National Plan of Action on Food and Nutrition 1995 - 2000

GOVERNMENT OF GHANA

CONTENTS

ACRONYMS

ADB	Agricultural Development Bank
AESD	Agricultural Engineering Services Division
BFHIA	Baby Friendly Health Facilities Initiative Authority
BFHI	Baby Friendly Health Facilities Initiative
CESD	Crop Extension Services Department
CRI	Crop Research Institute
CRS	Catholic Relief Services
CSPG	Cross-Sectoral Planning Groups
DCD	Department of Community Development
EPC	Environmental Protection Agency
ERP	Economic Recovery Programme
FAO	Food and Agriculture Organisation
FRI	Food Research Institute
FN	Food and Nutrition
GAEC	Ghana Atomic Energy Commission
GAPVOD	Ghana Association of Private Voluntary Organisations in Development
GDP	Gross Domestic Product
GDHS	Ghana Demographic and Household Survey
GES	Ghana Educational Service
GFDC	Ghana Food Distribution Corporation
GLSS	Ghana Living Standards Survey
GNCC	Ghana National Commission On Children
GOG	Government Of Ghana
GSB	Ghana Standards Board
HEU	Health Education Unit
HRD	Human Resources Department
ICN	International Conference On Nutrition
IDA	International Development Association
IDD	Iodine Deficiency Disorders
IFAD	International Fund For Agricultural Development
IFPRI	International Food Policy Research Institute
ILO	International Labour Organisation
ISNAR	International Systems for National Agricultural Research
ISSER	Institute Of Statistical Social and Economic Research
ITTU	Intermediate Technology Transfer Unit
KABP	Knowledge, Attitudes Beliefs and Practices
LACOSREP	Land Conservation and Rehabilitation Project (IFAD)
MCH	Maternal and Child Health
MEST	Ministry of Environment Science and Technology
MLGRD	Ministry of Local Government and Rural Development
MM	Micronutrient Malnutrition
MOFA	Ministry of Food and Agriculture
MOF	Ministry of Finance
MOE	Ministry of Education
MOH	Ministry of Health
NBSSI	National Board for Small Scale Industry
NCWD	National Council On Women and Development
ND	Nutrition Unit
NDPC	National Development Planning Commission
NDPF	National Development Policy Framework
NGO	Non Governmental Organisation
NPA	National Plan of Action
NPAN	National Plan of Action on Food and Nutrition
NMIMR	Noguchi Memorial Institute for Medical Research
PAMSCAD	Program of Action to Mitigate the Social Cost of Adjustment
PEM	Protein Energy Malnutrition
TUC	Trade Union Congress
UER	Upper East Region
UG	University of Ghana
UGMS	University of Ghana Medical School
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
VAST	Vitamin A Supplementary Trials
WFP	World Food Programme
WHO	World Health Organisation
WIAD	Women in Agricultural Development

EXCUTIVE SUMMARY

1. Overall and Specific Goals of the NPAN

The overall goal of the NPAN is to contribute to the national goal of sustainably improving the quality of life for all Ghanaians. The specific goal of the NPAN, however is to improve the nutritional status of all Ghanaians.

2. National Programmes.

To contribute towards the overall goal and attain the specific goals, 11 programmes have been planned for implementation. These are the following :

a) Improvements in Household Food Security

b) Increasing Food / Nutrient Intake for Individuals

c) Promotion of Ideal Breastfeeding Practices

d) Promotion of Appropriate Weaning Practices

e) Promotion of Good Hygiene Practices

f) Institution of Preventive Measures against Nutrition Related Diseases

g) Enhanced Participatory Approach to Intervention in Food / Nutrition Projects

h) Sensitisation of Policy makers in Nutrition Related issues

I) Capacity Building for Food and Nutrition Related Education and services

j) Improving Coordination of Food and Nutrition Issues

k) Effective Management of the NPAN.

3. Cost and Financing Requirements

The estimated cost of the NPA amounts to US$ 10.4 million. This excludes the cost of complementary programmes under Water and Sanitation and Environmental Hygiene.

Funding is available for some of the activities envisaged under the NPAN. This is about US$ 2.9 million. The financing gap required therefore amounts to US$ 7.4 million. This works out to be an annual average requirement of US$ 1.48 million.

4. Coordination

Coordination is envisaged at 3 levels. At the national level, coordination of policies will be the responsibility of the NDPC cross-sectoral Planning Groups (CSPG) that have been established under law to serve this function. At the regional level, the Regional Planning Coordinating Units will play the role of the CSPG at the national level. At the district level, the District Planning Coordinating Unit will in consultation with other key institutions be responsible.

5. Monitoring

Monitoring indicators have been set for all the objectives (see monitoring under chapter 8). At the national level, the CSPG will collect monitoring information and review them against national targets.

At the regional level, the Regional Planning Coordinating Units will collect data from the districts as a basis for evaluation. At the district level, the District Planning Coordinating Unit will do the monitoring based on the monitoring data and district targets.

CHAPTER 1 INTRODUCTION

1.1 Emerging Global Concerns

The past decade saw global efforts at assessing the magnitude of nutrition problems against a background of a World that had the resources and technology to ensure adequate nutrition for all. Protein-Energy Malnutrition (PEM), nutritional anaemia, vitamin A deficiency, iodine deficiency, diet related diseases, infections and parasitic diseases are serious global problems.

The overall availability of food in the world is not a problem (UNDP, 1994). There is also enough food to offer every one in the world around 2,500 calories a day, that is 200 calories more than the basic minimum. In developing countries, per capita food production increased by 18% on the average in the 1980s. Inspite of this some 800 million people are estimated to go hungry daily. In Sub-Saharan Africa despite the appreciable increase in food production, about 30% of the population are malnourished. In South East Asia, 30% of the babies are born underweight. These are indications of inadequate access to food.

PEM afflicts 150 million children under 5 years worldwide. It is estimated that 350 million women have nutritional anaemia. Some 40 million children suffer from vitamin A deficiency, 250,000 of whom go blind while iodine deficiency disorders (IDD) afflict about 200 to 300 million people with goitre and at least 6 million people suffer from cretinism. Iron deficiency anaemia is prevalent in about 1.5 billion people and produces anaemia in about 1.2 billion of them. It is estimated that nearly 90% of all anaemia in the world are due to iron deficiency.

Major causes of death in developing countries are infectious and parasitic diseases (UNDP, 1994). These kill about 17 million people annually including 6.5 million from acute respiratory infections, 4.5 million from diarrhoeal diseases and 3.5 million from tuberculosis. Most of theses deaths are due to poor nutrition and unsafe environment, particularly polluted water which contributes to nearly one billion cases of diarrhoea a year. In both the developing and the developed countries, and more especially the latter, the major killers are diseases related to the circulatory system which is linked to diet and life style.

Recent reports indicating that malnutrition is on the ascendancy in some parts of the world, especially Sub-Saharan Africa have increased the global awareness of the problem. Consequently objectives and strategies embracing the problems of malnutrition have featured prominently in a number of international fora. Prominent amongst these are: the World Food Conference, 1974; the Alma Ata Conference On Primary Health Care, 1978; the World Conference On Agrarian Reform and Rural Development,1979; the Convention On the Elimination Of All Forms Of Discrimination Against Women, 1979; the Innocenti Declaration On the Protection, Promotion and Support Of Breastfeeding, 1990; the Montreal Policy Conference On Micronutrient Malnutrition, 1991 and the Rio Declaration On Environment and Development, 1992.

Nutritional goals have also been set by the Fourth United Nations Development Decade and the 1990 World Summit On Children. The International Conference on Nutrition held in Rome in 1992 also strengthened world wide commitment to take action to prevent and alleviate malnutrition. This meeting re-affirmed the World's commitment to attack all forms of malnutrition by addressing the underlying causes of inadequacies in food, health and care, as well as the root causes of underdevelopment and poverty. The Conference also reiterated its commitment to the World Summit On Children's nutritional targets and added new goals to eliminate famine and starvation.

All these declarations and commitments were made in recognition of the fact that access to nutritionally adequate and safe food is a right of each individual. Ghana is committed to the attainment of the goals entailed in these international declarations and has for some time recognized the right to access by the individual to nutritionally adequate and safe food for all her citizens through national development programmes.

1.2 Food and Nutrition in National Development

Ghana realizes that hunger and undernutrition are caused by several factors which require coordinated effort to address. Accordingly, in a recent government development policy document titled Ghana - Vision 2020 (The First Steps), improvements in the nutritional status of Ghanaians occupy a prominent place. Current and past development efforts have incorporated policies that specifically address the nutrition problems of the people. The main thrust of these policies is to make food available at reasonable prices to consumers, make the population adopt better nutrition practices and reduce malnutrition. Agricultural policies to promote better nutrition are being pursued. These cover increased food production in the context of sustainable environment, price incentives, enhanced access to inputs, improved storage systems and minimisation of the constraints to the marketing and distribution of food. Policies to increase the production of meats include adoption of appropriate breeding systems, enhanced availability of inputs and extension services and improved hygienic practices in the marketing of meats. A rural feeder roads expansion policy being promoted is to reduce food transportation costs and ultimately promote affordable prices.

Health policies to enhance nutritional status include public education on the need, availability and use of foods, especially to mothers and children. Supply of micronutrient supplements to the most at risk is being undertaken. The curricula of pre-service health facilities are up-dated on a continuous basis to cover developments in the promotion of better nutrition. Health extension workers routinely include nutrition education in their programmes. Basic school education programme covers the establishment of school based canteens, supervision of school based food vendors and the promotion of nutrition education.

Chapter 2 FOOD AND NUTRITION SITUATION

2.1 Food Availability and Access

2.1.1. Food Availability

Though there has been a general increase in food supply since the inception of the ERP, by 1990 Ghana was only 70 % self sufficient in cereals production, 60% in fish, 25% in meat and less than 20% in raw materials for agro-based industries (MOA, 1990). The domestic production capacity of rice, a major cereal item however is 50% of the national requirement. Root and tuber crops, the most widely used staple food crops contributed to about 43% of agricultural GDP in 1993. Food imports and aid supplemented the domestic shortfall with the former averaging about 5% of the total imports.

Meat and fish production fall short of estimated national demand. The combined meat production is only about 23% of the estimated annual demand of 195,000 metric tonnes (FAO, 1993). Fish provides 36% of the protein requirement of Ghanaians. Annual production estimated at 274, 000 metric tonnes for the last few years is about 60% of the potential domestic demand. Fish production is hampered by the potential over exploitation within the *200/300 nautical miles Exclusive Economic Zone and a fall in incomes as a result of glut in supply during the main harvesting season in June to September (when about 40-50% of the annual catch takes place). In the case of poultry production, the high import cost of feed and layers and the unrestricted importation of poultry products are the two main constraints restricting the sector's growth.

