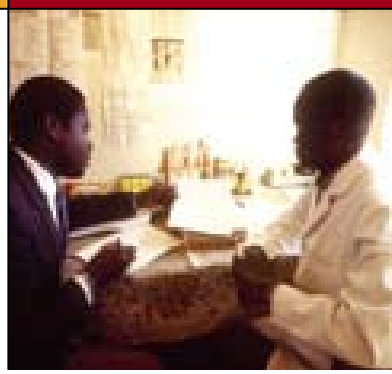
Policy Brief



Incorporating Nutrition Considerations into Development Policies and Programmes

BRIEF FOR POLICY-MAKERS AND PROGRAMME PLANNERS IN DEVELOPING COUNTRIES

Policy Brief

Incorporating Nutrition Considerations into Development Policies and Programmes

BRIEF FOR POLICY-MAKERS AND PROGRAMME PLANNERS IN DEVELOPING COUNTRIES

Nutrition Planning, Assessment and Evaluation Service
Food and Nutrition Division
Food and Agriculture Organization of the United Nations

ROME 2004

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Contents

Contents

List of tables

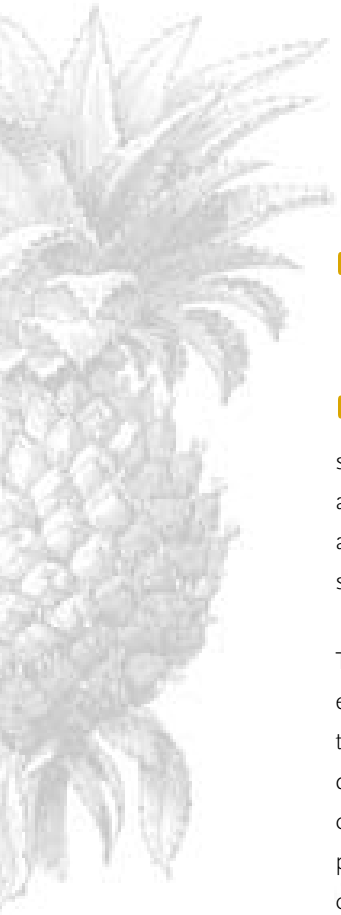
List of boxes

List of figures

List of acronyms

ACC/SCN	Administrative Co-ordination Committee/ Sub-Committee on Nutrition, now known as the United Nations System Standing Committee on Nutrition
BFHI	Baby Friendly Hospital Initiative
DALY	Disability Adjustment Life Years
DES	Dietary Energy Supply
FIVIMS	Food Insecurity and Vulnerability Information and Mapping System
GDP	Gross Domestic Product
ICCIDD	International Council for the Control of Iodine Deficiency Disorder
ICN	International Conference on Nutrition
ICPD	International Conference on Population and Development
IDA	Iron Deficiency Anaemia
IDD	Iodine Deficiency Disorder
ILSI	International Life Sciences Institute
NGO	Non-governmental Organization
NPAN	National Plans of Action for Nutrition
PEM	Protein Energy Malnutrition
QALY	Quality-adjusted Life Years
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
VAD	Vitamin A Deficiency
WFS	World Food Summit
WHO	World Health Organization

PREFACE



NUTRITIONAL STATUS IS INTERNATIONALLY RECOGNIZED as an indicator of national development. Nutrition is both an input into and an output of the development process. A well nourished, healthy workforce is a precondition for successful economic and social development, and as such, food security, nutrition, health and sanitation are a responsibility of all development sectors. Undernutrition and poor health are manifestations of a failure of the development process to reach some segments of the population.

The causes of undernutrition cover a broad spectrum, emanating from political, environmental, socio-economic, health and intra-household factors. Nutrition, therefore, is a multisectoral issue which should be addressed by the various development sectors. Past nutrition intervention programmes have often been consumption oriented, with emphasis on nutrition education and backyard food production. Such nutrition interventions can temporarily address problems of certain population groups that are not adequately covered by the development process; but we should now complement these efforts by addressing the root causes of malnutrition, to realize long-term solutions.

