

## **KARNATAKA COMPREHENSIVE NUTRITION MISSION- CONCEPT PAPER**

### **Background**

Malnutrition is a major public health emergency in India today, with about 50% of the population suffering from it in some form - protein-calorie deficit and/or micro-nutrient malnutrition. It is the underlying cause of at least 50% of deaths of under 5 children in the country. Even if it does not lead to death, malnutrition including micronutrient deficiencies, often leads to permanent damage including impairment of physical growth and mental development, and to added health care costs to the State. India's Nutritional Indicators are a cause of concern and progress in their improvement has been extremely slow, as shown in the Table at **Annexure I**.

**The Nutrition Scenario in Karnataka** compared to other Southern States is also a cause for concern. For example, the IMR in Karnataka according to NFHS III is 43 as compared to 30.4 and 15.3 in Tamil Nadu and Kerala respectively. The under 5 mortality rate in Karnataka (54.7) is also much higher than Tamil Nadu (35.5) and Kerala (16.3). The percentage of under-three age stunted children in the State (42.4) according to NFHS III is not only higher than the national percentage (38.4) but also much higher than the other three Southern States the percentages there being Andhra Pradesh (36.4), Kerala (26.5) and Tamil Nadu (31.1). The percentage with regard to under-three underweight children in Karnataka in comparison to other three Southern States is also the highest (33.3) according to NFHS III. Similarly 70.4% of the State's Children under six years are anaemic which is a matter of great concern demanding urgent action. According to SRS (2003-06) Maternal Mortality Rate (MMR) of the State is 213, which is again higher than Andhra Pradesh (154), Kerala (95) and Tamil Nadu (111). The prevalence of under nutrition tended to increase from about 63% among children in 6-9 year age group to 78% in 10-13 years and then declined to 66% in 14-17 year age group.

Chronic Energy Deficiency indicators of Women of the State are quite high as also the prevalence of Anemia among women between the ages 15-49. Malnutrition Indicators of the State as compared with other Southern States are at **Annexure II**.

**Karnataka is the first State in the country to have announced a Comprehensive Nutrition Mission.** Realizing the gravity of situation, **Hon'ble Chief Minister of Karnataka in his Budget speech on March 5, 2010 has announced, "The number of children suffering from malnutrition is very significant in our State. Special efforts are required to be made for overcoming this problem. The Government proposes to start a Comprehensive Nutrition Mission. A provision of Rs 5 Crore will be made for this for a pilot project."**

In his **speech at the National Development Council** on July 24, 2010, Hon'ble Chief Minister has stated **"My Government has launched a Comprehensive Nutrition Mission, which will address the scourge of malnutrition and anemia particularly among children and women in a sustainable manner and also provide nutritional security to all the vulnerable groups."**

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<sup>1</sup> NNMB Technical Report No 21, 2002

The Karnataka Nutrition Mission (KNM) will aim to eradicate the problem of malnutrition in the State in the shortest possible time by introducing innovative strategy changes. It will be a dedicated, stand alone programme to address the problem of malnutrition in the State in a targeted and comprehensive manner. While it will specifically target children between 0-6 years, special emphasis will be laid on 0-2 years children keeping in view the special significance of this period in their process of development. Adolescent girls between the ages 10-18 as well as Pregnant and Lactating mothers would also be targeted. This pilot project will be undertaken in three blocks namely Bellary Rural in Bellary District, Gubbi Taluk in Tumkur District and Shikaripura in Shimoga District. The pilot project implementation has commenced in 2011-2012.

As on date, it would appear that the Karnataka Comprehensive Nutrition Mission would be the only Scheme in the country with the specific and exclusive programmatic objectives of reducing under nutrition, micronutrient deficiencies and anemia etc., among infants below 36 months, adolescent girls and women, The same will be measured by outcomes enumerated subsequently in this Note.

While the programme would naturally analyse the efficiency of Nutrition Supplementation, the real test would be that of the effectiveness of operational delivery mechanisms and governance. In this connection, it would be ensured that delivery and monitoring mechanisms without bottlenecks would be built upon the principles of efficiency and good governance, as these would be the key factors to determine the capability of the Pilot Projects to be upscaled.

The Mission would start implementation by priority focus on Blocks with the worst nutrition indicators.