While efforts at increasing food availability over the past decade appear to have borne some fruits, considerable obstacles remain in Ghana's efforts to achieve national food self sufficiency. The obstacles span ecological and physical constraints, poor soils, negative effects of land rotation, inadequate inputs, increased pressure on available land and inadequate levels of institutional support. Ecological and physical constraints are manifested by erratic, uneven and short duration of the rainfall pattern. Sometimes fluctuations of heavy rains within and between agricultural seasons destroy both crops and livestock. Rainfall whose control is beyond the capability of the small farmer is thus a major determinant not only of the cropping pattern but also of the annual fluctuations of total household and national food output.

Most lands are covered by poor fertility soils with poor physical properties, dictated by low organic matter content (MOFA, 1989). The organic matter on the top soils are rapidly depleted through heavy rains, excessive leaching due to the acid nature of the soil and more intensive cultivation as a result of the pressure on the land. The problems associated with poor fertility soils are compounded by land rotation system of the small farmer who contributes about 90% of the food production. The resulting pressures on the land has shortened the bush-fallow cycle, thus increasing the soil degradation and environmental problems which are inimical to food and livestock production.

The seed propagation industry is yet to produce improved seed varieties that are timely delivered, within the reach of the farmer and in adequate quantities. Though efforts have been made at maintaining an adequate stock of fertilizers together with farmer education on fertilizer use, there appears to be a decline in their use(a situation blamed on high prices of the commodity) at a time of extreme population pressures on land and shortening of the fallow period. While farm mechanization restricted by ecology to parts of the mid, northern and south east could boost food production, the high cost of oxen for animal traction, fuel for tractor use and relatively high cost of imported equipment, make this impossible.

Institutional support to agriculture covering food, livestock and fisheries production span research, extension service, credit, mechanization and marketing. Though about 300 research scientists (ISNAR, 1991) are engaged in activities related to agriculture, only 20% of the research time is devoted to food crops. That aside most food crop research efforts have produced results in mostly new varieties of maize and cow peas. Very little has been attained in improved technologies in yam, co-

coyam and plantain the main staple foods. Research efforts on livestock and fishery production are inadequate viewed against their potential to increase the protein status of most Ghanaians.

The extension officer to farmer ratio of 1:1800, with a special focus on food production, processing, nutrition, child care and home management could have been more effective if poor mobility and motivational problems facing the extension officer coupled with the low literacy base of the farmers are solved or improved. Though credit sources are available to the farmer, high interest rate and unfavourable repayment terms have created a situation where only a small fraction of the total small holder farmers had access to loans during the late 1970s and the early 80s (MOFA, 1990).

2.1.2. Access To Food

Access to food has two components, the financial and the physical. Financial access determines the ability of the household to produce or buy sufficient safe and good quality food to meet the dietary needs of all its members (FAO, 1993b). Physical access refers to the movement from food surplus areas to deficit areas. This encompasses road network, storage facilities and the distribution system.

Financial access is determined by a combination of income levels, its distribution and the purchasing power of the incomes earned. This combined effect contributed to a situation whereby in 1987/88 64% of all household expenditures were allocated to food and more than 33% of household surveyed did not purchase or retain from home production enough to meet 85% energy needs based on moderate activity levels (GLSS, 1988). Adequate access to other foods especially fish and meats are restricted to relatively high income groups and households. However in the rural areas where most people are generally poor, households that rear livestock and poultry may have access to meat and poultry.

Income differentials by regions appear to be a cause for the uneven spatial access to food. In a survey conducted by Alderman[1] strong indications of regional patterns of poverty tended to correlate positively with regional access to food. For instance in the Upper Regions where the highest malnutrition are recorded, low incomes appeared to be the main constraint to increased calorie consumption. Since sorghum and millet form the basic diet of the inhabitants in the Upper Regions any food policy that strengthens the productive capacity of these staples will in the long run improve the nutritional status of the people in these regions.

On the physical side, inadequate and at times impassable road links between the urban and the rural areas creates situations of rural gluts and urban scarcities in food, which lead to increased food prices in the urban areas that do not reflect the true supply situation in the country. Also despite the improved physical distribution network of agricultural products, construction of silos in selected food growing areas, especially maize growing areas, about 20-30% of production is lost due to the poor traditional post harvest management of food crops (MOFA, 1991). Losses of this magnitude have a positive effect on prices which in turn restrict access to food at the household level.

2.2. Protein Energy Malnutrition (PEM)

PEM is the most widespread and serious nutritional disorder amongst children in Ghana. Many children suffer from moderate to severe forms of PEM. The DHS of 1988 indicate that stunting begins very early in life and 30% of children 3-36 months of age are affected, while 31% of the same age group are underweight. Severe malnutrition, wasting was found in 8% of the children. The GDHS of 1993 reveals that for children under thirty six months old 26% are stunted, 28% are underweight and 12% are wasted. These conditions were found to be more severe in the Northern, Upper West, Upper East and Western regions.

For children of school going age (10-14 years) available evidence shows that there is 10.5 % wasting and 49.6% stunting in the rural areas with the corresponding figures for the urban areas being

[1] *Alderman H., (1990) Nutritional Status In Ghana and Its' Determinants, SDA Working Paper No.3 Washington DC. The World Bank*

4.3% and 21.3% respectively. The geographical distribution of PEM in terms of its severity and magnitude indicate that nutritional status of children living in the coastal areas is better compared to those in the forest and northern sector zones. In the northern zones more boys (63%) showed acute malnutrition (weight for height) than girls (49.6%). Chronic dietary energy deficiency characterizes the northern savanna zone.

It is estimated that 65% of pregnant women and 45% of non-pregnant women examined in Northern Ghana showed symptoms of PEM (World Bank 1989). In contrast, 43% of pregnant women and 30% of non-pregnant women suffered from PEM in the south. Though adults form the best nourished group of the population, there appears to be a decline in nutritional status of adults over 50 years of age. This is manifested in lower weights and increased signs of malnutrition. There are differences in adult nutrition status by occupational grouping. Farmers, both men and women are the worse off while wage earners and self employed women had the best nutritional status. This implies that those on or near a moneyed economy have a better nutritional status than those near a subsistence economy.

2.3 Micronutrient Malnutrition (MM)

The main micro-nutrients of public health importance are- Iodine, Vitamin A and iron. Deficiency of these micronutrients leads to low productivity and may affect the physical and mental development of the individual. In recent years work has been done to establish their prevalence in the country.

2.3.1. IDD

Documentation on IDD span over 30 years. In 1960, WHO reported high prevalence of goitre in several areas in the Upper region. Until 1991, there had not been any attempt to determine the magnitude of the IDD problem. In January 1991 a pilot IDD survey in Builsa and Sekoti (a cluster of seven communities) indicated that 70 to 80% of the school aged children and women of child-bearing age had goitre with about 8 - 20% visible goitre. Urinary iodine analysis also indicated that about 72% of the study population had levels below the accepted levels. The 1992-1993 national IDD survey indicated that 33% of the 27 districts surveyed had moderate to severe IDD problem. The problem also exists in the remaining 67% but at a lower level.

2.3.2. Iron Deficiency

The existence of iron deficiency anaemia as a public health problem was first revealed by the 1961 National Nutritional Survey. The survey found that anaemia was widespread among pre-school children, pregnant and lactating women. The situation has not changed since then. For instance 23% of all children admitted to a hospital in Ghana in 1991 received blood transfusion for severe anaemia. Ninety-five percent of these were school children. Sixty-nine percent of pregnant women who attended ante-natal clinic in 1987 were anaemic. In 1990, a study of apparently healthy female students found 17.4% of them anaemic by WHO standards for non-pregnant women.

2.3.3. Vitamin A Deficiency

It has long been noted that Vitamin A deficiency is endemic in Northern Ghana. Vitamin A supplementation trials (VAST) studies conducted in the Upper East region showed that while xerophthalmia prevalence was 1.6 percent on the average, nearly 65 percent of the children examined had low serum retinol levels. In 1994, a study in Kintampo District also found that 51 percent of the children sampled had low serum retinol levels. In another study carried out in 1988 in a rural coastal population, low serum retinol levels were found in 85 percent of pre-school children and 59 percent of primary school children.

The VAST studies also demonstrated that it is possible to obtain a 19 percent reduction in mortality in children aged 6 months to 5 years by the use of periodic supplementation with large doses of vitamin A. In addition, supplementation had a significant effect in reducing the severity of illness in children.

2.4. Diet Related Diseases

The Situation Analysis on Children and Women undertaken by GOG and UNICEF in 1990 indicated that 32% of maternal deaths in Ghana is due to Cardiovascular disease. Lifestyle such as excessive alcohol consumption, drug abuse, lack of regular physical activity or exercise and eating of unhealthy diets (eg high fat) contribute to ill health and thus affect nutritional status.

2.5. Feeding and caring practices

Feeding patterns, in addition to diarrhoeal diseases, are important determinants of undernutrition. The WHO recommends that **all infants be exclusively breastfed from birth to 4 to 6 months of age.** Though breastfeeding initiation is widely practiced in the country with prevalence rate of more than 90% at birth and average duration of 20.4 months, the GDHS (1993) reveals that only 8 in 100 children under the age of four months are exclusively breastfed as recommended by WHO; 4 in 10 of infants under 4 months old are given some form of supplemental feeding, which is not recommended; and to a large extent the failure to exclusively breastfeed for the first four to six months of life accounts for the rapid increase in undernutrition among young infants.

Educational levels tend to influence the magnitude and the incidence of breastfeeding. Introduction of liquids and solid foods take place far too early in life. This practice tends to undermine better nutrition. Secondly, the liquids and solid foods are inferior nutritionally to breastmilk. The intake of these reduces the amount of breastmilk intake which in turn reduces the mothers supply of milk since breastmilk production is determined in part by both the frequency and the intensity of the suckling. Thirdly, feeding young infants liquids and solid foods increases their exposure to pathogens and consequently puts them at risk of additional diarrhoeal diseases.

