 1.4.1957 to 6.7.1974 as a result of validly effected transfers.

### **Rehabilitation of displaced tribals:**

Maharashtra is the first State in the country to have enacted a law on rehabilitation

of displaced persons (including tribals) in 1976. Modified in 1986 the new law called, 'Maharashtra Project Affected Persons Rehabilitation Act, 1989' came into force in 2002. Earlier the law was applicable only to irrigation projects. Now this is applicable to any project which involves acquisition of land and displacement of people. A proposal is now under consideration that wherever tribal land is acquired for any purpose, tribals will be treated as project affected persons regardless of the extent of the land.

The displaced people are entitled to get alternate land in irrigated command area:-

- I upto 2 acres of land acquired or submerged the entitlement will be 1 acre of irrigated agricultural land.
- II From 2 to 5 acres of land acquired or submerged the entitlement will be 2 to 3 acres of irrigated agricultural land.
- III From 5 to 8 acres of land acquired or submerged the entitlement will be 3 to 4 acres of irrigated agricultural land.
- IV Where the land acquired or submerged is more than 8 acres the entitlement will be 4 acres of irrigated agricultural land.

This can be further enhanced according to the size of the family. If the family size exceeds 5, 1 acre extra land will be given. For every 3 additional members, 1 acre is added with a ceiling of 7 acres.

If a whole village itself goes under water (gets submerged) the entire village will be reestablished with 18 civic facilities and amenities.

## **Rural Development:**

### **Families below poverty line:**

The Ministry of Rural Development conducts a BPL Census at the beginning of each Five Year Plan. The basic objective of the Census is to identify households living below the poverty line who could be assisted under various anti poverty programmes of Government. While the 1992 and 1997 Censuses were conducted on the premise of income and expenditure (Rs. 15000/- annual income per family) the 2002 census was conducted by adopting a normative approach. The new approach introduced a score based ranking based on relative deprivations revealed by 13 socio economic indicators.

The BPL Census, 2002 in Maharashtra has been completed according to the new norms and guidelines as above. The outcome of the survey for the 15 tribal districts is as in Table – V:-

Table – V

S. No.	Name of the District	No. of BPL rural families after cut off score	PC of BPL families to total families
1.	Thane	2,35,922	45
2.	Raigad	1,14,656	29.65
3.	Nasik	2,48,845	40.42
4.	Dhule	1,67,273	53.64
5.	Nandurbar	1,75,340	73
6.	Jalgaon	2,66,628	43.32
7.	Ahmednagar	1,69,736	25
8.	Pune	1,22,132	19.54
9.	Nanded	1,37,893	30.60
10.	Amravati	2,08,108	49.60
11.	Yavatmal	2,30,283	45.55
12.	Nagpur	1,32,760	47.36
13.	Gondia	1,45,571	57.88
14.	Chandrapur	1,69,566	47.54
15.	Gadchiroli	1,12,538	55

There was a stay order of the Supreme Court dated 5.5.2003 directing that Government of India should not insist on the State Governments to remove persons from the existing BPL list. The Supreme Court vide its subsequent order dated 14.2.2006 has vacated the stay order dated 5.5.2003. The BPL list of 2002 can, therefore, be now finalized by obtaining approval of the gram sabha in case of each list pertaining to a village and also after finalizing the appeals filed by the aggrieved families who have been left out from the 2002 list. It appears that in all 19.93 lakh appeals were filed out of which 15.43 lakh appeals have been disposed off leaving 4.50 lakh appeals pending. These need to be expeditiously disposed off in a time bound manner.

While on the one hand guidelines were issued by the Planning Commission for conducting the BPL Survey (2002), a simultaneous communication was sent on 30.1.2003 that the estimates of the rural poor should be restricted to 10% more than the estimates made by the Planning Commission (1999-2000). This has caused serious problems for the

State Government and has in turn adversely affected the interests of tribal families most of whom would come in the category of BPL.

According to the earlier cap imposed by Government of India, Maharashtra could not go beyond assisting 65 lakh BPL families. Government of Maharashtra has already issued 73 lakh cards (BPL + Antyoday + Annapurna) exceeding 8 lakhs of the stipulated number. According to the revised guidelines and latest communication, Government of Maharashtra cannot go beyond 45 lakh BPL families.

Total number of tribal families in Maharashtra is 17.15 lakh while 13.72 lakh (nearly 80%) of them are BPL card holders. As of now, it is difficult to say as to how many of these families will go out of BPL list if the guidelines of the Planning Commission are to be strictly implemented. This will be a retrograde step and a disaster to these families.

### **Indira Awas Yojana:**

- According to the statement handed over to me by the Rural Development Department the position in regard to implementation of IAY for 2006-07 and 2007-08 (upto June, 2007) is indicated in 2 tables namely Table VI and Table VII.

**Table – VI**

<b>Name of the District</b>	<b>Houses completed for ST beneficiaries</b>	<b>PC of ST houses</b>
Thane	5325	74.73
Nandurbar	1741	99.49
Amravati	578	25
Yavatmal	1028	39.19
Gadchiroli	833	41.42
	<b>21,123</b>	<b>29.03</b>

**Table – VII**

<b>Name of the District</b>	<b>Houses completed for ST beneficiaries</b>	<b>PC of ST houses</b>
Thane	1164	65.32
Nandurbar	60	100
Amravati	150	23.70
Yavatmal	65	41.94
Gadchiroli	127	41.37
<b>Total</b>	<b>3807</b>	<b>28.78</b>

While this shows a reasonably good coverage of ST households in terms of their coverage under IAY it does not indicate the following:-

- how many applications for financial assistance under IAY have been received;
- has a gradation list in terms of possession of homestead land, income and date of receipt of the application been prepared;
- how many have been disposed off in a just, fair and equitable manner;
- how many applications are pending and for what length of time;
- whether allocations received under IAY are adequate to cover all applications;
- whether any linkage has been established between homestead land available, land allotted and allotment of funds under IAY.

Besides, there are wide variations between the situation obtaining on the ground as was represented to me in course of my field visits to Yavatmal, Amravati, Nandurbar, Gadchiroli and Thane (4.6.2007 to 4.7.2007) which need to be reconciled.

### **Labour:**

The representative of the department was requested to throw light on the following:-

- Number of scheduled employments notified under the Minimum Wages Act, 1948.
- What are the scheduled employments which provide maximum employment to members of the tribal community.
- Number of scheduled employments for which minimum wages have been fixed.
- Number of scheduled employments for which minimum wages have been reviewed and revised.
- Latest position about enforcement – inspections, irregularities found, prosecutions filed and convictions secured.
- Number of claims filed u/s 20 of the Minimum Wages Act for adjudication in the event of short payment or non payment.
- Number of claims settled and amount disbursed.
- Why women and men continue to get differential wages for same or similar nature of work?

The representative of the department stated that there are 76 scheduled employments but minimum wages have been notified in respect of 67 scheduled employments only. With regard to the remaining questions he promised to furnish a detailed note subsequently.

**24.8.2007**

## **Food and Civil Supply Department:**

There are four issues with which Food and Civil Supplies Department is concerned. These are (a) accessibility of food to the tribal households (b) affordability of the cost of food, (c) adequacy of food in terms of size of the family, quantity of foodgrains actually made available to a household through a card and (d) whether the foodgrains supplied are culturally acceptable and meet the preferences of the consuming households.

With regard to the first, the Principal Secretary, Food and Civil Supplies Department – Shri K.P. Bakshi who attended the review clarified that (a) total tribal population is 8.5 million who live in 7111 villages and (b) Number of fair price shops in tribal areas is 6212. The average distance of a FPS to a village/hamlet may be 4 to 5 KM and accessibility becomes difficult if the topography is harsh, there is no all weather communication and the road is interspersed with nullahs, streams or rivulets without any bridge or submersible causeway. The accessibility becomes more difficult during the rainy season when a few hamlets are cut off from the outside world. For this 2 alternatives have been thought of namely:-

- Storing adequate foodgrains in the FPS for atleast 4 months during the rainy season.
- Allowing the cardholder to lift 3 months stock as per his/her entitlement and store them to meet emergency requirement.

It was clarified that in Surgana taluk in Nasik district this innovative practice is being tried out and that the impact of the scheme will be known around October, 2007.

With regard to affordability of the cost of food it was explained that while a BPL cardholder has to pay Rs. 6/- per kg for rice and Rs. 5/- per kg of wheat an Antyodaya cardholder has to pay Rs. 3/- per kg of rice and Rs. 2/- per kg of wheat. The cost of foodgrains is, therefore, affordable.

With regard to third point i.e. adequacy FPS caters to only 50% of the requirement of a family and the latter will have to manage the balance from the open market. The problem gets compounded in case of tribal households where the family size is large (5 to 7) and earnings are low to enable them to purchase the foodgrains from the open market at the prevailing rates which are high.

As far as cultural acceptability of foodgrains supplied to the FPS many tribal households in course of interaction with them indicated that they would prefer to consume jowar, bajra, ragi etc. in place of wheat but these are not made available through FPS.

There are instances where because of irregularities and misappropriation the supply of foodgrains to the FPS has been discontinued and the FPS in the neighbourhood has been



tagged to the village purely as a temporary arrangement. In such a situation the logistics of lifting food grains from that neighbourhood shop may be somewhat more difficult than what was in existence earlier.

It was confirmed that there was no serious problem with regard to availability or accessibility or affordability of food grains except that PDS according to the current policy of Government was not equipped to meet the full requirement of food grains of the tribal household/families and was not required to cater to non-food requirements of card holders (except koi).

### **Employment issues:**

Issues relating to employment through NREGS and MREGS i.e. mandays and adequacy thereof with reference to the need generated etc. are being dealt by the Planning Department. The representative of the department did not have information about number of tribal families who are in search of employment, how much employment has been generated through NREGs/MREGs and made available to them, the gap if any, and the extent to which such employment has arrested the incidence of migration to other districts/States. He simply stated that 3 lakh families have been brought within the purview of NREGS. This is much less compared to 2003-04 and 2004-05 which were years of less rainfall and drought and when there was more demand for employment. With better rainfall in 2005-06, 2006-07 and current year till now the situation has been eased to some extent. This is what explains as to why there is less labour attendance at NREG works in the current year (agriculture and forestry operations absorb most of the employment seekers in rural and tribal areas). Both NREG and MREG works are being executed through GPs and the works comprise of roads, afforestation and water conservation etc. A campaign for generating awareness about availability of employment under NREG/MREG has been launched. Besides, all Dy. Collectors, Tahasildars, Panchayat functionaries are being trained through an institution called YASDA at Pune. There will be minimum 2 works in every GP from October, 2007 onwards and sufficient employment opportunities will be available in all the 7000 tribal villages. The Planning Department did not, however, have any clue about the following:-

- enforcement of minimum wage enhanced from Rs. 44/- to Rs. 68/-;
- number of mandays generated in respect of each work in a particular area.

Both need to be monitored to make the implementation of the scheme meaningful.

**1.11.2007**

### **Meeting with Secretaries to Government of concerned Departments at Mantralay, Mumbai.**

I met the Secretaries to Government of the following Departments between 10



AM to 6 PM at Mantralay as per the schedule fixed by Secretary, Tribal Development Department in following order:-

- |    |   |   |          |
|----|---|---|----------|
| 1. | Secretary, Tribal Development Department    | - | 10 AM.   |
| 2. | Secretary, Women and Development Department | - | 11 AM.   |
| 3. | Secretary, Health Department                | - | 12 Noon. |
| 4. | Secretary, Planning                         | } |          |
|    | Secretary, Labour                           | } | 2 PM.    |
| 5. | Secretary, Agriculture                      | } |          |
|    | Secretary, Fisheries                        | } | 3 PM     |
|    | Secretary, Animal Husbandry & Veterinary    | } |          |
| 6. | Secretary, Revenue                          | } |          |
|    | Secretary, Rural Development                | } | 4 PM     |
|    | Secretary, Housing                          | } |          |
| 7. | Secretary, Food and Civil Supplies          | - | 5 PM     |

## **I Tribal Development Department:**

This is the nodal planning department for all matters pertaining to development of tribal communities and households in the Tribal Subplan area. Of the 35 districts in the State Tribal population is concentrated largely in the western hilly districts of Dhule, Nandurbar, Jalgaon, Nashik and Thane (Sahyadri region) and eastern forest districts of Chandrapur, Gadchiroli, Bhandara, Gondia, Nagpur, Amravati and Yavatmal (Gondwana region). According to 2001 Census, out of the total tribal population of the State (85.77 lakh), about 49% reside in the ITDPs (the scheduled area and the ATSP), MADA and Mini- MADA clusters and the remaining 51% outside these areas. Tribal Subplan is being implemented as part of the obligation of the State Government to implement the Directive Principles of State Policy (Chapter IV of the Constitution). The TSP Strategy was launched in 1975-76 (Fifth Plan period). TSP is an area development plan meant for scheduled areas of heavy tribal concentration with ITDP as the unit of administration. TSP is meant for having full control and separate accounting of the investment made by all departments with primary focus on infrastructure development. From 1986 onwards a new family welfare orientation was given to the objectives of TSP under which expenditure incurred on the individual beneficiary schemes for the welfare of tribal households outside the scheduled areas was included in TSP.

Since 1993-94 and in pursuance of the recommendations of D.M. Sukthankar Committee (July, 1992) separate major heads are being provided for allocation of funds

to the schemes being implemented by various departments. Since 2005-06 the plan size of the TSP is 9% of the total State Plan outlay. During 2007-08, it is Rs. 1798 Crore which is 8.9% of the total State Plan outlay (Rs. 20,200 Crore).

There is no direct investment on nutrition under any of the major heads like education, health, agriculture and rural development. However, certain social and community development services (like education, health, water supply, sanitation, rural housing and anti-poverty programmes etc.) are being provided through specific schemes which have a bearing on nutrition. Some of these schemes which are being implemented by the Tribal Development Department directly are:-

### **1. Supply of milch animals to tribal families:-**

A unit of assistance which comprises of 2 cows and 2 buffaloes or 10 (she goats) + 1 (he goat) is being provided to BPL tribal families since 2006-07 with the objective of (a) incremental income generation (b) improvement in consumption of milk and meat.

#### **Comments:**

During the last 2 years 823 beneficiaries have been assisted and Rs. 17.68 Crores have been spent. No assessment, however, has yet been made about improvement in consumption of milk or meat and thereby improvement in nutritional status.

### **II Supply of domestic gas (14.2 kg cylinder capacity) to BPL tribal families:**

The tribal families living in and around forest areas mostly depend on forests for firewood. With a view to preserving forests, creating an environment friendly atmosphere as also to provide a smokeless and pollution free cooking arrangement the scheme has been launched in 2006-07.

#### **Comments:-**

An expenditure of Rs. 30 Crores has been incurred in one year but no assessment has yet been done on the following:-

- the extent to which dependence on the forests for firewood has been minimized;
- the number of times food is being cooked with the use of gas;
- whether this is a better and more economical alternative than smokeless chullah.

### **III Swabhiman Yojana (Tribal self respect and self reliance scheme):**

The scheme is being implemented from 2004-05 with a view to providing a permanent source of livelihood to BPL landless families under which land is being purchased

and distributed to landless tribals on the scale of 4 acres of non-irrigated and 2 acres of irrigated agricultural land to BPL landless tribal families @ 50% of the cost of land towards subsidy and 50% towards interest free loan.

### **Comments:**

The scheme is on the ground for 3 years. During this period 1978.63 hectares of non-irrigated land and 870.83 hectares of irrigated land has been purchased and 450 tribal beneficiaries have been covered at an expenditure of Rs. 14.24 Crores.

The extent of poverty and landlessness in tribal areas and amongst tribal households is pervasive. The allocations provided are too meager to create any visible impact. Besides, no assessment has been carried out to ascertain the extent by which landless and BPL families have become truly self-reliant i.e. to what extent their dependence on money lenders has been minimized eliminated.

There are 3 schemes which are specifically intended to promote such self reliance amongst poor and landless tribal households. These are:-

- I Khavati Loan or Consumption Finance Scheme, 1978;
- II Foodgrain Bank Scheme, 1995;
- III Monopoly Procurement Scheme to procure agricultural and minor forest produce by the TDC.

### **I Consumption Finance Scheme, 1978:**

Prior to introduction of the scheme tribal households who incur loan/debt/advance from money lenders for ceremonial and consumption purposes were required to pay back towards the principal and interest @ 90% of the produce from the land leaving very little foodgrains for their consumption. It is in this background that the scheme was launched in 1978 with a view to meeting the consumption needs of tribal families particularly during the lean employment season.

The following are the salient features of the scheme:-

- The scheme is applicable to TSP areas and landless poor tribal farmers and landless agricultural labour.
- It is implemented through M.S. Coop Tribal Development Corporation Ltd., Nashik.
- Money is placed by Government at the disposal of this Corporation.
- The Corporation is a federation of Cooperative Societies which exist in villages.
- The plan for financial assistance @ 70% loan and 30% subsidy is prepared by the society at the village level.

- All such plans are submitted to the Corporation through Regional (at the district level) and Sub-Regional Managers (at the Taluk level) for sanction and disbursement.
- The entire process is supervised by RM and SRM.
- The scales of assistance are:-
  - For a family upto 4 units - Rs. 2000/-
  - For a family upto 8 units - Rs. 3000/-
  - For a family above 8 units - Rs. 4000/-
- The assistance can be given in cash and kind in the following ratio:-
  - cash - 30%
  - kind - 70%
- The criteria for sanction of the assistance are as under:-
  - all BPL tribal beneficiaries;
  - all beneficiaries belonging to primitive tribes such as Kolam, Katkari, Madia and Gond;
  - all tribal families of sensitive districts where Navsanjibani Schemes are being implemented namely Nandurbar, Nashik, Thane, Amravati and Gadchiroli.
- The progress of implementation of the scheme during the last 5 years is as under:-

S. No.	Year	Amount sanctioned	No. of families benefitted	Recovery Remarks
1.	2003-04	Rs.61,57,62,166/-	2,29,033	The State Government vide Resolution dated 20.7.2004 took a decision to give mass amnesty to outstanding consumption loan of Rs. 40,86,49,309/- which was distributed to tribals by way of consumption loan between 88-89 to 2002-03.
2.	2004-05	Rs. 54,45,00,000/-	2,00,000	
3.	2005-06	Rs. 46,020,1938/-	1,56,000	
4.	2006-07	Rs. 43,21,78,456/-	1,50,049	

### **Redeeming features of the scheme:**

- Preference is being given to BPL tribal families having Gr. III and Gr. IV malnourished children and primitive tribal beneficiaries.
- Incidental charges like transportation, coolie charges, godown rent are not included in the prices of foodgrains and commodities which are to be distributed under the scheme.
- A long and liberal repayment schedule (maximum 5 instalments) was provided.

### **Impact on nutrition:**

- The scheme has impacted BPL tribal families having malnourished children.
- In 2006-07 lean season number of such families having Gr. III and Gr. IV children was 4521 and 414 respectively.

### **Reasons for failure of the scheme:**

- Despite laudable objectives and best possible efforts recovery continues to be poor on account of the inability of tribals to repay which is a byproduct of their economic condition.
- Government has waived recovery twice but still there is no improvement in the situation.
- By end of June, 2007, the Corporation has made a recovery of Rs. 6,92,21,221/- which is barely 6.23% of the total outstanding dues.

### **An overall assessment of the scheme:**

- Every year since 2002-03 between 1.5 lakh to 2 lakh families are being covered and Rs. 40 to Rs. 60 Crores are being spent.
- When the tribal households were incurring loan/debt/advance from the money lenders they were required to repay (both principal and interest) by way of payment through 90% of the produce from the land.
- In the event of non-payment to the money lender the latter can take away the land but in the event of non-payment to Government the latter will not.
- The moot question is: Does Government go on waiving the recoverable dues year after year? It appears that 16 recovery orders have been issued but the rate of recovery is barely 7%.
- The current thinking of Government is as under:-
  - there are 13.72 lakh BPL tribal households;
  - every year 2 lakh families are being covered but they do not pay;

- instead of 70% loan it can be 100% grant to genuinely poor, landless families where the extent of malnourishment is very high;
- gram sabha to decide to whom the grant should be given; GP wise targets can be fixed.

## II Grain Bank Scheme:

- The scheme is being implemented in the TSP area as an alternative to Consumption Finance Scheme and as a part of Navsanjibani Yojana since 1995-96.
- The scheme is being implemented either by a GP or by an NGO for a group of 3-4 tribal villages and having 50 to 500 tribal families as its members.
- A Kosh or corpus called Dhanya Kosh is formed and registered as a Cooperative Society with the scale of contribution to the Kosh as under:-
  - member 33 1/3%
  - TDC 66 2/3 %
- In the event of inability of the member to bear the initial contribution of 33.33%, the Corporation will bear the full amount but only once.
- The following table indicates the overall progress of the scheme and the supplies of food grains made by the Corporation during the last 5 years:-

Year	Village	No. of Members	Supply by TDC (quintals)	Amount (in lakh)
1995-96	87	5196	3412	22.01
1996-97	138	9424	6182	47.24
1997-98	116	4244	2304	18.22
1998-99	92	3400	2469	22.81
1999-2000	19	695	505	3.63
2000-01	1165	92,568	62,233	795.12
2001-02	26	2321	1550.73	20.65

### Initiatives taken by State Government:

- The Government on 20.7.2006 allowed the Tribal Development Commissioner to open 565 new grain banks in 5 sensitive districts in (Amravati, Gadchiroli, Nandurbar, Nashik and Thane) the TSP area over and above the grain banks opened by the TDC.

### Reasons for failure of the scheme:

- Inability of the members to repay the grains taken from the Kosh to meet emergent needs and consequential non-replenishment of the stock.

- Lack of liaison and coordination between Tribal Development Commissioner, Nashik and Managing Director, TDC.
- Failure on the part of TDC to monitor.
- Operation of a parallel Centrally Sponsored Grain Bank Scheme by the Department of Food, Government of India.

### **III Procurement of agricultural and minor forest produce by TDC:**

- The TDC acts as an agent of Government of India and the State Government to procure agricultural and minor forest produce under a monopoly procurement scheme with a view to ensuring remunerative prices to tribals.
- The State Government have enacted Maharashtra Tribal Economic Conditions (Improvement) Act, 1976 under which money lenders and traders have been banned from all operations in TSP areas.
- By necessary implication whatever will be produced by tribals not covered under the MSP Scheme of GOI will be procured by the State through the TDC under a monopoly procurement scheme.
- A committee under the Chairmanship of the Collector at the district level has been constituted for fixation of rates under the Monopoly Procurement Scheme.
- The scheme at the moment covers 73 Tahasils in the TSP districts of the States by a notification dated 18th May, 1996. In all 21 agricultural and 31 minor forest items have been specified for procurement under Monopoly Procurement Scheme.
- Between 1996-97 when the scheme was launched and 2006 the value of total procurement of agricultural and minor forest produce has ranged between Rs. 45 Crores to Rs. 30 Crores.
- While the intentions behind launching of the scheme are laudable the ground level reality is such that these intentions get easily defeated. To illustrate:-
  - Government does not have the outreach every where;
  - Tribal villages have weekly markets and middlemen operate in these markets clandestinely or rather surreptitiously;
  - There are several factors which weigh in the minds of the tribals to sell to middlemen on account of fulfilment of immediate needs;
  - The Act does not promote and encourage obligation on the part of tribal farmers to sell it only to Government (GOI or State Government);
  - Distance between the village and the depot is yet another factor (while tribal farmers or collectors of minor forest produce will find it convenient to sell



their produce at the doorsteps to middlemen they would not like to go to the mandi to sell to TDC). So far there is no accurate and authentic account of how much is produced and how much is sold to Government and to middlemen.

## **II Women and Child Development Department:**

Discussion with Principal Secretary, Women & Child Development and Commissioner, ICDS brought out the following points:-

- The Deptt. does not appear to have received the D.O. letter dated 27.08.2007 from Secretary, WCD, GOI through which revised WHO norms for correlating age with growth (height and weight) have been communicated. A copy of the same was handed over to the Principal Secretary of the Department. The latter is required to constitute a State level task force to work out State specific details for correlating age to growth separately for both boys and girls at the earliest.
- In terms of compliance of the State Government with the interim orders of the Supreme Court of India dated 28.11.2001, 29.4.2004 and 7.10.2004 in PUCL Vs. Union of India and Others W.P. (Civil) No. 196 of 2001 it was clarified that 80% of the AWCs are being supplied ready-to-eat SNP food through SHGs and Mahila Mandals while the remaining 20% was being managed directly by the AWW and AWH. There was no engagement of contractors to supply cooked food to the pregnant mothers and children in the AWCs.
- The report of Collector, Nanded during my recent visit to Kinvat on 22.10.2007 against the Dy. CEO (ICDS) for his collusion with contractors for preparation and delivery of SNP feeding at the cost of SHGs/Mahila Mandals and his apathy to the scheme and motivated action was placed before the department for appropriate timely action.
- There was a phased programme for addition of new AWCs every year. In addition to new AWCs sanctioned by the Department of WCD, Ministry of Human Resource Development, Government of India, the State Government sets up new AWCs from out of its own resources. It was mentioned that 1319 such AWCs in tribal areas are being run by the State Government. There is a proposal submitted on 16.10.2007 by the ICDS Commissioner to the State Government for setting up 19 new ICDS Projects with 1415 new additional AWCs and 492 mini AWCs in tribal areas on the basis of a survey conducted by the existing ICDS machinery.
- The department has prepared a type design for a model AWC building with the following redeeming features:-
  - total area 500 sq.ft.;



- RCC roof as against asbestos roof in most of the existing AWCs;
- provision of 2 rooms – one for pre-primary main teaching learning, SNP feeding, health checkup activities and the other for storing food grains, medicines, records/registers, potable water etc.;
- provision of a verandah and toilet;
- adequate number of windows to provide for lighting and cross ventilation etc.;
- the plan has been approved by JJ School of Architecture, Mumbai and Executive Engineer, PWD, Thane.
- the estimated cost for the new structure will be Rs. 2,87,700/-.
- The type plan, however, does not include the following:-
  - play ground for children;
  - kitchen garden which could be used for demonstrating to mothers the importance of green leafy vegetables;
  - a wash basin with lower height where children could wash their hands before taking food under SNP;
  - a separate room for examination of pregnant mothers and check up of health of children by the MO from the PHC.
- If all these new facilities (playground, kitchen garden etc.) are to be provided minimum ½ an acre of land will be needed. The State Government will have to make this available free of cost.
- The Department acknowledged the heavy backlog of training of CDPOs and Supervisors while appreciating the importance of refresher training for AWWs.
- It was clarified that Rural Development and not WCD was the controlling department for all matters pertaining to recruitment, training, promotion, confirmation, disciplinary action etc. There were large number of vacancies in the cadre of CDPOs and General Administration department did not allow the vacancies to be filled up on contract basis. CDPOs are selected either on promotion from Block Level Extension Officers or on deputation of BDOs (Class II). They can be transferred also as BDOs (Class II) creating fresh vacancies. The Supervisors are also demoralized as they are not directly eligible for promotion to CDPO. They could earlier be promoted to the post of ACDPO and then to CDPO but the post of ACDPO since stands abolished.
- With regard to representation of several SHGs/Mahila Mandals about inadequacy of Rs. 1.98 per head per day for the SNP feeding programme which has also led to

some SHGs/Mahila Mandals suspending the programme, the department had the following clarification to offer:-

- the norm fixed by GOI is Rs. 2/- per day per child for SNP;
- this is shared on 50:50 basis between the Centre and the States;
- the earlier norm was Rs. 1.50 which has been revised w.e.f. Sept.'06 only.
- The department was requested to reconsider their stand by keeping the following in mind:-
  - According to the direction of the Supreme Court every child upto 6 years of age is to get 300 calories and 8-10 gms of protein, every adolescent girl is to get 500 calories and 20-25 gms of protein while every pregnant woman and nursing mother should get 500 calories and 20-25 gms of protein;
  - According to the said direction every malnourished child is to get 600 calories and 16-20 gms of protein;
  - If all these scales are to be meticulously adhered to, the per head per day expenditure would work out to be Rs. 3.50 in the minimum;
  - This is partly on account of the increase in the cost of PDS rice and wheat and also partly on account of steep increase in the rates of other consumable items in the market which form part of the basket of SNP.
- Therefore, the current thinking of the department to review and revise the norm to Rs. 2.50, though an improvement over the previous norm would not meet the requirement.
- The department was requested to review the content and quality of charts, posters and other IEC materials currently supplied by the Commissionerate of ICDS and the IEC Bureau, Pune as they suffered from the following deficiencies:-
  - they are not in a logical and sequential order (conception, delivery, precautions to be taken during pregnancy and before delivery, weight of the child at the time of birth, breast feeding, colostrums, position in which child should be breast fed, composite feeding after 6 months while allowing breast feeding to continue upto 2 years, growth of the child, micro-nutrients, frequency of feeding, adequacy of feeding, access to potable water, environmental sanitation, vulnerability of children to infection, how to ward off such infections, when to admit a child in a PHC/hospital for treatment, adverse consequences of LAMA (leaving against medical advice), importance of follow up of the treatment after the child has been discharged, importance of the feed back, death of a child, when and how, how to investigate and report such deaths, oral autopsy etc.);

- they do not cover all the phases in the life of an infant or child as a cycle;
- they are repetitive;
- they sound didactic.
- The Scheme is 30 years + old. It has grown to be the world's single largest public services programme both in terms of spread/cost and quality. Till date, however, not a single comprehensive checklist of points for guidance of CDPOs or Supervisors to be kept in view at the time of their visit to AWCs as also the manner of reporting/recording is in place.
- The department was advised to pay some attention to this and to structure the visits on scientific lines (as against ceremonial) so that they are more purpose oriented, better organized and productive.
- The department was also advised to prepare a blue print as to how in course of and through these visits a better synergy could be built between ICDS and Public Health functionaries.
- The honorarium paid to the AWW and AWH is a pittance, considering the fact that they are virtually 24 hours workers. There is sometimes inordinate delay in receipt of these allocations. The department was advised to review and revise the honoraria while simplifying the procedure for sanction and release of funds.
- A scheme of awards/rewards/incentives should be introduced for outstanding work in ICDS and the functionaries found contributing outstanding work should be accorded public recognition.
- A personal engagement-cum-health and nutrition diary should be supplied to all AWWs. The diary should be used by them to share and disseminate basic informations about health and nutrition to all mothers during the home visits of the AWW.