There would be no duplication of programmes at field level. The Base Line Survey would indicate the exact extent of coverage of ongoing programmes, not only nutrition related, but also equally other inter-sectoral interventions such as, Water, Sanitation, Immunization etc, which be focused on for simultaneous operation for comprehensive impact. The Mission would attempt to accelerate, integrate and tightly monitor multi-sectoral ongoing programmes that have impact on malnutrition, such as Immunization and Vit A Supplementation, Anaemia Control, Water and Sanitation, etc., and achieve convergence between the ongoing programmes so that they operate simultaneously, and to fill programmatic gaps.

### **Specific Objectives of the Comprehensive Nutrition Mission**

- (a) Reduce Underweight and under-nutrition among children, low body mass index among adolescent girls and women in the project areas in the shortest possible time, by following the inter-generational, life-cycle approach.
- (b) Eliminate wasting of children and severe malnutrition among children. (earlier termed as Grade 3 and 4 malnutrition as per Gomez Classification)

- (c) Reduce the incidence of low birth babies, infant mortality, child mortality, maternal mortality, anemia and other micronutrient deficiencies among children, adolescent girls and women; and
- (d) Spread information and awareness to the communities to enable behavioral change regarding proper child care, care of the girl child throughout her life cycle, of pregnant and nursing mothers, and proper dietary practices within existing family budgets.

### **Causes of Malnutrition:**

**Poverty is a prominent, but not the sole cause of malnutrition.** The fact that the percentage of people suffering from nutrition far exceeds the percentage of people below the poverty line clearly establishes that **malnutrition has multiple other causes.**

Malnutrition is an **extremely complex phenomenon** with **multiple causes, multiple manifestations**, and is **inter-generational**. (**Annexure 3**) Its causes range from the **physical**, such as, poverty, hunger, calorie-protein / micronutrient deficit and under-nutrition, infection and disease; **attitudinal and socio-cultural**, such as, gender-discrimination both in society and in the family, particularly in terms of intra-family food consumption, early marriage of girls and frequent pregnancies, superstition, lack of information and awareness regarding proper maternal/child care and feeding practices, and proper nutrition practices even within family budgets; and **governance related**, mainly, inadequate nutrition and health services, especially maternal and child care services, low access to safe drinking water and hygienic sanitation, and absence of a programme focusing on addressing malnutrition.

### **Strategy to address the Causes**

The Karnataka Nutrition Mission (KNM) will aim to eradicate the problem of malnutrition in the State in the shortest possible time by introducing innovative strategy shifts that include the following:

- i) Adopting the inter-generational, life cycle approach by addressing the nutritional needs of infants, children, adolescent girls and pregnant and nursing mothers.
- ii) Bridging the calorie-protein micronutrient deficit among the inter-generational target groups by providing appropriate energy dense fortified supplementation for consumption.
- iii) Accelerating, integrating and tightly monitoring multi-sectoral ongoing programmes that have impact on malnutrition, such as Immunization and Vit A Supplementation, Anaemia Control, Water and Sanitation, etc., and achieving convergence between the ongoing programmes so that they operate simultaneously, and filling programmatic gaps.
- iv) Increasing programme coverage by demand creation by involvement of the community, NGOs, SHGs and VPs.

- v) Launching a sustained general public awareness campaign, through the multimedia and interpersonal communication mode to reach the general public, especially at the grass-roots, regarding proper nutritional practices within existing family budgets and proper child and maternal care and create demand for government programmes.
- vi) Make available low cost energy foods for the general population through Public Private Partnerships.

### **Essential Interventions in the Comprehensive Nutrition Mission**

The following interventions are proposed to be introduced in the Comprehensive Nutrition Mission either within ongoing programmes or as new interventions. These are in accordance with the recommendation of the Leadership Agenda for Action of the Coalition for Sustainable Nutrition Security in India, (May 2010) led by Prof MS Swaminathan.

#### **(b) Direct Interventions :**

1. Weighment of child within 6 hours of birth and thereafter at monthly intervals.
2. Timely initiation of breastfeeding within one hour of birth, and feeding of colostrums to the infant.
3. Exclusive breastfeeding during the first six months of life.
4. Timely introduction of complementary foods at six months and adequate intake of the same, in terms of quantity, quality and frequency for children between 6-24 months.
5. Dietary supplements of all children between 6 months – 72 months through energy dense foods to bridge the protein calorie gap.
6. Safe handling of complementary foods and hygienic complementary feeding practices.
7. Complete immunization and Vit A supplementation.
8. De-worming of all family members bi-annually.
9. Frequent, appropriate, and active feeding for children during and after illness, including oral rehydration with Zinc supplementation during diarrhea.
10. Timely and quality therapeutic feeding and care for all children with severe and acute malnutrition.
11. Dietary supplements of iron – rich, energy dense fortified supplementation for adolescent girls and women, especially during growth periods and pregnancy to fill the protein calorie gap and ensure optimal weight gain during pregnancy.
12. Anemia screening for children, adolescent girls and women.
13. Weight monitoring of all adolescent girls and pregnant women.
14. Prevention and management of Micro-Nutrient deficiencies, especially through IFA supplementation to prevent anemia in adolescent girls and women.(throughout pregnancy and six month of lactation)