Many of the common breastfeeding practices found are not conducive to optimal lactation. Infants are rarely put to breast in the first half hour after birth and mothers in hospitals may have to wait for 24 hours or more before being given the opportunity to nurse their babies. Both mother and health professionals often believe that nursing should be delayed until the milk starts to flow. Colostrum is often discarded by mothers believing that it is not good for the baby. In a survey only 50% of mothers fed their babies with colostrum (MOH/ Nutrition Division, 1989). Prelacteral feeds including water, glucose water and infant formula are commonly given both in and outside hospital. Reasons mothers give for the early supplementation include perceived insufficient milk, infant crying, breastfeeding problems, advice from health professionals and the need to return to work. Health professionals often support this practice of early supplementation, claiming that women are too poorly nourished or too busy to breastfeed exclusively.

Practices such as children eating together from the same bowl deprive some children from eating adequately because they cannot compete. They end up being chronically malnourished or stunted. The concept of what constitutes a meal also prevents individuals from having balanced diets. The carbohydrate part of the meal is considered the most important part since it constitutes the bulk of any meal.

Growing urbanization has created slums in the cities and this state of affairs keep worsening with the years and with health and nutritional status of these migrants.

Available evidence shows that urban mothers who are relatively well educated breastfeed for about 17 months. Their rural counterparts who are less educated breastfeed for about 20.4 months. Mothers in the Greater Accra and Central Regions breastfeed for the shortest periods while those in the Northern and Upper Regions breastfeed most. Once again the underlying factor is urbanization and education. The former regions are more urbanized with the mothers well educated than the latter regions.

The social role and position of women also have influence on feeding and caring for infants and children. Traditionally, women work inside and outside the home, mothering and nursing children, cooking, processing and storing food. They also participate in agricultural work,farming different crops and market produce either on their own or jointly with their husbands or kin. They also play a role in fetching water and fuelwood, washing, taking care of children, the sick and the aged and pro-

moting the health and well being of other family members of the family. These activities reduce the ability of women to devote enough time to their infants and children (Children and Women of Ghana: A Situation Analysis. Republic of Ghana/UNICEF. Accra, June 1990).

2.6. Causes of food and nutrition related problems

The current food and nutrition related problems in Ghana have been analysed and classified into the following broad areas: immediate, underlying and basic causes.

Figure 1. Causes of Malnutrition

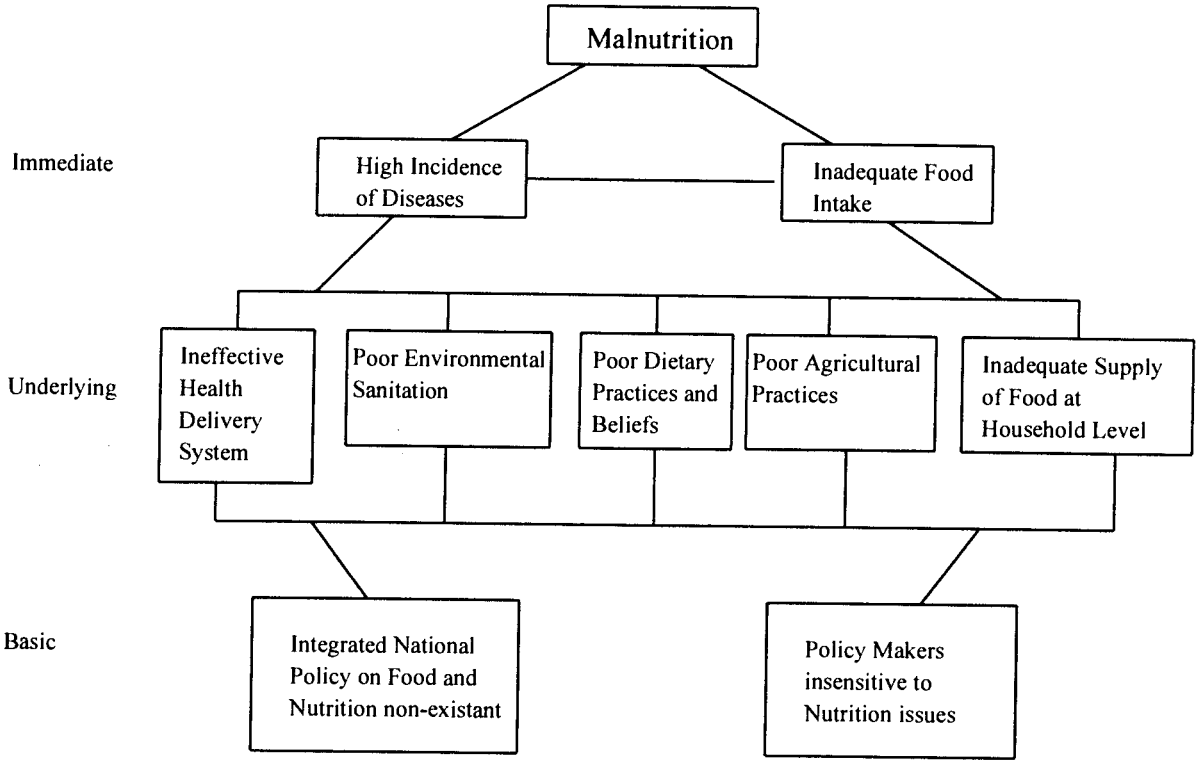
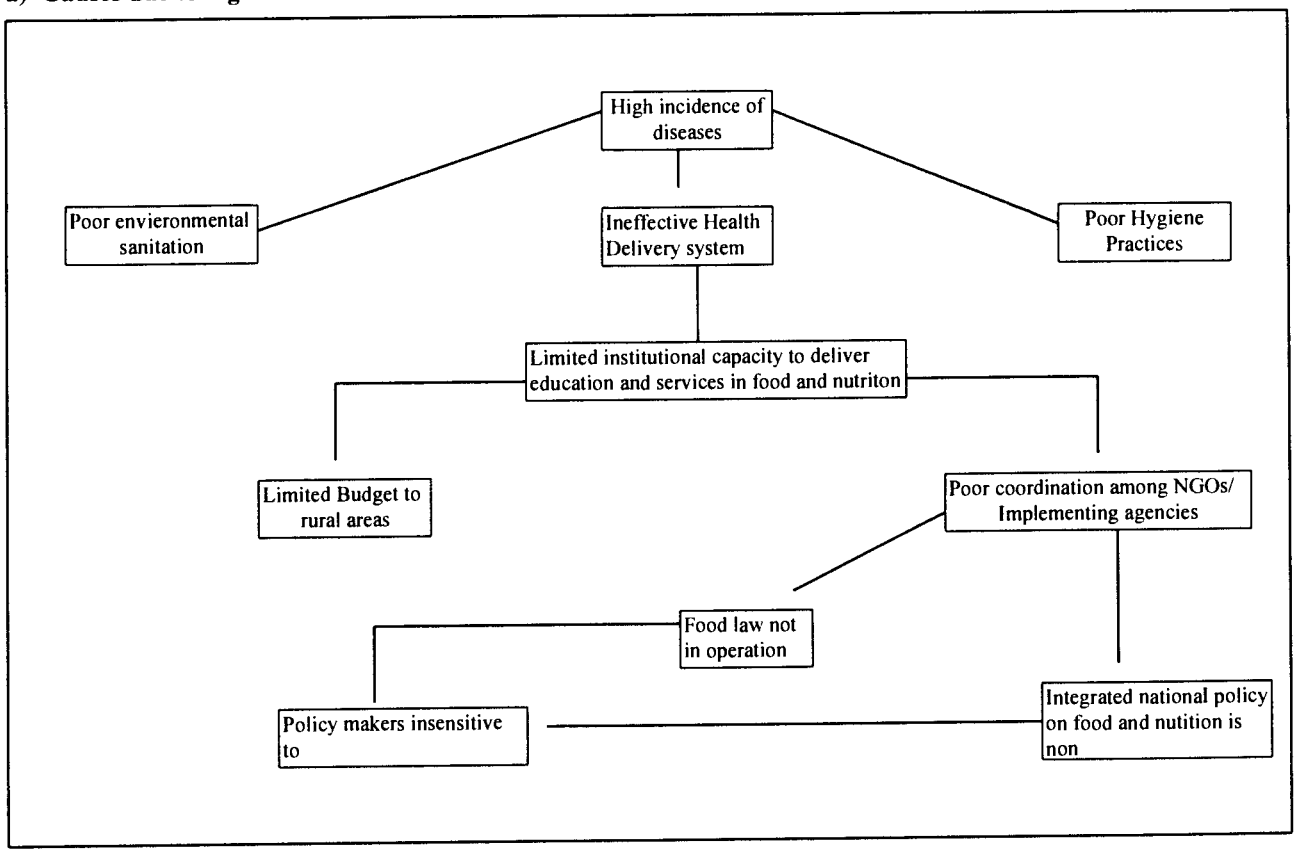
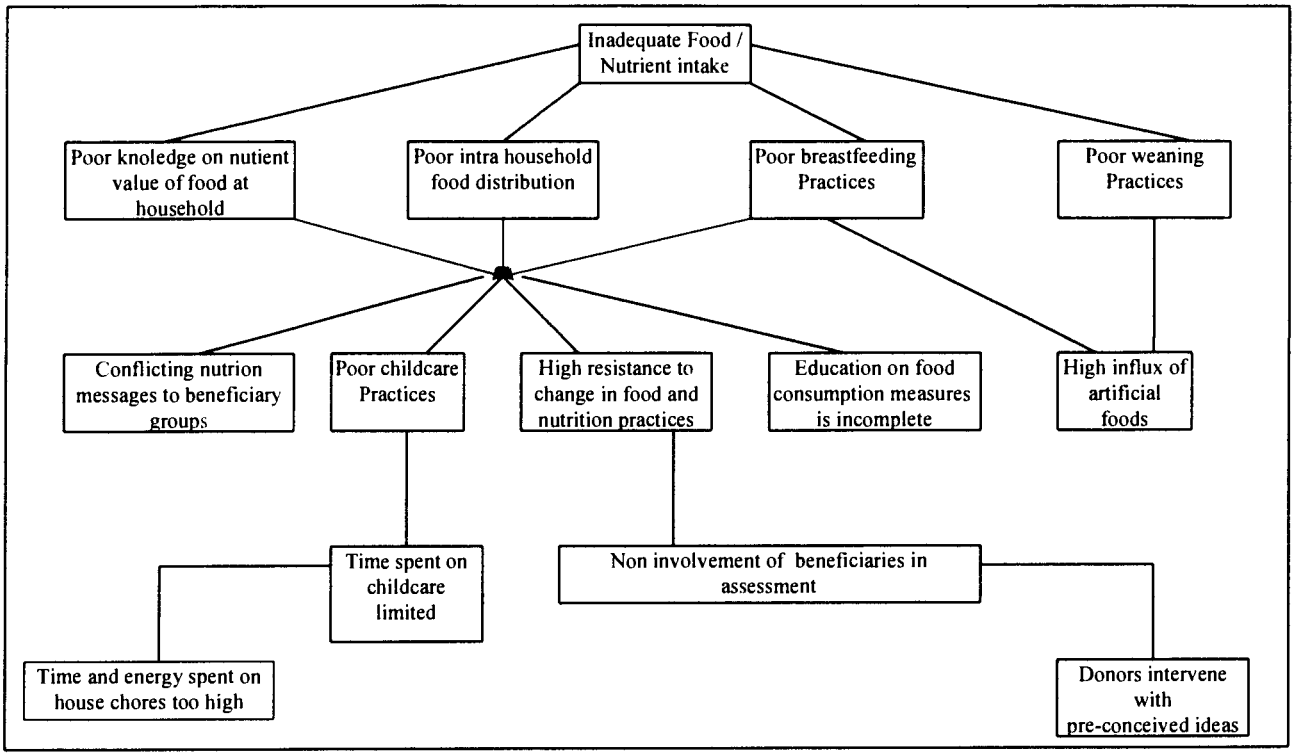