### **III Public Health Department:**

#### **Physical infrastructure – providing departmental buildings for PHCs and Sub Centres in tribal areas:**

- There are 319 PHCs and 2015 sub-centres in tribal districts of Maharashtra. They have been established according to the norm of 20,000 and 3000 population for one PHC and one sub centre respectively.
- Master Plan for establishment of new PHCs and SCs is in the process of final approval. Approval of the master plan will pave the way for setting up additional PHCs and 482 SCs in the tribal area.
- A total budget provision of Rs. 25.24 Crore under State Plan was available in 2006-07 for construction, repair and maintenance of PHCs and SCs.

- An additional provision of Rs. 12 Crores for PHCs and Rs. 25 Crores for sub centres has been made available under NRHM. For this purpose, a new infrastructure wing has been established at each district level with requisite engineering and support staff.
- The representative of the department was advised to pay due attention to the time frame for completion of new works, for repairs as also to ensure quality according to the science and technology of construction through inspection and supervision.
- They were specifically advised to accelerate through periodic reviews the pace and progress of construction of new buildings for which funds under TSP have been placed at the disposal of Zilla Parishads.

### **Construction of Staff quarters for PHCs: repair and maintenance of buildings:**

- The specific attention of the department was drawn to the precarious situation in which the following buildings have been placed due to cracks (both vertical and horizontal), profuse leakage and seepage:-
  - o PHC, Koregaon, Gadchiroli;
  - o Cottage hospital, Jwahar, Thane;
  - o Rural Hospital and staff quarters, Mokhada, Thane;
  - o Rural Hospital and staff quarters, Wada, Thane;
  - o PHC and staff quarters, Shendi, Ahmednagar;
  - o PHC and staff quarters at Daheli Tanda in Kinvat in Nanded.
- It was further impressed on them:-
  - original quality of construction has been poor; hence extra amount is needed for maintenance;
  - if the allotment under maintenance is low, it will lead to a vicious cycle of poor quality of maintenance and eventual collapse of the structure;
  - the morale and motivation of the staff staying in dilapidated structures in unsafe buildings will be low adversely affecting the delivery of service;

### **Management of PHC:**

- It was impressed on the department that:-
  - if the PHC incharge or any other MO of PHC stays far away from the PHC;
  - if he commutes the distance to the PHC by public transport which is weak;
  - if he is unable to reach the PHC in time and fails to open it in time, it will cause a lot of avoidable discomfort, inconvenience and loss to the poor patients due to (a) long waiting (b) inability to go in for daily employment and (c) loss of wages.

- Specific instances were cited and attention of the departmental representatives drawn to –
  - absenteeism of PHC incharge at Koregaon (Gadchiroli district);
  - absenteeism of the PHC incharge and staff at Baijapur (Jalgaon district);
  - absenteeism of the MOs at Kinvat sub-hospital (Nanded district).

### **Structural safety of buildings:**

- It was impressed on the department that –
  - where a building has outlived its utility;
  - where plaster chips fall from the ceiling;
  - where steel rods come out of the RCC casting it should be presumed that the building has outlived its life, stitches and patch works will not help and the building should be demolished without ifs and buts and without the situation being allowed to drift .

### **Administrative imbroglio – filling up of vacancies:**

- The attention of the representatives of the department was drawn to the situation of vacancies persisting in various cadres and ranging between 1% to 20% in various hospitals and PHCs. Their attention was specifically drawn to the following specific situations:-
  - persons are posted but not joined;
  - persons are relieved without substitutes being posted and without joining of substitutes;
  - persons join but go away on leave after assessing the situation and discovering that there are no facilities for a decent accommodation, for children's education etc.
- The response of the department was as under:-
  - In a scenario of acute shortage of MBBS graduates BAMS candidates are given appointment of Medical officers in tribal districts;
  - Specialists from non tribal districts are deputed to tribal areas especially during rainy season;
  - A special drive has been launched to fill up all class III (ANM, LHV, MPW) and Class IV vacancies;
  - Powers have recently been delegated to CEO, ZP to fill in the posts of Class III Medical officers; filling up the vacancies of Class I and Class II. MO posts will continue to be at the level of the department.

## **Training:**

- It was impressed on the department that the most important expected outcomes of training as far as MOs and para medical staff are concerned are:-
  - acquisition of communication skills;
  - professionalism in treatment;
  - empathy and sensitivity with which patients are to be treated as human beings;
  - probity and rectitude with which situations, events and expenditure are to be reported;
  - no under reporting, no fudged reporting and no malafide reporting;
  - bringing about a synergy between ICDS and public health functionaries.
- The response of the department was as under:-
  - ANMs in the State have been trained by paying visits to different districts;
  - Trained ANMs impart nutrition and health education to the 9th standard girls studying in the schools in their jurisdiction;
  - The Bureau of Nutrition, Nagpur regularly trains the dieticians (who are posted to hospitals). The latter in turn conduct nutrition and health education activities in their hospitals; they also deliver talks in nursing schools.
  - The paediatric sisters and dieticians impart education to the mothers of malnourished children regarding household dietary care after discharge from hospitals.

## **Registration and functioning of Rugna Kalyan Samitis and Village Health, Nutrition and Sanitation Committees:**

- The department was advised to accelerate the process involved in formation, registration, opening of accounts, release of funds, convening meetings, organizing orientation and training of members of these grass root level democratic bodies.
- The response of the department was as under:-
  - RKS has been established in all 26 district hospitals;
  - They have been established in 411 out of 423 other hospitals;
  - They have also been formed in 1450 out of 1818 PHCs;
  - Guidelines issued by GOI have been disseminated to the districts;
  - District Societies have further released grants to all RKSs in their area @ Rs. 5 lakh to district RKS and Rs. 10,000/- to village, health, nutrition and sanitation committees;

- So far 15,561 village health, nutrition and sanitation committees have been established in the first phase;
- Bank accounts have been opened in 10,184 villages.

### **Matrutwa Anudan Yojana (MAY) and Janani Surakshya Yojana (JSY):**

- The attention of the department was drawn to –
  - importance of reducing waiting period for pregnant mothers;
  - importance of timely disbursement;
  - reduction of number of channels;
  - supply of medicines to pregnant mothers in a kit.

### **Check up of health of children at the AWCs:**

- The attention of the department was drawn to –
  - all children must be examined, the diagnosis and prescribed line of treatment must be clearly and legibly recorded in the health check up register and pace and progress of recovery should be thoroughly watched and further correctives should be provided in the event of non-recovery.
- The response of the department was as under:-
  - Gr. III and Gr. IV children are being examined monthly and others quarterly;
  - Every effort is being made to admit Gr. III and Gr. IV malnourished children in the hospitals;
  - Gr. III and Gr. IV malnourished children not responding to usual treatment and not putting on weight are put on anti-tubercular treatment;
  - Special campaigns are being organized for mass deworming and Vitamin A supplementation once every 6 months;
  - Iron supplement is given to children twice a week at the AWC;
  - Children found seriously ill during their medical check up are sent to the nearest medical college and hospital for specialized treatment;
  - Parents of all Gr. III and Gr. IV malnourished children are advised about importance of timely admission and treatment in RHs, sub-hospitals and civil hospitals.

### **Reimbursement of opportunity cost to all tribal mothers @ Rs. 40/- per day and sanction of dietary allowance @ Rs. 65/- (Rs. 40/- for mother + Rs. 25/- for child):**

- This problem occurs due to (a) outsourcing (b) absence of kitchen in the hospitals



(c) contractors preparing/bringing food from outside and supplying to the hospital and (d) lack of time on the part of MOs to supervise quantity and quality.

- The department was advised to (a) ensure strict compliance with the terms stipulated in the GO dated 21.7.2006 regarding reimbursement of opportunity cost and diet (b) maintain round the clock vigilance and surveillance over quantity and quality of diet provided to the mother and the child.
- They were also advised to explore the possibility of departmentalizing the entire process by setting up kitchens in every hospital and ensure better internal management of these kitchens in terms of quantity and quality of food.

### **Nutritional Rehabilitation Centres for every PHC:**

- This is an excellent initiative to treat Gr. III and Gr. IV malnourished children. It integrates the mother and the malnourished child with the public health institution (PHC) and ensures the stay of the mother with the child till the child fully recovers. While lauding this initiative, the department was advised to extend this innovative arrangement to all PHCs in tribal areas.

### **Death of children – audit of deaths – evolving a system of correct reporting on the cause of death:**

- Death of a neo-natal baby/infant/child is loss of the most valuable human resource – a loss which cannot be regained. For the NHRC it was a violation of the right to life – the most sacred and inalienable human right if (a) death was avoidable and (b) if it was caused by culpable negligence. The department was advised to evolve a mechanism for audit of all such deaths and ensure their correct reporting.
- The department responded in the following manner:-
  - all deaths in rural areas are being investigated by medical officers and health workers of the PHC;
  - the causes of death are being reported to the DHO in case of PHC and to the Civil Surgeon in case of rural hospitals;
  - all neo-natal/infant/child/maternal deaths are being reviewed and their causes analysed at the district level medical officer's meetings.
- The department was further advised to impart special training to all our health functionaries so that –
  - they have a clear understanding of the causes of death;
  - they have also an understanding of the international system and procedure adopted for reporting of death;



- All civil hospitals, sub-hospitals, RHs and PHCs should maintain computerized data on all deaths.

### **LAMA (leaving against medical advice) – causes and consequences and how to preempt:**

- The department admitted that LAMA is a major problem despite best efforts made by medical officers in PHCs and hospitals.
- They were of the view and rightly so that malnourished children (Gr. III and Gr. IV in particular) require longer duration of stay in the hospital for their condition to stabilize and that home is no substitute for the hospital.
- IEC activities are being implemented in tribal areas informing mothers about various aspects of malnutrition, seriousness of certain ailments afflicting children, management thereof and importance of admission and treatment in hospitals.
- They were of the view that as a pilot project Nutrition Rehabilitation Centres (NRC) are being established which will improve feeding practices of malnourished children by mothers.
- They were hopeful that over a period of time this strategy will help to improve duration of stay of children in every tribal PHC and hospital.

### **Fads and obscurantist ideas and practices on the part of tribal mothers to look up to Bhagats/Pujaris/Bhumkas to treat malnourished children instead of sending them to hospitals:-**

- It was impressed on the department that tribal mothers look up to these quacks with whom they have lived for generations on account of the fact that –
  - our mobility and outreach to the people and the needy in particular is poor;
  - our institutions do not deliver in less time and cost; they sometimes do not deliver at all;
  - our functionaries have not been able to inspire the trust and confidence of the target groups.
- The solution, therefore, lies more in improving the mobility and outreach of our functionaries, our ability to deliver and inspire trust and confidence of tribal mothers than in anything else.
- The department responded in the following manner:-
  - efforts have been made in the past to bring these quacks in tribal areas into the mainstream by training them in minimum essential modern medicine and converting them into bare foot doctors;

- simultaneous health education is being undertaken by showing films, through use of posters and inter-personal communication to reduce taboos and superstitions of tribal mothers.

### **How to make the tours and home visits of ANMs, LHV's and MPWs and the counselling of mothers associated therewith more productive:**

- The department was told that such visits must not be routine but be an integral part of the total education and communication process. It has also to be a step by step approach and could be broadly divided into 3 parts such as:-
  - family related;
  - health related;
  - food/diet related.
- In the first would come (a) size of the family (b) early child marriage (c) teen age pregnancy (d) absence of spacing and adverse effects thereof.
- In the second would come (a) various forms of malnutrition such as LBW, anaemia, Vitamin A deficiency and IDD (b) how malnutrition induces and enhances vulnerability to infections (c) various forms of airborne and water borne infections (d) importance of timely admission and treatment in hospitals (e) importance of compliance with the line of treatment prescribed (f) LAMA and its adverse after effects.
- In the third category would come (a) importance of micro nutrients (b) cereals, coarse cereals, tubers, pulses, fruits, vegetables etc. which have these micro nutrients (c) whether they are locally grown (d) how many times food should be cooked and served at home to ensure minimum 1000 kilo calorie for children in 0-6 age group (e) importance of potable water and environmental sanitation etc. The department was advised to provide a health diary to all ANMs/LHVs/MPWs which should contain all basic informations about health and dos and do nots for mothers. They were advised to set up separate mechanisms to assess the effectiveness and impact of counselling.

### **Assessing/evaluating the strength and efficacy of IEC materials produced by IEC Bureau at Pune:**

- The department referred to a small study carried out in the rural area of Pune district by an independent agency known as, 'Doba Marketing'. Thirty villages were selected and a cluster sampling method was adopted. The findings are as under:-
  - 95% of people were aware of the various health programmes being implemented;

- Amongst the sources of information: television (75%), radio (19%), print media (26%), wall paintings/hoardings (68%) and health workers (7%).
- Main programme about which information was given (in order of frequency): HIV/AIDs, Pulse Polio Immunization, Potable Water, leprosy, malaria;
- There is very little connection between knowledge level and actual impact of the programme;
- Our programmes should be more in the direction of achieving behavioural changes and not just increasing the knowledge levels or increasing the level of awareness/consciousness.
- To that extent, the department was told that the study conducted by them was infructuous in as much as:-
  - it did not at all touch nutrition, malnutrition and under nutrition;
  - it did not identify the gaps, deficiencies and infirmities in transfer of knowledge for behavioural change at the ground level;
  - it did not identify the factors responsible for the desired behavioural change not forthcoming.
- The department was told that the following should constitute the irreducible barest minimum in any IEC package with nutrition as the central theme:-
  - Nutrition is pure science; there is no scope for any blind faith, fad or taboos in this;
  - IEC materials must instil a robust optimism that achieving nutritional goals is not utopian; it is possible, feasible and achievable.
  - Nutrition is partly a question of diet – adequacy and frequency of diet, micro nutrient content in diet, partly a question of access to potable water, hygiene and sanitation, partly a question of timely diagnosis of the various forms of malnutrition, timely admission, treatment, discharge, follow up, feedback but largely a question of compliance with a set of basic norms and parameters.
- The department was clearly told that the IEC Bureau has miserably failed in projecting through IEC materials these seminal aspects of nutrition.
- They were also told that IEC is just not a mass of materials designed and produced. The entire process of design, production and dissemination will be meaningless if there was no logical and coherent link between the materials produced on the one hand and materials distributed and used on the other. This link was sadly missing in the IEC materials produced by IEC Bureau, Pune.

- The methodology of design of these materials by individual artistes/designers without holding a workshop of creative thinkers, writers and artistes, without field testing for validating suitability was equally faulty. Collective participation and contribution of a number of individuals would always be a desired and preferred alternative to design by an individual designer/artiste.

### **Setting up of NICUs in every rural and sub divisional hospital in the tribal areas:**

- The department reported as under:-
  - three bedded septic and three bedded aseptic NICUs are established at district hospitals;
  - sub hospitals (50 and 100 bedded) are provided with infant warmers which are also provided in rural hospitals of tribal areas;
  - functioning of NICU is being evaluated by the Indicator Perinatal Mortality Rate.

In view of Pervasive LBW (which is a form of chronic malnutrition) found in course of my visit to sub-centres, PHCs, RHs and sub hospitals, the department was advised to consider the following:-

- there are 15 tribal districts with 67 rural hospitals (30 bedded), 10 rural hospitals (50 bedded) and 5 rural hospitals (100 bedded);
- setting up a NICU in each of these hospitals will cost 67 X Rs. 5 lakhs or Rs. 3.25 Crores which is a peanut in the total health budget, while the utility of such NICU was established beyond doubt;
- the average weight of LBW children who are currently being admitted to NICUs in sub-hospitals ranges between 700 gm to 1500 gm;
- all of them need prolonged stay in the hospital till they gain normal weight;
- this being a matter of human right which is non-negotiable we need much larger number of NICUs to facilitate admission and treatment of all such children till they have returned to complete normalcy.
- For this a step by step approach encompassing the following was needed:-
 

- No. of beds required;	- No. of beds provided;
- Assessment of man power required;	- manpower provided.
- Assessment of equipment needed;	- equipment provided.
- The department was further advised to order a quick assessment of the functioning of existing NICUs in general and NICUs in areas of chronic malnutrition (like Melghat,

Dharni and Chikaldhara in Amravati district, Dhadgaon and Akalkuan in Nandurbar district, Mokhada, Wada, Shahapur and Jwahar of Thane district) to satisfy itself on the following points:-

- number of beds sanctioned and number of beds operational;
- whether all the warmers are functioning;
- whether children are responding to the line of treatment;
- whether there is net gain in the weight of LBW children;
- whether there is any net gain in the haemoglobin content of anaemic children.
- On the basis of this assessment the department may take corrective action to set right all the deficiencies in the current functioning of NICUs.
- Simultaneously the department may take steps to sanction new NICUs as a matter of policy in all rural and sub-divisional hospitals. This will help in saving lives of large number of LBW children who are born with such low weight that they become vulnerable to numerous infections and whose mortality rate goes up.

### **Setting up facilities for storage and transfusion of blood in all rural and sub-divisional hospitals:**

- The department was advised to open blood storage units in all civil, sub-divisional, rural and cottage hospitals to facilitate blood transfusion to all children who are anaemic, who are suffering from Thalassemia and who are victims of other cardiovascular complications.

### **Special Plans to reduce (a) neo-natal deaths (b) infant deaths (c) children's deaths and (d) maternal deaths in Dharni, Melghat and Chikaldhara areas of Amravati district, Dhadgaon and Akalkuan areas of Nandurbar district and Mokhada, Wada and Shahapur areas of Thane District:**

- The response of the department was as under:-
  - ten key trainers were trained at the National Institute of Hyderabad from 2nd to 4th July, 2007. They were:-
    - ADHO, Melghat;
    - MS, Sub Hospital, Dharni;
    - MS, RH, Chikaldhara;
    - Taluk Health Officer, Dharni;
    - Two MOs of PHC;
    - Two staff nurses;
    - Representatives of two NGOs.
  - these key trainers in turn have trained 66 workers in Melghat area.
  - Parents of Gr. III and Gr. IV are reluctant to keep their children in a hospital

for the requisite period so that the children can register progression from Gr. III and Gr. IV. To find a way out of this impasse, day care centres are being started in villages where the number of Gr. III and Gr. IV children is large. Malnourished children are admitted to these centres for the whole day and are given diet 7 to 8 times. Milk, banana, mung dal, usal, green vegetables, gul shengadana ladu, boiled eggs and potatoes are included in the daily diet of these children.

- Nutritive food of 100 kilo calorie a day results in increase in weight of 8 to 10 gms per kg body weight per day and there is progression from Gr. III to Gr. II in one month's time.
- Between 8.08.2007 to 25.9.2007, 25 centres in Dharni taluk and 14 centres in Chikaldhara taluk have been started. 261 Gr. III and Gr. IV children have been admitted and are being served diet 7 to 8 times a day.
- Two diet counsellors have been recruited on contract basis in August, 2007 and are continuing on contract basis for 3 months on payment of honorarium of Rs. 3000/- per month under NRHM. They are mandated to counsel parents of admitted children about diet, personal hygiene and importance of staying in the hospital for the full period till full recovery of malnourished children from illness.
- Two counsellors at each PHC/RH/Sub hospital have been appointed. In all 28 counsellors have been appointed.

**Enlisting the involvement and support of NGOs of repute and standing to reduce NMR, IMR, CMR and MMR as also to promote awareness about nutrition:**

- The following points were impressed on the department:-
  - NGOs are not contractors of Government;
  - They are not competitors of Government;
  - They are not substitutes of governmental action.
- NGOs work and live with the people. They have flexibility of structure and operations. In communicating with the people and in taking up social action projects for implementation they adopt an unconventional and unorthodox approach which is also pro-poor, pro-nature, pro-gender and pro-children.
- Maharashtra over the years has given birth to large number of such NGOs many of whom have been acclaimed nationally as well as internationally.
- In the area of communication and health education, there are a number of outstanding NGOs whose services may be enlisted in the following :-



- design of IEC messages;
- publication, dissemination and application of IEC messages;
- management of kitchens in hospitals to ensure service of therapeutic and nutritive food;
- management of Nutrition Rehabilitation Centres;
- management of day care centres;
- joint measurement and recording of weight of children;
- progression from Gr. IV to Gr. III, Gr. III to Gr. II, Gr. II to Gr. I and Gr. I to normal;
- organizing camps with the involvement of PHCs, Rural and sub-hospitals, Civil hospitals etc. for diagnostic screening, respiratory screening, cardiac screening, admission and treatment of malnourished children in hospitals etc.

Social activists like Dr. Arole, Dr. Abhay Bang, Dr. Ashis Satav who have been working unremittingly to fight against malnutrition and under nutrition and promote nutrition are some of these outstanding personalities who could be involved in the joint campaign.

**1.11.2007**

### **Planning and Labour Departments:**

#### **1. Planning:**

- Access to avenues of stable and durable employment for a sufficiently long period backed by enforcement of statutorily notified minimum wage are important milestones in the long journey to the goal of total absence of malnutrition/under nutrition.
- In Maharashtra Planning Department looks after all matters pertaining to Maharashtra Rural Employment Guarantee Scheme and National Rural Employment Guarantee Scheme while Labour Department is responsible for fixation, review, revision and enforcement of minimum wages under the Minimum Wages Act, 1948.
- In the meeting held at Mantralay in August, 2007, the representative of Planning Deptt. had no clue about number of tribal families who are in search of employment, how many mandays of employment have been generated through NREG/MREG works for them and the extent to which such employment has arrested the incidence of migration to other districts/States.
- Similarly representative of the Labour Deptt. was not in a position to throw light on minimum wages fixed/reviewed/revised in respect of all notified scheduled employments and tracks record of enforcement.

- In the meeting held on 1.11.2007, the representative of Planning Deptt. could not present a complete picture about the employment scenario in all the 15 tribal districts. While 18 districts have been covered under NREGS (out of 35) he could provide information in respect of the following 10 tribal districts only:-
- Ahmednagar, Amravati, Chandrapur, Dhule, Gadchiroli, Gondia, Nanded, Nandurbar, Thane and Yavatmal.
- The information about employment under NREGS, 2005 is as under:-
  - number of families registered – 22,53,369
  - number of families who are jobcard holders – 22,50,008
  - number of families who have raised a demand with the GP for employment - 4,63,193
  - number of people who have actually turned up for work - 1,25,639
- The reasons assigned for this huge gap between the four categories/stages of employment as above prima facie according to the representative of the department are:-
  - too many schemes are under implementation in tribal areas;
  - workers earn much more than NREGS through other avenues of employment outside NREGS;
  - the announcement and the publicity given to the announcement that if you do not get the job, you will be provided with unemployment allowance has sent a wrong signal that people can earn while sitting idle at home.
- It was clarified that as far as Government of Maharashtra is concerned (a) 2 major projects are being provided at the GP level and (b) there is no dearth of avenues of employment.
- It was further clarified that certain projects are being implemented through NREG works which in the long run will have a positive bearing on health and nutrition such as –
  - water conservation and water harvesting (renovation of malgajari tanks which will provide a fillip to irrigation, water supply and fisheries);
  - drought proofing;
  - micro irrigation works;
  - distilling of tanks, open canals, open wells etc.;
  - land development (land leveling);



- plantations;
- drainage in water logged area;
- construction and repair of embankment;
- rural connectivity.
- Wages for NREG works have been fixed zone wise such as:-
 

Zone I (irrigated area)	-	Rs. 72/-
Zone II	-	Rs. 70/-
Zone III	-	Rs. 68/-
Zone IV (un irrigated area)	-	Rs. 66/-
- MREGS is an old scheme dating back to 1972 which is still in operation in all the 35 districts of the State. Unlike NREGS which provides employment for 100 days, MREGS provides 265 days of employment. Wages under NREGS and MREGS are the same. More people turn up for work under MREGS as it is comparatively better known and has a higher spread or outreach among the people.

## **2. Minimum wage and equal wages to women for same or similar nature of work as that of men:**

- The representative of the department stated the position under both as under:-
  - seventy six scheduled employments have been brought within the purview of Minimum Wages Act, 1948;
  - minimum wages have been fixed in respect of 67 out of 76 scheduled employments;
  - minimum wages have been revised in respect of 62 scheduled employments;
  - special allowances have been fixed in respect of 64 scheduled employments.
- In the area of enforcement, it was stated as under:-
  - In all 66,952 inspections have been conducted by 180 Inspectors (agricultural) in respect of agriculture in 2006;
  - In all 134 claims have been filed u/s 20 of MW Act for non-payment of minimum wage or short payment;
  - Of this only 6 claims have been settled (between April, 2007 to August, 2007);
  - 520 inspections have been carried out under Equal Remuneration Act, 1976 and 27 female employees have been given the benefit under the law.

