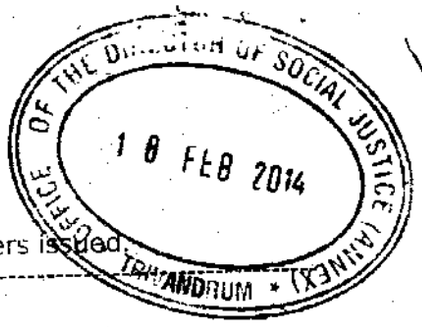
ICDS-B3

GOVERNMENT OF KERALA

Abstract

Social Justice Department - State Nutrition Policy - Approved - orders issued.



SOCIAL JUSTICE (B) DEPARTMENT

G.O.(Ms) No. 08/2014/SJD Dated, Thiruvananthapuram,04.02.2014

Read: Letter No.ICDS/B3/33397/11 dated 3.1.2014 from the Director, Social Justice Department , Thiruvananthapuram.

001464

ORDER

As per the letter read above, the Director of Social Justice has submitted a Draft Nutrition Policy of the State, with the technical support of UNICEF and incorporating the comments/views of the experts in the field, with a view to eradicate malnutrition and achieve nutrition for all.

Government have examined the matter in detail and are pleased to approve the nutrition policy of the State as appended to this order.

By order of the Governor,
Dr.K.M.Abraham,
Additional Chief Secretary

To

The Director of Social Justice, Thiruvananthapuram.
The Principal Accountant General (Audit), Kerala, Thiruvananthapuram.
The Accountant General (A&E), Kerala, Thiruvananthapuram.
The Accountant General (DB Cell), Kerala, Thiruvananthapuram.
Health and Family Welfare Department.
Food and Civil Supplies Department.
Local Self Government Department
General Education Department
General Administration (SC) Department.
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Section Officer

DRAFT NUTRITION POLICY

SOCIAL JUSTICE DEPARTMENT

GOVERNMENT OF KERALA

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ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ASHA	Accredited Social Health Activist
BCC	Behaviour Change Communication
BFHI	Baby Friendly Hospital Initiative
BMI	Body Mass Index
CADI	Coronary Artery Disease among Asian Indians
CSO	Central Statistical Organization
ECCD	Early Childhood Care and Development
FOGCI	Federation of Obstetrics and Gynaecology Societies of India
HT	Hypertension
HIV	Human Immunodeficiency Virus
IAP	Indian Academy of Pediatrics
ICDS	Integrated Child Development Services
IEC	Information, Education and Communication
IFA	Iron and Folic Acid
IMA	Indian Medical Association
IYCF	Infant and Young Child Feeding
LBW	Low Birth Weight
LSGI	Local Self Government Institution
MDMS	Mid Day Meal Scheme
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
NFHS	National Family Health Survey
NGO	Non-Governmental Organizations
NNMB	National Nutrition Monitoring Bureau
NNP	National Nutrition Policy
NRHM	National Rural Health Mission
NSSO	National Sample Survey Organization
OBC	Other Backward Class
ORS	Oral Rehydration Salt
ORT	Oral Rehydration Therapy
PEM	Protein Energy Malnutrition
RDA	Recommended Dietary Allowance
RSBK	Rashtriya Bal Swastya Karyakram

RUTF	Ready-to-use therapeutic food
SAM	Sever Acute Malnutrition
SC	Scheduled Caste
SHP	School Health Programs
ST	Scheduled Tribes
TB	Tuberculosis
VHND	Village Health & Nutrition Days
WHO	World Health Organization

EXECUTIVE SUMMARY

VISION

To build a healthy state by intervention in nutrition for holistic development of nutritional status of the people in a lifecycle approach

Kerala is a role model in development with impressive health and developmental indicators. However, two critical areas deserve immediate attention: one, higher burden of malnutrition (both under- and over-nutrition) and two, increasing burden of overweight and obesity in the state. For instance, despite considerable economic development in the last two decades the prevalence of underweight among children (below 3 years) has increased from 27% in 1992-93 to 29% in 2005-06. Similarly, the proportion of women who are overweight or obese has increased from 21% in 1998-99 to 34% in 2005-06.

Nutritional status not only reveals the current health conditions among the population but is also a good indicator of health status of the future generation. The Government of Kerala recognizes such relevance of nutritional health in overall individual and social well-being and given the state of affairs, the Government is committed to promote nutritional health through strategies based on inter-sectoral convergence and community participation. The nutritional policy entails life-cycle approach as a fundamental framework to improve health across all phases of human life.

The major nutrition problems of Kerala can be classified into a) undernutrition and anaemia b) overweight and obesity and c) dietary- and nutritional- disorders among adult and elderly. A disproportionate burden of these problems is however borne by vulnerable groups including elderly, women and children, tribal population, HIV positive individuals and those from poor and low income households especially casual and migrant labour.

To control these problems and with the year 2010 as the base year, the nutrition policy aims to achieve the following targets by 2025:

- Reduce by one-half the prevalence of underweight among children and adults
- Reduce by one-half the prevalence of anaemia among women and children

- Reduce by one-half the low birth weight cases
- Eliminate iodine deficiency and vitamin-A deficiency and disorders
- Universal access to treatment for malnourished women and sick children
- Reduce by one-half the prevalence of post-partum obesity and adult obesity
- Increase the per capita consumption of fruits and vegetables by 25 percent
- Reduce by two-third the prevalence of underweight and anaemia in SC and ST population
- Halt the increase in prevalence of diabetes and cardiovascular diseases

The nutritional programme would emphasize on first 1000 days of child's life with support from innovative and evidence-based nutritional strategies such as baby-friendly hospital initiative (BFHI), ready-to-use therapeutic food (RUTF), early childhood care and development (ECCD) programmes. Implementation of school health programmes (SHP) including mid day meal scheme and promoting healthy nutrition practices along with strengthening of the activities of nutritional supplementation, education and counseling is aimed to improve maternal and reproductive health.

Greater inter-sectoral collaboration would improve the economic and social welfare of the elderly population in Kerala. This can further ensure higher enrolment of elderly in social welfare schemes to support those who are either not working or are working in low paid informal sector with no pension or retirement benefits. Also, progress towards universal health care coverage by providing preventive, curative and rehabilitative services to elderly persons can foster healthy and active ageing.

This approach would be supplemented by efforts to establish a network of local governmental and non-governmental organizations to promote nutritional health among vulnerable subgroups including scheduled castes, scheduled tribes and migrant population. Provision of food and nutritional security to HIV +ve individuals and households is a priority concern of the state nutrition policy as nutrition is one of the core components to improve resistance against the disease.

In a federal set-up, State Governments have a fundamental role in the implementation of nutritional policies and programmes. In this regard, the formal structure for State level implementation of nutrition policy and programmes shall consist of an apex State level nutrition council to be chaired by the Chief Minister and an Executive Committee to be headed by the Minister for Social Justice.

The members of the Executive Committee should consist of secretaries of other relevant departments, nutrition experts and representatives of related professional bodies including representatives of leading NGOs and research organizations. The Apex body can be aided by inter-departmental coordinating committee, special working groups and local level nutrition councils. Research institutions and industry should be encouraged for applied research directed towards the improving the scientific and technological knowledge base against which food, nutrition and health problems can be resolved, giving priority to research concerning disadvantaged and vulnerable groups.

Regular monitoring and evaluation of nutritional health programmes and policies is necessary to guide and revise nutritional strategies. Therefore, it is critical that the Government of Kerala establishes its own monitoring and evaluation system and conducts regular household and community based surveys to assess nutritional status of the population. District coordination committees, in cooperation with local self government institutions, NGOs and the private sector, should prepare periodic reports on the implementation of plans of actions, with clear indications of how vulnerable groups are faring. Monitoring of nutritional status of mainstream population will also be strengthened. In this regard, regional and international collaboration is encouraged to establish food and nutrition health surveillance and early warning activities.

This nutrition policy based on a life cycle approach comprises of effective nutrition interventions and implementation design including communication and social mobilization for bringing a change in nutritional health. The implementation of nutrition policy would have a positive impact on the various key indicators of nutrition which will be reflected in terms of reduced prevalence of undernutrition and overnutrition and also promote healthy ageing. Overall, these policies and programmes can effectively enhance the universal respect for human rights, including rights to adequate food, health, care and quality of life.

1. INTRODUCTION

1.1 SCOPE OF NUTRITION POLICY

Nutritional status of the population is one of the major concerns among policy makers, academicians and nations at large. Nutritional deprivation restricts the capability of the individual to flourish and function and renders unfavourable impact on the overall socio-economic and human development of the society. Nutritional status not only reveals the current health conditions among the population but is also a good indicator of health status of the future generation. These indicators are linked with various social determinants of health and help to describe the health status of different population subgroups.