Figure 2 Underlying causes of malnutrition

a) **Causes due to high incidence of diseases**



b) **Causes due to Dietary Practices/Beliefs**



c) **Causes due to Agricultural practices**

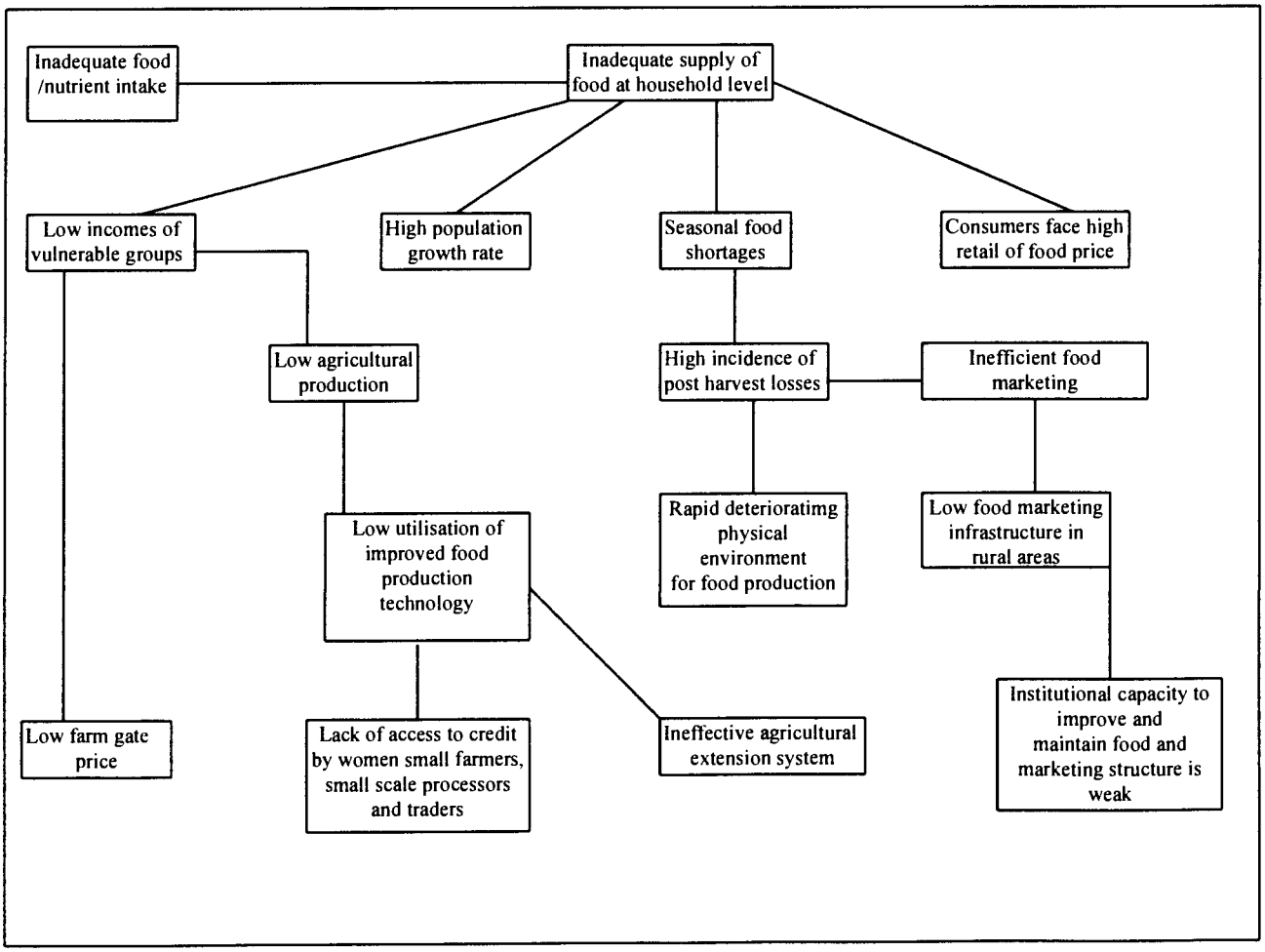
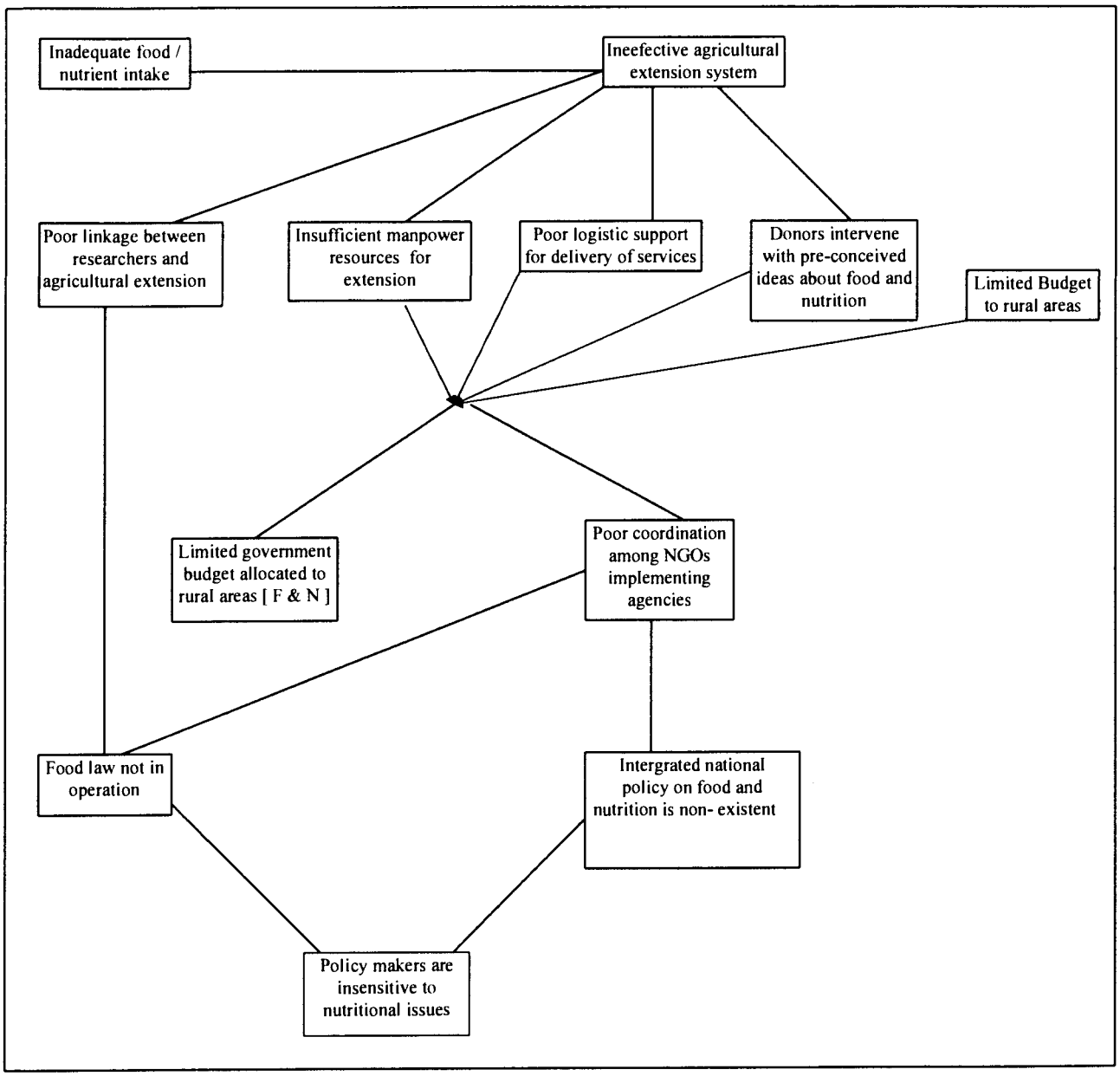


Figure 3 Basic Causes of Malnutrition



Chapter 3 National Goals, Objectives and Strategies

3.1 Statement Of Goals

The overall goal of the NPA/FN is to contribute to the national goal of sustainably improving the quality of life for all Ghanaians.

The goal of the NPA/FN **is to improve the nutritional status of all Ghanaians**

3.2 Objectives

It is anticipated that the following objectives would be achieved by the year 2000 .

1. Adequate food/nutrient intake by individuals
2. Improved household food security
3. Policy makers sensitized in food and nutrition related issues
4. Strengthening coordination among agencies involve in food and nutrition issues
5. Improved national capacity to deliver food and nutrition education and services
6. Strengthened preventive measures against nutrition related diseases
7. Increased adoption of breastfeeding practices
8. Strengthened participatory approach to intervention in food and nutrition projects
9. Increased adoption rate of good hygiene practices by individuals
10. Increased adoption of ~~breastfeeding practices~~ appropriate weaning practices
11. Effective management of the NPAN

3.3 Selecting the Priorities

Priority areas for action within the programme areas have been selected on the basis of the following criteria:

Enhanced earnings capacity of the individual: The situation analysis indicates that poverty is a major cause of the present nutritional status. Consequently efforts that will increase rural incomes, mainly increased production enabling small holder farmers to have surplus for sale to supplement their other dietary needs.