## **Comment:**

- The number of claims (6) settled appears to be too low considering the large scale violation involved in payment of minimum wages in agriculture as also unequal wages received by women for same or similar nature of work and much longer hours of work performed by them compared to men. It also does not state what is the amount disbursed. Going by the interaction with women agricultural workers in the field non-payment of minimum wage (not to speak of equal wages for same or similar work) instances of violation of the Provisions of MW Act and Equal Remuneration Act are galore and though number of inspections conducted may appear to be impressive, very little action has been taken to provide relief to the aggrieved workmen and women workers in agriculture in particular.

**1.11.2007:**

## **Agriculture, Fisheries and Animal Husbandry Deptts.:**

### **1. Agriculture:**

- The representative of the department shared the following facts:-
  - in 2007-08, of the total population of the State was 10.54 crores and the tribal population was 78.03 lakh representing 7.40% of the total population;
  - while in percentage terms there was not much change between 1981 and 1991 census (9.19% and 9.27%) there is a decline of about 2% in tribal population; it is not known whether the same is on account of death or migration or statistical/computational errors;
  - the main tribals of the State are the Bhils, Gonds, Mahadeo Kolis, Pawaras, Thakurs and Varlis;
  - the tribal population is concentrated largely in the western hilly areas of Dhule, Nandurbar, Jalgaon, Nashik and Thane (Sahyadri region) and eastern forest areas of Chandrapur, Gadchiroli, Gondia, Nagpur and Yavatmal (Gondwana region) districts.
  - According to a rough estimate, the total foodgrains required for the tribal population in 2007-08 are:-

o Cereals (460 gm a day per capita )	-	13.10 lakh MT
o Pulses (60 gm a day per capita)	-	1.56 lakh MT
o Oilseeds (125 gm a day per capita)	-	3.51 lakh MT

- As against this the actual production in the tribal areas falls far short such as:-
  - o Cereals - 5.57 lakh MT
  - o Pulses - 1.12 lakh MT
  - o Oilseeds - 1.56 lakh MT
- The gap between the consumption need and actual availability is -7.53 lakh MT, -0.44 lakh MT and -1.95 lakh MT of cereals, pulses and oilseeds respectively;
- According to the same estimate, most of the tribal farmers are small and marginal with a total number of 6.34 lakh landholders and 15.32 lakh hectare land holdings;
- Of this barely 1.17 lakh hectares are irrigated;
- The measures undertaken to bridge the heavy deficit between the need and actual production are:-
  - integrated cereal development programme;
  - block demonstration of rice and wheat;
  - farmer's training;
  - integrated pest management;
  - supply of bio pesticides;
  - distribution of urea briquette machines and applicator;
  - pulses development programme;
  - oilseed development programme;
  - package for kitchen garden development.
- It is proposed to cover 11.50 lakh hectares for production of pulses as against the current area of 3.20 lakh hectares under Pulse Production in tribal areas.

### **Comments:**

- As already indicated at page 37-43 according to 'Food Insecurity Atlas of Rural India' brought out by M.S. Swaminathan Research Foundation and World Food Programme (FAO), Maharashtra is a high deficit State which is quite low in terms of food availability mapping index and unstable cereal production. Besides, the level of calorie consumption is far below the national average and 20 to 50% of landless labour households (most of them will be tribals) consume less than 2300 calorie.
- Amidst such a depressing scenario what was expected was a quantum jump in production of cereals and coarse cereals.

- According to all available indications the production of jowar and bajra is coming down;
- No tuber is grown in the State.
- According to Secretary, Agriculture the current trend is one of substitution of jawar and bajra by cash crops (cotton, sugarcane) and it is unlikely that this trend will be reversed.
- Soyabean is coming up but a lot more efforts will have to be made to promote its consumption (100 gms of soyabean contains 432 kilo calorie).
- Similarly along with production of fruits (guava and mango etc.) and vegetables (drumsticks and tomato) as the outcome of kitchen garden package, extension efforts are needed to boost consumption of fruits and green leafy vegetables.
- The concept of kitchen garden scheme can be meaningful only with allotment of homestead land to those tribal families who are currently without it.

### 1.11.2007

## 2. **Animal Husbandry and Veterinary Department:**

- The representative of the department shared several problems and constraints in regard to production and consumption of milk and eggs by the tribal households as under:-
  - the percapita availability of milk is 172 gm per person per day as against the recommended norm of 272 gm per person per day;
  - the per capita availability of eggs is 35 eggs per person annually as against the recommended norm of ½ egg per person per day.
  - the milk production has marginally increased by 2 to 3 gm per person per day from 2003-04 onwards but has stagnated after 2004-05;
  - the average daily yield of Crossbred cows is 6.5 litres whereas the same in respect of non-descript (not stall fed) ones is barely 1.6 litre per day;
  - the average daily yield in case of buffaloes is 2.8 litres per day;
  - these figures of yield have stagnated over a period of 4 to 5 years;
  - management of the productive asset is the primary responsibility of the household while genetic improvement of the species is the department's responsibility;
  - with this end in view, the department has an ambitious plan of increasing

the crossbred progeny by an artificial insemination programme through which production even from non-descript animals may go upto 6 litres;

- while 30 lakh doses of frozen semen are needed, the semen which has been made available is of the order of 16 lakh doses only;
- artificial insemination charges @ Rs. 20/- per animal have been waived in respect of all the 6 districts of Vidarbha.

### **Comments:**

- There is a separate wing in the Commissionerate at Pune for extension efforts. While intensifying efforts for milk and egg production it is necessary and desirable that simultaneous planned and coordinated extension efforts are made for enhanced consumption of milk and eggs for higher intake of micro-nutrients (calcium and protein).
- Production and availability of certified fodder seed is limited due to cost constraint. It is necessary to introduce it on the pattern of certified seeds of cereals and pulses by providing production and marketing subsidy.
- To boost additional production of about 100 lakh eggs per annum it is necessary to have new bird layer units with about 30 to 35 lakh layer birds.
- About 10,000 layers with 1000 birds each should be taken up for demonstration of hormone modulation for increasing egg laying percentage.
- Separate IEC packages need to be designed to disseminate the central message in favour of consumption of milk and eggs and remove the fads against their consumption obtaining in tribal areas.
- NGOs and dairy cooperatives with past experience of providing breeding services for dairy animals may be assigned specific areas for tackling the problem of infertility in dairy animals.

**1.11.2007**

### **3. Fisheries:**

- The representative of the department had the following facts to share:-
  - the marine fish production which stood at 3.87 lakh MT in 2002-03 has gone upto 4.65 lakh MT but has stagnated at that;
  - the following measures are being taken to boost marine fish production:-
    - o modernize and intensify the fishing methods by mechanization of fishing vessels;

- o provide modern electronic equipments to each fishing craft to increase per unit fish catch;
- o infrastructure is being strengthened by construction of 7 new fishing harbours and jetties with preservation, transport and marketing facilities to improve and maintain quality of fish and fish products;
- o by 2007-08, 125 traditional landing centres will be ready for storage and preservation of fish;
- o help of remote sensing agency is being taken for dissemination of weather conditions to fishermen who go to the deep sea for fishing.
- The following measures are being taken for promoting inland fisheries:-
  - o existing reservoirs are being developed for fish and stocking under National Fisheries Development Board;
  - o existing fresh water bodies are being stocked with quality fish seed at optional level;
  - o fisheries cooperative societies are being encouraged to stock the fish seed in the medium reservoirs;
  - o in the process about 3 lakh hectares can be covered by inland fisheries.

The representative of the department also shared the following constraints in production and consumption of fish:-

- minimum 1 acre size is needed for a fisheries pond; the size of the farm ponds (which are available in large number in Maharashtra) being small, are not found suitable for this purpose;
- farmer's priority is for agriculture and not aqua culture;
- no separate extension wing is available for designing IEC packages on the advantages of fish consumption.

### **Comments:**

- Maharashtra has a very long coastline (like Orissa, West Bengal, Andhra Pradesh, Karnataka and Tamil Nadu) and a large number of malguzari tanks and, therefore, a very rich potential for production of fish. This potential needs to be harnessed. It has not been done optimally so far.
- Nutrition as a process has 4 components namely production, distribution, consumption and absorption. While intensifying production of fish the State Government should open a separate extension wing in the office of the

Commissioner, Fisheries for conducting market survey, for designing IEC packages, for introducing fisheries as a subject in educational institutions (various levels) and for dissemination of messages about importance of consumption of fish.

### 1.11.2007

#### Revenue, Rural Development and Housing departments:

The representative of the Revenue department shared the following facts:-

- o Government land is distributed for various purposes in accordance with the provisions of Maharashtra Land Revenue (Disposal of Government Land) Rules, 1971. There is a provision under Rule 29 for allotment of land (building sites/homestead land) to landless agricultural labourers/backward class person/nomadic tribes/vimukti jati etc. on receipt of an application on that behalf. Such allotment can be done by the Collector free of occupancy price.
- o The following table gives the details of the land (both homestead and agricultural) allotted in the 6 revenue divisions of Konkan, Pune, Nashik, Amravati, Aurangabad and Nagpur:

	Konkan	Pune	Nashik	Amra-vati	Aurang-abad	Nag-pur	Total
Number of households in 15 tribal districts	4812	2188	229842	4026	10,000	NA	250868
Number of families who have been allotted homestead land in last 3 years.	-	-	48,735	1423	-	12	50170
Number of households without agricultural land.	14396	264	86,679	22,433	-	17656	14148
Number of households who have been allotted agricultural land in last 3 years.	29	-	416	486	v	42	973

#### Comments:

From the above table one reaches the following conclusions:-

- o information is incomplete;
- o information pertaining to Pune is outdated (1998-99);
- o information pertaining to period for Nashik is unspecific;



- o the problem of landlessness (both homestead and agricultural land) is pervasive;
- o as against this massive problem land allotted is negligible;
- o it is not clear if physical possession of land has been given after allotment and if patta (Record of Rights) has been issued.
- Since large number of landless households/families have been left out, it is not clear if a time frame has been laid down when the entire process of removal of landlessness can be completed.

### **Allotment of land in favour of members of tribal communities who have been cultivating the forest land for generations without authority:**

The current status of this was clarified as under:-

- State Government had taken a decision to regularize the encroachment of forest land as above upto 1978. The information/data was being collected by the Principal Chief Conservator of Forest. In the meanwhile, Government of India desired to consider the issue for and upto 1980 for the eligible encroachments. These directives were circulated to all concerned vide Government Resolution dated 23.4.2007 by the Revenue Department. Now the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 has entered the Statute Book. On account of this new development, the Revenue Deptt. has stopped the work of determining the eligibility of encroachments vide Government Resolution dated 23.5.2007. Now that Rules have been framed and notified, survey should be taken up in right earnest status of forest dwellers tribal cultivators identified and forest land under their occupation should be settled in their favour.

## **2. Rural Development Department:**

- Rural Development department is concerned with 2 issues namely (a) BPL Survey, 2002, outcome thereof and number of BPL families identified (b) Indira Awas Yojana.
- The following is the outcome of the BPL Survey, 2002:-
  - the total number of rural families in the 15 tribal districts is 65,73,442;
  - the number of BPL families (rural) identified in course of the survey is 26,37,251;
  - of this the number of tribal rural BPL families after cut off score is 9,18,060;
  - the percentage of BPL families to total number of families varies from 19 PC (Pune) to 57.88 PC (Gondia); the 2 other districts where it is above 50% are Dhule (53) and Gadchiroli (55).



- The department shared the following problems and constraints of the entire process as under:-
  - For the 2002 BPL Survey, the Planning Commission laid down 13 indicators;
  - It also fixed an overall ceiling of 45 lakh BPL families (on the basis of 55th round of NSSO Survey) for the whole State;
  - There are 2 stages of appeal against the findings of the survey provided;
  - While the first appeal lies to the Tahasildar, the second appeal lies to the Collector;
  - In all 8,66,906 appeals have been received and 6,98,728 appeals disposed off, leaving 1,68,178 appeals pending;
  - The position is a bit unclear as to whether on account of the overall ceiling laid down by the Planning Commission (45 lakh BPL families for the whole State), the appeals can be acted upon even if they have been decided in favour of the appellants (as they may cross the ceiling limit).
- The State Government and the district administration is on this account in a dilemma
- There were representatives addressed to me on this score during my visit to Shendi PHC in Ahmednagar district on 28.9.2007.
- The representations in Marathi were handed over to Addl. Collector, Ahmednagar with request to place them before Collector Ahmednagar for an early decision.
- In view of this impasse, the State Government needs to take up the matter with the Planning Commission to provide operational flexibility to the former.

### **Indira Awas Yojana (IAY):**

The following picture emerged in course of discussion:-

- o In the 15 tribal districts, there are in all 3,75,711 total number of shelterless tribal families who have applied for assistance under IAY;
- o Of them, only 78, 479 tribal families have been assisted under IAY (this does not include Nanded for which no information is available);
- o A total number of 2,89,677 shelterless tribal families have been on the waitlist between 2 years to 25 years;
- o It was clarified by the representative of the Rural Development Deptt. that due to landless status of a large number of tribal families and inadequate allocations it has not been possible to achieve a substantial coverage under IAY.

**Comment:**

It is futile to talk of nutrition without shelter just as it is futile to talk of a kitchen garden scheme without a plot of land. Clearly a synergy in this matter is lacking between Revenue Department, Rural Development Department of the State, Ministry of Rural Development, Government of India and Planning Commission. The position needs a thorough review so that solution to this long pending issue can be found through dialogue across the table.

**Housing Deptt.:**

There is a Rajiv Gandhi Grameen Nivara Yojana which has an ambitious target of constructing and handing over 1,00,000 houses to 1,00,000 low income families in all the 35 districts in 2 years time. There is, however, no overriding preference for members of the tribal communities in the scheme and, therefore, it is not of much consequence for the present enquiry.

**Water Supply and Sanitation department:**

The Secretary of the department shared with me with clarity, precision and foresight the magnitude of the problem and the manner in which he proposes to deal with it as under:-

- there are 27000 GPs and 86000 habitations (41000 villages + 45000 hamlets) in Maharashtra;
- the Bharat Nirman which is an umbrella programme envisages to cover all of them fully by 2008-09;
- As far as tribal districts are concerned, there are 39,661 habitations; of them, 28000 have been fully covered, 10,429 partially covered and 5 not covered at all.
- The adequacy and perenniality of the source as also availability of water @ 40 litres per day per head varies from village to village;
- The situation was quite critical in 2004-05 when the spectre of drought haunted the State for some time;
- Two important programmes namely Jal Swarajya which is being implemented with the support of the World Bank and Village Health, Nutrition and Sanitation Committees under the auspices of National Rural Health Mission have imparted a democratic and participatory character to water supply programmes;
- The first deals with water budgeting, design and operation while the second oversees the implementation of water sanitation programmes in a village with the involvement of NGOs and technical institutions;

- It was encouraging to note that more and more people at the grass root level are getting involved with management of water and sanitation.
- There were major concerns too such as:-
  - o nitrate and floride content in water is increasing;
  - o 9000 villages are quality affected;
  - o 850 villages in Amravati, Akola and Buldhana are getting affected by salinity.

### **Food and Civil Supplies Department:**

The Principal Secretary, Food and Civil Supplies Department shared the following facts relating to distribution of food grains through PDS:-

- a total of 6,656 outlets have been opened in the tribal areas of the State;
- the number of ration cards issued under BPL, Antyoday and Annapurna Schemes in tribal areas are as under:-
 

BPL	- 6,27,898
Antyoday	- 5,17,691
Annapurna	- 15,051
- The PDS by and large meets the three important norms of availability of food grains, accessibility of food grains and affordability of food grains.
- It fails on the following 3 counts:-
  - o It does not distribute coarse food grains (jower, bajra, ragi) for which members of tribal households have a preference;
  - o It does not also distribute certain other essential commodities like iodized salt, edible oil etc.;
  - o The quantum of food grains which is distributed through PDS (targeted) i.e. 35 kg of rice and wheat is inadequate for tribal households with more number of family numbers (which invariably is the case in the 15 tribal districts of Maharashtra).
- At the time of review in August, 2007, the Principal Secretary, F&CS had shared with me an innovative scheme under which a card holder was allowed to lift 3 months stock as per his/her entitlement and store them to meet emergency requirement. I had seen for myself the obvious advantages of such a scheme in course of my visit to Surgana taluk of Nasik district on 10th September, 2007. The scheme was to be evaluated in October, 2007 before it could be replicated to other districts. The evaluation has not yet taken place. It will be worthwhile if this novel experiment is extended to all the tribal districts in a phased manner.

# Chapter-VIII

---

## **An Analysis of Malnutrition as a Cause/Contributory Factor of Death**

- By all accounts and over the last 4 years i.e. 2003-2004 onwards there has been an overall improvement in the nutritional status of children in different grades in Maharashtra.
- While there has been a rise in the percentage of children in the normal category, there has been a perceptible decline in the percentage of children in Gr. II, III and IV malnourished children.
- While the total percentage of Gr. III and Gr. IV malnourished children is 0.25% of the total number of children in 0-6 age group who have been weighed, this percentage is higher in tribal areas where it is 0.57%.
- In urban slums, the percentage of Gr. III and Gr. IV malnourished children is 0.39%.
- The present enquiry is related to starvation and malnutrition related deaths of children in tribal areas. This can be ascertained and established only if an audit of all deaths is conducted by professionally and technically qualified persons (such as a paediatrician) before reaching a conclusion that the death could be straightaway attributed to either starvation or malnutrition.
- The Directorate of Health Services, Government of Maharashtra has brought out in March, 2007 a Primary Health Centre, Manual which is very comprehensive and which deals with all aspects of management of PHC which is a key functioning unit of the Public Health Department at the primary level. The said Manual at page 240 has dealt with 'Death Audit' and has laid down an elaborate procedure for conducting such an audit.
- The pith and substance of the said procedure is as under:-
  - The Medical officer of the PHC has to investigate all maternal and infant deaths occurring in a PHC area by personally visiting that house and by using verbal autopsy method;

- The person who was attending the deceased at the time of death must be interviewed;
  - The MO should discuss in detail with the relatives about signs, symptoms, duration of illness, complications, treatment received, if any, whether the case was referred, if there were any problems in referral, whether the deceased was hospitalized and problems in transportation, if any;
  - If the patient was hospitalized, the MO should go through the hospital records. In case of maternal death, the MO should visit the hospital where the mother was admitted for treatment. The investigating MO from the PHC should discuss with the treating physician and go through the patient's case records kept in the hospital.
- It should be possible to arrive at a probable cause of death with the help of history and medical records of the patient.
  - It will be a good practice to discuss the maternal and infant deaths occurring in the PHC area during the monthly meeting. In the said meeting the investigating MO should narrate total history of the patient from commencement of illness to death. The various steps taken and interventions made to prevent death by all functionaries concerned ( MO, LHV, ANM, MPW, Health Asstt. Etc.) should be discussed.
  - Such a discussion would impart a lot of critical consciousness about ways and means of preventing death in future by all concerned.
  - Death audit discussion should include all details about the events leading to death, signs, symptoms, treatment received, if any, probable cause of death, services received by the beneficiary and what could have been done at various levels to prevent events leading to this death.
  - The Manual has very clearly and appropriately stated that death audit is not a fault finding mission. The discussion in the monthly meetings should be constructive and conducted in such manner as would enable the workers to understand the mistake, howsoever unwitting, at each stage with a view to preventing such deaths in future.
  - The said Manual at page 215 has already recognized that malnutrition is the single most important underlying factor in infant and under five mortality. To quote:-
    - o 'Children in age group of six months to two years are extremely vulnerable to develop malnutrition. During this period quantity of breast milk starts becoming inadequate compared to the growth needs. The child starts mouthing any object that it holds increasing exposure to infections. If supplementary solid feeding is not initiated the child can easily slip into PEM. Risk of death due to common childhood illnesses like diarrhoea

and respiratory infections is doubled for mild, tripled for moderate and ten times more for severely malnourished children. Due to suppressed immunity, incidence, duration and severity of illness increase with associated malnutrition.

- o Several of these negative factors often co-exist and set up vicious cycles that perpetuate the poor nutritional status in a child. The vicious cycle is a common childhood infectious disease leading to increased need combined with reduced food intake which cause malnutrition and malnutrition itself leads to decreased immunity causing repeated infections’.
- I invite a specific reference to my field impressions contained in Part II of the report where there is a reference to both neonatal and child deaths, analysis of the causes of death and conclusions thereof.
- Broadly speaking the following impressions and conclusions on occurrences of death associated with malnutrition or with the complications associated with malnutrition emerge from my field visits:-
  - At page 39 (Part II of the report) there is reference to death of one child named Makla. The child was weighing 2.8 kg after birth and was otherwise hale and hearty but it died due to excessive exposure to heat and humidity. The mother preferred to walk in the hot sun carrying the child and did not pay any heed to the advice of the LHV. It is the ignorance and obduracy of the mother which was responsible for the tragedy.
  - At page 27 and 58 (Part II of the report) reference has been made to the death of 2 malnourished children namely Suman Radhava Vasawe (1 year 3 months) and Rangila Barkya Vasawe at rural hospital, Akkal Kua. My analysis shows that all possible efforts have been made to save these 2 lives but they could not be saved as they came to the hospital very late and, therefore, did not respond to the treatment;
  - At page 94 and 95 (Part II of the report) reference has been made to the death of a child named Balu Rukesh Govind. My analysis of the circumstances leading to the death of the child shows that (a) it was the case of a prematurely delivered child with LBW (1000 gms weight) and a case of home delivery (b) the child was admitted at the Cottage Hospital, Jwahar on 2.6.2007 for treatment of septicemia, removed by the mother against medical advice on 9.6.2007, brought back and readmitted on the same day but again removed on 11.6.207 and died at home on 2.7.2007.
  - The central message is: home is no substitute for a well equipped hospital and, therefore, if a septicemia child is removed from the hospital before the



full course of the treatment is over, it is bound to die (as none at home can attend to the child with the same seriousness of concern and scientific methods as in a hospital).

- At page 156 (Part II of the report) reference has been made to the death of a child called 'Nana Kantya Barela'. This was the case of a LBW child having pulmonary pox with a very low haemoglobin content of 7.2 mg%. It came to Chovda rural hospital very late, developed secondary complications and died. This was also the case of a tribal migrant child who lived with his mother (as many others prefer to do) in M.P. border and there was no scope for educating or counselling the mother before she brought the child in a critical condition.
- At page 170 (part II of the report) reference has been made to the death of a child – Chakule Baliram Jadhav by name. The child was LBW (was weighing 5.5 kg at 2 ½ years of age against the normal weight of 13.3 kg for that age), was suffering from multiple ailments including bilateral tuberculosis with Pneumonia and anaemia. He was admitted on 19.7.2007 and despite all efforts to bring him back to normalcy, he did not respond to the treatment and died on 21.7.2007 (there was air entrapment of the lungs and one side of the lungs had totally collapsed).
- The above analysis would go to show that deaths of infants/children have taken place in PHCs/hospitals despite best of care and attention on account of the following reasons:-
  - delayed admission or hospitalization;
  - mothers not allowing the children to stay in the hospital till the full course of treatment is completed;
  - mothers taking away the children surreptitiously against medical advice (LAMA).
- The question arises: when is hospitalization of malnourished children necessary?
- Hospitalization of malnourished children is necessary in the following conditions:-
  - anorexia (loss of appetite);
  - dehydration;
  - severe anaemia;
  - life threatening infection;
  - hypoglycemia;
  - hypothermia;
  - severe vitamin A deficiency.
- This question was specifically asked in course of field visits to AWWs, ANMs, MPWs

as also parents if there has been any case of refusal of admission to a hospital in the above contingencies. The answer was specifically No.

- I would, therefore, like to reach the conclusion on the basis of my field visits and interrogations/interactions that no death took place in any hospital or PHC due to culpable negligence of any MO or any para medical staff.
- The next important point in my investigation relates to record keeping. In course of field visits (Rural hospital, Kashel in Raigad district and Sub hospital, Ramtek in Nagpur district in particular) the following came to my notice:-
  - case records pertaining to Gr. III and Gr. IV malnourished children are not being kept properly (they are kept in loose sheets without a folder);
  - a few case records are not readily traceable;
  - case records of children whose cases have been referred by the PHC to the sub hospital or Rural hospital are not available;
  - there is no follow up after discharge of a patient;
  - there is no feedback about the health status of malnourished children who have been discharged from hospital and who are being treated at home.
- It was encouraging to note that Divisional Commissioner, Nashik – Dr. Sanjay Chahange who is himself a medical doctor has introduced the innovative format of a case record with the following entries:-
  - name of the child;
  - date of birth;
  - weight at the time of birth;
  - date of admission;
  - weight at the time of admission;
  - immunization history;
  - vitamin dosage;
  - deworming schedule;
  - case profile;
  - birth history;
  - road blocks for growth;
  - nutritional assessment;
  - OPD record;
  - hospital admission record.



- By and large, the above format which is very comprehensive and scientific is yet to be adopted and implemented fully by all PHC & even within Nashik Revenue Division.
- The third and the most important question relates to correlation between malnutrition and death of children between 0-6 age group. This age group can further be sub-divided into 0-7 days, 8th day to 28th day, 1st month to 6th months, 6th month to 1 year and 1 to 6 years.
- Even though complete and up to date break up of number of deaths in respect of all these age groups for all the 15 tribal districts is not readily available, Placed below is a statement handed over to me by the ICDS Commissioner – Shri Ujjal Uke which gives the details of birth and deaths under ICDS in respect of the ITDP areas from September, 2006 to July, 2007.