One of the most efficient and effective means of ensuring adequate food security and better nutrition is to integrate nutrition considerations into the development process. In most developing countries, undernutrition is usually viewed as a public health problem; on the other hand, nutrition is largely viewed as an independent discipline, which has its own agenda, and is seldom of high priority in the development schedule. Nutrition units are often located in the health and agriculture sectors; however, nutrition issues are rarely given high priority. It is assumed that development in other sectors/disciplines will have a positive impact on nutritional status. In order to provide sustainable improvement in nutritional status, nutrition needs to be recognized and addressed within the context of overall development policy.

The Incorporation of Nutrition into Development Policies and Programmes was one of nine themes selected by the International Conference on Nutrition (ICN) held in Rome in 1992, under which nutrition and health issues could be effectively addressed. Based on the nine themes, the Conference developed a World Declaration and Plan of Action for Nutrition. The Plan of Action aims to eliminate hunger and reduce all forms of malnutrition, particularly among the undernourished population groups, through sustainable food security, rural development, environmental and health programmes. The Plan was further endorsed by Commitment Seven of the World Food Summit (WFS) held in Rome in November 1996, which focused on food security, and more recently by the World Food Summit Five Years Later held in Rome in 2002.

In adopting the ICN Plan of Action for Nutrition, participating countries agreed to prepare National Plans of Action for Nutrition (NPAN). In formulating their NPAN, several countries expressed the need for assistance in terms of advocacy to raise awareness about the need to integrate nutrition objectives into development policies. In response to this request, FAO developed this advocacy document.

Prior to the ICN, the Food and Nutrition Division of FAO addressed the question of Incorporating Nutrition Considerations into Agricultural Projects and Programmes. In 1982, FAO published *Integrating Nutrition into Agricultural and Rural Development Projects: A Manual* (Nutrition in Agriculture Series No.1). The manual presented a methodology to integrate nutrition considerations into agricultural and rural development projects. This methodology has been implemented in projects in Haiti, Kenya, Peru, the Philippines, Sri Lanka and Zambia. Training workshops to assist nutrition planners in applying this methodology were held in Ethiopia, the Philippines and Indonesia.

FAO and the World Health Organization (WHO) prepared a background paper for ICN 1992 entitled Major Issues for Nutrition Strategies: Incorporating Nutrition Objectives into Development Policies and Programmes (Theme paper No.8). This paper discusses issues on the multisectoral nature of nutrition, its integral role in development and the significance of including nutrition considerations into development policies and programmes.

Past efforts have not included nutrition advocacy, but merely introduced nutrition where the concept of nutrition has already been accepted. This policy brief,

Incorporating Nutrition Considerations into Development Policies and Programmes, will:

(a) provide policy-makers with practical strategies for incorporating nutrition considerations into relevant development policies.

(b) provide health and nutrition workers with a tool to advocate for nutrition at the policy level.

The brief is presented as two documents – a long document and a summary version. It is hoped that these documents will encourage effective dialogue among the different sectors involved, to promote better nutritional status and, ultimately, sustainable development.

On behalf of FAO, I would like to thank Professor I.O. Akinyele of the University of Ibadan, Ibadan, Nigeria for producing the first draft of this document. The document was further developed and finalized by Juliet Aphane, of the Food and Nutrition Division, with editorial assistance from Brett Shapiro. Guy Nantel, also of the Food and Nutrition Division, provided valuable comments and input throughout the development of this document. We thank FAO consultants Rosanne Marchesich and Gina Kennedy for their helpful input in the development of this document. Our gratitude also goes to FAO colleagues from the Policy Coordinating Service for their valuable input: Tshikala Tshibaka at headquarters and Carlos Santana, Ueda Takeshi and staff of the Regional Office for Asia and the Pacific. We gratefully acknowledge the thoughtful and extensive contributions of Dieter K H Muller-Praefcke, retired FAO policy expert. Special thanks go to Mofota Griffiths-Shomari from the Commonwealth Regional Health Community Secretariat for her technical contributions. Giuseppina Di Felice is recognized for the secretarial and administrative support she provided.