The quality of nutritional intake is a critical determinant of an individual's ability to cope with environmental stress and infections. In fact, the undernutrition-infection complex has been well documented in the clinical literature suggesting that poor nutritional health accounts for more illness and loss of life than any other health risk. Also, it is clinically and empirically established that undernourished children are at high risks of morbidity and mortality and can also suffer from poor cognitive skills and intellectual achievement thus reducing their overall capability.

The Government of Kerala recognizes the relevance of nutritional health in overall individual and social well-being, and has been formulating nutritional policy to improve nutritional health of all the population subgroups. Specifically, the nutrition policy advocates regular monitoring of nutritional status of the population and sensitizing government on the need for good nutrition and prevention of malnutrition defined as both undernutrition as well as overnutrition. The nutritional policy entails life-cycle approach as a strategy to interrupt intergenerational transfer of malnutrition.

The life-cycle approach calls for clear recognition of all the socio-biological phases in human life i.e. from infancy to old age, followed by identification of nutritional requirements and policy mechanisms to improve nutritional health across all phases of human life. As such nutrition requirements and challenges vary throughout the lifecycle of an individual. Nevertheless, adequate nutrition for children, adolescents and pregnant women assumes significance for its implications on physical and mental growth and its role in averting health problems and costs in

future. Moreover, malnutrition prevention strategies among mothers and children have far-reaching welfare consequences and benefit several generations.

1.2. National Nutrition Policy

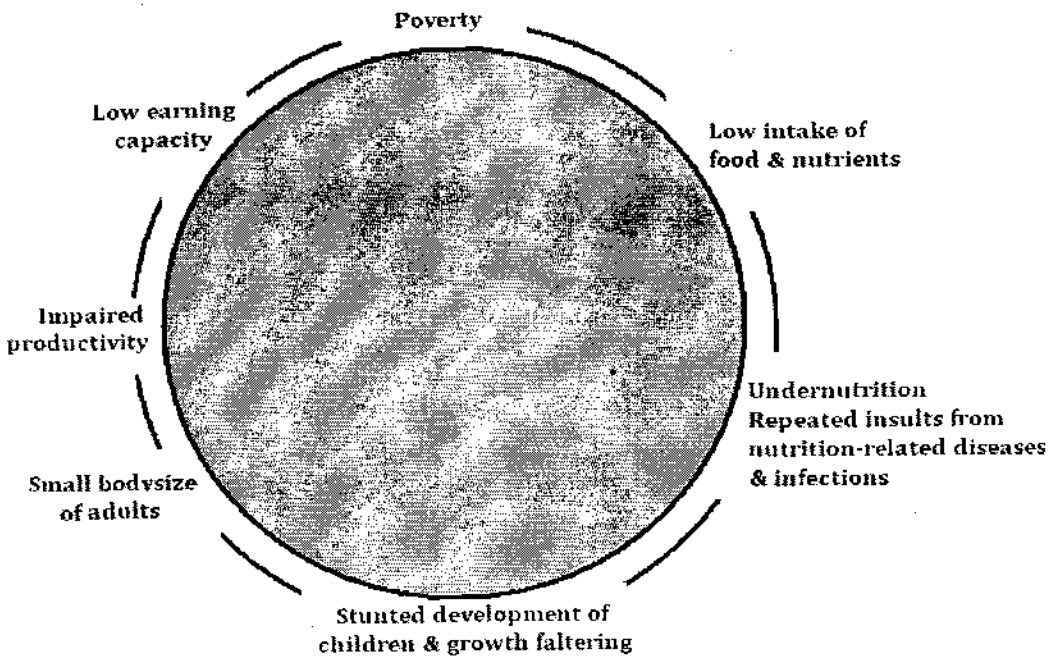
The Government of India formulated the National Nutrition Policy (NNP) in 1993. The NNP was adopted under the aegis of the Department of Women and Child Development.The NNP recognizes undernutrition as the 'single biggest scourge' and highlights its detrimental impact in terms of reduced work capacity and productivity amongst adults and higher mortality and morbidity amongst children.

The NNP further emphasizes that such reduced productivity translates into reduced earning capacity, leading to further poverty, and the vicious cycle goes on. Figure 1 presented here replicates the operation of the vicious cycle as described in the NNP 1993. Here the emphasis is laid on poverty that enforces nutritional deprivation via low dietary intake and increased vulnerability to infections and other nutrition-related diseases.

This figure also highlights the detrimental impact of stunted development and cumulative growth failures on income and well-being. In particular, the figure underscores the fact that undernutrition can lead to impaired productivity which can lead to low earning capacity and consequently lead to persisting poverty and undernutrition.

Figure 1: The vicious cycle of poverty, National Nutrition Policy 1993

The Vicious Cycle of Poverty



Source: National Nutrition Policy (India), 1993

The NNP 1993 classifies the major nutrition problems of India as follows:

1. Under-nutrition resulting in:
    a. Protein Energy Malnutrition (PEM)
    b. Iron deficiency
    c. Iodine deficiency
    d. Vitamin-A deficiency
    e. Low birth weight children
2. Seasonal dimensions of nutrition
3. Natural calamities and the landless
4. Market distortion and disinformation
5. Urbanization
6. Special nutritional problems of hill people, industrial workers, migrant workers, and other special categories
7. Problems of overnutrition, overweight and obesity for a small section of urban population

Further, the NNP observes that despite massive improvements in food-grain production, persistent endemic malnutrition and ill health resulting from malnutrition continue to stalk the country. It emphasizes that increased food production does not by itself necessarily ensure nutrition for all and, in fact, it is this stark reality that motivates the need for a nutrition policy.

The NNP 1993 recognizes that nutrition is a multi-sectoral issue and shares a bidirectional causal relationship with development. Hence, both direct (short-term interventions) and indirect (long-term development policy) measures were identified to create conditions for improved nutrition. The major highlights of these interventions are reported in Table 1.

Table 1: Direct and Indirect Interventions, National Nutrition Policy 1993

Direct (short-term) interventions	Indirect (long-term policy) interventions
1. Nutrition intervention for specially vulnerable groups	1. Food security
2. Expanding the safety net for children – proper implementation of universal immunization, oral rehydration, ICDS and Mid Day Meal scheme	2. Improving dietary pattern
3. Growth monitoring in 0-5 year age group	3. Improving purchasing power of rural and urban poor by public food distribution system
4. Ensuring proper nutrition of target groups	4. Nutrition education
5. Nutrition of adolescent girls to enable them attain safe motherhood	5. Land reforms
6. Nutrition of pregnant women to decrease incidence of low birth weight	6. Prevention of food adulteration
7. Food fortification	7. Nutritional surveillance
8. Popularization of low cost nutritious food	8. Health and Family welfare Research
9. Control of micro-nutrient deficiency in vulnerable group	9. Minimum wage administration
	10. Communication

11. Community participation
12. Equal remuneration for women
13. Improvement of literacy, especially for women
14. Improving the status of women

Source: National Nutrition Policy (India), 1993

The NNP explicitly highlights the role of state governments in 'successful actualization' of the nutrition policy. It suggests the states to follow the formal administrative structure as developed by the Government of India. Identifying the plurality of the challenges, the NNP calls for greater inter-sectoral convergence with involvement of all stakeholders including state government, local government institutions, non-governmental organizations (NGOs), cooperatives and other professional organizations.The NNP lays emphasis that each Indian state has its characteristic problems, priorities, approaches and resources, and therefore formulation of state level nutrition policies is suggested and encouraged. These issues are discussed in the next section on the role of state government in promoting health and nutrition.