### Statement showing the Details of Births and Deaths under ICDS – Tribal Projects for the period of September, 2006 to July, 2007

S. No.	District	Project	Live Birth	Still Birth	Neonatal Death (O to 1 Month)	Deaths 1 Month to 1 Year	Deaths 0 to 1 Year	% of Neonatal Death with 0 to 1 Year	Death 1 to 5 years	Death 5 to 6 years	Neonatal death rate per 1000 (Provisional)
1.	Ahmednagar	Akole	4256	94	133	56	189	70	48	1	31.25
	<b>Ahmednagar Total</b>		<b>4256</b>	<b>94</b>	<b>133</b>	<b>56</b>	<b>189</b>	<b>70</b>	<b>48</b>	<b>1</b>	<b>31.25</b>
2.	Amravati	Chikhaldara	2046	91	56	28	84	67	32	4	27.37
3.	Amravati	Dharni	3378	95	97	103	v	49	74	5	28.72
	<b>Amravati Total</b>		<b>5424</b>	<b>186</b>	<b>153</b>	<b>131</b>	<b>284</b>	<b>54</b>	<b>106</b>	<b>9</b>	<b>28.21</b>
4.	Chandrapur	Ballarpur	579	12	8	1	9	89	5	0	13.82
5.	Chandrapur	Bramhapuri	2209	45	59	8	67	88	8	1	26.71
6.	Chandrapur	Chandrapur	1088	23	23	17	40	58	1	3	21.14
7.	Chandrapur	Chimur	2235	54	43	15	58	74	14	1	19.24
8.	Chandrapur	Gondpipri	1247	22	34	8	42	81	7	2	27.27
9.	Chandrapur	Rajura	4374	105	137	52	189	72	88	7	31.32
	<b>Chandrapur Total</b>		<b>11732</b>	<b>261</b>	<b>304</b>	<b>101</b>	<b>405</b>	<b>75</b>	<b>123</b>	<b>14</b>	<b>25.91</b>
10.	Dhule	Sakri	5993	61	86	52	138	62	76	3	14.35
	<b>Dhule Total</b>		<b>5993</b>	<b>61</b>	<b>86</b>	<b>52</b>	<b>138</b>	<b>62</b>	<b>76</b>	<b>3</b>	<b>14.35</b>
11.	Gadchiroli	Aheri	1735	46	74	21	95	78	33	7	42.65
12.	Gadchiroli	Armor	1194	38	27	4	31	87	2	1	22.61
13.	Gadchiroli	Bhamragad	759	26	40	14	54	74	26	2	52.70

14.	Gadchiroli	Chamorshi	2257	64	59	15	74	80	13	0	26.14
15.	Gadchiroli	Desaiganj (Wadsa)	766	19	12	3	15	80	3	0	15.67
16.	Gadchiroli	Dhanora	1675	67	52	23	75	69	31	6	31.04
17.	Gadchiroli	Etapalli	1500	36	50	28	78	64	33	4	33.33
18.	Gadchiroli	Gadchiroli	1186	18	22	3	25	88	5	1	18.55
19.	Gadchiroli	Kurkheda	1889	64	75	23	98	77	20	4	39.70
20.	Gadchiroli	Mulchera	817	17	31	8	39	79	6	0	37.94
21.	Gadchiroli	Sironcha	936	33	28	13	41	68	8	3	29.91
	<b>Gadchiroli Total</b>		<b>14714</b>	<b>428</b>	<b>470</b>	<b>155</b>	<b>625</b>	<b>75</b>	<b>180</b>	<b>28</b>	<b>31.94</b>
22.	Gondia	Arjuni Mor.	1943	35	51	7	58	88	9	2	26.25
23.	Gondia	Deori	1376	36	39	13	52	75	10	2	28.34
24.	Gondia	Sadak Arjuni	1446	31	32	4	36	89	10	0	22.13
25.	Gondia	Salekasa	1149	24	18	17	35	51	14	2	15.67
	<b>Gondia Total</b>		<b>5914</b>	<b>126</b>	<b>140</b>	<b>41</b>	<b>181</b>	<b>77</b>	<b>43</b>	<b>6</b>	<b>23.67</b>
26.	Jalgaon	Chopda	3866	56	68	31	99	69	41	2	17.59
	<b>Jalgaon Total</b>		<b>3866</b>	<b>56</b>	<b>68</b>	<b>31</b>	<b>99</b>	<b>69</b>	<b>41</b>	<b>2</b>	<b>17.59</b>
27.	Nagpur	Ramtek	1584	35	31	26	57	54	10	1	19.57
	<b>Nagpur Total</b>		<b>1584</b>	<b>35</b>	<b>31</b>	<b>26</b>	<b>57</b>	<b>54</b>	<b>10</b>	<b>1</b>	<b>19.57</b>
28.	Nanded	Kinwat	1606	14	45	14	59	76	19	2	28.02
29.	Nanded	Mahur	1050	93	7	18	25	28	5	1	6.67
	<b>Nanded Total</b>		<b>2656</b>	<b>107</b>	<b>52</b>	<b>32</b>	<b>84</b>	<b>62</b>	<b>24</b>	<b>3</b>	<b>19.58</b>
30.	Nandurbar	Akkalkuwa	4822	156	96	119	215	45	139	8	19.91
31.	Nandurbar	Dhadgaon	4714	132	85	90	175	49	114	12	18.03
32.	Nandurbar	Nandurbar	4177	110	72	50	122	59	56	3	17.24
33.	Nandurbar	Nawapur	3658	59	31	36	67	46	27	3	8.47
34.	Nandurbar	Shahada	5410	107	95	57	152	63	98	4	17.56
35.	Nandurbar	Taloda	2330	53	42	35	77	55	26	2	18.03
	<b>Nandurbar Total</b>		<b>25111</b>	<b>617</b>	<b>421</b>	<b>387</b>	<b>808</b>	<b>52</b>	<b>460</b>	<b>32</b>	<b>16.77</b>
36.	Nasik	Baglan	4594	27	43	38	81	53	45	0	9.36
37.	Nasik	Deola	1649	3	15	11	26	58	8	0	9.10
38.	Nasik	Dindori	4561	61	70	37	107	65	33	4	15.35

39.	Nasik	Harsul	1805	1	14	30	44	32	12	3	7.76
40.	Nasik	Igatpuri	3417	41	63	58	121	52	54	4	18.44
41.	Nasik	Kalwan	2990	29	34	19	53	64	31	2	11.37
42.	Nasik	Nasik	2976	28	26	34	60	43	27	1	8.74
43.	Nasik	Peint	1830	37	37	23	60	62	25	2	20.22
44.	Nasik	Surgana	3886	78	86	53	139	62	30	4	22.13
45.	Nasik	Trimbkeshwar	1418	7	29	27	56	52	15	2	20.45
	<b>Nasik Total</b>		<b>29126</b>	<b>312</b>	<b>417</b>	<b>330</b>	<b>747</b>	<b>56</b>	<b>280</b>	<b>22</b>	<b>14.32</b>
46.	Pune	Junnar	4204	60	77	26	103	75	21	2	18.32
	<b>Pune Total</b>		<b>4204</b>	<b>60</b>	<b>77</b>	<b>26</b>	<b>103</b>	<b>75</b>	<b>21</b>	<b>2</b>	<b>18.32</b>
47.	Raigad	Karjat (R)	2619	55	89	14	103	86	16	0	33.98
	<b>Raigad Total</b>		<b>2619</b>	<b>55</b>	<b>89</b>	<b>14</b>	<b>103</b>	<b>86</b>	<b>16</b>	<b>0</b>	<b>33.98</b>
48.	Thane	Dahanu	7370	112	83	69	152	55	74	5	11.26
49.	Thane	Jawhar	2688	55	123	58	181	68	47	2	45.76
50.	Thane	Mokhada	1833	55	50	49	99	51	27	11	27.28
51.	Thane	Murbad	2745	85	65	37	102	64	21	1	23.68
52.	Thane	Palghar	7102	88	115	18	133	86	36	1	16.19
53.	Thane	Shahapur	5139	157	116	64	180	64	55	3	22.57
54.	Thane	Talasari	3188	37	35	27	62	56	34	2	10.98
55.	Thane	Vikramgad	2654	43	60	42	102	59	40	1	22.61
56.	Thane	Wada	3178	89	73	10	83	88	16	6	22.97
	<b>Thane Total</b>		<b>35897</b>	<b>721</b>	<b>720</b>	<b>374</b>	<b>1094</b>	<b>66</b>	<b>350</b>	<b>32</b>	<b>20.06</b>
57.	Yavatmal	Ghatanji	1611	26	48	12	60	80	5	2	29.80
58.	Yavatmal	Pandarkawda	1597	31	65	23	88	74	19	7	40.70
59.	Yavatmal	Ralegaon	1452	9	31	31	62	50	11	0	21.35
	<b>Yavatmal Total</b>		<b>4660</b>	<b>66</b>	<b>144</b>	<b>66</b>	<b>210</b>	<b>69</b>	<b>35</b>	<b>9</b>	<b>30.90</b>
	<b>Grand Total</b>		<b>157756</b>	<b>3185</b>	<b>3305</b>	<b>1822</b>	<b>5127</b>	<b>64</b>	<b>1813</b>	<b>164</b>	<b>20.95</b>

- The Statement shows that both in terms of percentage as well as in terms of absolute number, the still births, neonatal deaths (0 to 4 weeks), deaths of children between 1 month to 1 year and 0 to 1 year is quite high.
- From a study on malnutrition deaths in tribal districts under the World Bank assisted ICDS – III Project in Maharashtra conducted by Vimarsh, a Consultancy Group the

total number of child deaths in the State between July, 2004 to June, 2005 is estimated to be 45,000 even though the estimate based on sample Registration Survey of Government of India for the same period is 1,20,000 deaths.

- According to verbal autopsy of such deaths infants accounted for 52%, children 25%, mothers and other adults (other than mothers) 23%.
- The study has attributed the following to be the causes of death of infants and children:-

### **Death of infants:**

o	Septicemia	-	30%
o	Hypovolemic shock	-	2%
o	Febrile Convulsion	-	7%
o	Cleft lip	-	2%
o	Congenital anomalies	-	5%
o	Meningitis	-	2%
o	Premature delivery (low birth weight)	-	27%
o	full term delivery (low birth weight)	-	17%
o	Genetic disorder	-	2%
o	Obstructed airway	-	2%
o	shock	-	2%
o	Intestinal obstruction	-	2%

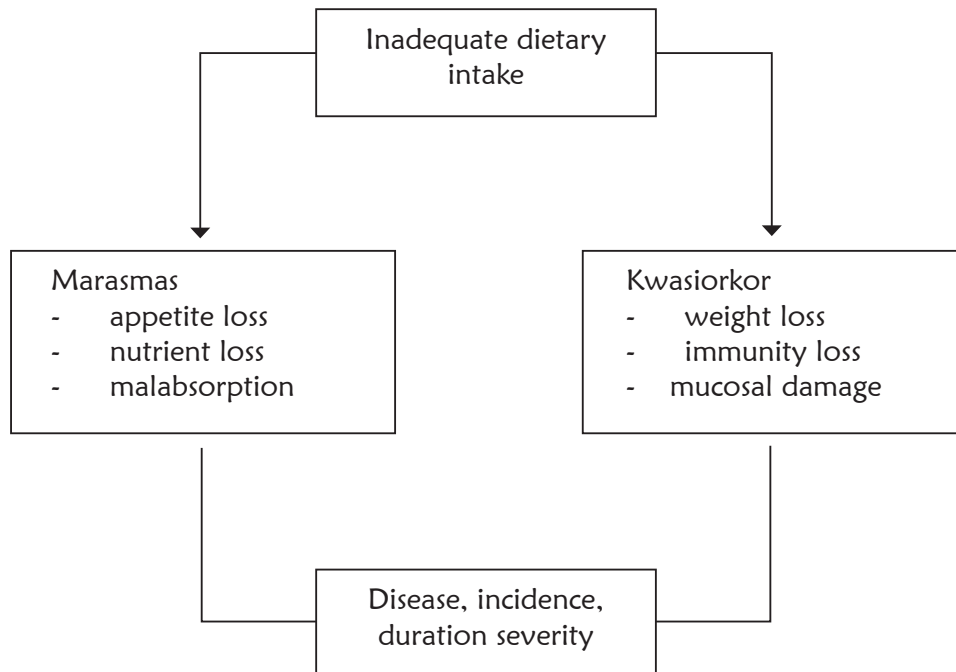
### **Death of children:**

#### **Causes of death**

o	Septicemia	-	38%
o	Cardiac disease	-	16%
o	HIV	-	5%
o	Hypovolemic shock	-	21%
o	Convulsion	-	5%
o	Chickenpox	-	5%
o	Full term delivery (low birth weight)	-	5%
o	Kidney disorder	-	5%

- It is difficult to establish a direct causal link between all these causes of death and malnutrition but the indirect contribution of malnutrition cannot be ruled out.
- Malnutrition is:-
  - kilo calorie deficiency;
  - protein deficiency;
  - mineral deficiency;
  - vitamin deficiency;
  - iodine deficiency.
- Such deficiencies will weaken the immune system i.e. resistance of the body to resist infection and will make it more vulnerable to ailments which may result in death.
- Let me illustrate this point with reference to protein energy malnutrition (PEM).
- PEM has been identified as a major health and nutrition problem in India. It occurs as a result of coincident lack of protein and calories in varying proportions in infants and young children and is usually associated with infection. There are 2 extreme clinical forms of PEM namely
  - Marasmus;
  - Kwasiorkor
- Marasmus is characterized by
  - food gap and defective intake over long period;
  - increased utilization of tissues;
  - severe muscle wasting;
  - stress;
  - increased cortisol production;
  - glycogenolysis;
  - increased glucose production;
  - loss of subcutaneous fat (which will cause extreme emaciation).
- Kwasiorkor is characterized by
  - food gap and defective intake over long period;
  - dysadaptation;
  - decrease in albumin and beta – lipoproteins;
  - reduction in cortisol production
  - disruption of aminoacid pool.

- The deleterious impact of both would be evident from the following diagram:-



- The diseases referred to in the diagram could be
  - diarrhoea;
  - respiratory infection;
  - measles;
  - intestinal worms;
  - gastroenteritis;
  - broncopneumonia;
  - septicemia;
  - tuberculosis;
  - hepatitis;
  - hypoglycemia;
  - hypothermia;
  - cardiac failure.
- Each one of these diseases could lead to death but the last 3 complications could cause sudden and unexpected death.
- Let me take yet another form of malnutrition i.e. nutritional anaemia which has been defined by the WHO as 'a condition in which the haemoglobin content in blood is lower than normal as a result of a deficiency of more essential nutrients'.

Haemoglobin levels are classified into 3 categories: mild (10.0 – 10.9 mg% dl), moderate: (7.0 – 9.9 mg% dl) and severe (less than 7.0 mg% dl).

- As far as Maharashtra is concerned, according to the findings of NFHS III 72% of the children in 6-35 months are anaemic according to the above definition.
- It has already been observed that the proportion of anaemic children of 6-35 months has risen from 74% in 1998-99 to 79% in 2005-2006 according to the findings of the same NFHS-III survey.
- There are certain lethal consequences of being anaemic which need to be clearly borne in mind. These are:-
  - anaemia increases the risk of maternal and foetal mortality and morbidity in India;
  - 20% of 40% of maternal deaths could be attributed to anaemia;
  - conditions such as abortions, premature births, post mortem haemorrhage and low birth weight have invariably been associated with low haemoglobin levels in pregnancy.
  - iron deficiency (this is a major nutrition problem in developing countries) may impair cellular responses and immune functions and increased susceptibility to infections which could cause death.
- There should, therefore, be no doubt or dispute about malnutrition being one of the contributing factors for both maternal as well as infant/children's death. This has been corroborated both by my field visits and impressions emanating. Therefrom as also from the study conducted by Vimarsh as referred to earlier. To be more specific in terms of the key findings of this study:-
  - more than half of the deaths reported in tribal districts were infant deaths (52%) whereas children's deaths accounted for 25% of the total deaths;
  - septicemia was the major cause of death among infants (30%) followed by premature deliveries (LBW) which accounted for 27% of such deaths;
  - around 17% of the deaths among infants were due to LBW even when the deliveries were full term (280 days);
  - septicemia was also the main cause of death in children (38%). Hypovolemic shock caused 21% of deaths among children below 5 years while 16% children fell a prey to cardiac diseases.
- The last question in this entire exercise which arises is:  
Is there a way out? How do we deal with all such cases of severe malnutrition and how we do prevent deaths?



- The answer is simple. Hospitalization of all such cases with the line of treatment as under is the most effective remedy. The components of such treatment are:-
  - broad spectrum anti-biotics;
  - measles vaccine if child has not been immunized;
  - if the child has no other complications, administer paediatric cotrimoxazole orally for 5 days;
  - if the child is severely ill or has complications associated with malnutrition (hypoglycemia, hypothermia, broken skin, respiratory tract/urinary tract infection) give ampicillin 50 mg/kg, IM/IV 6 hourly for 2 days, thereafter oral amoxicillin 15 mg/kg 8 hourly for 5 days;
  - if amoxicillin is not available, give ampicillin orally as 50 mg/kg 6 hourly;
  - in addition, give gentamycin 7.5 mg/kg, IM/IV once daily for 7 days.
- All severely malnourished children have vitamin and mineral deficiencies. Although anaemia is common do not give iron initially but wait until the child has a good appetite and starts gaining weight. Giving iron can worsen infections.
- Give Vitamin A orally on day 1 (Age 7-12 months) 2 lakh IU, 6-12 lakhs – 1 lakh IU and 0-5 months – 50,000 IU. This may be given for 2 weeks.
- Multivitamin Supplement.
- Folic Acid 1 mg/day (give 5 mg on day 1)
- Zinc 2 mg/kg/a day.
- Copper 0.3 mg/kg/a day.
- Iron 3 mg/kg/a day only when the child is gaining weight.
- How such children should be fed? It should be a cautious and guarded approach characterized by moderation and restraint such as:-
  - small, frequent feeds of low osmolarity and low lactose;
  - oral or Ng feeds;
  - 100 k.cal/kg/a day;
  - 1-1.5 gm proteins/kg/a day;
  - 130 ml/kg.day of fluid (100 ml if the child has severe oedima);
  - If the child is breast fed, continue breast feeding but give prescribed amount of starter formula to meet child's feeding needs;
  - Milk based formula such as starter F-75 containing 75 k.cal/100 ml and 0.9 gm proteins/100 ml is desirable for most of the children;
  - Feeding should be administered from cup and only very weak children may be fed by spoon, dropper or syringe.

- It is desirable to bear a few important instructions/guidelines in mind for a proper malnutrition management such as:-
  - risk of death of malnourished children due to hypothermia is quite common. The malnourished children should be wrapped up with a warm blanket or kept in a thermocol box;
  - intake of high protein and calorie in the first few days of treatment is inappropriate;
  - the amount of protein and energy should be carefully calculated and given frequently throughout day and night to avoid overloading of kidney, heart and intestine;
  - malnourished children should be fed at night also;
  - antibiotics and anti-malarial treatment should be given to malnourished children to prevent possibility of recurrent infection;
  - vitamin A should be given to all malnourished children;
  - iron should be avoided until recovery;
  - intravenous rehydration of a malnourished child may cause cardiac failure. Use of IV fluids should, therefore, be avoided;
  - malnourished children with pneumonia breathe at a slower rate as compared to normal children. One is, therefore, required to adopt a cautious approach while diagnosing pneumonia in malnourished children.

### **Treatment of shock and severe anaemia:**

- shock in severe malnutrition is due to dehydration or sepsis. Children with acute dehydration will respond to IV fluids;
- administer oxygen, 10% glucose IV, IV fluids and antibiotics;
- blood transfusion will be needed in all cases of severe anaemia. The case of an anaemic child should, therefore, always be referred to a hospital where blood storage and transfusion facility is available in a scientific manner.

### **Rehabilitation Phase:**

- adopt catchup formula F-100 which contains 100 k.cal and 2.9 gm proteins/100 ml for 48 hrs.;
- increase each successive feed by 10 ml until some feed remains uneaten and unlimited amount of a catch up formula containing 150-220 k.cal/kg/day and 4-6 gm protein/kg/a day is consumed at least 4 hourly.

### **Importance of a kind, caring and affectionate environment:**

This is the most vital environment to hasten the pace and progress of recovery of a child.

## Chapter - IX

---

### **Strategy and Methodology Adopted to Conduct Investigation into Starvation-cum-Malnutrition Related Deaths of Tribal Children in Tribal Areas of Maharashtra**

This is a socio legal investigation which was ordered by the National Human Rights Commission in April, 2007 and was required to be completed in 12 weeks from the date of its commencement. The orders were received in the last week of May, 2007. I took up the assignment in right earnest in the first week of June, 2007 and completed the investigation in respect of 5 major tribal districts i.e. Yavatmal, Amravati, Nandurbar, Gadchiroli and Thane by first week of July, 2007. Subsequent phase of the investigation in respect of the remaining 10 districts commenced in the last week of September, 2007 and was completed by the close of 3rd week of October, 2007. Some time was needed to discuss with the Secretaries of the concerned departments of the State Government to share with them the impressions gathered from the field visits as also to get the doubts, difficulties and concerns raised in course of such visits clarified and resolved. The discussion, therefore, took place in 2 rounds i.e. August, 2007 and November, 2007. The report which is now being presented in 12 Chapters with annexures is the outcome of (a) field visits and interaction with mothers, representatives of the people and functionaries of various departments on the ground (b) discussion which took place at Mantralay with Chief Secretary and other concerned Secretaries of the State Government.

It is worth mentioning that regular surveys on the causes of death of children in the State as a whole (including rural and tribal areas) are taking place by State agencies which have been mandated to do the same. Nutrition surveys in the tribal districts in Maharashtra have been conducted by the Senior Scientific Officer, Bureau of Nutrition, Nagpur in 2005 and continue to be conducted as a regular feature of the activities of the Bureau. Reference has already been made in Chapter VIII to a study on malnutrition related deaths in the tribal districts under the World Bank assisted ICDS-III Project in Maharashtra

conducted by Vimarsh, a Delhi based Consultancy Group between July, 2004 to June, 2005 (estimated to be 45000). (A sample survey conducted by Government of India puts the death figures at 1,20,000 for the same period). A neonatal disease surveillance study is being conducted by Clinical Epidemiology Unit, Government Medical College, Nagpur with Dr. A.K. Niswade, Prof. and HOD, Paediatrics, Government Medical College, Nagpur as the Principal investigator.

Most of these studies have adopted the sampling method of investigation which has obvious limitations.

Considering the limitations of the sampling method I had on the basis of my earlier experience as a Socio legal investigating Commissioner of the Supreme Court to investigate into affairs of the stone quarries of Faridabad and Vijayawada (1983-84) proceeded with a strategy which is slightly unorthodox and unconventional. The strategy comprises of the following components:-

- covering substantially all the tribal talukas in 15 districts;
- covering at least 2 AWCs, 2 sub centres, 1 or 2 PHCs, 1 Rural Hospital and 1 Civil Hospital for interaction with ICDS and Public health functionaries (MS, MOs and Para medical staff), mothers staying with children, mothers at home and the general public;
- recording their responses;
- analysis of the responses;
- discussion with district administration and department of the State Government;
- arriving at conclusions;
- sharing the conclusions with the stake holders;
- suggesting measures for correction and prevention;

To carry this process to its logical conclusion the following sequential steps were adopted:-

- I A number of questionnaires were designed such as one for the macro level for eliciting the responses of the following departments of the State Government:-
  - o Agriculture;
  - o Animal Husbandry and Veterinary;
  - o Forest;
  - o Fisheries;
  - o Food and Civil Supplies;
  - o Health;

- o Horticulture;
  - o Labour;
  - o Planning;
  - o Revenue;
  - o Rural Development;
  - o Tribal Development Deptt.;
  - o Women & Child Development Deptt.
- Another questionnaire was designed for eliciting responses from the district administration of 15 tribal districts.
  - The third questionnaire was designed for eliciting response to questions put by me to all concerned field functionaries.
  - The following ICDS and public health institutions which have a considerable bearing on health and nutrition of children were visited by me:
    - AWCs;
    - Sub-Centres;
    - PHCs;
    - PHUs (wherever they are);
    - Rural Hospitals;
    - Sub-Divisional Hospitals;
    - Civil Hospitals;
    - Nutrition Rehabilitation Centres.
  - The duration of each such visit was one to two hours in the minimum.
  - During the visit interaction took place with the following workers, non-officials and functionaries of development administration at various levels:-
    - Anganwadi Sevika;
    - Anganwadi Sahayika;
    - Auxilliary Midwife and Nurse (ANM);
    - Lady Health Visitor;
    - PHC Medical Officer Incharge;
    - Second Medical Officer of the PHC;
    - Other PHC Staff (HA(male), HA (female), MPW);

- Medical Superintendent of Rural Hospital;
- Medical Superintendent of Sub-divisional Hospital;
- Civil Surgeon of Civil Hospital;
- Paediatrician and other general duty medical officers at the Rural Hospital, Sub hospital and Civil hospital.

### **Non officials/grass root level institutions:**

- MPs;
- MLA/MLC;
- President, Zilla Parishad;
- Member, Zilla Parishad;
- Chairman, Panchayat Samiti and Members;
- Sarpanch of Gram Panchayat and Members;
- Chairman and Members of Rugna Kalyan Samitis;
- Chairman and Members of Village Health, Nutrition and Sanitation Committee;
- Chairman and Members of PHC Advisory Committee.

### **Others:**

- Parents of children;
- Patients at the OPD Counters;
- Ex-MPs, ex-MLAs, ex-MLCs, ex-Presidents, ZP and PSs;
- Headmasters of Schools;
- Principals of Colleges;
- Heads of Training Institutions;
- IEC institutions;
- Research institutions associated with nutrition.

### **Wrap up meeting at the end of visit to every district:**

Except Nanded (where the district level meeting took place in the beginning) and Ahmednagar (where no district level meeting was possible as the headquarters of the district is 200 km away from the tribal areas) district level review meetings were addressed by me and attended by the Collector and DM, CEO, ZP, all other district level officers and representatives of departments executing various works (PHC, sub-centre and hospital buildings).

The following was the common refrain in my address to the district level officers in 14 districts:-

- Nutrition is the science of food in relation to health. It is both a process as well as a condition which through adequate intake of food or essential nutrients (iron, calcium, protein, vitamins) contributes to physical growth (height, weight, chest, biceps, circumference of forehead etc.) and health of every living being.
- Nutrition and development are closely inter-related.
- We have a National Nutrition Policy dating back to 1993.
- The policy has sought to interweave increased food production, economic development and overall development strategy.
- According to the statements made in the framework of this policy:-
  - Increased food production does not by itself necessarily ensure nutrition for all;
  - Women and children represent nutritionally the most fragile and vulnerable sections;
  - Intra-household gender discrimination has perpetuated this age old inequity;
  - Mere economic development or even adequacy of food at household levels are no guarantee for a stable and satisfactory nutritional status;
  - The solution lies in integrating nutrition in the overall development strategy of the country.
- Nutrition is primarily a function of food; it is also closely associated with water, sanitation, hygiene and culture.
- Low intake of food and nutrients will result in under nutrition/malnutrition. This in turn will be reflected in :-
  - repeated assaults from under nutrition/malnutrition related diseases and infections;
  - low body weight;
  - stunted development of children;
  - small body size of adults;
  - impaired productivity;
  - low earning capacity.
- Development departments/functionaries have a vital role in promoting nutrition and awareness about nutrition in the following manner:-



- they should own nutrition and nutrition related programmes as their own; this will be in the interest of proper execution of the programme as also health and well being of people who execute the works for the departments;
- they in course of their field visits, reviews and inspections should spread awareness about nutrition so essential to production and productivity and optimal contribution to the society and the nation on the part of every individual;
- nutrition must be integrated into the curriculum, course content and textual materials in schools, colleges and universities and in to all orientation and training programmes.

### **Specific outcome of the field visits:**

#### **Visit to AWCs:**

- The weight of children in AWCs was checked on random basis; most of the children whose heights were checked were found under weight;
- The quantity and quality of supplementary nutrition feeding programme were checked with reference to the directions of the Supreme Court;
- The effect of check up of health of children by the MO from the PHC was checked with reference to the entries in the health check up register and it was noted that children were vulnerable to infections on account of LBW, exposure to cold, lack of potable water, lack of environmental sanitation and low intake of food at home;
- Adequacy and effectiveness of charts, posters and other health educational materials were checked;
- Adequacy and effectiveness of visits of CDPOs and Supervisors to AWCs, the quality of the inspection done by them and impressions recorded by them were checked on random basis;
- Adequacy and effectiveness of home visits (5 households on an average per day) by the anganwadi sevika, advice given to pregnant and lactating mothers, extent of compliance, follow up of the compliance at the time of visit etc. were checked on random basis;
- The entries made in the growth monitoring register, the grading (in terms of Gr. I, II, III and IV malnourished children) and accuracy thereof etc. were checked on random basis; by and large it was observed that the system of grading left much to be desired;
- Members of the SHG were contacted and their experience as also difficulties, if any,



in managing the SNP feeding programme within the per head per day allocation of Rs. 1.98 were ascertained.

- The pace and progress of early childhood education ( ability of children in 3-6 age group to read the alphabets, count the numbers from 1 to 10, ability to recognize the objects from the pictorial charts etc.) were checked and results noted.
- Registers maintained at the AWC were checked on a random basis to assess that they reflected to the ground level situation.