Immediate positive impact: Micronutrient malnutrition appears to afflict a sizeable number of the people. Iodine and vitamin A supplements distributed to targeted groups as efforts are being made to raise their income and nutrition based knowledge levels will impact positively within the possible shortest time on the nutritional status of the people.

Building on existing and planned initiatives: Existing and planned initiatives in the provision of social and physical infrastructure will be built on. Programmes in agriculture, health, education and rural infrastructural support that have bearing on nutrition will be pursued in context of the goals of the NPA

Promotion of desirable ends: Every society aspires to having a healthy population. Programmes to be supported will not only focus on nutrition but health in general.

Breastfeeding, clean and safe water contributes to the good health of the child. Promoting better lifestyles and appropriate dietary habits and focusing on infectious diseases improve both the health and nutrition status of the people. The attainment of these desirable ends could be enhanced (not subject of NPA) **if environmental sanitation and water supply are improved and sustained.**

Chapter 4 Food and nutrition programmes

Background

Ghana's food and nutrition programmes within the context of the NPA are based on the achievement indicators set in 8.4. Within the overall national programme, there are eleven sub-programmes defined to be consistent with each other. The sub-programmes are clearly delineated in terms of activities, duration, coordination and estimated cost. The major assumptions under which the expected outputs of the NPA would make an impact on the nutritional status of Ghanaians are:

- Rate of increase in food production will at least match the rate of increase in the population.
- Financial resources will be available to carry out the activities.
- Farmers incomes will improve in real terms.
- Physical and financial access to improved health care will be enhanced.
- Access to formal and non-formal education will be expanded.
- Capacity and commitment of institutions involved in the implementation of the PA/FN will be integrated and sustained.

The implications of these assumptions are expected to positively reinforce the planned activities envisaged under the NPA. For example existing programmes in agriculture and population are expected to ensure a balance between population growth and food availability. If this is not achieved, the attainment of some of the goals envisaged by the NPA will not be met. Improved real incomes of farmers currently being pursued under poverty alleviation programmes are expected to enhance financial access to balanced diets. Expanded level of literacy currently going on under NFE and Basic Education programmes will form the basis for carrying out food and nutrition education under the NPA.

4.1 Adequate Food/Nutrient Intake By Individuals

a) Present situation

- **PEM** afflicts a sizeable number of children under 5 years and some pregnant women.
- **IDD** is highly prevalent in the Northern, Upper West and Upper East regions and in the mountainous areas in the southern part of the country.
- **Low serum retinol levels** have been reported in the Upper East Region and some dis tricts in the forest and coastal zones.
- **IDA** is a problem affecting all sex and age groups but especially among pre-school children, pregnant and lactating women.
- **Diet related diseases** such as hypertension, cardiovascular and diabetes between the ages of 40 and 55 have been observed to be increasing.
- **Practices** such as children eating together prevents some children from eating adequately because they cannot compete with each other.
- **Intra-household food distribution** favours adults.

b) Past and present initiatives

- Vitamin A capsules have been distributed in the Upper East Region.
- Vitamin A Supplementation Trials have taken place in the UER.
- Framework for national vitamin A deficiency control programme has been drafted.
- Nutrition education is being carried out on a continuous basis by extension workers and also in health institutions.
- A survey on iron deficiency anaemia is in progress
- Iron folate supplements are given to women regularly at ante natal clinics

- Standards for iodated salt have been initiated.
- Processes for salt iodation have been developed.
- Iodised oil capsules are being distributed in highly endemic areas.
- A laboratory for monitoring micro-nutrient status has been put in place.
- Supplementary feeding programmes with emphasis on malnourished children, nursing mothers and expectant women are being organised in 5 regions.
- Nutrition rehabilitation services for severely malnourished children are being provided through 23 non-residential and 13 residential centres country wide.

c) **Sub-programme activities**

ACTIVITY	TIMING	RESPONSIBILITY
1.1 Carry out extensive food consumption survey	January-December 1996	NU/MOFA/Universities
1.2 Design/launch a short-term programme which will provide essential supplements	Start June 1996	MCH- MOH/UGMS/NU
1.3 Develop nutrition education materials to improve knowledge on nutrient value of foods and nutrient needs for various physiological states	On-Going	HEU/MOE/NU
1.4 Develop criteria for identifying target groups for supplementary feeding programme	September-December 1995	NU/DCD
1.5 Put in place measure to involve communities in planning nutrition programmes	As soon as NP/FN is launched	CSPG (NDPC)
1.6 Design and implement a more effective and sustainable supplementary feeding programme	June 1996-December 2000	NU/GAPVOD/MCH
1.7 Identify and fortify common foods to ensure adequate supply of micronutrient	January 1996	FRI/NMIMR/Universities/ GSB
1.8 Undertake educational programmes to promote dietary diversification	On-Going	HEU/NU/WIAD/DCD/NGOs

4.2 Improved Household Food Security

a) **Present situation**

- In 1990 Ghana was only 70% self sufficient in cereal production, 60% in fish and 25% in meat production (MOA, 1990).
- 33% of households did not retain from home production or purchase enough food to meet 85% of energy needs based on moderate activity levels (GLSS, 1988).
- Access to food is constrained by regional income differentials against the Northern and Upper Regions against a background of inadequate food supplies and consequent cyclical upward trend in food prices (Alderman, 1991).
- Poor storage facilities at the farm/household level contribute to food inadequacies during the post-harvest periods.

b) **Past and present initiatives**

- Extension work in crops, livestock and fisheries based on the outcome of local research institutions is assisting farmers to increase production.
- WIAD of MOFA is assisting poor farmers and women in food storage, processing and preservation for food security and better nutrition.
- MOFA, ADB and GFDC are assisting farmers in selected food growing areas with credit, storage and market identification services.
- Rural agricultural infrastructure including small dams and roads are being expanded.
- Appropriate technologies are being adopted for agro-processing, soil and water management, conservation, animal traction and basic agricultural machinery.
- NGOs are assisting small farm families/small scale operators in food production, food storage, processing and marketing; micro enterprise development, and local weaning food production.

c) **Sub-programme activities**

ACTIVITY	RESPONSIBILITY	TIMING
2.1 Identify causes leading to household food insecurity	Started to be completed by December 1998	MOFA (PPMED)/ISSER/ IFPRI /UNICEF
2.2 Design an effective programme to alleviate bottlenecks in the marketing of farm agricultural inputs and products	Started in Northern and Transition zones. Start January 1996 in Southern Zone	MOFA
2.3 Define and clarify work schedule of extension staff	On-going	MOFA/NGOs/NU/DCD
2.4 Train more extension staff including specialists to promote the use of improved technology	On-going	MOFA/DCD/NGOs
2.5 Engage and train more women for extension work	December 1995- January 1996	MOFA/ND/MLG/NGOs
2.6 Set-up effective credit facility for farm families	On-going	MOF/NGOs/MOFA
2.7 Develop guidelines on the use of available but unexploited foods	June 1996-December 2000	MOFA/CRI/DFS-UG/DHS-UG
2.8 Create an enabling environment for small enterprise development and off-farm employment	March 1995-December 2000	MESP/NBSSI/NGOs

4.3 Policy Makers Sensitised On Food And Nutrition Related Issues

a) **Present situation**

- Low awareness of policy makers of the magnitude of food and nutrition problems.
- No framework for the sensitisation of policy makers on food and nutrition issues.

b) **Past and present initiative**

- CSPG on food and nutrition put in place by the NDPC.
- Seminar on food security, nutrition and development has taken place for policy makers.

c) **Sub-programme activities**

ACTIVITY	TIMING	RESPONSIBILITY
3.1 Set up directory on key policy makers on food and nutrition	May-July 1995	NDPC/NU
3.2 Develop a continuous programme for dissemination of information to key policy makers	Start July 1995	NDPC
3.3 Conduct a survey on the Knowledge, Attitudes, Beliefs and Practices of Policy makers	January-March 1996	NDPC/ISSER
3.4 Develop mechanisms to involve policy makers in the formulation of food and nutrition activities	March-June 1996	NDPC/MOH-PPMED/NU
3.5 Set up network of food and nutrition practitioners to advocate the involvement of policy makers	March-June 1995	NPA/ICN Task Force
3.6 Communicate national plan of action for food and nutrition to district implementers	September 1995-March 1996	MLG/ICN Task Force

4.4 Strengthening Coordination Among Agencies Involved In Food And Nutrition Issues

a) **Present situation**

- Ineffective information sharing mechanisms between agencies.
- Mechanisms for inter-agency coordination have not been fully recognized and utilised.

b) **Past and present initiatives**

- Cross-Sectoral Planning Group on food and nutrition is in place.

c) **Sub-programme activities**

ACTIVITY	TIMING	RESPONSIBILITY
4.1 Set up directory on agencies in nutrition-related activities	June 1995, Week 3	CSPG
4.2 Reactivate CSPG organised by the NDPC	June 1995, Week 1	CSPG
4.3 Develop quarterly Newsletter to inform all sectors /agencies involved in nutrition related activities	January-March 1996	CSPG
4.4 Organise annual symposia on National/Sub-National Food and Nutrition Policy and programmes	October each year	CSPG
4.5 Conduct joint orientation for collaborating agencies	July 1995, Week 2	CSPG

4.5 Improved National Capacity To Deliver Food And Nutrition Education And Services

a) Present situation

- Coordinated planning for manpower in support of food and nutrition programmes does not exist.
- Institutional linkages in support of food and nutrition programmes are weak.

b) Past and present initiatives

- "Nutrition Facts for Ghana" has been developed for use by all agencies to ensure standard nutrition education.
- Nutrition is integrated in curricula of teachers and extension workers.

c) Sub-programme activities

ACTIVITIES	TIMING	RESPONSIBILITY
5.1 Develop manpower plan to support food and nutrition programmes	September 1995-2000	MSD-OHCS/ICN Task Force
5.2 Mobilise Government and donor support for capacity building	Start June 1995	UNICEF?MOF/MOH/MOFA
5.3 Establish linkages with National Agricultural Research Project	Start July 1995	ICN Task Force
5.4 Train teachers and other change agents in food and nutrition	On-going	MOE/MOH/MOFA

4.6 Strengthened Preventive Measures Against Nutrition Related Diseases

a) Present situation

- Lack of data on extent of some diet related diseases.

b) Past and present situation

- Nutrition curricula at various levels of education are being reviewed and expanded.
- Awareness creation programmes of some diet related diseases have been mounted.
- Studies on some nutritional problems are being conducted.