All photos in the book are from the FAO media base.

Kraisid Tontisirin
DIRECTOR
Food and Nutrition Division
FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS
Viale delle Terme di Caracalla
00100 Rome, Italy

Introduction

DEVELOPMENT AIMS TO PROVIDE PEOPLE WITH THE MEANS and the social and economic environment necessary to lead active and healthy lives. To achieve this objective, developmental policies and programmes need to be directed towards improving the human development potential, including improvement of nutritional well-being. Nutrition-focused interventions are required primarily to reach and benefit vulnerable individuals. Factors that influence nutritional status, however, fall under the responsibilities of many sectors. All these factors need to be addressed in order to achieve good nutrition and health status. Furthermore, it is crucial that policy-makers and planners in all development sectors recognize and understand the socio-economic background and preferences of target groups. Hence, the principle of coordinated, holistic approaches in policy formulation and programme design is key to successful and sustainable development.

In many developing countries, economic productivity has increased and impressive efforts have been made in nutrition interventions, but significant improvements in nutritional status have not accompanied these advances. For example, about 800 million people worldwide (mostly in developing countries) are food-insecure and billions suffer from micronutrient deficiencies. Investing in nutrition has both economic and social benefits. Improved nutritional status has an enhancing effect on investments in other sectors such as health, education and agriculture. Moreover, the enormous social and financial costs of malnutrition are averted when nutritional status is improved.

Through various international conferences held in the 1990s such as the World Summit for Children (1990), the International Conference on Nutrition (1992) and the World Food Summit (1996), the international community has expressed willingness and intent to eliminate hunger and drastically reduce micronutrient deficiencies by 2015. One of the effective strategies to achieve this goal would be to fully integrate household food security and nutrition objectives into the mainstream of development-oriented planning and investment, and explicitly incorporate nutrition at both the policy and programme formulation levels. In recognition of the need for integrated approaches, the United Nations, at its 2000 Millennium Summit, in developing the Millennium Development Goals, reiterated the commitments of the 1990s with a focus on poverty alleviation.

Several development sector policies and programmes, such as agriculture, health, education, water, sanitation and environment, impact directly and indirectly on nutritional status. In countries where it is feasible to do so, including explicit nutrition goals in these sector policies will enhance nutritional well-being.
Among the development sectors, agriculture is perhaps the most opportune sector for

enhancing nutritional status. Agriculture is a major source of income and livelihood for many poor and nutritionally vulnerable households. Several agriculture activities – food production, marketing, processing and preservation – play a vital role in nutrition. Hence, it is important that development policies and programmes be closely monitored to ensure that they do not have negative nutritional consequences. Rather, opportunities to include nutritional considerations into appropriate sector policies and programmes should be exploited.

Women and children are most affected by nutritional deficiencies, which emanate from food insecurity. In response, it would be helpful for countries to undertake gender analyses and, as much as possible, include and involve women in development activities at all levels.

It is important that the integral role of nutrition in development be taken into account during policy formulation, programme planning and implementation. Most importantly, the synergistic effect of these sector programmes (and hence policies) on one another needs to be well understood. This will assist in discouraging unnecessary competition for political support and funding. Instead, it will promote collaboration among different sectors and disciplines, and will contribute to the elaboration of a development agenda which is sustainable and beneficial to the target groups.

Objectives of this Policy Brief

The overall objective of this Policy Brief is to create awareness and understanding of the advantages of good nutritional status to the development process, so that nutrition considerations can be incorporated into development policies to facilitate sustainable develoment.

The specific objectives are to:

- create awareness of the problem of undernutrition and its negative impact on human resources and the development process;
- build awareness of how to control and prevent undertakings that can increase the magnitude of the problem;
- develop strategies that contribute to alleviation of poverty for sustainable productivity; and
- advocate for nutrition as a vehicle for human resource development, particularly its consideration in various policies and programmes for national development.

G. Bizzarri

For a national social and economic development programme to be successful and sustainable, the majority of the population should be able to participate in the process. Therefore, the majority of the population should be in good health and have good nutritional status.