#### **Indirect Interventions:**

1. Access to safe drinking water (treatment, storage, handling and transport), sanitation and hygiene.

2. Increased female education and completion of secondary schooling for the girl child, delayed age of marriage and pregnancy.
3. Increased access to basic health services by women.
4. Expanded and improved nutrition education and involvement at Panchayat and community level to create demand.
5. Increased gender equity.
6. Linking Agriculture/ Horticulture to Nutrition.

### **Operational Details**

The Mission will be implemented through the NRHM with necessary convergence with concerned sectoral Departments. At the State level the Mission will be guided by a high powered committee which will be chaired by the Chief Secretary. At the operational Secretary Health will chair the Mission Monitoring Committee with representation of senior officers of concerned sectoral Departments. At the Block and Village levels there will be Block Level and Village Level Monitoring Committees, which will be headed by CEO Zilla Parishad and Chairman Village Panchayat respectively. The objective of the Mission would be to address every pocket of malnutrition across the State. **NGOs with high credentials will be involved to partner with Government for implementation of the project.**

A specially trained **Nutrition Volunteer** will be appointed in each of the villages with specific responsibilities and accountability, emerging from the Essential Interventions. The Nutrition Volunteer will work very closely with the AWW and ASHA to deliver the services envisaged under the mission. A Nutritional Advisor at the Block level for supportive supervision of the progress would also be designated, to ensure convergence of the key sectors, and capacity building for household level nutrition security through kitchen gardens. There would be clear definition of responsibilities and deliverables to the field workers and programme functionaries, and efficient monitoring. At Panchayat level, a newly appointed cadre of Panchayat Development Officers (PDOs) is already in place. They are freshly recruited graduates and would be ideal for acting as Nodal Persons for the Mission at Village level, for coordination, monitoring and providing support to the ASHA, AWW, and the Nutrition Volunteer.

### **Monitoring and Evaluation**

The Mission will be vigorously monitored at the administrative and community levels, using participatory mechanisms. Robust M.I.S systems will be devised, and responsibility cast upon the respective functionaries for achieving results. Accountability will be built into the system through intensive monitoring of nutritional indicators in the Mission Blocks by the Mission Secretariat, Community Monitoring, and by third-party evaluations. A baseline survey will also be conducted in each of the village to monitor impact of the services.