c) Sub-programme activities

ACTIVITY	TIMING	RESPONSIBILITY
6.1 Initiate and sustain awareness creation programmes on good nutrition and nutrition related diseases	On-going	NU/WIAD/NGOs/MOE
6.2 Prepare national guidelines on dietary requirements	April 1996-March 1998	NU/FRI/UG-DFS
6.3 Expand nutrition curricula at various levels of formal education and training institutions	On-going	MOE/MOFA/MOH
6.4 Clarify the role of agencies in enforcing food laws	June-September 1995	MOH/GSB/MLG/MOFA-VD/EPA
6.5 Build capacity of related agencies in enforcing laws	October 1995-December 2000	MOH/GSB/MLG/MOFA-VD/EPA
6.6 Conduct continuous studies on nutrition related diseases	On-going	MOH/NMIMR/UG

4.7 Increased Adoption Of Breastfeeding Practices

a) Present situation

- Exclusive breastfeeding is practiced among 8% of mothers of infants under 4-6 months of age.
- Duration of breastfeeding for children under 3 years of age is 21 months.
- 40% of children under 4 months are breastfed at the same time given some form of supplementation.
- Prevalence rate for breastfeeding initiation is more than 90% at birth.
- 16% of infants are put to the breast in the first hour after birth.
- Colostrum is often discarded by some mothers.
- Prelacteral feeds are commonly given both in and outside hospital.
- Use of feeding bottles for infants under 4 months is high.
- 36% of infants aged 6-9 months are fed solid food in addition to breast milk.

b) Past and present initiatives

- Law guaranteeing 6 weeks pre and 6 weeks post partum fully paid maternity leave plus two additional weeks in the case of complications or multiple births has been enacted in accordance with ILO convention.
- Ghana Code on breast milk substitutes has been drafted.
- Baby Friendly Hospital InitiativeAuthority has been formed.
- 5 Ghanaians have received overseas training in lactation management.
- Training of health professionals on lactation management have been initiated.
- Education on ideal breastfeeding practices is given in all health institutions.

c) Sub-programme activities

ACTIVITY	TIMING	RESPONSIBILITY
7.1 Design an effective in-service training programme for existing health and allied staff	On-going	MCH/Nutrition Unit BFHIA/GAPVOD
7.2 Designate all health facilities and maternity homes baby friendly	On-going	BFHIA
7.3 Form mother support groups in communities	On-going	BFHIA/WIAD/DCD MCH/NUand GAPVOD
7.4 Provide facilities to enable working mothers breastfeed	Start June 1995	Employers association TUC Women's desk Civil servant association
7.5 Advocate for the enactment of the code on marketing of breastfeeding substitutes	On-going	HEU/MOH; MCH/NØU BFHIA
7.6 Develop IEC materials	On-going	HEU/MOH; MCH/NU/BFHIA
7.7 Conduct research into breast-feeding practices	January 1996-December 1997	NMIMR/HRU-MOH/DNFS-UG

4.8 Strengthened Participatory Approach To Intervention In Food/Nutrition Projects

a) **Present situation**

- Grassroots level participation in the design of food and nutrition projects is non existent.
- The conceptual framework for grass root participation requires clarification and strengthening.

b) **Past and present initiatives**

- District planning systems have been put in place by government.
- Food and nutrition extension programmes exists in many districts.
- Training of trainers in participatory methods have been initiated .

c) **Sub-program activities**

ACTIVITY	TIMING	RESPONSIBILITY
8.1 Conduct action research and disseminate information on participation at the community level	June 1995-June 1996	NDPC
8.2 Conduct action research into methods of securing participation	June 1995-June 1996	NDPC
8.3 Advocate food/nutrition teams at village and district levels	September 1995-March 1996	ND/WIAD/NGOs/DCD
8.4 Initiate community programme planning fora on food and nutrition	Start April 1996	DHMT; District teams for food and nutrition
8.5 Develop guidelines to avoid conflicting nutrition messages	Already started. Ends April 1995	NU
8.6 Train Trainers in participatory methods	On-going	NGOs/NDPC/WIAD/NU
8.7 Advocate for food and nutrition issues to be addressed by district and community-based organisation	Start June 1995	NDPC/MOH/ND/MOFA-WIAD ; MLGRD

4.9 Increased Adoption Of Good Hygiene Practices By Individuals

a) **Present situation**

- Public awareness level of good hygiene practices is low.
- Vendors of street foods do not adhere to good hygiene practices.

b) **Past and present situation**

- IEC materials are being developed and disseminated on good hygiene practices.
- Targeted messages have been developed.
- On-going public education on good hygiene practices.

c) **Sub-programme activities**

ACTIVITY	TIMING	RESPONSIBILITY
9.1 Design a more effective hygienic/health education programme	July 1995-July 1996	HEU/NU/MLGRD
9.2 Develop a combination of educational materials and methods to directly influence behaviours	On-going	HEU/GES
9.3 Prepare messages targeted at women's groups, school pupils,for use on radio, TV, and community centres	On-going	HEU/GES
9.4 Organise special quiz programmes for school pupils	Start October 1995	HEU/GES

4.10 Increased adoption of appropriate weaning practices

a) **Present situation**

- Knowledge on appropriate weaning practices is inadequate.
- Access to food by some mothers for the preparation of weaning foods is constrained by their low levels of incomes.
- 40% of infants under 4 months are given some form of supplementary feeding.
- Workload of women does not allow them to prepare separate foods for their children.

b) **Past and present initiatives**

- Local cereal/legume weaning food is being used nation wide.
- Corn milling machines have been distributed to some communities to assist in the production of local weaning foods.
- Mother education on appropriate weaning practices have been on-going
- Appropriate weaning practices have been included in induction and in-service training programs of health and other extension workers.

c) **Sub-programme activities**

ACTIVITY	TIMING	RESPONSIBILITY
10.1 Review/include appropriate weaning practices in pre-service curriculum of medical and allied institutions	July 1995-December 1996	Academic Boards of Tertiary Institutions/Curriculum Development Division (GES/MOH/MOFA /DCD)
10.2 Include apprpriate weaning practices in induction and in-service training of health and other extension workers	On-going	HRDD-MOH, MOFA,DCD/ GAPVOD
10.3 Design and implement a more intensive programme to educate mothers and care givers on the preparation and use of weaning foods	On-going	NU/MCH/WIAD/DCD/HEU
10.4 Use the participatory approach to develop appropriate and simple way to prepare weaning foods of the various localities	Start December 1995	NU/WIAD/FRI/NMIMR/UG
10.5 Popularise recipes for preparation and use of sustainable simple weaning foods	Start December 1995	DCD/GAPVOD/NCWD/WIAD/ NBSSI
10.6 Establish soft loan scheme for rural women to acquire labour saving devices	March 1996	GAPVOD/DCD/ITTU/NCWD NBSSI/WIAD
10.7 Identify income-generating ventures which are sustainable for rural women	Start January 1996	DCD/NU/MCH/WIAD/HEU
10.8 Conduct educational programmes to reach the family as a unit using radio, TV etc.	Start January 1996	HEU/NU/DCD/WIAD/GA

4.11 Effective Management of the NPAN

ACTIVITY	TIMING	RESPONSIBILITY
11.1 Establish multi-sectoral body to reflect multi-disciplinary nature of food and nutrition at appropriate levels	July 1995	NDPC
11.2 Define roles and responsibilities of all agencies/ Individuals in the NPAN	April - June 1995	ICN Task Force
11.3 Formulate and implement a flexible plan of operations.	March 1995 - December 2000	ICN Task Force /CSPG
11.4 Develop effective mechanisms to: * Undertake regular reviews/ updates of NPAN indicators. * Assess, procure and control the use of resources for the NPAN * Initiate and sustain common links among all the actors of NPAN * Raise and sustain commitment of all actors to ensure successful implementation of the NPAN	July 1995 - December 2000	CSPG

Chapter 5 Costs and Financing Requirements

1. Introduction

The over all cost of the NPA over a five year period as per appendix 1 summarised by table 7.1 amounts to USD 10.4 million. This excludes the cost of complementary programmes that are being funded under Water and Sanitation and Environmental Hygiene Programmes. While appendix 1 provides the schedule for specific year costs over the five year period, on an annual average basis, the NPA will cost about USD 2.0 million.

Funding is available for some of the activities planned under the NPA. As per table 7.2 this amounts to USD 2.9 million. The financing gap that requires to be filled is USD 7.4 million. On annual average basis this works out to be USD 1.48.

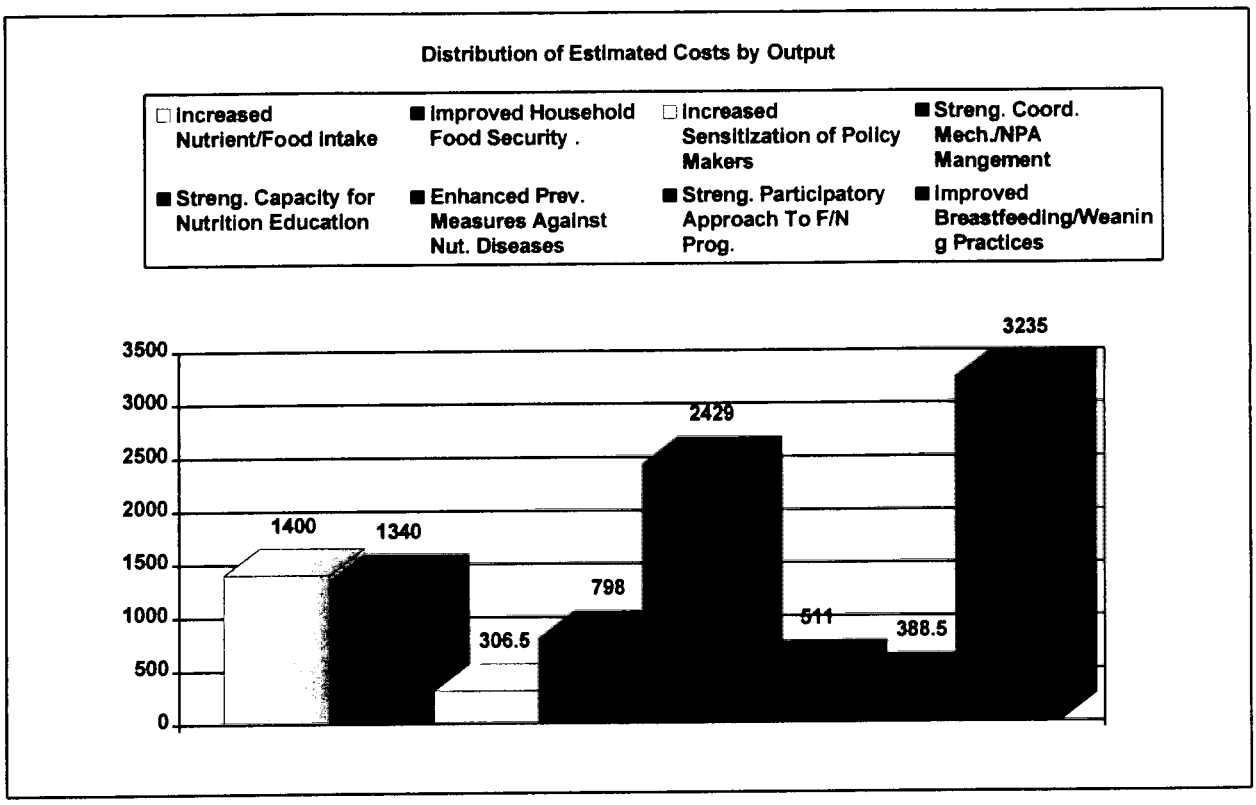
The pattern of resource use is skewed towards training, followed by local based technical assistance and others mainly in the area of IEC promotion and income generation. The structure makes the NPA more of capacity building for managing Ghana's nutrition programmes on a sustainable basis.