### **Visit to Sub Centres:**

The following aspects were specifically checked and results noted:-

- Number of deliveries conducted, weight of the child at the time of delivery, arranging reference and transportation of high risk pregnant mothers to the PHC, counselling the mothers at the time of discharge (about spacing or gap between 2 deliveries, about dietary pattern to be followed at home for the mother and child, breast feeding and its continuance upto 2 years, commencement of composite feeding after 6 months etc.) births and deaths of children reported to Village Panchayat;
- Adequacy and effectiveness of charts, posters and other health educational materials on safe motherhood, breast feeding, colostrum feeding, immunization, progression of children from Gr. IV to Gr. III, Gr. III to Gr. II, Gr. II to Gr. I and Gr. I to normal, home delivery Vs. institutional delivery, precautions to be taken during advanced stage of pregnancy, spacing, non-discrimination, between boys and girls, need for timely hospitalization and treatment, harmful consequences of LAMA, importance of compliance with instructions issued were checked;
- Adequacy and effectiveness of the visit to institutions and households and interaction with mothers, nature, quality and impact of counselling mothers etc. were checked;
- Practical difficulties in covering all the villages and households in remote, interior and inaccessible geographical terrains (like Gadchiroli, Nandurbar, Thane) were ascertained and guidance provided as to how to combine time management with an optimal coverage and most effective impact.

### **Visit to PHCs:**

The following aspects were specifically checked and results noted:-

- Adequacy of physical infrastructure, safety of the structure, lighting, ventilation, arrangement of rooms for a variety of purposes, power back up against load shedding, adequacy of water supply, conservancy, condition of beds, quality

of mattresses and linens, overall environment and how congenial is the same to mothers and children;

- Human resource, staffing pattern and people in position, regular versus contractual, basis of recruitment, steps taken for filling up vacancies, orientation and training of personnel for human resource development, accountability and discipline etc.;
- Calendar of monthly visits by ANMs, LHVs and MPWs to villages within their jurisdiction and specifically earmarked to them, exact schedule, institutions (AWC, Village Panchayat, SHG/Mahila Mandal etc.) visited, items of activity and responsibility related to health verified, household visited, mothers contacted and counselled, nature of counsel, extent of compliance, follow up and feed back etc.
- ANC Registration, number of times the pregnant mothers actually come for check up on the ANC day, counselling given, benefits under Matrutwa Anudan Yojana, amount disbursed, number of mothers awaiting to receive the benefits, reasons for delay, steps taken for expediting disbursements, extent of compliance with the medicines given to the mothers as a part of MAY etc.;
- Home delivery Vs. Institutional delivery, steps taken for promoting institutional delivery, number of skilled birth attendants available in the PHC area for conducting home delivery, benefits under Janani Surakshya Yojana, number of pregnant mothers who have been benefited, number of pregnant mothers who have delivered children either at home or in the PHC but not received benefits of JSY, reasons for delay, steps taken for expediting payments and reducing waiting periods etc.;
- Whether any survey undertaken to identify Gr. III and Gr. IV children, number of children identified, admitted and treated in the PHCs, number of patients referred to Rural Hospitals and Sub-hospitals, present status, extent of follow up, feedback on the strength of which further preventive and corrective action can be taken etc.;
- Camps organized by the PHCs, number of mothers and children attended, nature of screening conducted, follow up action taken on the basis of screening, measures taken to spread awareness among mothers that it is important to (a) go in for institutional delivery (b) go in for timely vaccination (c) go in for timely hospitalization and treatment (d) go in for timely compliance with the drugs prescribed;
- Adequacy and effectiveness of health educational materials (charts, posters etc.) displayed on the walls of the PHC particularly in the OPD so that patients

who are literate, who can read them, comprehend them and could apply the messages contained in the materials in their day to day lives; for others who are not so literate, the role played by PHC staff to explain to them the meaning and implication of various messages.

### **Visit to rural hospitals, sub-hospitals and civil hospitals:**

The following aspects were specifically checked:-

- Number of Gr. III and Gr. IV malnourished children associated with other complications admitted and treated in hospitals;
- Number of cases referred by PHCs and number of cases which were brought by mothers or AWWs or ANMs;
- Date of admission;
- Weight at the time of admission;
- Line of treatment;
- Response of patients to the treatment;
- Pace and progress of recovery;
- Duration of stay;
- Diet for mothers and children, quantity and quality;
- Discharge of the patient, counselling mothers at the time of discharge;
- Follow up, feedback on the present status.

### **Visit to Neonatal care units (NICUs):**

The following aspects were specifically checked:-

- Date of delivery of the mother;
- Date of admission of the child (1 month and below);
- Weight of the child at the time of admission;
- Other complications associated with LBW;
- Line of treatment;
- Response of the patient to the treatment;
- Number of cases which are more complicated and which need reference to specialized institutions outside (like Sirdi Heart Institute, KEM College and Hospital, Mumbai);
- Likely date of discharge;
- Follow up and feedback on the present status;
- Other deficiencies in the management of NICU.

## **Nutritional Rehabilitation Centres (NRCs):**

This is a new institution which is being experimented on a trial basis to motivate mothers to stay with Gr. III and Gr. IV children (at the NRC) till such time as the course of treatment is complete. Some of the NRCs were visited and the following aspects were checked:-

- Location, physical infrastructure, adequacy of space, whether well lighted and ventilated;
- Number of malnourished children (Gr. III and IV) and number of mothers actually staying with them;
- Recipe of food, quantity and quality, frequency of service, reaction of mothers to food;
- Nature of complications associated with malnutrition;
- Line of treatment;
- Response of patients;
- Pace and progress of recovery;
- Likely duration of stay;
- Planning for getting the next batch of malnourished children;
- Overall outcome of this experiment.

## **State Bureau of IEC, Pune (1996):**

The visit to the Bureau was linked to the visit to Pune district and was for a brief duration (about an hour). The following aspects were specifically checked:-

- Number of IEC materials produced and distributed (posters, folders, flip books, tin plates, exhibition sets, audio/video cassettes, banners, booklets etc.);
- Number of video films, TV spots, radio jingles produced;
- Number of T.V. spots and TV programmes telecast;
- Number of Radio jingles and Radio programmes broadcast;
- Extent by which the print and electronic materials are wedded to ground level realities and extent by which they have been made use of by AWCs, sub-centres, PHCs and hospitals;
- Who ensures the application of these materials on the ground?;
- Extent by which technical assistance and guidance are being provided in IEC methods and media to field staff;

- Extent by which IEC activities conducted by various Bureaus are being integrated and coordinated;
- Extent by which the personnel of Health Department are being trained in IEC methods, techniques and material development;
- Extent by which a sound intra departmental and inter-departmental relationship and day to day cordial working relationship has been built up with various agencies;
- Extent by which liaison and coordination with publicity units like AIR/TV have been built up in the State.

### **Visit to State Bureau of Nutrition:**

The undivided Bombay State Government was the first after independence to have taken the initiative to set up a full fledged Department of Nutrition in 1949. The Department was located in Haffkin Institute, Mumbai. In April, 1970, it was transferred from the Institute, brought under the administrative control of DHS and located at the Institute of Public Health, Nagpur. Since March, 85 it is functioning as the State Bureau of Nutrition, Nagpur. I paid a visit to the Bureau on 2.11.2007 and spent about 2 hours with the Senior Scientific Officers and others (4) to familiarize myself with the activities of the Bureau and assess its contribution to promote better nutrition for children in tribal areas of the State. The following specific aspects in the functioning and activities of the Bureau were checked by me:-

- How nutrition surveys are being conducted, findings compiled, analysed and corrective action taken;
- How nutrition education programmes are being organized;
- How nutrition education activities of the health functionaries trained by the Bureau are being monitored;
- How nutrition and health education activities for adolescent girls in rural areas are being monitored;
- How to formulate and demonstrate low cost nutritious recipes from locally available food stuffs;
- How to detect food adulteration at the household level;
- How to analyse iodized salt samples (to ensure minimum iodine content of 15 PPM);
- How the IEC materials and training materials for dissemination of nutrition education are being developed, disseminated and applied;
- How are the ICDS and health functionaries being trained.

The Bureau has completed 2 surveys for quality improvement in nutrition and health in 2 predominantly tribal districts of Amravati and Gadchiroli and has brought out the survey report. The findings of the survey are:-

### **Amravati:**

- Dharni and Chikhaldara are the 2 Blocks in Amravati with 1.39% and 1.24% of severe malnutrition.
- Within the 2 Blocks, Sadrawadi, Kalamkhar and Tembhursonda PHCs and Khari, Kharya and Ambapati villages are having the maximum prevalence of malnutrition.
- 86.7% of the households consume jawar;
- Consumption of pulses, green leafy vegetables, milk/milk product in the district is inadequate;
- In case of children consumption of all nutrients was below RDA;
- 23.3% mothers exclusively breast feed infants upto 6 months;
- Parents leave children alone at home while going to field and the children are not properly taken care of;
- No proper weaning foods are introduced at home and 50% of the mothers started weaning after 9 months;
- Early marriage of girls leads to early pregnancies;
- There is no spacing;
- Excessive desire for male children leads to increase of family size;
- Protein calorie inadequacy in pregnant and lactating mothers was 90.9% and 100% respectively;
- Protein calorie inadequacy in children (1-3 years and 3-6 years) was 48% and 33.3% respectively;

### **Gadchiroli:**

- Bhamragad, Dhanora and Chamorshi are the 3 Blocks in Gadchiroli with 1.89, 1.36 and 1.07% of severe malnutrition;
- Within the 2 Blocks Arewada, Godalwahi and Amgaon PHCs and Bejur, Pandharsada and Kunid villages have the maximum prevalence of malnutrition;
- Rice is the staple food consumed by 96.6% households;
- Consumption of pulses, green leafy vegetables, milk and milk products is inadequate;
- Consumption of all nutrients was below RDA in children;

- Nutrient intake was below RDA in case of pregnant and lactating women;
- Protein calorie deficiency as well as micro-nutrient inadequacy was very high in case of children of 1-3 and 4-6 years;
- 66.7% mothers exclusively breast feed infants upto 6 months which is a good practice;
- Half yearly birthdays are celebrated in AWCs but no proper weaning foods are introduced at home;
- Percentage of severe malnutrition is more in girls than in boys which is clearly indicative of sex discrimination in child rearing practices in favour of boys and at the cost of girls;
- Early marriage of girls leads to early pregnancies;
- Excessive desire for male offsprings increases the family size.

### **Recommendations made at the end of the survey:**

- Strict spot feeding for children, pregnant women and lactating mothers must be practised.
- Early detection, prompt treatment and regular follow up of sick children is most desirable.
- The health and ICDS functionaries in course of home visits must ensure that there is strict compliance with the medicines prescribed.
- ANC registration and care must be improved to reduce the percentage of LBW babies.
- Orientation of AWWs, AWHs, health workers, SHG members is required regarding soyabean products (100 gm soyabean contains 432 kilo calorie of nutritive value) low cost nutritious recipes and counseling of parents for nutrition rehabilitation of malnourished children.
- The health and ICDS functionaries should impart nutrition education to pregnant women and lactating mothers, adolescent girls on various aspects of nutrition and health.
- Iodized salt must be distributed through PDS.
- Sex discrimination must be thoroughly discouraged.

### **Inherent limitations in socio-legal investigation:**

A social investigator who proceeds to investigate into certain social phenomena like hunger/starvation and malnutrition/under nutrition is confronted with certain limitations/



constraints. The first is the linguistic barrier. The tribes in Maharashtra speak Gondi, Madhia, Villoli etc. as their native dialect. The socio legal investigator may not be adept in communicating in these dialects. While help of interpreters may be taken to understand the dialect, the communication process may not be a natural or spontaneous one as it should be. Secondly, tribal family members including women go away for work in early morning hours and may not be left with much time and leisure to talk to the investigator. Thirdly, they may feel restrained or inhibited in unfolding the story of their life to an outsider.

I did come across these limitations/constraints but I had my own way of dealing with them. Before proceeding with the investigation I had familiarized myself thoroughly with the geography, topography and demography of the district I was going to visit. Even though I was not familiar with the native dialects, I knew 'bolchal' Hindi well and knew through my earlier experience of working as a socio legal investigating Commissioner of the Supreme Court (1983-84) as to how through a process of natural and unorchestrated communication one could make people feel completely at home with the visitor in a new environment. The members of the tribal community in all the 15 tribal districts are simple, affable, free of guile, hospitable and open up very easily. I had, therefore, the language barrier notwithstanding, no major problem in communicating to them or in establishing a natural rapport and bonhomie with them.

The findings are revealing. Much of what I have recorded in Part-II of the report by way of a summary of field impressions stands fully corroborated by the nutrition survey undertaken by the State Bureau of Nutrition in Amravati and Gadchiroli about which I have made a reference in the preceding pages. Given the diversity of socio-cultural milieu and heterogeneity of human characters and situations which influence that milieu it is difficult to arrive at an absolute truth at the end of the enquiry. The truth may at least be empirical and not absolute.

This notwithstanding, I must add that (a) a very structured and systematic approach to the enquiry entrusted to me has been adopted from the very beginning and (b) the enquiry has been conducted with total probity, rectitude and transparency at all levels.



# Chapter-X

---

## **IEC – Relevance, Strength and Application in the War against Malnutrition**

One is reminded of the preamble to the UNESCO which reads ‘If wars begin in the minds of men, it is in the minds of men that the foundations of peace must be laid’. In a similar vein, it could be said that the war against malnutrition does not lie so much in production and distribution of food grains, milk, fish, eggs and meat although these constitute important weapons in the armoury in a war to be waged against malnutrition/ under nutrition. The war does not lie so much in ICDS and Public Health Institutions (AWC, Sub centre, PHC, RH, Sub Hospital and Civil hospital) although these also constitute important arms and ammunitions in the war against malnutrition.

The war against malnutrition will have to begin from the household, the home where parents, guardians, family members and children live. For success in the battle against malnutrition and under nutrition we need a new set of parents, in particular mothers and other family members in a joint family system whose minds will be liberated from bundles of fads, ill perceived notions, obscurantist ideas and practices to become totally rational and scientific. A very powerful and telling advocacy is needed which will remove the aura of age old false consciousness and impart a new and critical consciousness in the minds of the parents in tribal households and in particular mothers. For such advocacy we need a set of well illustrated and well visualized powerful messages which will have to be prepared in a workshop of creative thinkers, writers and artistes; pretested, reactions of the audience tape recorded and brought back to the workshop for validation of the suitability of the messages prior to their finalization and adoption.

The central messages IEC package are:-

- Children are our succeeding generation;
- They represent pristine purity, simplicity, innocence and guilelessness;
- We cannot afford to play ducks and drakes with their simple and innocent lives;

- Children's life once deformed or debilitated or destroyed cannot be regained; it will be a sad and irretrievable loss of our next generation;
- It is in their own interest and the interest of the children that we need to advise all householders to limit the size of their family;
- It is in their own interest and in the larger interest of the family that while men should go in for vasectomy women should go in for tubectomy after two children;
- It is in their own interest and in the interest of the health of the children that they should observe minimum spacing of 3 years between 2 children;
- It is in their own interest that they should put an end to early child marriage and teenage pregnancy which are injurious to the mother's health;
- Nutrition is the science of food in relation to health. It is 100% science and there is no place for blind faith or superstition or quackery in this;
- Gr. III and Gr. IV malnourished children need to be admitted to and treated in hospitals. Time is the essence and slightest delay in admission and treatment will prove to be too costly;
- Such treatment cannot be arranged at home and home cannot be a substitute for the hospital. Mothers should not commit the folly of taking away the children against medical advice (LAMA) before the full course of treatment has been completed;
- Even after discharge from hospitals there has to be strict and timely compliance with the advice given by the doctors in terms of drugs, diet and day to day care and attention; in particular children discharged from NICU will have to be wrapped round a baby woolen blanket or kept in a thermocol box so that exposure to cold and hypothermia are prevented (their body temperature is controlled at 36.5° C by the warmer once they are inside the NICU);
- Children need milk and eggs since 80% of the brain is formed in the first 2 years of their life; we cannot afford to deny them any of those macro-nutrients;
- Bundles of fads are associated with breast feeding and these need to be replaced by a rational and scientific understanding of the advantages of breast feeding for both children and mothers;
- For children, the advantages of breast feeding are:-
  - o it stimulates all the five senses namely sight, smell, hearing, taste and touch;
  - o it fosters emotional security and a life long impact on psychosocial development;

- o it enhances brain development and cognitive skills; a breast fed child is more intelligent and may have an IQ of 8 points higher than a non-breast fed baby;
- o it builds child's immune system and prevents diseases like neonatal sepsis, diarrhoea and pneumonia;
- o it is capable of saving 13% to 6% of all under five child deaths;
- o for mothers, the advantages are:-
  - early initiation of breast feeding lowers the mother's risk for excess post partum bleeding and anaemia;
  - it helps the uterus to retract;
  - it boosts mother's immune system, delays next pregnancy and reduces the insulin needs of diabetic mothers;
  - it helps to protect a mother from breast and ovarian cancers and osteoporosis (brittle bones);
  - it helps a mother to shed extra weight gained during pregnancy.
- Therefore, early initiation of breast feeding is extremely important for establishing successful lactation as well as for providing 'colostrum' (mother's first milk) to the baby. Ideally, the baby should receive the first breast feed as soon as possible and preferably within one hour of birth.
- Tragically enough, there are fads associated with colostrums as with breast feeding and it is necessary to remove these fads by conveying the following message:-
  - Colostrum is the milk secreted after the birth of the child for the first few days;
  - Yellowish in colour and sticky, it is highly nutritious and contains anti-infective substances;
  - It is rich in Vitamin 'A', has more protein (upto 10%), less fat and carbohydrate than mature milk;
  - It helps in building stores of nutrients and anti-infective substances (antibodies) in the baby's body;
  - It is the first immunization a child receives from the mother; it protects the body from infectious diseases such as diarrhoea to which the child might be exposed in the first few weeks after birth.
- The central messages are many and what has been stated is only an illustrative outline. They could be family related, diet related and health related. The manner

of designing the message is as important as the content of the message. Application is also as important as the content. We talk of the importance of breast feeding but in actual practice mothers take recourse to bottle feeding which is a cause for increased morbidity and mortality. A filthy medicine bottle with a teat on it, wrapped in a dirty cloth with flies on the teat is exactly the reverse of what we have spoken so far, is a potent source of infection and yet we continue to do it without any compunction.

- How do we, therefore, design a central message. The characteristics of a good central message are:-
  - It should be well visualized and illustrated;
  - Its language should be simple and intelligible;
  - It should be rich in terms of human appeal;
  - There should be a logical and coherent link between various components of the message;
  - The conclusion in the message must be clear, cogent, non-negotiable and irreversible and should be capable of being implemented.
- Exactly 20 years ago from now in November, 87 (When I was Director General of National Literacy Mission) I had the occasion to watch what even today I term as an exemplar in communication – a film called ‘Angutha Chaap’ by Sai Paranjpe. It’s a powerful story of an old man – Shri Bhola Ram Athawle (Kondiba) in his 60s. He is used to the process of receiving money orders from his son at Bombay by giving his thumb impression on the money order coupon. One day while receiving the money order he is ridiculed by some teenagers in the company of his grandson (Pareesh Deshmukh or Chikhlu). Their words pierce through his fragile frame like an electric current. He receives a severe jolt. His anguish deepens. But the moment of his deep psychological trauma also becomes the moment of his supreme resolve. He perceives and internalizes the need for literacy. In that moment of deep mental anguish he reflects on himself, on the existential reality of the situation in which he is placed and on the causes which have led to his current predicament. He makes up his mind to be a literate being, a whole being, a complete entity and not surprisingly chooses his own grandson (Chiklu) as his preceptor. What follows thereafter in quick succession is the story of remarkable transformation of an old man struggling hard in isolation to grapple with the plight of his own illiteracy. He prefers to pursue his goal with single minded devotion in obscurity. The fear of being discovered as a learner in a ripe old age is haunting him to the core. But he does not look back nor does he swerve an inch from the chosen path. The

greenery of the paddy field, the aroma of the barn, the clutter of falling leaves, the whisper of the breeze do not affect his rugged determination, so uncharacteristic of old age. Then comes that moment of supreme discovery which is also a moment of rare excitement and joy (like Eureka) that he is no longer in need of a thumb impression, that he is able to receive the money orders by signing it himself and is able to read and comprehend the little message from his son contained in the money order coupon. The need perceived by him becomes the need internalized. His own awakening becomes a tool for sensitizing a whole community of illiterates – young and old and spurs them to action.

- The message in the film is a powerful one. It is the message of:-
  - motivation and sensitization of an old learner;
  - literacy by itself is the best incentive for an illiterate person;
  - individual motivation can become a spur to community participation in learning (reminiscent of Gram Shikshan Muhim in Maharashtra in early 60s);

Malnutrition or under nutrition like illiteracy is not a fatality, not a curse, not something inevitable. It is a disadvantage or disability related phenomenon and if detected and treated in time is fully correctable. With planned, coordinated and concerted efforts it is fully preventable too. For this what is needed is a powerful IEC package which should explain in simple words what is nutrition, what is malnutrition and under nutrition, what is severe malnutrition – the causes and consequences thereof, what are the diseases related to malnutrition and under nutrition and how do we grapple with and overcome them.

Such a message can be designed by individuals with imagination and creativity like Sai Paranjpe; it can also be the product of collective imagination and creativity. Since ours is a vast country (in which Maharashtra is a large State), conditions vary from State to State and even within the State and within the district and an individual with best of imagination, ingenuity and resourcefulness may not be the custodian of all that obtains in different parts of the country, a State or a district, it may be appropriate to go in for a collective product while designing an IEC package as a tool or weapon against malnutrition/ under nutrition. This process will have several components and stages of evolution which may be explained as under:-

### **Stage – I:**

Identify on the basis of local knowledge and information (Division wise, district wise) creative thinkers, writers, visualizers, illustrators, graphic designers and artistes and prepare a Directory of such persons.

## **Stage – II:**

Bring them as resource persons to a workshop to be conducted at the district or divisional or even State level, as may be expedient to a particular situation. The participants of the workshop may be parents, guardians and members of the community on a selective basis. The number of resource persons and participants should be within 30. A large number of photographs of both nourished, breast fed and healthy children as well as malnourished/ undernourished children should be taken from the ground and brought to the workshop.

## **Stage – III:**

The picture or photograph may be put before the participants who recognize the objects. Centering round the object we select a topic like breast feeding for discussion and the resource persons would put a few questions:-

- What's the picture that you see before you?
- What is your perception of breast feeding?

A discussion follows which brings out the plus points of breast feeding and the central message of the strength of breast feeding as also the mistaken notions about breast feeding is eventually driven home to the participants.

Similarly we place a picture of a mother feeding a child the water of molasses or water of dal to a 6 month old child before the participants and ask the following questions:-

- What do you see in the picture?
- Do you approve of what the mother is doing to the child?

This will generate a discussion and the discussion will eventually lead to certain conclusions about what mothers should be doing or should not be doing and would help in carrying conviction to the participants about the desirability of doing certain things which are scientific and not doing things which are not so scientific.

There could be a number of such illustrations with pictures drawn from a variety of situations such as:-

1. Two pictures of 2 children, one child (0-2 years) drinking milk from a bottle, flies buzzing round the teat who is malnourished, weak and vulnerable to infection and another who is breast fed along with composite feeding started after 6 months, who is strong and well nourished.
2. Pictures of 2 malnourished children, one ordinarily and another severely malnourished.



3. Pictures to illustrate symptoms of malnutrition (low weight, wasting, bones coming out, height not going up corresponding to age, swelling and formation of pus in legs, fall of hair, colour of hair going dull, swelling of abdomen, changes of skin, food intake going down, falling ill again and again, crying all the time).
4. Pictures showing 2 plates, one full of cooked rice/chapatti, dal, green leafy vegetables, fruits, milk, egg etc. and the other full of bhakri, rice and chillies to bring out the difference between presence and absence of macro and micro nutrients and contributing to nutrition and malnutrition respectively.
5. Picture showing a child drinking from a source which is contaminated or drinking water from a glass which is lying on the ground with flies unclean and being the source of infection for water borne diseases.
6. Picture showing absence of environmental sanitation (a child defecating on the ground, the human wastes getting into sources of water and giving rise to communicable diseases) being responsible for diarrhea, dysentery, Pneumonia, malaria etc.
7. Picture showing parents have gone out for work as farm labourers leaving small children with grown up ones who without training and exposure do not know how to feed the children, how to provide best of care and attention to them etc., what is the process which causes a disparity between what the body needs and what the body gets and which goes by the name of malnutrition.
8. Pictures presenting some of the individual aberrations and social evils like:-
  - o large size of the family;
  - o early child marriage;
  - o teenage pregnancy;
  - o absence of spacing;
  - o making women do hard manual labour at an advanced stage of pregnancy and take less nutritious diet in less quantities etc.;
  - o unnecessary and excessive desire for male offsprings.
9. Picture showing malnutrition giving rise to consumption diseases (TB, Pleurosy etc.).
10. Picture showing the vice like grip of Pujaris, Bhagats and Bhumkas on innocent and guileless tribal women, dissuading them not to go to hospital to avail of treatment but to go in for indigenous systems of treatment which have no scientific basis.



11. Picture showing mismanagement in AWCs, the food meant for one child being shared by 2-3 children, children carrying food to their homes, subjecting it in the process to infection, the surrounding of the AWC being untidy and being a source of infection.
12. Picture showing how addiction to liquor, gutka, opium, ganja, beedi etc. causes a major share of the limited earnings of a householder being diverted to these non-food items at the cost of food items and how the same results in low consumption of carbohydrates, pulses, milk, egg, fish etc. for the minimum maintenance of the body.
13. Picture showing discrimination between boys and girls in terms of equitable access to food, dress, education which eventually results in malnourishment of the girl child.

## **Stage - IV**

- The end product or IEC package which will emerge out of this exercise (pictorial presentation, discussion, conclusion) will represent life of a child as a complete cycle with the following components:-
  - size of the family;
  - marriage;
  - conception;
  - pregnancy; concept of safe motherhood;
  - precautions during pregnancy;
  - birth of the child; institutional vs. home delivery;
  - weight of the child;
  - child in 0-7 days, the most fragile and critical stage in the life of a human offspring;
  - child in 8-28 days; commencement of breast feeding, vaccination;
  - child in 29th day to 6 months; continuance of breast feeding and vaccination;
  - child in 6th month to 1 year; continuance of breast feeding, composite feeding from 6th month onwards, vaccination;
  - child in 1 year to 6 years;
  - causes of malnutrition;
  - consequences of malnutrition;
  - causes of neonatal mortality;

- causes of infant mortality;
- causes of child mortality;
- concept of and access to wholesome and nutritious food; concept of adequacy and frequency with which food should be served;
- concept of and access to potable water;
- concept of and access to environmental sanitation;
- fads, ill perceived notions, superstitious about food, health and nutrition.

## **Stage - V**

The end product can either be in print or electronic medium. It is required to be used in AWCs, Sub-Centres, PHCs as also in the villages, hamlets and households. To the extent, there is provision of electricity, electronic medium is the preferred medium of communication. As a matter of course, the end product should first find expression in a number of charts and posters and displayed in AWCs, Sub-Centres, PHCs, PHUs, Panchayat and Panchayat Samiti offices etc. Before we go in for printing, the validity of the end product should be pretested on the ground, response of the audience (family members in a household, working and non working mothers in particular) recorded, brought back to the workshop which gave birth to the end product and finally adopted.