## Expected Outcomes

Target Group	Short Term Out Come (6 Months-1year)	Long Term Outcome (1-2 years)
<b>Infants</b>	<ul style="list-style-type: none"> <li>▪ Weighment of all new borns within 6 months of birth</li> <li>▪ Increase of early initiation of breast-feeding within 1 hour of birth by 90 % of the baseline.</li> <li>▪ Increase of exclusive breastfeeding Upto 6 months by 80% of the baseline.</li> <li>▪ 100 % Complete Immunization</li> <li>▪ 100 % initiation of complementary feeding at 6 months of age.</li> <li>▪ 100 % use of ORS during episodes of diarrhea.</li> <li>▪ Increase in awareness of Health seeking behavior for sick new born and infants by 80 % of the baseline.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Decrease of under nutrition of children less than 3 years by 75 % of the baseline.</li> <li>▪ Reduction of IMR by 40 % of the baseline.</li> </ul>
<b>Children</b>	<ul style="list-style-type: none"> <li>▪ 100 % complementary feeding of children after 6 months up to 2 years.</li> <li>▪ 100 % coverage of Immunization.</li> <li>▪ Increase in pediatric IFA tablet consumption by 80 % of the baseline.</li> <li>▪ 100 % consumption of Energy, protein, micronutrient rich food supplied by the Pilot project.</li> <li>▪ 100 % coverage of Vitamin A Supplementation during Bi annual VAS Programme.</li> <li>▪ 100 % Medical Checkup through ICDS programme.</li> <li>▪ Increase of awareness of the parents for care of children during illness by 80 % of the baseline.</li> </ul>	<ul style="list-style-type: none"> <li>▪ 80% Increase in Normal Grade Children</li> <li>▪ 80 % reduction of Grade I Children.</li> <li>▪ 50 % reduction of Grade II Children</li> <li>▪ Elimination of Grade III and GradeIV Malnutrition in Children.</li> <li>▪ Reduction of Child Mortality by 50 % of the baseline.</li> </ul>
<b>Adolescent Girls</b>	<ul style="list-style-type: none"> <li>▪ IFA tablet consumption by 80 % of adolescents girls.</li> <li>▪ 100 % TT Immunization.</li> <li>▪ 100 % consumption of Energy, protein, micronutrient rich food supplied by the Pilot project.</li> <li>▪ Increase in awareness of consumption of Iodized Salt, iron rich foods, safe drinking water, personal hygiene, menstrual hygiene and use of sanitary latrines by 75 % of the baseline.</li> </ul>	<ul style="list-style-type: none"> <li>▪ 50 % reduction of low BMI of the baseline.</li> <li>▪ Reduction of Anemia by 50 % of the baseline.</li> <li>▪ Delayed age of marriage and pregnancy</li> </ul>
<b>Pregnant Women</b>	<ul style="list-style-type: none"> <li>▪ Increase of normal weight gain of pregnant women by 50 % of the baseline.</li> <li>▪ Increase of IFA tablet consumption by 75% of the baseline</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reduction in Low Birth Weight babies by 50 % of the baseline</li> <li>▪ Reduction of MMR by 50 % of the baseline.</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Decrease in Anemia prevalence by 50 % of the baseline.</li> <li>▪ 100 % Immunization of Pregnant women.</li> <li>▪ 100 % consumption of Energy, protein, micronutrient rich food supplied by the Pilot project.</li> <li>▪ Decrease of low BMI by 20 % of the baseline.</li> <li>▪ Increase in awareness of feeding of colostrum, early initiation of breast feeding, exclusive breast feeding for 6 months, and complementary feeding at 6 months, by 80 % of the baseline.</li> <li>▪ Increase in awareness of consumption of Iodized salt, iron rich foods, safe drinking water, personal hygiene, and sanitary latrines by 75 % of the baseline.</li> <li>▪ Increase of Institutional Delivery, or birth by TBA by 50%</li> </ul>	
<b>Lactating Mothers</b>	<ul style="list-style-type: none"> <li>▪ Increase of IFA tablet consumption by 80 % of the baseline.</li> <li>▪ Reduction of anemia by 80 % of the baseline.</li> <li>▪ Increase in balanced diet consumption by 80% of the baseline.</li> <li>▪ 100 % consumption of Energy, protein, micronutrient rich food supplied by the Pilot project.</li> <li>▪ Increase in awareness of balanced diet, iron rich foods, safe drinking water, personal hygiene, menstrual hygiene and sanitary latrines by 75 % of the baseline.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reduction of Low BMI by 50 % of the baseline.</li> <li>▪ 80 % reduction of death of mothers during lactation period.</li> </ul>

**Evidence**

A Pilot Project based on interventions following the inter-generational approach and bridging the calorie protein gap, and Awareness Generation, has been implemented by the Council for the Advancement of People’s Participation and Rural Technology, (CAPART) in partnership with the NGO BAIF in 2 chronically malnourished, tribal Blocks of Jawhar and Mokhada in Thane District, Maharashtra. Evidence indicates that while improvement in the nutritional status of the target groups is visible almost immediately within 2-3 months of the commencement of the interventions, reduction in Low birth weight, IMR, CMR is manifested within 4-6 months. Evidence has shown that after 12 months of implementation, there has been a remarkable improvement in the nutritional status of the community, the most notable findings being reduction in low birth babies and

infant mortality by more than 50%, complete elimination of Grade 3 and 4 Malnutrition and more than 50% increase in normal grade children, improvement in anemia status in women and adolescent girls.

The table below states some findings.

<b>Indicators</b>	<b>Baseline, Jawhar (Sep. 07)</b>	<b>After 19 months (May 09)</b>	<b>Baseline, Mokhada (Sep. 07)</b>	<b>After 19 months (May 09)</b>
LBW	23.74%	9.7%	32.40%	12.46%
IMR	10.49%	4.8%	9.8%	2.06%
CMR	2.09%	0.23%	3.7%	1.03%

**(Under Publication)**

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