1.3. Nutritional Problem, Causes and Consequences: A Summary

Nutritional Problem	Causes	Consequences
Protein Energy Malnutrition PEM (Children)	• Inappropriate breastfeeding • Inadequate complementary feeding practices • Insufficient health services (Growth monitoring and counseling) • Low birth weight • Infectious diseases • Inadequate energy intake	• Failing to grow (underweight, stunted, and wasted) • Reduced learning ability • Reduced resistance and immunity • against infection • Reduced productivity in the future
Protein Energy Malnutrition PEM (Women)	• Inadequate energy intake • Inadequate knowledge and practice of maternal feeding • Heavy physical workload • Lack of extra food intake during	• Low birth weight • Increased risk of maternal mortality and morbidity • Reduced productivity

	pregnancy and lactation	
Iron deficiency/Anaemia	• Inadequate intake of iron from daily diets • Inadequate absorption of dietary iron • Infestations such as hookworms and malaria • High requirements of iron particularly during growth and pregnancy • Blood loss (menstruation, injury) • Vitamin A deficiency	• Impaired human function at all stages of life • Impaired work performances, endurance and productivity • Increased risk of maternal morbidity and mortality • Increased risk of sickness and death for the baby
Iodine deficiency disorders	• Lack of iodine in food	• Cretinism, Goitre • Impaired cognitive function • Increased prenatal morbidity and mortality • Reduced productivity
Vitamin A deficiency	• Low intake of Vitamin A from daily diets • Restricted Vitamin A absorption • Worm infestation	• Xerophthalmia (Night blindness, Bitot's spot, corneal ulcer, Keratomalacia, xerosis) • Increased risk of morbidity and mortality • Increased risk of anaemia
Low birth weight (LBW)	• Small maternal size at conception (low weight and short stature) • Low gestational weight gain • Maternal anaemia • Maternal malnutrition • Premature delivery • Early pregnancy	• Increased mortality and morbidity • Increased risk of stunting • Poor neurodevelopment • Reduced strength and work capacity • Increased risk of chronic diseases
Lifestyle related diseases	• Unbalanced food intake • Insufficient practice of healthy lifestyle (tobacco use, alcohol, lack of exercise, etc) • Childhood malnutrition and obesity • Mental stress	• Increased mortality • Reduced quality of life • Reduced productivity

Source: National Nutrition Policy and Strategy (2004), Nutrition Section, CHD, MoH&P, Govt. of Nepal

2. ROLE OF STATE GOVERNMENT IN NUTRITION POLICY

In a federal set-up, State Governments have a fundamental role in implementation of nutritional policies and programmes. Active involvement of state government is a prerequisite which should be supported by substantive and systematic information on the magnitude and dimensions of nutritional health. In this regard, state government should sensitize the various stakeholders about multidimensional nature of malnutrition and should adopt a strategy of inter-sectoral convergence with community participation to implement nutrition policy. Such an approach both enriches our understanding of the problem and presumes practical relevance while implementing nutrition policy.

In this regard, major recommendations of the NNP 1993 are described as follows:

- **Apex State Level Nutrition Council:** The formal structure for State level implementation of nutrition policy and programmes should be similar to that of the Government of India. In particular, there should be an apex State level nutrition council to be chaired by the Chief Minister and an Executive Committee to be headed by Minister for Social Justice with Secretary Social Justice as the as the convener, and comprising Secretaries of other departments like Health, Food, Local Self Government and Agriculture. The members should be nutrition experts and representatives of related professional bodies like Indian Academy of Pediatrics (IAP), Indian Medical Association (IMA), Federation of Obstetrics and Gynaecology Societies of India (FOGCI), Nutrition Society of India and representatives of leading NGOs and welfare organizations Kudumbashree, working in the state.
- **Inter-departmental Coordination Committee**: There should be an Inter-Departmental Coordination Committee (IDCC) to function under the Chief Secretary which will coordinate, oversee and monitor the implementation of the National Nutrition Policy. The Committee would also focus on the State level targets for the various nutrition-related, indicators based targets set under the National and State Nutrition Policies. The Secretary of the Department of Social Justice should be the Convener of this Committee.
- **Special Working Groups**: Special working groups should be set up in the Departments of Agriculture, Local Self government , Health, Education, Food and Civil Supplies, Social Justice,

Agriculture, Animal Husbandry and Dairy Department, Water Authority, Education Department, Scheduled Tribe Development Department, Scheduled Caste Development Department, Food Safety Commissionerate will be responsible for getting the various sectoral schemes from the point of view of nutrition before they are finalized.

- **Co-ordination Committees & Nutrition Councils:** The State Governments may constitute Co-ordination Committees and Nutrition Councils at both state and district levels. The state co-ordination committee can be composed of the Chairman, Vice-Chairman, Member Secretary, Convener, Joint Convener and members from departments like Social Justice, Health and Family Welfare, Food and Civil Supplies, Kudumbashree, Local Self Government and NGOs. This committee can also control the delivery cost of various nutrition interventions and aim to mobilize resources to ensure sustainability of nutritional interventions. Similar approach can be adopted at district level for implementing the state nutrition policy. Representation from Anganwadi and Local Self Government Institutions may be ensured in these committees to improve coordination of various components of the interventions and support Local Self Governments to effectively implement the state nutrition policy at grass root level.

3. Nutritional Status of Kerala: A Review

3.1. Data on Nutritional Status of Kerala

Despite identification of the need for regular monitoring and evaluation of nutritional health programmes and policies it is worrisome to note critical shortage data for timely and systematic performance assessment of the state and to understand the inequalities in the distribution of nutritional health. It may be emphasized that much of the evidence on nutritional status of Kerala is available through nationwide large scale sample surveys such as National Family Health Survey, NFHS (conducted in 1992-93, 1998-99 & 2005-06) and National Sample Survey on Consumer Expenditure conducted quinquennially by the Central Statistical Organisation (CSO).These sources can provide only a state-level picture for Kerala and may not be very useful to understand intra-state inequalities in nutritional deprivation. However, some indirect information on nutritional status across various districts of Kerala can also be obtained from District Level Health Survey (2007-08) conducted by International Institute for Population Sciences with support from Ministry of Health and Family Welfare. Given the current state of affairs it is therefore critical that

Kerala should establish its own monitoring and evaluation system and conduct regular surveys to assess nutritional status of the population.

3.2. Nutritional Status Indicators for Kerala: Some Evidence

3.2.1. Calorie consumption and dietary intake

- Table 2 shows that over 80% of households in rural Kerala have calorie intake lower than the prescribed daily consumption value of 2400 Kcal. This proportion has marginally increased during the last two decades. It is observed that the proportion of households consuming less than 1800 Kcal has also increased during this period from 44% to 46%.
- Percentage of households consuming between 2400-3000 Kcal has declined during the last two decades in rural Kerala whereas proportion of households consuming over 3000 Kcal had increased during 1990s and early 2000s to around eight percent. However, this proportion has shown a two percent decline by 2010.
- When compared with rural India it is noted that a greater proportion of households in rural Kerala face acute calorie deprivation (below 1800 Kcal). Similarly, a higher percentage of households in rural Kerala have a tendency for over-consumption (above 3000 Kcal) whereas the similar proportion has declined significantly at the national level.

Table 2: Calorie distribution of households (in %) in rural Kerala& rural India

Rural Kerala	Below 1800 Kcal	Below 2200 Kcal	Below 2400 Kcal	2400 - 3000 Kcal	Above 3000 Kcal
1993-94	44.4	71.4	80.1	13.3	6.6
2004-05	45.1	72.3	79.6	12.4	8.0
2009-10	46.1	74.7	83.1	10.9	6.0
Rural India	**Below 1800 Kcal**	**Below 2200 Kcal**	**Below 2400 Kcal**	**2400 - 3000 Kcal**	**Above 3000 Kcal**
1993-94	31.5	60	71.5	19.2	9.3
2004-05	36.8	68.6	79.8	15.1	5.1
2009-10	35.3	69.4	81.2	14.9	3.9

Source: Consumer Expenditure Survey, National Sample Survey Organization (various years)

- Table 3 unravels huge disparities in per capita calorie consumption across poorest 20% and richest 20% households in rural Kerala. As indicated by the ratio of per capita calorie

consumption between highest 20% to lowest 20%, the individuals in the lower income categories are able to consume only around 1100 Kcal daily which is very low than the stipulated guidelines and suggests chronic hunger and undernutrition among the poorest households in rural Kerala.

- The situation of rural Kerala is rather worrisome as calorie consumption by this subgroup is significantly lower than the national average which also falls short of the specified guidelines. Moreover, inequalities in Kerala are much higher than the national level. It is also disconcerting to note that the situation has not improved in the last two decades despite witnessing significant economic growth and programme interventions.

Table 3: Per capita calorie consumption by richest and poorest 20% households

	Rural Kerala			Rural India		
	Poorest 20%	Richest 20%	Ratio (R/P)	Poorest 20%	Richest 20%	Ratio (R/P)
1993-94	1107	2400	2.2	1596	2799	1.8
2004-05	1093	2340	2.1	1580	2583	1.6
2009-10	1126	2259	2.0	1628	2472	1.5

Source: Consumer Expenditure Survey, National Sample Survey Organization (various years)

- As per the National Nutrition Monitoring Bureau (NNMB) Survey conducted in the year 2002, cereals and millets formed the bulk of dietaries in all states. The intake of cereals was adequate to meet the recommended dietary allowance (RDA) in most of the states. Importantly, cereal intake was found to be the lowest in Kerala. The intake of pulses in Kerala was being less than 50% of the RDA. The intake of green leafy vegetables is considerably lower than the RDA. The intake of other vegetables is not below the RDA in Kerala. Intake of roots and tubers was highest in Kerala. However, the intake of milk was less than the recommended level of 150 ml.