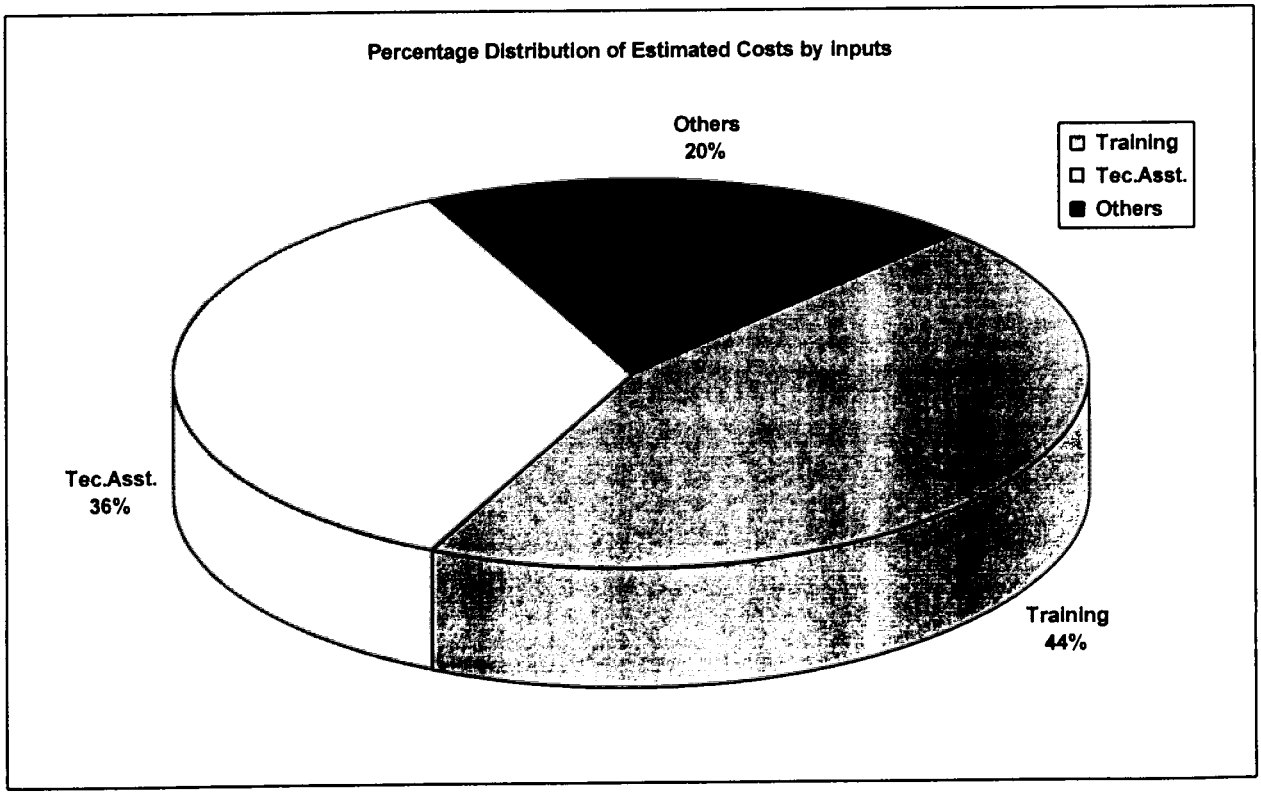
2. Estimated Costs

Of the total estimated costs of USD 10.4 million, training takes about 45%, technical assistance mostly studies and surveys to be conducted by local experts take 36% while others comprising credit schemes, supplementary feeding etc. constitute the remainder.

Table 7.1 **Estimated Costs in USD 000s**

Output	Total	Training	Tec.Asst.	Others	%tage
TOTAL	10408	4659	3707	2042	100%
Increased Nutrient/Food Intake	1400	410	750	240	13%
Improved Household Food Security	1340	345	495	500	13%
Increased Sensitization of Policy Makers	306.5	101.5	160	45	3%
Streng. Coord. Mech./NPA Mangement	798	104	192	502	8%
Streng. Capacity for Nutrition Education	2429	1653	525	251	23%
Enhanced Prev. Measures Against Nut. Diseases	511	67	395	49	5%
Streng. Participatory Approach To F/N Prog.	388.5	128.5	230	30	4%
Improved Breastfeeding/Weaning Practices	3235	1850	960	425	31%
Percentage	100%	44%	36%	20%	





On the activity side breastfeeding and weaning practices combined take 31% of the total. Institutional capacity for nutrition education is next with 23% . Nutrient/Food intake increase and Household Food Security each takes 13%. Strengthening Coordinating Mechanisms and NPA Management take 8%, Preventive Measures Against Nutrition Related Diseases take 5% while Strengthening of the Participatory Approach and Sensitization of Policy makers take 4% and 3% respectively.

2. Estimated Financing Requirements

The estimated financing requirements for the NPA over the five year period is about USD7.41 million. This is depicted by table 7.2. Existing and planned programmes are funded to the tune of USD 2.998 million by the government and donors. Of the financing required, 42% is in training, 40% is in technical assistance and the remaining 18% covers others.

Table 7.2 **Estimated Financing Requirements**

	Training	Tec. Asst.	Others	Total
Estimated Costs	4659	3707	2042	10408
Less:				
*Programmed Sources	1507	741	750	2998
Financing Gap	3152	2966	1292	7410
Percentage	42%	40%	18%	100%

* *Notes: For the programmed sources, 1/3 covers training, 1/5 covers technical assistance. For others credit facilities that will repaid by the beneficiaries come to USD 750,000*

Chapter 6 Coordinating and Monitoring

8.1 Introduction

The government is committed to the achievement of Ghana's human development goals. To this end principles have been established to ensure that human development issues, including nutrition are inextricably woven into the fabric of development policy and underpins the design and formulation of policies and strategies for national development. The mechanism for attaining this process is contained in a document prepared by the NDPC called Vision 2020 (the first step). The NDPF provides the focus for inter-sectoral coordination and collaboration as well as providing opportunities for monitoring the progress of sectoral programmes. It also ensures community involvement in all aspects of planning and execution of activities. In this later regard, the need to strengthen the links between national level policy and community based nutrition oriented programmes is assured. It is these links that will form the structure of the coordinating and monitoring of the NPA.

8.2 Coordination

The multi-sectoral nature of the causes of malnutrition entail that an effective national nutrition programme must be multifaceted. Accordingly, activities to improve nutrition will require considerable cross-sectoral coordination and collaboration. Coordination is required with respect to different tasks and different spatial levels. First there is the need for coordination at the policy formulation, planning and implementation levels. Secondly there is the need for coordination at different spatial levels, namely district, regional and national.

At the national level, coordination of policies will be the responsibility of the NDPC Cross-Sectoral Planning Groups that have been established under law to serve this function. They would among others:

- coordinate policy planning and implementation with respect to nutrition cooperation with sector ministries and agencies
- provide guidelines/ reviews nutritional targets to be attained by the implementing institutions.
- sensitise government / funding agencies on resources for executing the NPA
- broadly coordinate the monitoring of implementation

At the regional level, Regional Planning Coordinating Units will play the role of the CSPG at the national level. Their specific functions will be the following among others:

- coordinate district level implementation of the NPA
- advises on resource allocation for nutritional programmes with in a regional framework

At the district level, the District Planning Coordinating Unit will in consultation with other key agencies :

- recommend programme priorities for nutrition to their respective district assemblies
- collect, analyse and prepare coordinating information required by the national and regional coordinating organs.

8.3 Monitoring

The programme will be monitored at the district, regional, ministerial/agency and national levels. The CSPG within the confines of the national targets provide district, regional and ministerial agency targets to serve as monitoring reference. To make the system easier to operate, only output indicators will be monitored

At the national level the CSPG will collate monitoring information from the districts, ministries and agencies. These will be reviewed firstly against the micro/district targets and then the national targets.

At the regional level, the Regional Planning Coordinating Units will collate data from the districts into a regional monitoring format for evaluation and action

At the district level, the District Planning and Coordinating Unit will gather the monitoring data from the executing units collate them, provide instant feedback where feasible and appropriate and then pass on the data to regional and national monitoring units.