## **Stage – VI**

After validation and adoption we go in for printing the end product in sufficient number and thereafter arrange wide dissemination of the print material.

## **Stage – VII**

All IEC materials which are eventually displayed in AWCs, Sub-Centres, PHUs, PHCs, Rural, Sub divisional and Civil hospitals are meant to be explained in a simple and intelligible language to the pregnant and lactating mothers who come for check up, admission and treatment of self and children.

## **Stage – VIII**

The IEC materials should also be taken to camps being organized by PHCs and hospitals for explaining their content to mothers. In order that ANMs, LHVs, MPWs as also AWWs, Supervisors and CDPOs are able to explain the central message contained in the IEC materials and carry conviction to the households, parents and mothers in particular they need to be given orientation and training and the IEC package must be an integral part of the training content and process. Being communicative and participative should be the hall mark of the entire process.

While the IEC package conforms to certain core messages about small family size, planned parenthood, marriage at an age which represents maturity, sensibility, wisdom as also responsibility, importance of cooked food and nutrition being the key to sound health and long life, equality between boys and girls, men and women and importance of rational, secular and scientific temper and they are non-negotiable as values, there is need for evaluation of the content, quality and impact of such packages so that changes and improvements in the process as may be deemed appropriate could be introduced.

In Maharashtra, IEC materials are being procured and supplied to all AWCs centrally by the Commissionerate, ICDS. Simultaneously, the State Bureau of Nutrition is designing the IEC materials and the same are being printed and disseminated by the State IEC Bureau at Pune. While this amounts to duplication without any synergy between these 2 State level bodies, the IEC materials which are being produced suffer from the following deficiencies:-

1. They have not brought out fully various stages in the cycle of life either in 0-6 age group or beyond;
2. There is no logical and coherent link between various IEC materials produced;
3. They are not well visualized or well illustrated;
4. There is a lot of repetition and no convergence between the various messages and processes involved in producing them.

The State Government may consider adoption of the communicative and participative approach to preparation of an IEC package comprising of a number of core messages relevant to nutrition (food, health and life) as has been presented in the preceding paras. Taking human life as a complete cycle and 0-6 age group as an important stage in that cycle with a number of phases or components therein, the State Government may design a comprehensive package through a workshop and go in for publication and dissemination of the package and evaluate at an appropriate stage its application, use and impact.

# Chapter XI

---

## Convergence - Concept, Strategy and Methodology

The Chamber's dictionary meaning of 'converge' is to tend to meet in a point or line; inclined towards each other as lines that are not parallel. It also means to tend to a common result or conclusion.

Similarly convergence is an act or instance of converging or tending to meet. It means the degree to which or point at which lines and objects converge.

In the context of promoting nutrition or taking up a fight against malnutrition, we perceive the need for convergence on account of the following reasons:-

- we have different forms of micro nutrient malnutrition namely;
  - Iron deficiency or anaemia;
  - Vitamin 'A' deficiency or Bitot spots;
  - Iodine Deficiency Disorder.
- we have 3 distinctly different population sub groups identified as critical life stages such as;
  - pregnant and lactating mothers/women;
  - adolescents;
  - children in 0-6 age group.
- their health and nutritional needs are different;
- mothers and adolescents (15-18 age group) have multiple fads, and ill perceived notions which need to be systematically dispelled;
- there is not one but host of causes and contributory factors – socio-cultural, biological and economical responsible for malnutrition/ under nutrition of these groups;

- there is, therefore, not one but multiple strategies which are needed to bring about the desired and much needed change in their health and nutritional status;
- existing programmes do not address the problem of malnutrition/under nutrition in a holistic manner;
- today we have only nutrient supplementation programmes and they do not cover the entire high risk malnourished group;
- today again there is no effective mechanism and procedure for monitoring micro nutrient deficiencies;

### **To illustrate:**

- NFHS undertaken once every 6 years covers only anaemia levels in women and children under 3 years and projects only the State level picture;
- NNMB has branches in only 10 States but brings out State Level Projections for 8 States only;
- Food fortification has not been given adequate attention; the momentum gathered is slow and halting;
- We have a National Horticulture Mission (NHM) since 2005-06 but nutrition oriented horticultural interventions to promote production of fruits and vegetables at household and community level are yet to be launched;
- The ignorance and illiteracy about causes and consequences of micro nutrient malnutrition, its prevention and management are pervasive;
- Infant births and deaths are not registered 100%;
- There is no management information system for bold, fearless and completely accurate reporting of neonatal, infant, children's deaths on account of malnutrition;
- Such reporting may result in departmental action against the functionaries responsible for honest reporting; They are, therefore, discouraged not to report correctly;
- This is the macro level micro-nutrient related malnutrition scenario.
- As far as the State of Maharashtra is concerned we have 35 districts but prevailing conditions are widely different. There are well endowed regions and less endowed regions. There are low delivery and deprived areas like remote, interior, inaccessible pockets in Gadchiroli (South), hilly areas of Ahmednagar (Shendy), forest areas of Jalgaon (Baijapur), urban slum dwellers and migrant population.
- There are areas like Dahanu on the west coast right on the bank of Arabian sea

where fish is available in plenty but people do not consume fish for cultural reasons (being a part and parcel of Swadhyay movement of late Pandurang Athavale which advocates total non violence and non killing and eating of fish);

- There are taluks like Jwahar, Wada, Mokhada and Shahapur which are in Thane district which is proximate to Mumbai, the commercial capital of India with the highest GDP per capita but where the contrast between affluence and indigence could not have been more pronounced;
- There are members of tribal communities as in Hiwra bazaar PHC area in Nagpur district who do not consume milk on account of certain preconceived notions that such consumption will be injurious to their health.
- In Amravati and Gadchiroli where the nutrition status of pregnant mothers and children has been surveyed recently by the State Bureau of Nutrition (findings have been presented in a summary form at page 161-162 of this report) mothers refuse to consume iron tablet even though only 10% of ANC mothers have normal haemoglobin content (11 mg%) and 90% of the mothers are anaemic (low haemoglobin content results in LBW and high MMR);
- Different agencies (Commissioner, ICDS, State Institute of Health and Family Welfare) report different figures of children's death (including neonatal and infant deaths);
- How to report death has been laid down in the International Code ICD9. Death could be attributed to syndromes; it could also be attributed to predispositions. What is being reported by various agencies of the State Government is syndrome and not predisposition related (syndrome is manifestation of a group of symptoms which together are characteristic of a specific condition, disease or like while predisposition is the condition of being disposed before hand or rendering a subject susceptible or liable).

### **Importance of convergence:**

Improving the availability and quality of health services, increasing access and improving nutritional status is not possible without building partnership among stake holders. Such partnership and linkage strategy involves working together with government functionaries (health, ICDS and others), local self governing bodies (Panchayats and municipalities), community based organizations (CBOs), NGOs, donor agencies, academic institutions and others. Such an approach has a number of advantages:-

- it facilitates pooling of knowledge, information and skill from the stake holders (which would otherwise be lying scattered and fragmented) to a convergent whole which will be in the larger interest of implementation of a policy or programme of action;

- it will make possible pooling of financial resources from a number of sources and to integrate the same imaginatively and skilfully for a qualitative implementation of the programme;
- it will enhance interaction between local communities and governmental systems; the latter will be able to have better outreach (being able to reach out more people);
- it will promote sustainability of the programme.

### **What does the National Nutrition Policy, 1993 say about convergence of Policies and Programmes:**

‘Given the problem of mounting delivery cost of various nutritional interventions, it is necessary to mobilize resources from within the community in order to ensure sustainability of these interventions. This is a major area of concern and the State Governments, local bodies (including municipal and panchayat bodies), NGOs, cooperatives, professional organizations and pressure groups must take this up as a challenge. In a pluralistic society like ours, a concerted effort by all of them is the only way to build community support and ultimately community participation in these schemes’.

### **What are the prioritized strategies that need to be in place in the context of translating convergence into action:-**

Convergence of policies and programmes does not exist in thin air; it has always to be in the context of a specific and prioritized strategy. In the context of fight against micro nutrient malnutrition the prioritized strategies may be as under:-

- While the GOI may formulate the broad policies related to nutrition promotion and malnutrition control, the cutting edge of governmental intervention will have to be at the State level.
- Surveys need to be undertaken at the district level as a part of RCH-II to identify malnourished children in all grades.
- NNMB needs to have its presence in all the 28 states and 7 UTs in a phased manner.
- In the context of pervasive prevalence of anaemia amongst mothers and children as revealed from the findings of NFHS III survey (women 56.1% and children 79%) the existing iron and folic acid supplementation programmes under RCH-II need to be enlarged in their scope and content. All infants and young children (0-6 age group) and all adolescent girls (our future mothers) should be provided IFA in syrup form and weekly iron supplements;
- Similarly the existing low coverage of Vitamin ‘A’ supplementation programme for children between 6 months to 5 years should be raised to 90%;



- Food fortification is the process of improving the quantity of necessary vitamins (A & D) and minerals in our daily food intake. This is a cost effective strategy to promote nutrition and to promote this, GOI have introduced a scheme to subsidize 50% of the amount required for setting up plant and machinery to make edible oil, wheat and flour enriched with Vitamin. Gujarat and West Bengal are the 2 States which have taken a lead in this direction.

The strategy needs to be given a very high priority and Gujarat and West Bengal model experiments deserve to be replicated for the whole country.

This will be an effective answer to the increasing incidence of night blindness and even total blindness due to acute Vitamin 'A' deficiency (every year 12000 to 14000 children in 0-6 age group go blind due to acute Vitamin A deficiency).

- Iodine Deficiency Disorder (IDD) refers to all the effects of iodine deficiency on human growth and development. The problem of IDD is of far greater magnitude than one of goiter and cretinism. It is a national problem with grave socio-economic consequences.
- Double fortified salt with iron and iodine which is the answer to IDD should be adopted with urgency and seriousness of concern. All iodization plants should be converted to DFS plants with immediate effect.
- Children of poor parents in rural areas live in unclean and unhygienic surroundings and get infested by worms. Deworming of all children should be undertaken every 6 months through ICDS for 3-6 children and through schools for other children.
- According to NFHS-3 Survey (2005-06) only 43.5% children receive recommended vaccination. This percentage needs to be substantially enhanced since they immunize children against 6 deadly killers i.e. T.B., diphtheria, whooping cough, tetanus, polio and measles. TT(tetanus toxoid) immunization for pregnant women is equally important.
- The extent of ante-natal checks for pregnant mothers is only 50.7% according to NFHS-3. This needs to be substantially enhanced. Similarly home delivery vs. institutional delivery is 40:60 according to NFHS-3. The extent of institutional delivery needs to be substantially enhanced. All pregnant mothers should receive IFA supplementation as against 22.3% according to NFHS-3.
- The above prioritized strategies can be divided broadly into 4 categories namely;
  - Dietary diversification;
  - Nutrient supplementation;

- Food fortification;
- Public health measures.
- There are a number of sub components of each one of these strategies. Four tables have been prepared, each table encompassing the sub-strategies and the role of the Ministries/Departments of GOI who can effectively intervene to translate the strategies/sub components of the strategies into concrete action.)

## 1. Strategy No. 1:

Dietary diversification:	
Intervention:	Ministry/Department of GOI
Sub Strategies:	
<ul style="list-style-type: none"> <li>• Nutrition advocacy, awareness generation through launching a national campaign for promoting nutrition.</li> </ul>	Food and Nutrition Board, Deptt. of Women & Child Development, Ministry of Human Resource Development.
<ul style="list-style-type: none"> <li>• IEC on micro-nutrient deficiencies through ICDS.</li> </ul>	Deptt. of Women & Child Development, Ministry of HRD.
<ul style="list-style-type: none"> <li>• Community and household level production of fruits and vegetables through a scheme on 'Horticulture for nutrition promotion', training in fruits and vegetables processing, cold chains and marketing link up.</li> </ul>	National Horticulture Mission, Horticulture Division, Ministry of Agriculture.
<ul style="list-style-type: none"> <li>• Daily programmes for dissemination of knowledge and information about nutrition on AIR and DD at prime time.</li> </ul>	Ministry of Information and Broadcasting.
<ul style="list-style-type: none"> <li>• IEC on micro nutrient deficiencies – design, production, distribution and application through AWCs, sub centres, PHCs etc.</li> </ul>	Ministry of Health & Family Welfare.  Deptt. of Women and Child Development.

<ul style="list-style-type: none"> <li>• IEC on micro-nutrient deficiencies – design, production, distribution and application through primary, secondary/ higher secondary schools and adult and continuing education centres.</li> </ul>	Deptt. of School and Mass Education and Literacy, Ministry of Human Resource Development.
<ul style="list-style-type: none"> <li>• Introduction of a graduation degree in nutrition in all universities.</li> </ul>	Deptt. of Higher Education, Ministry of HRD.
<ul style="list-style-type: none"> <li>• Updating nutrition curricula of schools, medical, para medical institutions, Krishi Vigyan Kendras and other agricultural education centres.</li> </ul>	All concerned Ministries/ Departments.

## 2. Strategy No. II:

Nutrient Supplementation	
Sub strategies:	
<ul style="list-style-type: none"> <li>• IFA supplementation for infants and young children (6 months to 2 years) with iron syrup.</li> </ul>	Ministry of Health & Family Welfare.
<ul style="list-style-type: none"> <li>• Weekly supplementation of adolescent girls (out of school)</li> </ul>	Ministry of Health & Family Welfare.
<ul style="list-style-type: none"> <li>• IFA supplementation for pregnant and lactating mothers.</li> </ul>	Ministry of Health & Family Welfare.
<ul style="list-style-type: none"> <li>• Vitamin 'A' supplementation for children 9 months to 59 months.</li> </ul>	Ministry of Health & Family Welfare.
<ul style="list-style-type: none"> <li>• IFA supplementation for adolescents (15-18 years)</li> </ul>	Deptt. of School Education & Literacy.

### 3. Strategy No. III:

Food Fortification:	
<ul style="list-style-type: none"> <li>Fortification of supplementary food under ICDS (for all ICDS beneficiaries) (with vitamin mineral premix)</li> </ul>	Deptt. of Women and Child Development, Ministry of HRD.
<ul style="list-style-type: none"> <li>Mid day Meal Programme fortification of MDM with vitamin mineral premix.</li> </ul>	Deptt. of School Education and Literacy.
<ul style="list-style-type: none"> <li>Fortification of wheat flour with iron and folic acid and distribution through PDS.</li> </ul>	Deptt. of Food and Public Distribution.
<ul style="list-style-type: none"> <li>Fortification of vegetable oils with Vitamin A and D on the pattern of Vanaspati.</li> </ul>	Technology Mission on oil seeds, Ministry of Agriculture.
<ul style="list-style-type: none"> <li>Double fortified salt/iodized salt to Antyoday and Annapurna card holders at subsidized rates.</li> </ul>	Deptt. of Food and Public Distribution.
<ul style="list-style-type: none"> <li>Fortification of wheat flour (and all cereal products) for the whole population.</li> </ul>	Ministry of Food and Public Distribution.
<ul style="list-style-type: none"> <li>Enforcing quality and price control system.</li> </ul>	Deptt. of Consumer Affairs.
<ul style="list-style-type: none"> <li>Creating consumer awareness about fortified foods.</li> </ul>	Deptt. of Consumer Affairs.
<ul style="list-style-type: none"> <li>Fortification of all toned and double toned milk with Vitamin A.</li> </ul>	Deptt. of Animal Husbandry, Dairy & Fisheries, Ministry of Agriculture.
<ul style="list-style-type: none"> <li>Supply of fortified atta and fortified RTE foods in food for works programme.</li> </ul>	Ministry of Rural Development.

### 4. Strategy No. IV:

Public Health measures:	
<ul style="list-style-type: none"> <li>Sub-strategies:</li> </ul>	
<ul style="list-style-type: none"> <li>Deworming of ICDS beneficiaries.</li> </ul>	Deptt. of Women & Child Development, Ministry of HRD.
<ul style="list-style-type: none"> <li>Deworming of MDM beneficiaries.</li> </ul>	Deptt. of School Education & Literacy, Ministry of HRD .
<ul style="list-style-type: none"> <li>Deworming of adolescent girls (15-18) in schools.</li> </ul>	Deptt. of School Education & Literacy, Ministry of HRD.
<ul style="list-style-type: none"> <li>Deworming of adolescent girls out of school.</li> </ul>	Ministry of Health and Family Welfare.

To sum up, the four strategies for addressing micro-nutrient deficiencies as illustrated above would involve the close liaison, coordination and integration of activities of the following Ministries/Departments:-

1. Ministry of Health & Family Welfare.
2. Ministry of Women & Child Development.
3. Deptt. of School Education & Literacy, Ministry of HRD.
4. Ministry of Agriculture
  - o Horticulture Division;
  - o Animal Husbandry and Veterinary Deptt.;
  - o Fisheries Deptt.
5. Ministry of Food and Public Distribution.
6. Ministry of Consumer Affairs.
7. Ministry of Rural Development.

GOI in 2002 had approved the mission mode of implementing a National Nutrition Mission with a National Council, Executive Committee and a Mission Director as the Chief Executive. It has been suggested at page (138-140) in Part-II of the report to revive this strategy. The knitty gritty of implementation has also been indicated therein. Additionally it is suggested that a cabinet committee on Food and Nutrition may be constituted with a full fledged secretariat. This would serve as the empowered Committee to take all policy, administrative and financial decisions. The Mission Director would serve as the nodal officer to effectively work out and implement the knitty gritty of liaison, coordination and integration of all concerned Ministries/departments of Government of India and State Governments/UTs.

### **Inter sectoral coordination and convergence of services at the grass root level:**

#### **1. Role of AWW at the AWC:**

The AWW can:

- identify under-nourished pre school children by weighing them by 10th day of every month and giving them food supplements on priority;
- act as depot holder for ORS;
- assist in emergency referral;
- remind pregnant women to take IFA;

- weigh home born babies soon after birth; refer those who weigh less than 2.2 kg to hospitals with a paediatrician;
- ensure through persuasion early initiation of breast feeding and exclusive breast feeding for 6 months;
- collect infants in AWC on immunization days so that they can get immunized on schedule by ANM;
- provide nutrition education and enable the mother to give adequate quantities of appropriate complementary feed from home food so that children in 3-6 age group are assured of 700 kilo calorie of food at home over and above 300 kilo calorie of food at the AWC;
- advise regarding feeding during illness and convalescence.

### **Convergence of services at the grass root level:**

#### **Role of ANM:**

- immunize all infants, pregnant women and children as per schedule;
- immunization rates can go up easily and rapidly if there is a proper coordination between AWW and ANM;
- during the days fixed for immunization, under nourished children can be screened for health problems;
- AWW can assist ANM in organizing immunization and health check ups in AWCs;
- She can assist ANM in administering massive doses of Vitamin 'A'.

### **Supportive services through inter-sectoral coordination:**

- Improved/access to potable drinking water free from all chemical and bacteriological impurities;
- Improved access to environmental sanitation through access to domestic toilet will reduce infections and possibility of communicable diseases;
- Improved access to health care or early detection and effective treatment of infections can minimize/eliminate adverse impact of infection on nutritional status;
- Facilities for child care in rural areas in the form of crèches, day care centres (through self-help groups) can be made available at affordable cost for women working in informal/unorganized sectors.

Pending revival of the mission mode for implementing a National Food and Nutrition Mission with all the forward and backward linkages envisaged in the preceding pages there are certain normal functions for Ministries/Departments at the Central and State levels which have an element of convergence and need to be restated here Ministry/Department wise:-

## **1. Women and Child Development:**

- all eligible children under 6 years, all pregnant and lactating women in 14 lakh habitations should be reached with appropriate supplementary nutrition along with nutrition education;
- basic information on appropriate infant and young child feeding practices for children under 2 years to every household should be disseminated;
- the transition from exclusive breast feeding to complementary feeding, covering the period 6-24 months of age is the most vulnerable period when growth faltering starts with many children. Many factors contribute to malnutrition in the complementary feeding period. These are (a) late introduction (b) poor nutritional quality and (c) insufficient amount of complementary foods may displace breast milk and increase the risk of infection. Repeated infections affect appetite and further reduce food intake resulting in growth failure. These aspects will have to be integrated into a proper package of nutrition education by the WCD Deptt.;
- all children who are victims of malnutrition in Gr. I, II, III and IV should be identified through survey, their health status thoroughly screened and they should be admitted in a PHC/hospital, as the case may be, for treatment of all associated complications. Such children (Gr. III and Gr. IV in particular) should also be rehabilitated through Nutrition Rehabilitation Centres (NRCs) where a package of all support services is available (this is a new but innovative experiment launched by the Government of Maharashtra in a few PHCs on an experimental basis and is yielding good results).
- Maternal under-nutrition leading to incidence of LBW, delayed initiation of breast feeding, discarding of colostrum, faulty feeding of infants leads to steep increase in prevalence of undernutrition by 18 months of age. Such under-nutrition continues through late childhood and adolescence. Under-nutrition during adolescence coupled with early marriage and early child bearing triggers the vicious cycle of under-nutrition.
- WCD Deptt. needs to take cognizance of the fact that adolescent girls (15-18) as future mothers deserve special care and attention from day one. Adolescent



girls from BPL families deserve this and much more. They need to be provided with micro-nutrient supplements so that their growth as future mothers is not retarded.

- Since girl children are double victims of discrimination at home for which they become victims of educational and health deprivation and are also given away in early marriage which subjects them to avoidable child bearing all girl children – be they at the AWC or at the primary school deserve full protection of the State.
- WCD Deptt. will have to take cognizance of this phenomenon and launch comprehensive programmes for (a) protecting the life of the girl child after birth (b) providing full opportunity for access to education at the lower and upper primary level and thereafter (c) ensure that there is 100% enrolment, retention, participation and achievement of minimum levels of learning (d) that PNDT Act, 1994, Prevention of Child Marriage Act, 2006, Prevention of Domestic Violence Act, 2006 are strictly enforced.-

## **Agriculture:**

Production of foodgrains is the primary function of Agriculture Ministry at the Central and Agriculture department at the State level. We, therefore, need to be clear as to what type of foodgrains need to be produced which have a bearing on nutrition.

We may start with cereals. The latter provide some energy, calcium, iron and zinc besides some other minerals and vitamins.

Cereals, however, have phytates which are inhibitors of iron absorption. They also do not contain Vitamins A and C and are not protein dense. They, therefore, need to be given with added pulse to provide energy and good quality protein in the absence of animal foods which may be unaffordable or culturally unacceptable. Oil/nuts/seeds help to increase the energy density and further contribute to some of the protective nutrients. Addition of sugar/jaggery would also increase nutrient density. Seasonally and locally grown fresh vegetables/fruits would also meet the requirements of micro-nutrients (Vitamin A, C, iron and zinc) and would ensure nutritional balance.

Ministry/Deptt. of Agriculture will, therefore, have to integrate or balance its policy of production of cereals, coarse cereals, tuber etc. with the requirements of nutrition in a particular area and specific age group.

This is relevant in the context of Maharashtra which is deficit in both cereals, coarse cereals, tubers as well as pulses where stunting and wasting in growth is 20% and 35%

respectively. There are ill perceived notions that in the context of complementary feeding every child would need expensive nutritious food. These need to be dispelled. Agriculture Deptt. will have to go in for production of such locally grown foodgrains which are in conformity with soil nutrients and which will ensure the micro nutrients. Low cost ready to eat (RTE) infant foods made from grains available at home will have a major role to play in supporting complementary feeding and its sustainability for the common man.

Ministry/Deptt. of Agriculture should also have plans in place to promote nutrition oriented horticulture at the community and household levels.

### **Animal husbandry and veterinary**

- Proteins, fats and carbohydrates constitute macro nutrients; they form the main bulk of food in the Indian dietary system and contribute to the total energy intake in the following proportion:-

Proteins	–	7 to 15%
Fats	–	10 to 30%
Carbohydrates	–	60 to 80%
- Proteins are needed for:
  - body building;
  - repair and maintenance of body tissues;
  - maintenance of osmotic pressure;
  - synthesis of certain substances like anti bodies, plasma protein, haemoglobin, enzymes, hormones and coagulation factors.
- Proteins are also connected with immune mechanism of the body.
- While milk, meat, eggs, cheese, fish and fowl are animal sources of protein and their production is the responsibility of Animal Husbandry and Veterinary Deptt., vegetable proteins are found in pulses (legumes), cereals, beans, nuts, oil seed cakes and are the responsibility of Agriculture Ministry/Deptt.
- The daily allowances recommended by the ICMR for various population groups are in the following table:-

Group	Recommended Protein intake (gm per day)	Recommended energy intake (k.cal/day)	Protein energy rates
Man	60	2900	8.3
Woman	50	2200	9.1
Pregnant Woman	65	2500	10.4
Lactating Woman (0-6 month)	75	2750	10.9
Preschool Children			
1-3 years	21	1240	6.8
4-6 years	29	1690	6.9
7-9 years	40	1950	8.2
Adolescents			
13-15 years	Boys 67 Girls 62	2450 2060	10.9 12.0
16-18 years	Boys 75 Girls 60	2640 2060	11.4 11.7

The table below indicates the relative protein value of some foods:-

Food	Nutrients per 100 gmK.		Energy from proteins	
	Cal	Protein	Actual	PE%(K. Cal)
Fish	100	20.0	80	80
Milk (cow)	67	3.2	13	20
Dal	350	21.0	84	24

The Animal Husbandry and Veterinary Deptt./Fisheries Deptt. will have to plan production of milk, eggs, fish and meat keeping the above intake of protein necessary for physical, mental and cognitive development.

### Education:

- 'Feeding minds fighting hunger' is an important initiative of FAO as a follow up of World Food Summit. It involves introducing food and nutrition issues in primary, secondary and high school curriculum. The Ministry of HRD (Deptt. of School Education and Literacy) at the Central level and Deptts. of Education at the State Level should give due consideration to this.

- Nutrition as a subject should be included in the curricula of all formal and non formal educational systems.
- The Ministry of HRD at the central level and Departments of Education at the State Level may introduce BSC/B.A. degree in 'community nutrition' in all Universities so that both boys and girls have equal opportunity for becoming nutrition literate.
- The colleges of Home Science may also have a very important role to play in this regard.
- Mid-day meal scheme and school health programmes should include nutrition-education as an integral component.
- Additionally, fortification of common foods will, in the years to come, be one of the important strategies for addressing the problem of micro nutrient deficiencies in a short time in a cost effective manner.
- It could also undertake the responsibility for fortification of milk with Vitamin 'A'.

### **Food, Public Distribution and Consumer Affairs:**

The primary responsibilities of the Ministry/Deptt. at the Central and State level would be to:-

- to ensure food and nutrition security at the household level;
- all BPL, Antyoday and Annapurna card holders should be supplied with either a Vitamin mineral remix or multiple fortified salt with a view to launching a frontal attack on hidden hunger caused by the deficiency of micro nutrients;
- to set up grain banks in chronically food insecure pockets and tribal areas in M.P., Maharashtra, Andhra Pradesh and Orissa which tend to remain isolated during monsoon season;
- households with vulnerable age groups like infants, pre-school children, adolescent girls, pregnant and lactating women should receive additional quota of food grains under PDS;
- to include certain additional items like iodized salt, sattu type low cost infant instant food mixes, pulses, coarse cereals (jowar, bajra and ragi) and edible oil under PDS so that these being lower than market prices are affordable for the common man including tribals and people in rural areas.