3.2.2. Nutritional status of mothers and children

- Table 4 reports some key indicators on nutritional status of mothers and children in Kerala. This information is obtained from National Family Health Surveys for various years and the major inferences are as follows:

Breastfeeding is nearly universal in Kerala, but less than half of the children begin breastfeeding immediately after birth and only 43 percent in the first hour. However, 92 percent children begin breastfeeding within the first day. More than two-thirds of children under four months of age are exclusively breastfed. The median duration of breastfeeding is 24.5 months and the median duration of exclusive breastfeeding is 2 to 8 months. At age 6 to 9 months, all children should be receiving solid or mushy food in addition to breast milk. However, only 74 percent of children at age 6 to 9 months receive the recommended combination of breast milk and solid/mushy foods.

- Anaemia is a major health problem in Kerala, especially among women and children. Anaemia can result in maternal mortality, weakness, diminished physical and mental capacity, increased morbidity from infectious diseases, perinatal mortality, premature delivery, low birth weight, and (in children) impaired cognitive performance, motor development, and scholastic achievement. Among children between 6 and 59 months of age, 45 percent are anaemic. This includes 24 percent who are mildly anaemic, 21 percent who are moderately anaemic, and 1 percent who suffer from severe anaemia. Boys and girls are equally likely to have anaemia.
- Prevalence of anaemia is widespread and has increased among both women and children. Among children of 6-35 months age, the prevalence of anaemia has risen by 12 percentage points from 44 percent in NFHS-2. Similarly, among ever married women, the prevalence of anaemia is 10 percentage points higher in NFHS-3 (33%) than it was in NFHS-2 (23%). d
- About one in twelve men aged 15-49 years (8%) in Kerala are anaemic, with men under age 20 years being more likely to suffer from anaemia than older men. Men belonging to the scheduled castes and to the other backward classes and men with less than five years of schooling are more likely to be anaemic than other men

Table 4: Maternal and child nutritional status in Kerala, 1992-93 to 2005-06

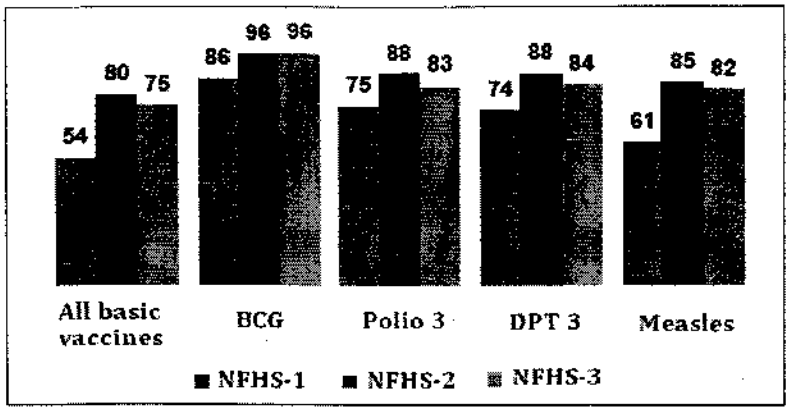
Key Nutritional Status Indicators	NFHS -1	NFHS -2	NFHS -3
	1992 - 1993	1998 - 1999	2005 - 2006
a) Children breastfed within 1 hour of birth (%)	14.2	42.9	55.4
b) Children age 0-5 months exclusively breastfed (%)	N A	N A	56.2
c) Children age 6-9 months receiving solid or semi-	N A	N A	93.6

	solid food and breast milk (%)			
d)	Children under 3 years who are stunted (%)	25.2	21.9	21.1
e)	Children under 3 years who are wasted (%)	12.8	11.1	16.1
f)	Children under 3 years who are underweight (%)	27.0	26.9	28.8
g)	Women whose Body Mass Index is below normal (%)	N A	18.7	12.5
h)	Men whose Body Mass Index is below normal (%)	N A	N A	11.9
i)	Women who are overweight or obese (%)	N A	20.6	34.0
j)	Men who are overweight or obese (%)	N A	N A	24.3
k)	Children age 6-35 months who are anaemic (%)	N A	43.9	55.7
l)	Ever-married women age 15-49 who are anaemic (%)	N A	22.7	32.3
m)	Pregnant women age 15-49 who are anaemic (%)	N A	20.3	33.1
n)	Ever-married men age 15-49 who are anaemic (%)	N A	N A	7.1

Source: National Family Health Surveys, NFHS (various years)

- Special focus should be for Vitamin A status of preschool children & pregnant women. Vitamin A deficiency is common among children and the poor in the country which is a public health problem leading to blindness. According to NNMB report only 20 % of 1 - 5 year children have normal serum vitamin A concentration (20 mg/dl). Activities for the prevention and control of vitamin A deficiency may be strengthened.
- The NFHS 2005-06 report informs that for 96 percent of their last births, women received iron and folic acid supplements (IFA) during pregnancy, but only 75 percent consumed IFA for the recommended 90 days or more. Almost 9 in 10 women received two or more doses of tetanus toxoid vaccine. Only 10 percent of women took a de-worming drug during pregnancy.
- As per NFHS 2005-06 75% children age 12-23 months in Kerala are fully vaccinated against six major childhood illnesses: tuberculosis, diphtheria, pertussis, tetanus, polio, and measles (Figure 2). Only 2 percent of children have not received any vaccination. Ninety-six percent of children have received a BCG vaccination; however, only 82-84 percent has received each of the recommended three doses of the DPT and polio vaccines and the measles vaccine.

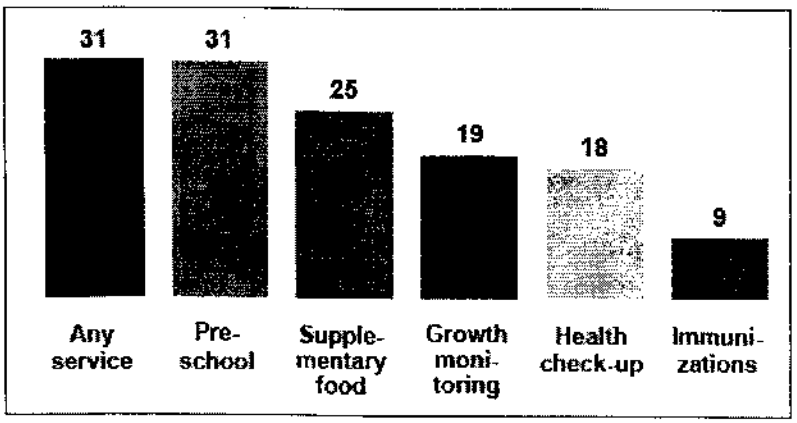
Figure 2: Trends in vaccination coverage (%children 12-23 months) in Kerala



Source: National Family Health Surveys, NFHS (various years)

- Integrated Child Development Services (ICDS) has a critical role in improving child health through provision of child care services through *anganwadi* centres. In this regard, the NFHS 2005-06 report informs that only 31 percent of children age 36-71 months received early childhood care/preschool services through *anganwadi* centres (Figure 3).Children belonging to the scheduled castes and children from the lower wealth quintiles are more likely than most other children to take advantage of the services offered at *anganwadi* centres. Among children under age six years in areas covered by an *anganwadi* centre, only 18 percent (11 percent) had mothers who received any service during pregnancy (breastfeeding).

Figure 3: Percent children receiving services from anganwadi centres in Kerala



Source: National Family Health Survey, NFHS (2005-06)

- The World Health Organization (WHO) recommendations for infant and young child feeding (IYCF) practices for children 6-23 months old emphasize on continued breastfeeding, feeding

with appropriate calcium-rich foods if not breastfed; feeding solid or semi-solid food for a minimum number of times per day according to age and breastfeeding status; and, including foods from a minimum number of food groups per day according to breastfeeding status. In this regard, the NFHS 2005-06 reveals that in Kerala, about 4 out of 5 children (79%) age 6-23 months are fed minimum times per day and about 74% are fed from the minimum number of food groups. However, only 61 percent are fed according to all three recommended practices.

- The mid day meal scheme was first introduced in Kerala in 1984. The scheme was universalized in 2007-08. The scheme consists of serving hot cooked meals of a minimum of 300 k. cal and 8-12 gm protein to school children. This apart, the outcome of the scheme is also to make all children eat a common dish at a common place thereby establishing greater rapport and emotional unity among children.

- The NFHS 2005-06 finds that adults age 15-49 years in Kerala suffer from a dual burden of malnutrition; about one-fifth of adults are underweight (18% of women and 22% of men), and more than one-quarter of women (28%) and 18 percent of men are overweight or obese. Only 54% women and 61% men are at a healthy weight for their height. Undernutrition among ever-married women has declined in the past seven years from 19 percent in NFHS-2 to 13 percent in NFHS-3.Undernutrition is more common in rural areas, among teenagers, among never married, among the scheduled castes and the less wealthy. Overweight and obesity are most common in older adults, those in urban areas, and those in the highest wealth quintile.