8.4 Targets

There is shortage of baseline information to estimate level of performance required to realise some of the objectives. Updating the current database is therefore acknowledged as an important follow up activity. To facilitate the monitoring and evaluation of the plan the following indicators will be used:

1. Adequate food/Nutrient intake for individuals

- Prevalence of severe protein-energy malnutrition (PEM) in school children is reduced from 8% to 4% by the year 2000
- Prevalence of moderate PEM in pre-school children is reduced from 40% to 15% by the year 2000
- Prevalence of iodine deficiency disorders is reduced from 33% to 10% by the year 2000
- Prevalence of vitamin A deficiency reduced from x to y by the year 2000
- Prevalence of iron deficiency anaemia is reduced from x to y by the year 2000

2. Improved household food security

- Percentage of households meeting 80% or more of recommended daily allowance of calorie and protein increased as follows: x% by 1998 and y% by the year 2000

3. Policy makers sensitised in nutrition related issues

- By the end of 1996 the time taken by policy makers to respond favourably to decisions on financial support for NPA/FN activities is reduced by 50% (4 weeks to 2 weeks)
- Budget allocation for nutrition and nutrition related activities is increased from:
    * x to y by 1998
    * y to z by 2000
- By January 1996 at least 80% of annual budget estimates for NPA/FN activities is granted by policy makers

4. Machinery for coordination among agencies involved in food and nutrition is strengthened

- An inter-agency coordinating body with clearly defined terms of reference is in operation by June 1996
- Activities of collaborating agencies are drawn from the NPA on a routine basis after the NPA is launched

5. **Institutional capacity to deliver food and nutrition related education and services is improved and sustained**
   - All critical staffing positions in collaborating institutions are identified and resourced by January 1996
   - All critical logistic needs are identified and resourced by December 1996

6. **Preventive measures against diet related diseases enhanced**

   - The incidence of diet related diseases is reduced by 10% by the year 2000
   - Dietary guidelines are completed and in use by 80% of the change agents by the year 2000

7. **Increased adoption of ideal breastfeeding practices**

   - All hospitals/maternity facilities designated baby friendly by the year 2000
   - Exclusive breastfeeding for the first 6 months of life by lactating mothers increased from 8% to 65% as follows:
     * 8% to 20% by December 1996
     * 20% to 39% by December 1997
     * 30% to 40% by December 1998
     * 40% to 50% by December 1999
     * 50% to 65% by December 2000

   - The number of mothers who are giving breast milk with supplementation well into the second year to children above 6 months of age increased by 50%

8. **Adoption of participatory approach to interventions in food and nutrition Projects**

   - All NPA/FN activities are designed and implemented using participatory methods by January 1996

9. **Increased adoption of good hygiene practices by individuals**

   - Incidence of diarrhoeal diseases reduced from x to y by the year 2000
   - Incidence of skin diseases reduced from x to y by the year 2000

10. **Increased adoption of appropriate weaning practices**

   - Percentage of mothers and care givers administering nutritionally balanced weaning foods from 6 months is increased from 9% to 65% as follows:
     * 9% to 20% by December 1996
     * 20% to 30% by December 1997
     * 30% to 40% by December 1998
     * 40% to 50% by December 1999
     * 50% to 65% by December 2000

11. **The NPA/FN is effectively managed**

   - A plan of operations is drawn up and followed
   - Responsibilities of all parties is clear and understood
   - Critical resource needs are delivered on schedule
   - The objectives of the NPAN are known and understood by all the persons involved in implementation
   - Effective trouble-shooting procedures are created and used.

NPAN Cost Estimates in Quantities and Dollars (US) : 1995 - 2000 (at current prices)

1. NUTRIENT/FOOD INTAKE INCREASE		Y1	Y2	Y3	Y4	Y5	TOTAL		Y1	Y2	Y3	Y4	Y5	TOTAL
Training														
Workshop / Seminars	P/W	200	300	400	400	300	1600	0.1	20	30	40	40	30	160
Courses / Attachments	P/M	100	100	100	100	100	500	0.2	20	20	20	20	20	100
Inservice Training	P/M	200	200	100	100	100	700	0.2	40	40	20	20	20	140
Manuals / Materials	No.	2000	2000	2000	2000	2000	10000	0.001	2	2	2	2	2	10
SUB - TOTALS									82	92	82	82	72	410
Technical Assistance														
Short Term														
Local	P/M	40	40	30	30	20	160	4	160	160	120	120	80	640
Long Term														
Local	P/M	8	6	4	2	2	22	5	40	30	20	10	10	110
SUB - TOTALS									200	190	140	130	90	750
Others														
Vitamins / Mineral Supplement									40	30	30	20	10	130
Launching of Supplementation Programme									20	-	-	-	-	20
Education Programmes									30	20	20	10	10	90
SUB - TOTALS									90	50	50	30	20	240
2. HOUSEHOLD FOOD SECURITY														
Training														
Workshop / Seminars	P/W	-	-	200	100	100	400	0.1	-	20	10	10	40	80
Courses / Attachments	P/M	200	200	100	100	100	700	0.2	40	40	20	20	20	140
Inservice Training	P/M	200	100	100	100	100	600	0.2	40	20	20	20	20	120
Manuals / Materials	No.	1000	1000	1000	1000	1000	5000	0.001	1	1	1	1	1	5
SUB - TOTAL									81	81	51	51	81	345
Technical Assistance														
Short Term														
Internal	P/M	30	30	20	15	10	105	4	120	120	80	60	40	420
Long Term														
Internal	P/M	5	5	5	-	-	15	5	25	25	25	-	-	75
SUB - TOTAL									145	145	105	60	40	495
Others														
Credit Facilities									100	100	100	100	100	500
SUB - TOTAL									100	100	100	100	100	500
3. POLICY MAKERS SENSITISATION														
TRAINING														
Workshop / Seminar / Forum	P/W	100	100	100	100	100	500	0.1	10	10	10	10	10	50
Inservice Training	P/M	50	50	50	50	50	250	0.2	10	10	10	10	10	50
Manuals / Materials	No.	300	300	300	300	300	1500	0.001	0.3	0.3	0.3	0.3	0.3	1.5
SUB - TOTAL									20.3	20.3	20.3	20.3	20.3	101.5
Technical Assistance														
Short Term														
Local	P/M	8	8	8	8	8	40	4	32	32	32	32	32	160
SUB - TOTAL									32	32	32	32	32	160
Others														
Advocacy									20	10	-	-	-	30
Policy Makers Directory Compilation									15	-	-	-	-	15
SUB - TOTAL									35	10	-	-	-	45
4. COORDI. MECH./NPA MANAGEMENT														
Training														
Workshop / Seminars	P/W	200	200	200	200	200	1200	0.1	20	20	20	20	20	100
Manuals / Materials	No.	-	1000	1000	1000	1000	4000	0.001	-	1	1	1	1	4
SUB - TOTAL									20	21	21	21	21	104
Technical Assistance														
Short Term														
Local	P/M	8	10	10	10	10	48	4	32	40	40	40	40	192
SUB - TOTAL									32	40	40	40	40	192
Equipment														
Computers	No.	3	2	1	1	1	8	10	30	20	10	10	10	80
Copiers	No.	3	2	1	1	1	8	8	24	16	8	8	8	64
Typewriters	No.	2	2	3	4	4	15	0.5	1	1	1.5	2	2	8
SUB - TOTAL									55	37	20	20	20	152
Others														
Advocacy/Newsletter									30	20	20	10	5	85
Nutrition Agencies Directory Compilation									15	-	-	-	-	15
Implementation/Monitoring/Evaluation Mech.									40	30	30	20	10	130
Multi-Sectoral Body for Coordination									30	30	20	20	20	120
SUB - TOTAL									155	80	70	50	35	350

NPAN Cost Estimates in Quantities and Dollars (US) : 1995 - 2000 (at current prices)

	UNIT							UNIT						
5. INSTITUTIONAL CAP. FOR NUT. EDU.		Y1	Y2	Y3	Y4	Y5	TOTAL		Y1	Y2	Y3	Y4	Y5	TOTAL
Training														
Workshop / Seminar	P/W	300	300	300	250	180	1330	0.1	30	30	30	25	18	133
Inservice Training	P/M	1500	1500	1500	1500	1500	7500	0.2	300	300	300	300	300	1500
Manuals / Materials	No.	4000	4000	4000	4000	4000	20000	0.001	4	4	4	4	4	20
SUB - TOTAL									334	334	334	329	322	1653
Technical Assistance														
Short Term														
Local	P/M	30	30	30	20	10	120	4	120	120	120	80	40	480
Long Term														
Local	P/M	-	3	3	3	-	9	5	-	15	15	15	-	45
SUB - TOTAL									120	135	135	95	40	525
Others														
Education Programmes									5	5	5	3	3	21
Electronic Media Campaign									10	5	5	5	5	30
Special Quiz Programme									50	40	40	35	35	200
SUB - TOTAL									65	50	50	43	43	251
6. PREV. MEASURES AGAINST DISEASES														
Training														
Workshop / Seminars	P/W	100	100	100	50	20	370	0.1	10	10	10	5	2	37
Courses / Attachments	P/M	-	-	-	-	-	-	-	-	-	-	-	-	-
Inservice Training	P/M													
Manuals / Materials	No.	6000	6000	6000	6000	6000	30000	0.001	6	6	6	6	6	30
SUB - TOTAL									16	16	16	11	8	67
Technical Assistance														
Short Term														
Local	P/M	20	20	20	10	10	80	4	80	80	80	40	40	320
Long Term														
Local	P/M	-	2	2	2	-	6	5	-	10	10	10	-	75
SUB - TOTAL									80	90	90	50	40	395
Others														
Education Campaign									5	5	5	2	2	19
Electronic Media Education									10	5	5	5	5	30
SUB - TOTAL									15	10	10	7	7	49
7. PARTICIPATORY APPROACH														
Training														
Workshop / Seminars	P/W	150	150	150	150	150	750	0.1	15	15	15	15	15	75
Inservice Training	P/M	50	50	50	50	50	250	0.2	10	10	10	10	10	50
Manuals / Materials	No.	700	700	700	700	700	3500	0.001	0.7	0.7	0.7	0.7	0.7	3.5
SUB - TOTAL									25.7	25.7	25.7	25.7	25.7	128.5
Technical Assistance														
Short Term														
Local	P/M	12	12	12	7	7	50	4	48	48	48	28	28	200
Long Term														
Local	P/M	3	3	-	-	-	6	5	15	15	-	-	-	30
SUB - TOTAL									63	63	48	28	28	240
Others														
Advocacy									20	10	-	-	-	30
SUB - TOTAL									20	10	-	-	-	30
8. BREASTFEEDING/WEANING PRACTICES														
Training														
Workshop / Seminars	P/W	400	400	400	400	400	2000	0.1	40	40	40	40	40	200
Courses / Attachments	P/M	100	100	100	100	100	500	0.2	20	20	20	20	20	100
Inservice Training	P/M	1500	1500	1500	1500	1500	7500	0.2	300	300	300	300	300	1500
Manuals / Materials	P/M	10000	10000	10000	10000	10000	50000	0.001	10	10	10	10	10	50
SUB - TOTAL									370	370	370	370	370	1850
Technical Assistance														
Short Term														
Local	P/M	60	60	50	40	30	220	4	240	240	200	160	120	960
SUB - TOTAL									240	240	200	160	120	940
Others														
Loan for rural women									50	50	50	50	50	250
Advocacy									50	30	20	10	5	115
Electronic Media Education									20	10	10	10	10	60
SUB - TOTAL									120	90	80	70	65	425

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