### **Food Processing:**

The responsibility of this department at the Central level would be:-

- to undertake fortification of wheat, flour, cereal products, RTE energy foods for children with iron, folic acid, vitamin A etc.;
- to promote production of health foods based on traditional foods of India.

### **Fisheries Deptt.:**

- whatever potential (ponds, tanks, lakes, streams, river and marine sources) is available should be fully harnessed for augmenting the total catch of fish which has Vitamin A as a micro-nutrient.
- Fish consumption in increasing measures should be promoted as a major extension effort to contain Vitamin 'A' deficiency.

### **Forest Deptt.:**

- While the Deptt. is primarily responsible for conservation and implementation of Conservation of Forest Act, 1980, it has, in the wake of passage of 'The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 an added responsibility to create conditions for traditional forest dwellers (who happen to be mostly members of Scheduled Tribes) in such manner that (a) they are not eased out of the land they have been occupying and cultivating for generations (b) they have the uninhibited access to fodder, fuel, minor forest products so essential for their livelihood (c) they are made an integral part of the efforts towards conservation of forests.

### **Health & Family Welfare:**

- It's the primary responsibility of this Ministry at the Central level and Deptt. of Health and Family Welfare at the State level to work in close tandem with WCD and promote nutrition for all age groups with special emphasis on children. The tasks mandated for this Ministry/Deptt. are:-
  - to give supreme importance to nutrition and protein nutrient at every level;
  - to make nutrition and health education as an integral part of the job/ responsibility of health functionaries at various levels;
  - to involve itself closely with joint training and supervision of RCH and ICDS functionaries;
  - to address critically various forms of malnutrition and to evolve integrated plans and programmes to minimize the incidence of malnutrition/under-nutrition in an area specific, time bound, cost effective and result oriented manner;
  - to ensure universal coverage under IFA and Vitamin 'A' Supplementation.

## **Rural and Urban Development:**

### **Water Supply and Sanitation:**

These Ministries/Departments at the Central and State levels should strive to:-

- create avenues of stable and durable employment and to improve purchasing power of the BPL families through poverty alleviation programmes;
- Ensure universal access to safe drinking water and sanitation;
- Draw up master plans for towns/cities/mega cities in such manner that multi storied towers are not raised on drainage and sewerage lines.

## **Ministry of Information and Broadcasting:**

### **State Information and Public Relations Deptt.:**

#### **AIR, TV. Field Publicity etc.:**

Five of them should make united, planned, coordinated and concerted efforts to create, through repetitive publicity and propaganda a climate of universal nutritional awareness. Current programmes and effectiveness thereof should be evaluated and new programmes should be launched in all regional languages which will capture imagination of the audience and will lead to concerted action. Audience research should be encouraged.

# Chapter – XII

---

## **An Executive Summary of Conclusions and Recommendations**

- There are 2 important elements or constituents to fight malnutrition/under nutrition – one internal and the other external.
- The internal element or constituent is the home of the child which has the following sub elements or constituents:-
  - large size of the family;
  - age of marriage;
  - pervasive ignorance and illiteracy of the family members and of women in particular;
  - discrimination of women and girl children;
  - low level of awareness about nutrition;
  - teenage pregnancy;
  - no spacing, even pregnancy during the lactating phase;
  - bundles of fads, obscurantist ideas and practices;
  - migration of parents with children accompanying;
  - conspicuous absence of food, education, health and nutrition security for children at the destination point;
  - lack of adequate access to pulses, milk, eggs, fish and green vegetables at home at the originating point.
- The external elements or constituents which are determined by forces outside home are as under:-
  - large number of tribal families having been left out of the BPL list partly due to faulty household survey and partly due to norms like rigidly fixing 'x' number of BPL households for a particular State on the basis of NSSO survey;



- consequent denial or deprivation of these families from being recipients of BPL/Annapurna/Antyodaya cards from their basic entitlement to have access to food at affordable prices;
  - large number of tribal families not having any homestead land;
  - large number of tribal families not having any agricultural land;
  - number of mandays of employment generated under NREG/ MREG/other departmental works not being sufficient for a stable, sufficient and decent livelihood;
  - poor enforcement of minimum wages and delay in settlement of claims u/s 20 of Minimum Wages Act in the event of short/non-payment would deprive many working adult members of a family of an opportunity for a decent earning;
  - unequal wages for women for same or similar nature of work or even higher quantum of work than their male counterparts would deprive these women of their legitimate entitlement to earn wages corresponding to the value of their work.
  - large number of tribal families waiting for many years for a roof above their head with assistance under IAY;
  - lack of access to potable water which is free from chemical and bacteriological impurities, from iron, sulphur, sodium, magnesium, fluoride (beyond the permissible limit) etc.;
  - lack of access to electricity;
  - Lack of toilet facility at home, in the anganwadis and in the school.
- Many of these opportunities, facilities and amenities come from the State as the agent of the society. To that extent, the entire infrastructure and mechanism of providing supplementary nutrition to pregnant and lactating mothers, adolescents and children, of all preventive and corrective measures to deal with malnutrition (including treatment of infection, disease and mortality) through ICDS and hospitals/PHCs/PHUs/Sub centres/MHUs etc. constitute external elements to fight malnutrition.
  - In more ways than one the internal and external elements are juxtaposed to each other; one supplements and complements the other. Just as mother's education and awareness may strengthen the effective functioning of ICDS and public health infrastructure, the functionaries (MOs, ANMs, LHV's, MPW's and pada workers etc.) forming an integral part of that infrastructure may promote and contribute to

mother's education and awareness. The objective of putting them under 2 heads is, therefore, not to view them in isolation as water tight compartments but as essential adjuncts to each other. For facility of a better organized and scientific presentation I would like to deal with these elements separately and seriatim.

## **I Large size of the family:**

My field visits as also the study conducted by Vimarsh show that average size of the tribal households is five and above. While all of them may not be earning and the earnings may be quite low this poses problems of intra- familial distribution of income on the one hand and earmarking of a major portion of the income towards food and nutrition on the other. The size of the family, therefore, needs to be regulated through adoption and implementation of small family norm.

## **II Age of marriage:**

My field visits (page 23, 39, 41, 53, 78, 102, 107 of Part-II of the report) have confirmed that on account of the peculiar beliefs and practices obtaining in the tribal society boys and girls at a very tender age (below 18) come to stay together as husband and wife (without a formal marriage), beget children, do not go in for abortion in the event of teenage pregnancy and add to the size and liabilities of the family. The formal marriage takes place much later. By then, teenage pregnancy would have worked havoc on the health and vitality of the girls.

## **III No spacing, even pregnancy during the lactating phase:**

My field visits (page 64 and 102 of Part II of the report) speak of spacing being conspicuous by its absence in the tribal society and mothers going in for pregnancy even during the lactating phase. Such a practice continues unabated notwithstanding the fact that AWWs, ANMs, LHV's and MPWs keep on repeatedly explaining to the pregnant women about complications of delivery at close intervals and the impact of absence of spacing on a young mother and her children.

## **IV Lack of a rational and scientific temper:**

In most of the villages visited by me (page 42 of Part-II of the report) I had found that the situation of unemployment, landlessness and low earnings have been compounded by make beliefs and black magic, age old traditions and reliance on local quacks (Bhumkas, Bhagats or Pujaris). People in general prefer to take the patient to these quacks for treatment and not to PHCs and sub centres. Only when there is threat to the life of the patient, the latter willy nilly is admitted to a hospital/PHC. As already suggested, our medical officers and para medical staff will have to improve their mobility and outreach to the poor and

the needy and deliver service in time and with greater effectiveness. Through this they can inspire the trust and confidence of the target groups and once this has been done there will be no occasion for the latter to turn up to quacks.

## **V To fight malnutrition we have to fight discrimination:**

Sex based discrimination is one amongst the many outrageous practices bedeviling our society. This has been brought out at page 23 of my field impressions (Part-II of the report) which speaks of (a) women and girls in a family being the last to eat (b) women and girls being given inadequate and infrequent diet (c) pregnant mothers being pushed to work even during an advanced stage of pregnancy. One of the main contributory factors to malnutrition is weakness or illness in mothers and such illness is not adequately taken care of nor it is prevented. Even very few AWWs keep records of maternal death. Adolescent or teenage girls and mothers in families should, therefore, constitute our focal point in terms of effectively dealing with the problem of malnutrition of children.

## **VI Migration – a severely destabilizing factor:**

Migration both within and outside the State causes severe dislocation of home and family life. Children who accompany the adult parents become victims of educational deprivation, medical and health care and malnutrition at the destination point. Women become victims of sexual exploitation at the work place. This has been brought out in course of my visit to Thane district (page 107 of field visits in Part-II of the report). While migration is an economic necessity (search for employment and livelihood) and cannot be altogether prevented (apart from being a Constitutional fundamental right to freedom of movement from one part of the territory of India to another), ways and means will have to be found for minimizing its incidence by creating new and additional avenues of employment; checks and safeguards can also be adopted for preventing exploitation at the work place. Special measures will have to be thought of for education of migrant children and illiterate parents at the destination point in addition to ensuring their health, medical care, immunization and nutrition.

## **VII Exclusion from BPL list:**

According to the statement made by Principal Secretary – Food and Civil Supplies total number of tribal families in Maharashtra is 17.15 lakh and of that 13.72 lakh (nearly 80%) are BPL cardholders. This means that about 20% households are still without BPL cards (it is presumed that all tribal families may come within BPL list barring a few exceptions). This has several implications. Agriculture is the predominant occupation of most of these households. Since most of them are landless they have to work on other's land. Even if there are more than one earning member in a family bulk of the income is

contributed by husband and wife. In majority of the cases the family income is less than Rs. 1000/- per month. It is difficult, therefore, to conceive of a situation where the households will be able to buy foodgrains and other essential commodities (like rice, wheat, sugar, edible oil and kail) from open market with such low earnings (when market prices will be Rs. 12/- for kg of wheat, Rs. 10/- per kg of rice, Rs. 16/- for kg of sugar and Rs. 20/- per litre of kail (the price of edible oil is prohibitively high). There are non-food items to be kept in view too. Since Planning Commission in the meanwhile has laid down certain norms and parameters according to which not more than 45 lakh families should be included in the BPL list and the State Government has already included 73 lakh (out of which 13.72 lakh are tribal families) the issue needs to be discussed with Planning Commission and Ministry of Rural Development as to how within these restrictive norms the interests of tribal households can be protected and safeguarded.

### **VIII A roof above the head – a strong point in fighting malnutrition:**

This has 2 implications namely (a) a plot of homestead land on which a structure can be built (b) making available the assistance under Indira Awas Yojana (Rs. 28000/- per family) so that the basic need can be met. As far as the first is concerned, Revenue Department could not give any precise indication as to how many tribal households are without any homestead land. As far as the second is concerned, in course of my field visits it was found that (a) large number of tribal households do not have a proper dwelling unit (they are putting up with some makeshift arrangement) (b) they have applied for financial assistance under IAY but have been waiting for the same for quite sometime (going upto 25 years). The representative of the Rural Development Department apprised me in course of discussion on 23.8.2007 that both in 2006-07 and 2007-08 24,930 houses of ST beneficiaries have been completed (for which they have received assistance under IAY) and in percentage terms it comes to 30. No indication, however, could be given about the number of applications which have been waitlisted. In terms of strategy, therefore, the following action needs to be taken:-

- number of tribal families which are without any homestead land needs to be identified correctly;
- number of applications from families who have homestead land needs to be given priority for assistance under IAY;
- such applications district wise need to be sorted out and necessary budget provision needs to be made during 2007-08 (Supplementary) so that waitlisted persons can be accommodated during the current year itself.
- a link between implementation of IAY and 'Kitchen garden scheme' of Agriculture Department could be established. This will make the scheme productive.

## **IX Possession of agricultural land is the key to basic survival:**

According to the study conducted by Vimarsh 65% of the tribal families of 5 sensitive tribal districts namely Amravati, Gadchiroli, Nandurbar, Nasik and Thane are in possession of agricultural land holding with a wide variation in terms of extent (33% less than 1 acre, 20% between 1-2 acres, 15% between 2-3 acres, 11% between 3-5 acres and around 20% about 5 acres of land). A very high percentage of these families owning less than 1 acre is in Nasik and Thane (over 50%). A person is treated as landless if he has less than 1 hectare (2.5 acres) of agricultural land. Judged by this criterion a very large number of families will fall in the category of landless. Besides, no information about the remaining 10 tribal districts is available. It is also not known if the agricultural land holdings wherever allotted are irrigated or unirrigated. In course of field visits it transpired that a very large number of tribal households are cultivating forest land for successive generations but the same is yet to be allotted in their favour. Now that 'the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 has come on the Statute Book and Rules have also been framed and notified, the issue of regularization of forest land (which the tribals have been cultivating) with the tribal cultivators may be taken up afresh with the Ministry of Forest and Environment, Government of India.

The following strategy, therefore, needs to be adopted for this purpose:-

- number of tribal families who are without any agricultural land holding should be correctly identified;
- extent of Government land available (including ceiling surplus land) for allotment should also be correctly identified;
- if no surplus land is available (including ceiling surplus land) the possibility of adopting a scheme for purchase of private land (in vogue in A.P. and Karnataka) through a Corporation (like the Ambedkar Corporation in Karnataka) could be explored.

## **X Widening alternative avenues of employment for a substantial number of days in a year:-**

A brief reference to the importance of intensifying avenues of employment as one of the measures to minimize the incidence of migration has been made at page 39 and 40 under Chapter V. Such avenues could be public or private. NREG works/MREG works, departmental works and works under the ITDA constitute avenues of public employment while employment under private individuals in both farm and non-farm operations could come under the second category. The representative of the Planning Department who attended the meeting on 24.8.2007 had stated that 3 lakh families have been brought

within the purview of NREGs in 2007-08. He had, however, no clue about number of tribal families who are in search of employment, extent of employment which has been made available to them and the gap, if any. During my field visits also I could not get a clear picture on the ground except being told that labour attendance was reported to be low despite best efforts.

In terms of strategy the following action plan needs to be launched:-

- number of able bodied persons in a tribal family who are in search of jobs should be identified in course of BPL surveys;
- all such persons should be registered and job cards should be issued taking into account their preferences, felt needs, capability and interests;
- wide publicity about location, nature, volume, duration of work and minimum wages payable (both time rate and piece rate) should be given;
- a lot of motivational efforts need to be made to ensure timely and adequate labour attendance.

## **XI Enforcement of minimum and equal wage to improve earnings and better nutrition:-**

According to the statement of the representative of Labour Department minimum wages have been fixed only in respect of 67 out of 76 schedule employments notified (b) minimum wages have been revised in respect of 62 scheduled employments (c) special allowances have been fixed in respect of 64 scheduled employments (d) 66,952 inspections have been conducted in agriculture in 2006-07 (e) 134 claims have been filed for non-payment/short payment and (f) only 6 claims have been settled. In course of field visits the general impression that I got on the strength of interaction with large number of mothers was (a) the prevailing wages actually paid to the women workers was much less than the notified minimum wage and (b) for same or similar nature of work women were getting much less than their male counterparts.

In terms of strategy the following action is called for:-

- minimum wages should be notified in respect of the remaining 9 notified scheduled employments;
- more and more scheduled employments in respect of occupations prevalent in tribal areas in particular should be brought within the purview of the Minimum Wages act;
- minimum wages in respect of all scheduled employments fixed a few years ago should be reviewed/revised (in view of rapidly changing conditions in the market);



- wide publicity should be given both through print and electronic media as also through weekly urban and rural markets about payment of minimum wages which have been notified by the Government;
- claims should be filed u/s 20 of Minimum Wages Act in respect of all cases of short payment or non-payment of notified minimum wages before the competent authority for adjudication and early disbursement (134 claims in respect of one scheduled employment i.e. agriculture is certainly not a very representative figure in terms of providing relief to the aggrieved who are many in number).

## **XII Access to potable water – surest remedy against many water borne diseases:**

Access to potable water like access to food is a matter of fundamental human right. This has been the direction of the apex Court of the country. This right, however, is honoured more in the breach than observance. There are different sources of water such as wells, lakes, tap water, hand pump and tube well. All these sources cannot, however, ensure potable water. During my field visits (page 10, 11, 12, 70, and 88 of field visits in Part-II of the report) it was observed that while many wells had dried up and people were scraping water from the dry well bed many other sources were affected by a high floride content and, therefore, had given rise to florosis. In terms of strategy the following action plan, therefore, needs to be in place:-

- wherever a well has been completely dried up nobody should be allowed to draw water by scraping which would be highly injurious to health;
- all sources of water which are contaminated should be banned and arrangement should be made to supply water by tankers;
- the samples of water should be drawn from different sources and sent for testing at approved laboratories to ensure that water is free from chemical and bacteriological impurities.
- wherever there is acute shortage of water due to failure of bore well as at Asti hospital in Thane district reboring should be done and regularity in supply of water should be ensured.
- there should be a massive awareness campaign about the nature and character of water borne diseases and counselling people not to take water from open nullahs or streams or ponds or rivulets.
- we should progressively move in the direction of supply of potable water through hand pumps, tap water (piped water supply) and tube well and ensure universal coverage (as opposed to partial coverage) of the entire population by these sources by a definite time schedule.



## **XIV Prevention and correction of malnutrition through ICDS, PHCs/ PHUs/Sub centres etc.**

### **Physical infrastructure:**

- 6158 AWCs, as of now, in the 15 tribal districts do not have their own buildings.
- Wherever they have, buildings are very old with a limited space, poor lighting and ventilation and a lot of congestion and over crowding. Too many items are huddled together.
- AWCs with asbestos sheets virtually become a cauldron in the hot and humid months between April to September.
- There is no provision for repair and maintenance of buildings.
- The timing of AWCs (10 AM to 3 PM) at many places was not in the interest of health, comfort and convenience of children.

### **Strategy for action:**

- Keeping in view the interim orders of the Supreme Court dated 28.11.2001, 29.4.2004 and 7.10.2004 in PUCL Vs. Union of India and others W.P. (Civil) No. 196 of 2001, a perspective plan for universalization of ICDS should be drawn up with the following components:-
  - o The timing of AWCs could be different in winter and summer months. While in winter the opening and closing time may be from 9 AM to 1 PM, in summer, it could be from 8 AM to 12 Noon or even earlier, if possible.
  - o A good type design should be in place to provide for a reasonably large space to accommodate pre-school education and sports materials, medicines, food stuff for supplementary nutrition, durrty, utensils, other kitchen materials, weighing machine, records and registers, charts and posters, portrait of the father of the Nation and renowned freedom fighters.
  - o Every such AWC must have minimum 500 sq.ft. of built up area divided into 2 rooms. While the first room may take care of teaching learning activity, the second room may be used for storing materials. There should be provision for a toilet, washbasin and proper arrangement for serving SNP meals.
  - o There should be a proper RCC structure and not a roof made of asbestos/zinc.
  - o The windows should be large enough to permit cross ventilation. The room should be neat and tidy all the time even when food for supplementary nutrition is being served and after.

- o The personal and environmental hygiene and sanitation inside the AWC should be a model to be emulated by all mothers and their children to be practised at home.
- o In the new dispensation, the State Government may allot atleast  $\frac{1}{2}$  an acre of land for construction of the new AWC so that apart from a neat and clean sylvan surrounding seasonal fruits and vegetables could be planted and the orchard could be a model for home kitchen garden in later years. It could promote complete self sufficiency in fruit and vegetable cultivation and consumption of households.
- o Similar perspective plan should be got prepared for construction of new and departmental PHC and sub-centre buildings which would be safe, secure and aesthetically pleasing. The PHCs should be located atleast on 2 acres of land with land for construction of staff quarters and some open space for growing of an orchard and planting therein soil and climate specific species which will keep the PHC cool in summer months. The requirement of land for the sub centre should be at least  $\frac{1}{2}$  an acre.
- o The PHC should meet all the functional requirements like a conference hall for the meetings of Rogi Kalyan Samiti; separate room for the PHC incharge, other doctors and para medical staff, waiting room for patients, patient's examination room (separate for male and female patients), drug dispensing room, medicine store room, injection-cum-dressing room, ICU with proper warming arrangement for chronically ailing gr. III and gr. IV malnourished children, labour-cum-delivery room, computer room (for computerized MIS) attached and common toilet etc. It should be a RCC structure with adequate lighting and ventilation with drainage for discharge of water during heavy rains.
- o The staff quarters for the PHC incharge, all MOs and para-medical staff should be aesthetically pleasing, with all modern facilities and amenities, with drainage and sewerage and space for planting soil and climate specific fruits and vegetables.
- o The perspective plan should also provide for timely repair and maintenance of the buildings. The repair and maintenance needs should be minimal if the quality of original structure is good, safe and sustainable. The need may, however, arise with passage of time. As and when there is a need, it should be planned sufficiently in advance of the rainy season. The estimates should be prepared, technically and administratively approved, the job executed and

completed in time so that one does not have to come across ugly spectacles of cracks (both horizontal and vertical), profuse seepage and leakage and the buildings being pools of water during the rainy season.

- o The ambulance van so essential for transportation of patients from outlying stations should always be in good running condition. Its repair and maintenance should be as timely and professionally undertaken as that of the building.
- o There is urgent and imperative need for provision of power backup through a diesel generator set at times of acute load shedding compounded by frequent interruptions and tripping. Adequate provision of diesel/koil for this should be kept.
- o Wherever PHCs or sub-centres as also AWCs have not been electrified a programme for such electrification should be taken up on high priority and completed in a time bound manner.

### **Problem areas:**

#### **Administrative:**

- Advance planning of transfer and posting in a discrete and circumspect manner well ahead of the academic session for children would preempt the crises which are being caused today on account of :-
  - MOs and para medical staff are transferred but no substitutes posted;
  - Substitutes are posted but they do not join;
  - Substitutes join but proceed on leave soon thereafter;
  - Substitutes avoid to join due to remoteness of the location and lack of educational facilities for children.
- Normally a transfer should not be ordered without being absolutely sure of the posting of the substitute. Even if an order of transfer has been issued, the existing incumbent should not be relieved without posting and joining of the substitute.
- Where it is absolutely necessary for a MO to go on higher studies (for PG) he/she should be allowed to go only after ensuring that the substitute has joined.
- If staff quarters are provided, the MO incharge of the PHC, other MOs and para-medical staff should be directed to stay in such quarters in public interest.
- If they are staying or prefer to stay outside, are commuting the distance and are not able to reach the PHC in time thereby depriving the patients of timely service and prolonging the waiting period, all such cases should be sternly viewed. The practice should be reviewed and thoroughly discouraged.

- Only in exceptional situations where the staff quarters are undergoing repairs or not ready for occupation permission to stay out of the PHC for a short period may be given.
- The State Health Department, with a view to meeting the acute shortage of MBBS graduates and staff nurses should discuss with the Medical Council of India and Nursing Council of India to augment the number of existing seats in the medical colleges or to go in for new medical colleges, to lay down terms and conditions of service and create conditions which will facilitate MBBS graduates to serve PHCs in rural areas for a specified period as also for securing permission to recruit staff nurses from private nursing colleges (which is not the case now).
- Women and Child Development Department is the administrative department responsible for coordinating all matters relating to selection and placement of ICDS officials in all categories but the power to transfer and post them rests with Rural Development Department. This is an odd arrangement and administratively unsound. This power should be restored to Women and Child Development Department at the earliest.

### **Problem areas:**

#### **Human Resource Development:**

- There are several components of HRD such as selection, recruitment, training, retraining, evaluation of work, conduct and performance vis a vis the satisfaction of the clientele, motivation and morale boosting through a scheme of special pay taking into account the occupational risks and hazards in a district like Gadchiroli. Each one is a process and has a number of stages which need to be clearly identified and built into the perspective plan.
- If selection of the right human resource (which is receptive, responsive and sensitive) is done in the right manner and is transparent there would be no problem of vacancies, no dislocation caused on account of transfer and posting and no need for avoidable disciplinary action (which is a colossal waste of time and resource). In this context, the current practice of selection of AWWs through a Committee under the Chairmanship of an MLA needs to be reviewed. The Ministry of WCD, GOI has already taken exception to this practice but no change has been effected so far. Ideally the Committee should be chaired by the Collector or CEO or any other senior officer of the district.

#### **Training:**

- Training is an important input of human resource development. Training conducted in a participative and communicative manner can impart professional and managerial

skills and can convert a human resource into an agile, alert, aware, awakened, sensitive and empathetic being who will be an asset to our scheme of things.

- There are a number of officers both in the ICDS and health hierarchy. On the ICDS side they are the CDPO, Supervisor, AWW, AWH and members of the SHGs who are mostly managing the supplementary nutrition programme. On the health side, they are the medical officers, para-medical staff, ANMs, LHVs, MPWs, pada workers/ ASHA workers of NRHM. The following sequential steps are needed to have an effective and meaningful training programme for them such as:-
  - identification of training institutions;
  - identification of resource persons who will eventually impart the training;
  - designing a calendar of training;
  - designing the curriculum and course content of training;
  - imparting training at the institution and on the job;
  - evaluating the content, quality and impact of training;
  - taking corrective action to correct the deficiencies.

### **Evaluation of the work, conduct and performance of functionaries:**

- While there are prescribed norms for appraisal of performance the process of an objective, dispassionate and transparent evaluation can be meaningful only through:-
  - regular visits, reviews and inspections for better accountability;
  - spending sufficient time for interaction with the functionaries and the public to have a correct assessment of the ground level reality;
  - recording a gist of main observations and conclusions and communicating the same orally (before departure) for prompt corrective action;
  - sending the formal review/inspection report within a week;
  - following up the extent of compliance;
  - communicating appreciation for good work (including according public recognition) and ticking off the insincere and the recalcitrant for acts of omission and commission.

### **Mobility and outreach of functionaries:**

- Field functionaries like ANM, LHV and MPWs must move out to the villages/hamlets within the jurisdiction of a PHC according to a pre-designed calendar of visits;
- They should leave in the early hours of the morning (8 AM) to reach the village.

They should spend in the anganwadi at least one hour before moving out to the households to have a meaningful interaction with pregnant and lactating mothers, adolescents, school going children etc.;

- They should be able to take decisions after examining malnourished children whose cases need to be referred to the PHC or RH or sub-divisional or district headquarters hospital.
- The Fixed Travelling Allowance as of now for the LHV and ANM is Rs. 500/- and Rs. 300/- respectively. Consequent on increase in cost of living the FTA needs review and revision. This should be expeditiously attended to.

### **Effectiveness of the Communication Process:**

- No visit will be meaningful without a vibrant communication process. In this there is a sender (the functionary of ICDS or PHC, the change agent) and a receiver (the tribal mother); the two do not know each other well. The messages which are transmitted by the sender have a language, a script, a mode, a style and a definite appeal. The following exercise is needed to make the communication process simple, practical, relevant and meaningful:-
  - ascertain what the receiver already knows and what she does not know;
  - ascertain her felt needs, preferences and interests;
  - ascertain the language/dialect and the medium (print and oral) of communication which will make sense to her;
  - if she is non-literate and does not have the access to the print medium of communication, oral literacy will have to be the most preferred medium;
  - communication has to be in a conversation mode, should be as simple and intelligible as possible, should be full of illustrations and comparisons (like differences between a child with a normal body weight and LBW child);
  - the sender in a very subtle manner should be able to disseminate all the dos and donots to the receiver and before leaving should satisfy himself/herself that the receiver has been able to understand and internalize the central message and should be able to act on it.

### **Designing the software for the communication process:**

- Social activists like Dr. Abhay Bhang and Dr. Ashis Satav who are also medical professionals have designed excellent IEC materials.
- They have gone to the households, interacted with pregnant mothers, taken photographs of malnourished children, have identified the ailments and the



contributory factors thereto. On the strength of such visit and interactions they have been able to design excellent pictorial communication materials.