- Diarrhoeal illness has a significant role in determining nutritional health of the children. In this regard, the NFHS 2005-06 report further reveals that 7 percent of children had diarrhoea in the two weeks preceding the survey. Among these children, less than two-thirds (63%) were taken to a health care provider. More than 8 out of 10 children (81%) were treated with some kind of oral rehydration therapy (ORT), including 32 percent who were treated with a solution prepared from oral rehydration salt (ORS) packets and 78 percent who were given gruel. Ten percent of children with diarrhea did not receive any type of treatment at all. The use of ORS remains low in Kerala even though the vast majority of women (92%) who had a child in the five years preceding the survey know about ORS packets.

- According to NFHS 2005-06, 69% households in Kerala use an improved source of drinking water (77% urban and 65% rural), but only 13% have water piped into their dwelling yard, or plot and 12% get drinking water from a public tap or standpipe. It is important to note that

most households in Kerala get their drinking water from a well: 40% get it from a protected well and 29% from an unprotected well. Given the importance of water and sanitation on nutritional health universal coverage of water and sanitation is important for Kerala.

- Using iodized salt prevents iodine deficiency, which can lead to miscarriage, goitre, and mental retardation. About three-quarters of households in Kerala (74%) were using sufficiently iodized salt at the time of the survey. This is much higher than the percentage observed during NFHS-2 (39%). A nationwide ban on non-iodized salt took effect just as the NFHS-3 fieldwork was being completed, so the effects of the new law could not be determined by the survey.

3.2.3. Nutritional status of tribal and marginalized population groups

- Based on NFHS 2005-06, table 5 reports some key indicators on nutritional status of marginalized population groups disadvantaged in terms of place of residence, caste/tribe and income status.
- It can be noted that rural population share a greater burden of nutritional deprivation among both women and men whereas urban areas display a higher prevalence of overweight among both women and men. In relative terms, greater proportion of men are underweight than women but in case of overweight a greater proportion of women are found to be overweight. This suggests that females in Kerala face a dual disadvantage and are more likely to be underweight/overweight than males. Anaemia among women is very high (around 33%) whereas the prevalence among males is below 10%. Unlike BMI indicator, the prevalence of anaemia across rural and urban areas does not show any significant spatial differential.
- Equal opportunity and development of all the caste and tribal subgroups has been a fundamental development concern. In this regard, it is disturbing to note that the vulnerable population subgroups of scheduled caste and tribes share disproportionately higher burden of nutritional deprivation as informed by low BMI and anaemia.It is obvious that sample limitation disallows estimation of prevalence among scheduled tribe population and reiterates the need for special state level surveys to obtain comprehensive data to facilitate nutritional planning. Nevertheless, it can be inferred that scheduled tribe population (52%) has a very high prevalence of anaemia than compared to the general population (31%). Also over 43% ST women are found to be underweight compared to only 17% in the general population. While the incidence of the problem of underweight and anaemia is by no means lower in the

general population but at the same time such huge inequalities in the prevalence of these nutritional deprivations deserves immediate policy attention.

Table 5: Nutritional status of marginalized groups in Kerala, 2005-06

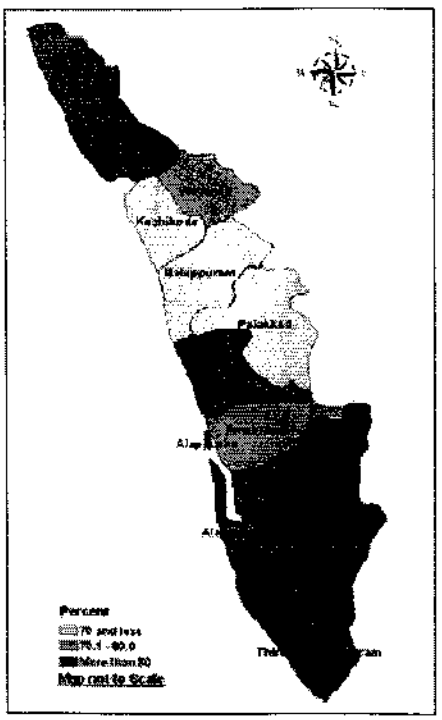
Characteristics	Underweight (BMI ≤ 18.5)		Overweight (BMI ≥ 25.0)		Anaemia (≤12.0 g/dl)	
	Women	Men	Women	Men	Women	Men
Residence						
Urban	15.2	18.2	32.9	21.7	34.1	7.2
Rural	19.4	23.4	25.5	15.7	32.2	8.4
Caste/Tribe						
Scheduled caste	22.4	26.6	19.3	11.5	37.7	8.8
Scheduled tribe	42.6	*	17	*	51.9	*
Other backward class	17.5	20.8	29	19.9	33.4	9.3
Other	16.6	20.1	29.9	18.5	30.8	7.0
Wealth index						
Lowest	55.6	*	3.7	*	-38	*
Second	27.1	40.6	14.3	5.4	39.7	16.7
Middle	27.2	28.7	16.5	8.4	38.4	12.7
Fourth	21.2	26.3	23.9	12.1	33.2	6.3
Highest	11.6	13.9	36.1	26.8	30.5	7.2
Kerala	**18**	**21.5**	**28.1**	**17.8**	**32.8**	**8**

Source: National Family Health Survey, NFHS (2005-06)

- Income-related inequalities in health have received most of the policy attention. However, the status of the households and individuals in the lower wealth quintiles continue to display poor nutritional status. For instance, the prevalence of underweight among men in the lowest wealth quintile is almost 3.5 times of that noted among the richest wealth quintile. The prevalence of anaemia across various wealth quintiles also displays an income gradient with greater concentration among the poorer individuals. Contrastingly, the prevalence of overweight is significantly higher among richer households. In fact, over 36% women from highest wealth quintile are overweight when compared to only 3.7% from lowest wealth quintile. Males also display a common gradient in overweight prevalence.

Children in urban areas, children of educated mothers, children in wealthier households, and children belonging to other backward classes are more likely than other children to receive all vaccinations. Girls are slightly more likely to be fully vaccinated than boys. Apart from inequalities associated with gender, caste, income and place of residence there are significant intra-state district level variations in health outcomes. While paucity of data restricts a detailed analysis of nutritional health indicators but nevertheless a glance at the distribution of full immunization coverage by districts reveals poor performance of Palakkad, Malapurram and Kozhikode district (Figure 4).

Figure 4: Intra-state variations in immunization coverage, Kerala 2007-08



Source: District Level Health Survey, DLHS (2007-08)

- Kerala is one of the states with lowest tribal population in India constituting of 1.1 % of the total population in Kerala. Wayanad has the highest tribal concentration (37%) in the state.Idukki and Palakkad come next with 14 % and 11%, respectively. More than 70% of tribal population is not consuming adequate quantity of protein, carbohydrate, macronutrients and micronutrients. Modified strategies are to be formed for the supplementation of locally available foods rich in carbohydrate, protein, fat and other nutrients for tribal population. A study published by Das & Bose (2012 *Anthropological Notebooks*) finds that 38% of the

Mannan tribal group in Kerala have low BMI or chronic energy deficiency.

- Post-partum obesity is rapidly emerging as a key concern in nutritional health. Kerala is no exception to the phenomenon where over 35% of women in the age group of 30-39 are found to be overweight. The prevalence further increases to 41% in the age group of 40s. Obesity is also around 9% in this age group of 40-49 years. This calls for intervention to improve the nutritional health of women particularly in the post-partum period.

Table 6: Post partum obesity among women in Kerala, 2005-06

Correlates	Overweight (BMI ≥ 25.0)	Obese (BMI ≥30.0)
Age group		
15-19	6.2	1.4
20-29	20.3	2.4
30-39	34.9	5.9
40-49	40.6	8.7
Marital status		
Never married	8.6	1.8
Currently married	34.4	6.1
Widowed/divorced/separated	27.6	3.3

Source: National Family Health Survey, NFHS (2005-06)

3.2.4. Nutritional status of the elderly

- The proportion of elderly in our state is increasing and currently more than 11 % of Kerala population is aged 60 years or above. The morbidities related to aging (Diabetes, Hypertension, Heart diseases, Cancers, Joint disorders etc) are also increasing. But their nutritional needs are seldom addressed. Elderly are a special group in terms of nutritional needs as they are often affected by diseases which need nutritional support. Activities for the prevention and control of the life-style diseases hence require strengthening.

- According to the Coronary Artery Disease among Asian Indians (CADI) Research Foundation Kerala is the diabetes capital of India with a prevalence of diabetes as high as 20% — double the national average of 8%. They have listed several studies from different parts of Kerala supporting the evidence on high prevalence of diabetes. For instance, one study from central

Kerala reported a prevalence of diabetes at 20% and prediabetes at 11%. Similar studies show a prevalence of 11-19% in men and 15-22% in women with rural Kerala having paradoxically higher rates of diabetes than urban dwellers. This is in sharp contrast to national data that shows the prevalence of diabetes to be double in urban areas than rural areas. Increasing age, obesity, positive family history of diabetes, abnormal subscapular triceps skin fold ratio were all found to be associated with increased risk of diabetes.

- According to a study report published in the *The Hindu* (Dec 26, 2011) on sspecial provisions needed for healthcare for elderly, it is observed thatin Kerala, 71.6 per cent of the elderly have at least one of the chronic morbidities with hypertension topping the list (57.3 per cent), chronic joint pains (37.5 per cent), diabetes and ear/eye (32 per cent each), heart disease (17.1 per cent and asthma (11.4 per cent).
- There is limited data and information regarding health and nutritional status of the elderly population, particularly among marginalized sections and vulnerable groups. Nevertheless, based on the survey conducted among Kurichia's tribe in Wayanad district, Reddy et al (2012, *Journal of Society and Communication*) find that as per the nutritional anthropometry, 50% of the elderly Kurichias (50% men and 49% women) can be categorized under malnourished category. However, elderly from this tribal group had lower prevalence of risk factors such as obesity and hypertension.

4. Nutrition Policy for Kerala

Vision

To build a healthy state by intervention in nutrition for holistic development of nutritional status of the people in a lifecycle approach

4.1. Need for a State Nutritional Policy

Kerala has been a role model in many respects and there is a huge difference when its figures on developmental indicators such as infant mortality, maternal mortality, population growth, birth registration, literacy and malnourished children are compared with the all-India average. But there are still areas that require attention. In particular, two critical areas deserve immediate attention: one, a sluggish rate of improvement (from 18.7% in 1998-99 to 12.5% in 2005-06) in prevalence of undernutrition among ever-married women in Kerala and second, upward trend in the prevalence of child undernutrition in the state. Despite considerable economic development in the last two decades the prevalence of underweight among children (below 3 years) increased from 27% in 1992-93 to 29% in 2005-06.

Drawing up a strategy to cover all these issues involves all agencies, line departments and stakeholders working for the cause of children in the State. The main sectors covered under the State Plan of Action are child health, mental health, health care services, nutrition, pre-school education and school education, physical environment, disabilities, adolescents, children in need of care and protection and prevention of HIV infection. Counting all these factors nutrition has to be tackled independently, alongside developmental issues and needs a comprehensive policy approach with specific guidelines. The Nutrition Policy of Kerala therefore aims to integrate the various components of nutrition and programme activities to provide a streamlined approach to improve the nutritional status of the population with specific reference to children, adolescents, women and elderly. This would contribute towards achievement of the Millennium Development Goal on halving the proportion of children who are underweight for their age.

4.2. Major Nutrition Problems in Kerala

The major nutrition problem of Kerala can be classified as follows:

- Undernutrition
  - Protein energy malnutrition, anaemia, iodine deficiency, vitamin-A deficiency, low-birth weight children, underweight mothers, underweight children and adolescents
- Obesity, Dietary- and nutrient- intake disorders
  - Overnutrition, overweight, post-partum obesity, pediatric and child obesity
  - High carbohydrate & fat intake, low fruit & vegetable intake
- Poor nutritional health status of adult and elderly
  - Underweight, obesity, low physical activity, diabetes and hypertension
- Vulnerable groups at risk
  - Elderly, women and children, tribal population, backward castes and communities, rural areas and low income households

4.3. State Nutritional Policy Goals

4.3.1. Goals of State Nutrition Policy

1) Ensure food security and adequate nutrition for all the people in Kerala, for their health as well as their social and economic well-being
2) Reduce health inequalities by ensuring faster pace of improvement in nutritional health of the vulnerable population subgroups particularly scheduled castes, tribal population, and low income households
3) Eliminate undernutrition among adolescents and women of reproductive age by improving quality of diet for mothers and significantly reducing micro-nutrient malnutrition (vitamin-A, iodine and iron deficiencies), especially among women and children
4) Provide effective therapeutic feeding for sick and malnourished children and improve children's lifelong eating and physical activity habits by integrating nutrition education into curriculum areas
5) Develop good nutrition status of adults to prevent and control chronic nutrition-related non-communicable diseases in later life

6) Curb the incidence of overweight, particularly post-partum and pediatric obesity, by communication strategies to facilitate behavioural change for better nutrition practices

7) Adopt multi-sectoral, gender-sensitive and community-based systems to promote the nutritional status of the people of Kerala

8) Implement the revised nutritional and feeding norms for supplementary nutrition in ICDS scheme and ensure accreditation of all the anganwadi centres

9) Incorporate nutrition health in state, three-tier local self government development plans and conduct regular coordination meetings at state, district and block levels

10) Establish growth monitoring and promote research on local solutions to nutrition issues and disseminate research findings with assessments of cardiovascular health and risk factors

4.3.2. Targets of State Nutrition Policy

With 2010 as the base year, the policy aims to achieve the following goals by the year 2025:

1. Reduce by one-half the prevalence of underweight among children and adults
2. Reduce by one-half the prevalence of anaemia among women and children
3. Reduce by one-half the low birth weight cases
4. Eliminate iodine deficiency and vitamin-A deficiency and disorders
5. Universal access to treatment for malnourished women and sick children
6. Reduce by one-half the prevalence of post-partum obesity and adult obesity
7. Increase the per capita consumption of fruits and vegetables by 25percent
8. Reduce by two-third the prevalence of underweight and anaemia in scheduled caste and tribes
9. Halt the increase in prevalence of diabetes and cardiovascular diseases

4.4. Strategies and Interventions

4.4.1. Reducing Undernutrition

Infant and Children

- The nutritional programme should emphasize on first 1000 days of child's life – starting from the period of conception to 24 months. This is crucial to achieve improvements in child nutritional status.
- In 1991, the UNICEF and WHO had launched the Baby-Friendly Hospital Initiative (BFHI), to ensure that all maternities whether free standing or in a hospital, become centres of breastfeeding support. This initiative should be revived in the state to support successful breastfeeding.
- Timely initiation of breastfeeding within one hour of birth and exclusive breastfeeding during the first six months of life. Thereafter, timely introduction of complementary foods at six months with age-appropriate and quality complementary feeding for children 6-24 months.
- Safe handling of complementary foods and hygienic complementary feeding practices. Moreover, full immunization and bi-annual vitamin-A supplementation with de-worming, frequent, appropriate, and active feeding for children during and after illness, including oral rehydration with zinc supplementation during diarrhea is necessary.
- Timely and quality therapeutic care for all children with severe acute malnutrition along with nutrition counseling with dietician or nutritionist in public health facilities to improve food and nutrient intake for lactating mothers is essential.
- Implement the revised nutritional and feeding norms for supplementary nutrition in ICDS and promotion of optimal infant and young child nutrition practices (IYCN) is critical.
- Implementation of improved mid day meal scheme
- Improve availability of safe drinking water and safe sanitation
- Micronutrient fortified food should meet the recommended dietary allowance (RDA) norms and all children and women in the target group should be brought under ICDS coverage
- Strengthen capacity of health professionals for nutrition and breastfeeding management
- Increase awareness of risks of smoking and alcohol to low birth weight and increase awareness of risks of teenage pregnancy to infant and maternal health
- Food fortification is necessary for meeting gap in micronutrients (iron, folic acid) and zinc supplementation for addressing the enormous burden of stunting.

- Ready-to-use therapeutic food (RUTF) which is energy dense, micronutrient enhanced pastes should be used in therapeutic feeding. The RUTF has a nutritional profile similar to the World Health Organization-recommended therapeutic milk formula and is essential for the community-based management of children who are suffering from uncomplicated severe acute malnutrition and who retain an appetite.
- The RUTF should be emphasized to treat the problem of Severe Acute Malnutrition (SAM) among children as it provides all the nutrients required for recovery. Importantly, RUTF can be used in combination with breastfeeding and other best practices for infant and young child feeding.
- Training of local partners and village health workers in the field of RUTF is useful to generate awareness among the mothers and the communities.