- These are in simple Hindi or Marathi, are easily intelligible and should be extensively used for training of functionaries. The messages also need to be disseminated to the target groups in the same interesting and appealing manner in which they have been prepared.
- IEC materials also need to be made on the following subjects by harnessing a team of visualizers, illustrators and communicators:-
  - futility of looking upto local quacks (Pujaris, Bhumkas, Bhagats etc.);
  - futility of taking away malnourished gr. III and gr. IV children from the PHCs/ hospitals in an advanced stage of treatment to which they are responding;
  - futility of certain irrational and discriminatory acts like girls and women should eat last, girls should be given less food than boys, pregnant mothers being pushed to work;
  - futility of propitiating unseen, unknown and unnatural or supernatural forces;
  - futility of male dominated household decisions which are actuated by traditional beliefs or make beliefs.

The child and mother should be the focal point in the entire IEC package. The centrality of message permeating the package would be:-

- a child is the finest human resource known for its simplicity, nobility, intrepidity, innocence and guilelessness;
- it is our strongest national asset; our hope for rebuilding humanity;
- childhood is the most tender, formative and impressionable stage of human development;
- this precious resource is to be nourished and nurtured so that petals of childhood may blossom to flowers of youth and manhood and do not wither away in wilderness;
- every mother is the fountain of unbounded love and affection; nothing in this world can compensate that treasure of love;
- like the child, therefore, every mother and motherhood is to be valued and prized, nourished and nurtured.

## **Securing convergence**

- Convergence or meeting point is of 3 kinds such as:-



- conceptual convergence;
- institutional convergence;
- functional convergence.
- The concept, strategy and methodology of convergence have been elaborately dealt in Chapter XI.
- Conceptual convergence relates to the convergence between health, food, nutrition, water and sanitation. One is as important as the other; one, as a matter of fact, is incomplete without the other. In the IEC package to be designed (referred to in the preceding pages) it is important to drive home this conceptual convergence.
- Institutional convergence relates to different institutions like the Institute of Public Health, Nagpur, State Bureau of Nutrition, Nagpur, IEC Bureau at Pune, Health and Family Welfare Training Centres in different parts of the State should understand with precision and accuracy the scientific rigour and seriousness of concern with which malnutrition/under nutrition should be viewed.
- Functional convergence implies that functionaries of public health, ICDS, water supply and sanitation and food (including the department responsible for prevention of adulteration of food) should speak with one energy, one voice and one conscience the following:-
  - malnutrition/under nutrition is not a fatality nor a curse;
  - it is an aberration or a deviation from certain scientifically established norms and parameters; the norms are related to the science of food in relation to health;
  - it is fully preventable and correctable.
- Once there is a total conceptual and functional clarity about convergence ways and means could be found so that the functionaries of the above departments think, plan and work in close unison with each other, that this process could be facilitated through group meetings, discussions, joint visits, training workshops etc.

### **Treating human life as a complete cycle:**

Human life, the most precious gift in creation, is a complete cycle starting with pregnancy or conception of life, development and growth of foetus, delivery and post delivery phase. The cycle may be divided in a more scientific language into the following seven phases such as:-

1. Perinatal Phase – 28 weeks after pregnancy to 7 days after delivery;
2. Early neonatal phase – 0-7 days after delivery;

3. Late neonatal phase – 8-28 days after delivery;
4. Neonatal phase – 0-28 days after delivery;
5. Postnatal phase – 29 days to 1 year;
6. Infant phase – 0-1 year;
7. Childhood phase – 1-6 years.

Beyond childhood we have boyhood/girlhood, youth, manhood/ womanhood and old age.

In the present exercise, we are largely concerned with human life at its most tender, formative and impressionable stage i.e. 0-6 age group. We, therefore, need to identify the risks and hazards associated with each of the 7 phases as above; we also need to lay down the checks and safeguards to minimize/contain these risks and hazards with a view to promoting, protecting and preserving the tender resource. The possible risks and hazards are:-

1. Prenatal :
  - congenital malformation;
  - infection;
  - birth asphyxia.
2. Early neonatal phase :
  - Bacterial infections;
  - Meningitis;
  - Hypothermia (reduced temperature);
  - Hypoglycemia (low blood sugar);
  - Sudden Infant Death Syndrome (SIDS).
3. Late Neonatal phase :
  - Upper and lower respiratory track infection;
  - Bacterial infection;
  - Meningitis.
4. Neonatal phase :
  - Bacterial infection;
  - Prematurity;
  - Asphyxia;
  - Neonatal Aspiration Syndrome.

5. Postnatal phase :

- Pertusis;
- Diphtheria;
- Tetanus;
- Respiratory diseases;
- Diarrhoea;
- Malnutrition related risks.

6. Infancy phase :

- Bacterial infections;
- Pneumonia;
- Bronchitis;
- Bronchopneumonia;
- Diarrhoea;
- Rheumatic fever (leads to morbidity).

7. Childhood phase :

- Malnutrition related;
- Fever;
- Cough and cold;
- Other immunological disorders;
- Diarrhoea;
- T.B.;
- Meningitis.

To deal with these risks and hazards as also to effectively minimize/contain them we need to adopt a number of checks and safeguards which are basically in the nature of preventive and corrective measures to preserve, protect and promote the tender human resource such as:-

- Quality of antenatal care through 3 visits by the pregnant mother to the PHC for a thorough check up of the position of foetus;
- Institutional delivery i.e. delivery at the sub-centre or PHC in preference to home delivery;
- Attendance of the skilled birth attendant at the time of delivery and after birth if delivery has to be home delivery (such attendance is warranted to attend to

neonatal resuscitation, if necessary in a distress birth);

- Thermal Protection (wrapping up the baby after birth with a baby blanket or putting the baby in a thermocol box to maintain body temperature at 36.5° C);
  - Prevention of exposure of the new born from cold; no bath to the baby;
  - Prevention of infection;
  - Exclusive breast feeding within half an hour after delivery;
  - Breast feeding upto 6 months to be followed by composite feeding;
  - Extra care for LBW children including admission in neonatal care unit (NICU) wherever the same exists;
  - Management of ARI (Associated Respiratory Infection);
  - Management of Diarrhoea;
  - Commencement of the cycle of immunization and carrying it to its logical conclusion;
  - Proper weaning (supplementary food);
  - Balanced diet and nutrition counselling;
  - Growth monitoring
- Such holism or integrated way of administering early childhood health and medical care will have to be incorporated into IEC packages, curriculum and course content for training of functionaries, performance appraisal etc. to produce the desired results.

To conclude, the war against hunger/starvation and malnutrition is primarily a function of production, distribution and consumption of foodgrains with the required nutrients to be supplemented and complemented by a package of measures as enunciated above.

- The production of food must meet requirement of food of an average consumer according to a scale known as RDA.
- The manner of distribution of foodgrains through PDS should ensure the RDA recommended by ICMR at affordable prices.
- Access to food is dependent partly on the income of the people and partly on the prices prevailing in the market.
- If incomes rise at a slower rate than food prices the poor who have a low income can afford only smaller amount of food which inevitably will lead to lower calorie consumption.

- Increasing percapita income does not necessarily mean an assurance of adequate food consumption of the desired calorie value. A multipronged strategy will, therefore, have to be in place which in concrete means would mean:-
  - availability of food articles;
  - cultural acceptability of those articles;
  - regulation and control of prices of food articles;
  - a revamped public distribution system which will facilitate each access of BPL families to food articles of their choice;
- Turning to Maharashtra the scenario in regard to production, distribution and consumption of food grains is as under:-
  - percapita production of cereals is 270 gm per day;
  - percapita production of pulses is 43 gm per day;
  - percapita production of edible oil is 18.5 gm per day;
  - percapita production of tuber is 3.95 gm per day;
  - percapita consumption of cereals is 379.67 gm per day;
  - Maharashtra is well up on the ladder of milk production;
  - The State produces 4½ times its requirement of sugar;
  - It is, however, deficit in terms of production of cereals, pulses, tubers, edible oil, eggs and meat by 25 to 30%;
  - In terms of percapita consumption per day it is as under:-
 

o Pulses	- 31 gm
o Vegetables	- 61.67 gm
o Fruits	- 20.57 gm
o Fats and Oil	- 10 gm
o Milk	- 75 gm
o Egg	- 2.54 gm
o Meat	- 4 gm
o Fish	- 3.67 gm
- RDA for cereals recommended by ICMR is 420 gm per capita per day. Together with pulses, fruits, vegetables, milk, eggs, meat, fish it is 510 gm per capita per day (for an able bodied adult).
- Maharashtra is well below that level.

- In the food availability mapping index the State occupies a low position.
- Calorie intake of the lowest decile population per day is 1747.75 kilo calorie which is much lower than the prescribed calorie (2400).
- Out of 1000 persons 17 persons in Maharashtra report 0 meal.
- The number goes upto 22 in the lower expenditure group getting below Rs. 190/- per month.

### **Recent initiatives taken by the Government of Maharashtra to boost production of foodgrains:-**

A joint review of the agriculture sector of Maharashtra on 31.8.2007 at Mumbai by Prime Minister, Union Agriculture Minister, Chief Minister and Deputy Chairman, Planning Commission has identified the following thrust areas:-

- The State is committed to achieve 4.4% annual rate of growth in agriculture;
- The State is committed to achieve an additional production of 13.91 lakh MT of cereals (9.91 lakh MT of rice and 4.0 lakh MT of wheat);
- The State is committed to optimally harness resources available from all existing schemes (NREGS, Backward Region Grant Fund, Rural Development Works, Minor Irrigation, Water Harvesting and Conservation);
- Integrated Watershed Planning, Management and Development will be the main strategy for increasing agricultural production. This will include watershed treatment of 50 lakh hectares and various other measures for protective irrigation and water recharging;
- The potential of horticulture produce will be optimally harnessed for export of grapes and pomegranates through cold chain facility with assistance from National Horticulture Mission;
- Modern terminal market complexes for perishable agricultural produce will be set up near Mumbai, Nasik and Nagpur;
- Agricultural extension in the State will be strengthened by expediting implementation of the ATMA programme with focus on demonstration, training and involvement of farmer's groups;
- The Research-extension-farmer linkages will be strengthened through State Agriculture Universities and KVKs;
- New approaches will be adopted for credit expansion and provision of credit additional to 26 lakh farmers;
- Highest priority will be attached to seed production. Special efforts will be

made to bridge the gap between seed requirement and seed production/availability. Special focus will be on paddy, ragi, barley seeds and pulses like arhar, urad, moong, lentil, kulthi, khesri, cowpea, moth peas, gram and oil seeds (groundnut, sunflower, sunflower);

- The State Government will initiate steps under the State organic farming policy to promote use of bio-fertilizers, organic manure and micro-nutrient to enhance soil health, to provide a further boost to creation of organic sites in all talukas of the State in association with NGOs, Cooperatives and others.
- The State would make special efforts to achieve milk production of 85 lakh MT, meat production of 3.21 lakh MT, egg production of 454 crore, inland and marine fish production of 1.85 lakh MT by the end of the 11th Plan period (2007-2012). This will be possible through better health care for animals, creation of better market facilities, increased fodder production and more improved and scientific practices for fish production and also through more investment in education, research and laboratory facilities.

While the above measures would benefit a large number of large, medium and small farmers all over the State they would also contribute to improvement in tribal agriculture, fisheries and livestock production.

In the meanwhile two new schemes namely the National Food Security Mission and a New Additional Central Assistance for development of agriculture and allied sectors would also benefit the farmers of Maharashtra in general and tribal farmers in particular.



# Annexure-I

**Geographical, topographical, demographic profile of the district to be visited as also the profile related to Public Health and Child Care and attention pertaining to tribal population and tribal children**

**‘A’ General:**

- I Total geographical area in sq. km.
- II Total population – density of population.
- III Break up of the population between
  - o urban and rural;
  - o women and men;
  - o SC and ST.
- IV Number of children in 0-6 age group and breakup:
  - 0-1
  - 1-2
  - 2-3
  - 3-4
  - 4-5
  - 5-6
- V Extent of migration outside the district and the State.
- VI Age of marriage.
- VII Average size of the family of tribal households.
- VIII Dietary pattern in tribal household: what is consumed (cereals, pulses, tuber, milk, egg, meat, fruits and green vegetables) and at what intervals.
- IX Access to potable water – source, whether free of chemical and bacteriological impurities, incidence of guinea worm, goiter (on account of iodine deficiency) and florosis, if any, whether samples are being sent to approved laboratories for test at regular intervals.
- X PC of households having toilets (manually operated or with Cistern).

**B: Health Profile:**

- Number of sub divisional and rural hospitals

- Number of PHCs
- Number of PHUs
- Number of sub centres
- Number of PHCs and sub centres with departmental and without departmental building.
- Whether management is in place for their repair and maintenance – cost, timeframe, quality etc.
- Whether any problem of seepage/leakage persists despite repair work having been carried out.
- Staffing pattern and percentage of staff (in relation to total staff) vacant. Steps taken to fill up vacancies.
- Whether there are staff quarters for staff of PHC? If so, are they habitable and whether they are occupied?
- Working hours of the PHC and sub centre.
- Whether charts and posters displayed on the walls at conspicuous points whether any PHC/sub centre staff explains them to patients (mothers).
- Extent of absenteeism of staff.
- Mechanism for accountability and transparency through visits, reviews, inspections, if so, the frequency thereof.
- Whether the following Committees formed and whether they are fully functional?
  - Rogi Kalyan Samiti;
  - Village Health and Sanitation Committee
- Number of pregnant and lactating mothers who attend the PHC and sub centres on an average per day.
- Extent of implementation of 'Matrutwa Anudan Yojana'.
- Number of Grade III and Grade IV malnourished children who have been admitted and treated in the hospital/PHC in the last 3 years.
- Extent of implementation of 'Janani Surakshya Yojana'.
- Whether allocations for 2007-08 under each (MAJ and JSY) have been received or not?
- What is the rate of full recovery of Gr. III and Gr. IV malnourished children?
- Number of children where progression has taken place (Gr. IV to Gr. III, Gr. III to Gr. II, Gr. II to Gr. I and Gr. I to Normal).

- Number of children who have died.
- Whether causes of death have been investigated, by whom and a gist of the findings?
- Number of children who while under treatment have been taken away by mothers from the hospital/PHC.
- Steps taken to prevent this.

### **Role of ANM, LHV, MPHW and Pada workers:**

- Whether calendar of monthly visits prepared?
- Whether it is being adhered to?
- Extent of mobility and outreach
  - Number of villages/hamlets covered by ANM, LHV, MPHW/ every month;
  - Number of families/pregnant and lactating mothers/ children contacted;
  - What is the nature of counseling given?
  - Is it oral? Are demonstrations (difference between a healthy child and a malnourished child) made to drive home the central message that (a) food, health and nutrition are closely inter-related and (b) it is possible to fight both malnutrition and under nutrition?
  - To what extent is the advice acted upon?
  - Make beliefs, obscurantist ideas and practices found by ANM/LHV, if any.
  - What is the system of reporting on the performance of ANM, LHV and MPHW?

### **Prophylactic and therapeutic treatment:**

- Incidence of TB, malaria, filariasis, jaundice, hepatitis, diarrhoea, dysentery etc.
- What are the pre-emptive measures required to prevent certain diseases (malaria, filariasis, dengue, chickenguniya etc.).
- What medicines are being given to pregnant and lactating mothers and adolescent girls?
- What is the line of treatment to Gr. III and Gr. IV children?
- Who oversees the line of treatment – Paediatrician or general duty medical officer?
- Are there NICUs in every sub divisional/rural hospital?
- Who oversees the quantity and quality of diet to both mothers accompanying the children and children?
- Are the scales (Rs. 65 per month and child) being adhered to?
- Have steps been taken to make parents aware of this?

## ICDS Profile

### General:

- Number of ICDS Projects, number of CDPOs and number of Supervisors sanctioned and in position; steps taken to fill up the vacancies.
- Number of AWCs.
- Number of AWCs having their own departmental buildings.
- Number of AWCs where other sources of accommodation have been tapped.
- Whether arrangements are in place for repair and maintenance –cost, time frame and quality?
- Number of AWWs and Sahayikas in position for ‘X’ number of AWCs?
- Whether all AWWs trained, where, when and by whom?
- Is the honorarium paid in time? Please state if there are instances of delay.
- Average age and educational qualification.
- Capacity of AWW to mobilize and organize women as may be evident through formation of SHGs and Mahila Mandals; number of such SHGs and Mahila Mandals formed with the initiative of the AWW in the AWC area.
- Time of opening and closing of AWC; who brings the children to AWC?
- Home visits by AWWs - extent, quality and impact?
- Average attendance of pregnant and lactating mothers, adolescent girls and children in 3-6 age group.
- Steps taken to ensure adequate and timely attendance.
- Frequency of visits to AWCs by CDPOs and supervisors for review of activities – whether inspection/visit/review reports left with AWW before departure?

## Activities

### SNP and Nutrition:

- Who prepares the food for SNP? What does it comprise of? What is the quantity? How many times food is served? What is the quality in terms of variety, taste and micro nutrients? What is the kilocalorie value of such food?
- Do the pregnant and lactating mothers take the food at the AWC along with children or do they take home the food?
- Are the allocations considered adequate (@ Rs. 2/- per child)? If not, any proposal for review and revision?

- Are there any problems in terms of timely receipt of allocations for SNP? Are there instances where the SHG for the village normally entrusted with the responsibility for preparation of food has suspended preparation of food due to inadequate allocation or non-receipt of timely allocation?
- Growth monitoring in general and that of Gr. III and Gr. IV in particular:
- Please give a few specimen cases of children in different grades of malnutrition in a varied age group whose weight has been taken by the AWW and recorded in the register.
- What is the general trend i.e. weight picking up or coming down despite best efforts?
- Are such cases of children whose weight is showing progressive decline despite best efforts referred to sub centre/PHC/hospital, as the case may be?
- Are there instances of progression from Gr. IV to Gr. III, Gr. III to Gr. II, Gr. II to Gr. I and Gr. I to normal?
- What generally are the reasons of LBW and low weight in general?
- What generally are the reasons of anaemia, Vitamin 'A' deficiency and iodine deficiency?
- Has the AWW taken pains to explain such causes of low weight and other forms of malnutrition as above to the mother along with corrective measures?

### **Health check up of children:**

- One MO from PHC is expected to come for check up of health of all children in an AWC once in a quarter for general category and once every month for Gr. III and Gr. IV malnourished children. Is this schedule being adhered to? Is the health check up register being maintained properly?
- Does the AWW extend necessary help to facilitate the MO to do the health check up?
- What is the trend analysis on the strength of this health check up in relation to
  - nature of ailments afflicting the children;
  - extent to which children have recovered after taking the drugs prescribed by the MO of PHC;
  - an assessment of the health status of children i.e. improving/deteriorating.
- Pre school education:
- Are children able to recognize all objects – human beings, birds, animals, plants, fruits, vegetables etc. which are displayed through charts/posters on the walls of the AWC?

- Are they able to read the alphabets?
- Are they able to count from 1 to 10 and beyond?
- Is the AWW able to generate interest in the minds of children to read, write, do simple arithmetic?

### **Recreation:**

- Is the AWW able to bring in a lot of excitement and joy to the classroom?
- Does she start the AWC with a prayer with students joining in chorus?
- Has she been able to infuse an element of humour, fun and frolic in the minds of children through the manner of conducting the activities in AWC?
- Mobility and outreach:
- The AWW should be accessible to all the households in a village/hamlet which lies within her jurisdiction. This should be achieved through home visits. Does the AWW undertake such home visits? If so what is the coverage in a day and in a month?
- How many pregnant and lactating mothers does the AWW interact in course of her home visit? What is the nature of advice and counsel imparted by her?

### **IEC:**

- What are the charts and posters on nutrition displayed on the wall of the AWC? Does the AWW explain the content of these charts and posters to the mothers who visit the AWC?
- Reporting and accountability:
- Who prepares the monthly report on the activities of the AWC?
- What does it contain?
- What is the channel of transmission?
- Who analyses the report?
- What are the conclusions drawn from the report?
- What corrective action is taken on the strength of the analysis?

### **General:**

- What steps are being taken to construct new AWCs according to a typed design which takes care of adequacy of space, lighting, ventilation etc.?
- What steps are being taken to fill up the posts of AWWs which have been lying vacant?
- What steps are being taken to implement the following interim orders of the Supreme Court relating to universality of outreach in AWCs making one AWC coterminus

with one hamlet as also for implementing the calorie norms prescribed for children by the apex court:-

- 28.11.01
- 29.9.04
- 7.10.04

## **D Miscellaneous:**

### **Access to employment:**

- What is the average number of days for which employment is available for all able bodied adults (women and men) in a year (normal year and drought year) in both farm and non farm?
- Are NREG works under implementation in full swing? If so what is the average number of mandays for which such employment is available?

### **Access to wages:**

- What is the total number of scheduled employments notified under Minimum Wages Act, 1948?
- Have minimum wages been notified?
- If so, what is the notified minimum wage for agriculture and non agricultural avenues of employment?
- What is the extent of compliance with the said notified minimum wage? What is the actual wage being paid?
- Are they being paid in cash or in kind or in both?
- Are women and men being paid same wages for same or similar nature of work?
- Linkage with Public Distribution System:
- What is the total number of cards issued so far under the following heads:-
  - BPL;
  - Antyodaya;
  - Annapurna.
- What is the entitlement of each card holder under each category? Are these entitlements being fulfilled? What are the rates at which rice, wheat, sugar, kail etc. are being made available from the FPS?
- What is the total number of FPS in the district. What is the accessibility of the tribal households to these FPSs?



**Homestead land:**

- How many tribal families in the district are without homestead land?
- What steps are being taken to allot homestead land to such landless families?

**Agricultural land:**

- Large number of tribal families are cultivating the forest land for generations. What is the thinking/formal decision to allot such land in favour of the tribal families?

**Indira Awas Yojana:**

- What is the number of tribal families in the district who do not have a roof above their head?
- Please give last 3 year's breakup of families who have been given assistance under IAY for construction of such houses and number of families who have been waitlisted for this.
- Has any thought been given to link the kitchen garden scheme with IAY with a view to growing such species as would promote nutrition.

**Rural Electrification:**

- How many tribal households in the district have been electrified and how many not?
- Production of cereals, pulses, tuber, milk, eggs, fish, meat, fruits and green vegetables:
- Please indicate if any special drive has been launched to improve production of the above in your district as they are vital for improvement of nutrition in general and nutrition of children (0-6 age group) in particular.

# Annexure-II

## Reference Body Weights and Heights of Children and Adolescents According to NCHS

### N C H S

Age (Yrs.)	Boys		Girls	
	Height (cm)	Weight (kg)	Height (cm)	Weight (kg)
0	50.5	3.3	49.9	3.2
1/4 (3 m)	61.1	6.0	60.2	5.4
1/2 (6 m)	67.8	7.8	66.6	7.2
3/4 (9 m)	72.3	9.2	71.1	8.6
1.0	76.1	10.2	75.0	9.5
1.5	82.4	11.5	80.9	10.8
2.0	85.6	12.3	84.5	11.8
3.0	94.9	14.6	93.9	14.1
4.0	102.9	16.7	101.6	16.0
5.0	109.9	18.7	108.4	17
6.0	116.1	20.7	114.6	
7.0	121.7	22.9	120.6	
8.0	127.0	25.3	126.4	24.8
9.0	132.2	28.1	132.2	28.5
10.0	137.5	31.4	138.3	32.5
11+	140	32.2	142	33.7
12+	147	37.0	148	38.7
13+	153	40.9	155	44.0
14+	160	47.0	159	48.0
15+	166	52.6	161	51.4
16+	171	58.0	162	53.0
17+	175	62.7	163	54.0
18+	177	65.0	164	54.4

Source : Nutrient Requirements and Recommended Dietary Allowances for Indians, ICMR, 1998.

## ABOUT THE AUTHOR



**Lakshmidhar Mishra**, a former Union Labour and Parliamentary Affairs Secretary (1995-2000), a former Senior Adviser, ILO (2000-2003), a former Special Rapporteur, National Human Rights Commission (2006-2011), a former Special Advisor, National Commission on Protection of Child Rights (2011-2012) worked as a Chief Consultant, Technical Support Group, National Literacy Mission Authority, Ministry of Human Resource Development (Deptt. of School Education and Literacy) from 01.01.13 till 30.06.13. He holds a doctorate in educational Planning from the Intercultural Open University, Netherlands.

He has held important positions in both State Govt. of Odisha (1964-78) and 1994-95 and Central Govt. (1979-2000) and took voluntary retirement on 30th Sept. 2000 when he was Union Labour Secretary in order to join the International Labour Organisation in a very senior position on the Invitation of Juan Somavia, the then DG, ILO.

Dr. Mishra had a brilliant academic career right from HSLC onwards tiune graduated with first rank in first class Honours in Political Science with distinction in all subjects.

He has been a prolific writer right from his student career. He has, as of now, over 300 articles and 20 books to his credit.

These cover a wide range of subjects – Labour Welfare and social security to rural development, human rights to health & education, custodial justice (including Juvesile) and reforms, mobilisation & organisation of the poor and deprived for social justice and equity. Many of his articles have been published in journals of national and international repute.

As a socio-legal investigating Commissioner of the Supreme Court of India, (1983-85) Dr. Mishra submitted three voluminous and valuable reports on the plight and predicament of workers in brick kilns and stone quarries. A condensed version of the work he did for the apex court which earned him accolades from the latter has since been published as ‘Burden of bondage’ in May’ 1997.

For his outstanding contribution to public service and, in particular, in the field of labour, rural development, adult literacy & education, Dr. Mishra has received a number of awards such as National Unity Award, Pandit Jawaharlal Nehru Literacy Award, Dr. Malcolm S. Adisesiah Award for Literacy, Post literacy and Continuing education, Sramik Bandlhu Award, Saheed Dhoom Das Award, Eminent Odiya Award etc.

He chaired a Committee of the High Court of Delhi on the plight & predicament of sewer workers of Delhi (7000) between 2008 and 2011 and has submitted over 40 reports to the Court.

He also acted as a Member in a Committee constituted by the High Court of Delhi, to investigate into affairs of Commonwealth Games, 2010, Delhi, drafted and submitted a comprehensive report to the Court on the findings of the investigation team.

He has between 2006 and 2011 submitted over 100 reports to the National Human Rights Commission on a wide range of issues (including the theme of the present work on malnutrition related deaths of children in tribal district of Maharashtra) such as elimination of bonded labour, elimination of child labour, migrant labour, trafficking of children, mental health, custodial justice & reforms, human rights & juvenile justice.

As Special Adviser, NCPDR, he has submitted a large number of reports on the plight & predicament of children lodged in Observation Homes and Children’s Homes in the NCT of Delhi. The quality of work done by him in drafting a Special Action Plan for NE States (8) covering primary, elementary & secondary education, elimination of child labour, prevention of trafficking, substance abuse & HIV/AIDS has also been widely appreciated.

Scholarship tinged with clear perception, deep insight, empathy and sensitivity of a humanist with which the studies and investigations have been conducted and reports submitted make his publications immensely interesting and relevant to the poor, deprived and disadvantaged sections of the society.



### NATIONAL HUMAN RIGHTS COMMISSION

Manav Adhikar Bhawan, Block-C, GPO Complex

INA, New Delhi – 110023

E-mail: covdnhr@nic.in Website: www.nhrc.nic.in