Early Childhood Care and Development

- Early childhood care and development (ECCD) is most critical to provide and develop the foundations for each child's future learning, well-being and prosperity. A focus on ECCD ensures physical health, cognitive stimulation and emotional resilience and social competence of children.
- ECCD programmes should be focused on to strengthen children's protective environment by supporting parents, caregivers and pregnant women, as well as looking at wider contexts, such as implementation of nutrition policies and societal attitudes towards nutritional health and programmes.
- The emphasis must be on ensuring adequate growth, early stimulation and mother-child bonding, through health and nutrition support and regular interaction with mothers and other caregivers. Some of the specific components are discussed in the section on infant and child undernutrition.
- Ensure a balance between free play and structured learning through play, and between individual and group activities, to maintain children's interest and attention. Such strategies could be particularly implemented while overcoming the impact of social unrest, conflicts or natural disasters.

Women and Adolescent Girls

- Create awareness on importance of balanced dietary intake during pregnancy and lactation. Community awareness of anaemia and importance of iron supplementation.
- Implementation of mid day meal scheme, school health programmes and promoting healthy nutrition practices including consumption of seasonal fruits and vegetables along with strengthening of the activities of nutrition education and counseling
- Promote social (community and family) support for maintaining good health and dietary habit with focus on reducing heavy work load of pregnant and lactating women and advising the community on prevention of early pregnancy and also to ensure adequate birth spacing
- Improve iron status of pregnant and lactating women through availability of IFA at all health facilities and increased accessibility of IFA at the family and community level
- Strengthen parasitic infestation control programs (intestinal helminthes, malaria and kalazar) and dissemination of information about improving living conditions including sanitation and hygiene
- Promote Iron and vitamin-A supplementation for children, pregnant and postpartum mothers and knowledge dissemination to increase awareness about iron rich food sources and importance of iodized salt.
- Advocate for equity among genders in access and control over household foods with a focus on extending nutritional supplementation to other groups at risk as well as to find out alternative approaches to supplementation
- Develop a scheme for screening and diagnosing high risk women for severe anemia and identify 'hotspots' which need to be prioritized and routinely monitored
- Include all adolescent girls within the ambit of ICDS to improve their nutritional status and also to facilitate safe motherhood. Also, identify and register all the pregnant women in the first trimester and ensure quality nutritional advice and care
- Promote vitamin-A capsules supplementation within 6 weeks of delivery and encourage the consumption of vitamin-A, calcium and iron rich foods and balanced diet through nutrition education

- Distribute deworming tablets to target groups during vitamin-A supplementation in all areas with strengthening of deworming program for pregnant women through health facilities
- Promote women empowerment and gender equity through women's groups which are interested in economic and income generating activities

Men and Adolescent Boys

- Implementation of school health programmes and promoting healthy nutrition practices and improvement of dietary pattern through basic health and nutritional knowledge
- Strengthen mid day meal programme
- Expanding income earning opportunities and purchasing power through poverty alleviation programmes and increased participation of vulnerable groups in welfare programmes
- Promotion of public distribution system and food security programmes and improving outreach for reducing smoking and alcohol intake
- Develop policies and programmes aimed at enhancing health and living conditions of the disadvantaged groups to promote equity and educate vulnerable groups regarding various public welfare programmes on nutritional and food security and promote their participation

4.4.2. Curbing Overnutrition, Overweight and Obesity

- Prepare official dietary and physical activity guidelines for all the citizens and widely disseminate the guidelines. While obesity is a critical problem but it should be tackled right from its preliminary stages of overnutrition and overweight.
- Ensure that all foods and beverages available on school campuses and workplaces contribute toward eating patterns that are consistent with the official dietary guidelines
- Integrate nutrition education in school curriculum with the help of credentialed nutrition professionals. Educate and train teachers to integrate nutrition education in an interdisciplinary approach.
- Promote nutrition awareness throughout school environment by disseminating resources for nutrition education. Promote nutrition awareness to parents and communities.

- Discourage school-based sale and marketing of brands promoting foods and beverages with low nutrient value. Promote healthy foods, including fruits, vegetables, whole grains, and low-fat dairy products.
- Schools should receive a quality physical education program that is age-appropriate and taught by a certified physical education teacher. Also, they should be helped to develop and implement scientific policies and programmes to encourage healthy lifestyles
- Develop model policies to increase access to public gym facilities and local recreation sites for physical activity. Support programs that make vegetables and fruits more accessible and available to disadvantaged populations. Also, take appropriate actions to discourage smoking, drug and alcohol abuse
- Implement and support the design of appropriate community-based nutrition education programmes in conjunction with appropriate communication strategies, such as nutrition labelling, that enable individuals and families to chose a healthy diet, and give high priority to ensuring that these programmes reach target groups

4.4.3. Improving Elderly Health

- Seek for greater inter-sectoral collaboration to improve the economic and social welfare of the elderly population in Kerala. Ensure higher enrolment of elderly in social welfare schemes to support elderly who are either not working or are working in low paid informal sector with no pension or retirement benefits. Extend the social benefits for all elderly men and women.
- Undertaking mapping of elderly related welfare schemes and provide information to all the local self government institutions to disseminate and enroll the eligible elderly.
- Progress towards universal health care coverage by providing preventive, curative and rehabilitative services to elderly persons at all the public health facilities and also by strengthening the referral system for tertiary care.
- Develop programmes to promote healthy lifestyles and supportive environments to foster healthy and active ageing. Adoption of good lifestyle can also help prevent or delay life-cycle diseases and can be supported by screening programme for middle-aged and elderly population.

- Interventions to ensure proper diet for the elderly population is critical and can be visualized in the form of independent elderly diet and food programme or as a component of ongoing dietary supplement programmes designed for children and women.
- Local self government institutions should be encouraged to develop community-based care mechanism for elderly and also help in foster inter-generational solidarity among families and communities. These facilities can also have a pool of trained care giver who can also be employed by the local governments.
- Since elderly women and elderly from vulnerable social groups are observed to be adversely affected by problems of access and utilization of health care and other welfare services therefore laws, policies and sociopolitical environment should be sensitized to enhance opportunities for these vulnerable sections of the population.

4.4.4. Monitoring and Surveillance

- Establish or strengthen data collection, analysis and reporting systems within appropriate institutional frameworks in a sustainable fashion in order to meet the relevant priority information needs of planners, policy- makers, programme managers and communities as they address nutritional problems. Institutionalization of routine nutrition surveys is required especially when there is lack of disaggregated data for the districts as it is likely that the district level data would give a different scenario than that observed through state-wide surveys.
- The research agenda should be reviewed and reshaped regularly with the help of a dedicated nutrition research unit with authority and resources earmarked for undertaking operational research relevant to the nutritional programme and priorities of the state.
- Data could include information on mortality, morbidity, anthropometry, food availability, food intake, food prices, breast-feeding, food quality and safety, along with information on knowledge, attitudes and practices, family size and income, rainfall and landholding
- Encourage the development and use of innovative approaches such as risk mapping, sentinel sites and rapid appraisal techniques for information gathering and utilization

- Establish and strengthen surveillance of trends in BMI and compare it with WHO recommendations. Establish and strengthen surveillance of dietary habits and compare it with WHO recommendations
- Assess the extent and epidemiology of micronutrient deficiencies and develop a state policy for prevention based on their distribution and cause, the severity of deficiency and available resources
- Ensure timely and systematic growth monitoring of children in all the anganwadi centres
- Promote community-based information systems to support local problem identification analysis and action
- Community based monitoring of ongoing programme including supplementary nutrition programme and mid day meal scheme
- Cooperate with other governments, research institutions, NGOs and international organizations to promote and support regional and international collaboration in gathering food and nutrition information and in surveillance and early warning activities.

4.4.5. Behaviour Change Communication

- Develop behavior change communication strategies to implement nutrition programs with adequate messages and media use. Strengthen effective use of interpersonal communication and mass media for synergistic effect
- Deliver consistent messages to an audience through a variety of channels over an extended period of time. Deliver the message by a source that the audience will find credible and create a message that the audience will understand.
- Target specific groups and individuals including: households, especially parents and child caregivers; health professionals, both public and private; older school children who could be involved in child-to-child activities to improve the nutrition of young children, and who can benefit from understanding their own nutrition situation; members of civic organizations; employers; and district, provincial and national policy-makers and legislatures.
- Promote knowledge, attitudes and practices which will prevent infectious diseases

- Create awareness about the importance for adolescents and adults to control smoking and body weight. Also, create awareness to increase physical activity and improve stress management techniques.
- Provide one village level nutrition counselor/additional AWW for every 1,000 persons or as per ICDS norms; appoint a supervisor for every 20 village counselors; form a multi-sectoral team under DM; involve medical colleges and institutes; and make additional financial resources available.
- Empower local self government institutions with regard to nutrition programmes; involve them in communication strategies for bringing about behavioural change; set up a system at the block level for capacity building, data collection and monitoring; promote village health and nutrition committees; and have an independent system to collect data and have a proper MIS to ensure monitoring.
- Solid and liquid waste management should be better coordinated, with a focus on changing existing behaviours regarding waste disposal.
- Launch a campaign at the block level for encouraging changes in behaviours and practices regarding nutrition, focusing on exclusive breastfeeding of infants for the first six months and complementary feeding thereafter, along with continued breastfeeding for two years or beyond.
- Launch a toll-free helpline to answer callers' queries on nutrition and provide information.

4.4.6. High Focus Groups

Tribal communities

- There is significant concentration of undernutrition among tribal community of the state. It is therefore important to establish a network of local governmental and non-governmental organizations to promote nutritional health among tribal community, particularly residing in remote and hilly areas of the state.
- The network should focus on providing nutritional supplementation and advice through deployment of motivated frontline workers to enhance awareness among people and empower the community, particularly women to participate in implementation of nutritional

programmes such as ICDS and improve the nutritional status of the community, particularly women and children.

- Involvement of local community is critical to improve the quality of services and strengthen monitoring and community audit of nutritional health services and regulation and use of resources allocated towards the programme.
- The nutrition committee formulated at the district level should interact with the village health and nutrition committee and also participate in the meetings to suggest ways and mechanisms to implement nutrition programmes and promote best practices through supportive supervision and guidance.
- Tribal women should be encouraged with optimum maternity benefits to improve nutritional health during pregnancy and breastfeeding. In this regard, a focus right from the adolescent stage could be a more sustainable and effective strategy.

HIV/AIDS affected individuals, households and communities

- The United Nations Administrative Committee on Coordination and its Sub-Committee on Nutrition (UN ACC/SCN) identifies access to food is one of the major problems for HIV/AIDS affected individuals and households. Therefore, provision of food and nutritional security to such individuals and households should be a priority concern of the state nutrition policy. Besides, nutrition is one of the core components to improve resistance against the disease.
- To improve the nutritional status of HIV/AIDS affected persons it is important to integrate food and nutritional security into HIV/AIDS control and care programmes. This can be realized through existing network of governmental and non-governmental organizations engaged in improving the quality of life of HIV/AIDS affected communities and other high-risk groups.
- The implementation should endeavour to uphold the human rights (right to food) of people affected by HIV/AIDS and work towards reducing stigma and fully engage in nutrition care and counseling as part of the essential HIV/AIDS care package.
- Following the guidelines of the UN ACC/SCN, it is important to operationalize pragmatically the UNAIDS/UNICEF/WHO policy statement on HIV and Infant Feeding while protecting, promoting and supporting optimal infant feeding for child survival among all women.

- The local implementation should in addition focus on coordination for appropriate treatment of opportunistic infections, stress management, physical exercise, and counseling support along with conventional approaches such as home-delivered, ready-to-eat foods for homebound AIDS patients who are unable to prepare their own meals.

Children and Persons with Disabilities

- Persons with disabilities often require support to eat appropriate and nutritious food. The provision of nutritional support and support from local partners should aim to fulfil the responsibility of providing good nutritional health through a comprehensive risk management approach. The implementation should also establish a nutritional management system to monitor the health of the individuals and provide regular reviews on nutritional advice, support and outcomes.
- The implementation of nutrition policy for children and persons with disabilities should enroll qualified dieticians to provide comprehensive care and advice. Through regular check-ups and monitoring the dietician is expected to reduce the risks of developing or triggering health risk-factors and thereby providing timely and effective mechanism to improve nutritional health of the individuals with disabilities

Casual Labour and Unskilled Migrants

The nutritional and dietary intake of families of casual labour and unskilled migrants heavily depends on their days of employment and the daily wages offered. In particular, women are especially at a higher risk of having low income and job security. Under such circumstances, the worst impact is noted among children from such families. The nutrition policy is concerned about the status of such households and aims to establish a local network for nutritional supplementation of women and children from unskilled migrant family.

- The focus on casual labour including agricultural labour and construction workers is essential to improve life conditions to promote optimal health through nutrition practices thereby helping the children to attain full capabilities and developmental potential.

There will be a separate strategy to address the nutritional needs of vulnerable groups like people living alone and destitute. Strategy for provision of therapeutic diet to patients with diabetes mellitus, chronic renal failure, HT and TB will be developed.

4.5. Planning and Implementation

- Social Justice Department would be the lead agency responsible for implementation of the state nutrition policy
- Create an empowered mission for nutrition within Social Justice Department; set up a similar structure at the district level; make arrangements for advocacy, awareness and counseling; avoid duplication of duties; and place interventions in the hands of trained and empowered local women.
- ICDS in mission mode with flexibility in implementation; convergence at all levels; more resources for ICDS; provide additional worker at AWC to focus on reaching under threes in community, a separate department for WCD in states; redefine the role of AWW; and push for better service delivery.
- Convergence with Rashtriya Bal Swastya Karyakram (RBSK) for reduction of malnutrition
- Mapping of regions with high prevalence of nutritional problems to facilitate differential planning for districts/blocks with poor nutritional health indicators
- At least 10% annual increase in state health budget (plan) for nutritional health to plan for full spectrum of nutritional health services with an emphasis on quality in service delivery
- Full time Director with fully staffed support units at state, district and block levels with regular training of key functionaries in planning and use of data. Strong integration of the Dept. of Social Justice with the Dept. of Health and Family Welfare as well as AYUSH directorates
- Strengthening of Local Research Institutes to support quality assurance, monitoring and expansion of training capacity through partnerships with NGOs. Active community participation through empowered Local Self Government Institutions, Village Health Sanitation and Nutrition Committees. Regular and effective Village Health & Nutrition Days (VHNDs), strengthening of ASHAs and policies to encourage nutritional status of the community
- Development of a comprehensive communication strategy with a strong behaviour change communication (BCC) component in the IEC strategy. Also, increased dissemination in villages, urban slums and peri-urban areas

- Effective coordination with key departments to address determinants of nutritional status viz. water, sanitation, hygiene, health care services, nutritional intake, infant and young child feeding, gender, education, woman empowerment, convergence with national level programmes such as ICDS, NRHM and Mahatma Gandhi NREGS
- Improved consultation with civil society and promote active communitisation process through involvement of NGOs in filling service delivery gaps and encouraging community monitoring. Partnership with private service providers to supplement governmental efforts in underserved and vulnerable areas for implementation of nutritional health services particularly for the elderly
- Regular meetings of State and District level nutrition coordination committees for periodic review and development of future road map. These meetings should set clear agenda and emphasise on follow up action with focused reviews by elected representatives and officials.
- Quality assurance at all levels of service delivery and particularly across all anganwadi centres with an emphasis on quality management systems. Tracking of pregnant women and children under health facilities should be encouraged
- All districts should establish appropriate mechanisms to prioritize, develop, implement and monitor policies and plans to improve nutrition within designated time frames, based both on national and local needs, and provide appropriate funds for their functioning.
- Within the context of the state plan of action, districts should formulate, adopt and implement programmes and strategies to achieve the recommendations of the Plan of Action for nutrition, taking into account their specific problems and priorities.
- Programmes aimed at improving the nutritional well-being of the people, in particular that of the groups at greatest risk, should be supported by the allocation of adequate resources and training by the public and the private sectors so as to ensure their sustainability.
- Governments, academic institutions and industry should support the development of fundamental and applied research directed towards the improving the scientific and technological knowledge base against which food, nutrition and health problems can be resolved, giving priority to research concerning disadvantaged and vulnerable groups.

- District coordination committees, in cooperation with local authorities, NGOs and the private sector, should prepare periodic reports on the implementation of plans of actions, with clear indications of how vulnerable groups are faring.
- Encourage School Health Programs (SHP) and provide training for school counselors and school nurses to recognize indicators of unhealthy eating behaviors in students and make referrals to appropriate services.
- Strengthening Mid Day Meal scheme for combating undernutrition
- Establish district staff wellness committees. Staff wellness committees shall develop, promote, and oversee a multi-faceted plan to promote staff health and wellness. Representatives from administration, nurse, Child Nutrition Programs, teachers etc., should serve on this committee.

4.5. Conclusion

The policy comprises of life cycle approach, effective nutrition interventions, BCC activities in nutrition, social mobilization, for bringing a change in the present scenario and thus streamlining the activities. Policy ensures inter-sectoral convergence and coordination for effective implementation of various strategies. The council and the coordination committee will monitor and evaluate the policy strategy.

The implementation of nutrition policy will have a positive impact on the various key indicators of nutrition which will be reflected a reductions in undernutrition, overnutrition and anaemia. The promotion of breast-feeding and improved weaning practices can be achieved. Food and nutrition education will improve the nutritional status of the state and in particularly is aimed to promote healthy ageing. The policies and programmes can thus promote the universal respect of human rights, including rights to adequate food, health, care and quality of life.