CHAPTER ONE

The Role of Nutrition in Social and Economic Development

Overview of nutrition in human resource and economic development

Nutritional status is a measure of the health condition of an individual as affected primarily by the intake of food and utilization of nutrients. According to the World Health Organization (WHO), health is not only the absence of disease but a state of complete mental and physical well-being in relation to the productivity and performance of an individual.

Good nutritional status can only be realized and sustained when individuals within families and communities are food-secure. Food security has been defined as "access by all people at all times to the food needed for a healthy life" (FAO/WHO, 1992a). Food security has three important dimensions: adequate availability of food supplies; assured access to sufficient food for all individuals; and its proper utilization to provide a proper and balanced diet.

The state of hunger and malnutrition within a country is related to its level of development (OMNI, 1998). The relationship between nutrition and human resource development was best described by the 1992 International Conference on Nutrition (ICN) held in Rome, which, in its World Declaration and Plan of Action for Nutrition, stated that "nutritional well-being of all people is a pre-condition for the development of societies and is a key objective of progress in human development".

A well-nourished, healthy workforce is a pre-condition for sustainable development. At the same time, the nutritional well-being of a population is a reflection of the performance of its social and economic sectors; and to a large extent, an indicator of the efficiency of national resource allocation.

In order for a national social and economic development programme to be successful and sustainable, the majority of the population should be able to participate in the process. Therefore, the majority of the population should be in good health and have good nutritional status.

Nutrition plays a critical role in human resource development since deficiencies in essential nutrients lead to malnutrition, which affects an individual's mental and physical state, resulting in poor health and poor work performance.

A.Odoul

A well-nourished, healthy workforce is a pre-condition for sustainable development

In addition, a hungry, malnourished child may have mild to serious learning disabilities, resulting in poor school performance; a sick, poorly nourished individual will not respond well to treatment, could lose many working hours and may continue to drain family and national resources. Thus, malnutrition may undermine investments in education, health and other development sectors.

When human potential and resources are trapped in the vicious cycle of malnutrition, development goals and improved standards of living will not be realized. Hence, the ICN recommended that nutrition be at the centre of socio-economic development plans and strategies of all countries (FAO/WHO,1992a) (see Box 1).

This recommendation was based on the fact that significant improvements in nutritional status can result from incorporating nutritional considerations into broader policies of economic growth and development, food and agricultural production activities, health care, education and social development.

In order for the human resource capital to be sustainable, it is important to promote nutrition objectives within current development strategies, plans and priorities.

BOX 1

Commitments of the ICN and the World Food Summit

The World Declaration of the 1992 International Conference on Nutrition (ICN) emphasized the need for all governments to:

> *ensure that development programmes and policies lead to a sustainable improvement in human welfare mindful of the environment and should be conducive to better nutrition and health for present and future generations.*

A major policy guideline of the ICN Plan of Action included the development of human resources. It noted that:

> *nutritional well-being is a prerequisite for the achievement of the full social, mental and physical potential of a population so that all people can lead full, productive lives and contribute to the development of the community and the nation with dignity.*

Equally, objective 2.1 of Commitment Two of the 1996 World Food Summit Plan of Action stressed the need for each country to:

> *pursue poverty eradication, among both urban and rural poor, and sustainable food security for all as a policy priority ...*

Objective 1.2 of Commitment One of the Rome Declaration on World Food Security and the World Food Summit and Plan of Action states that each country should:

> *ensure stable economic conditions and implement development strategies that encourage the full potential of private and public, individual and collective initiatives for sustainable, equitable, economic and social development, which also integrate population and environmental concerns.*

Commitment Seven further buttresses this declaration by:

> *emphasizing the multidimensional nature of the follow up to the World Food Summit, including actions at the national, intergovernmental and interagency levels. Objective 7.4 sought to clarify the content of the right to adequate food and the fundamental right of everyone to be free from hunger....*

FAO/WHO, 1992a. ICN. World Declaration on Nutrition. Plan of Action for Nutrition
FAO,1996c. Technical Background Document. Volume 1. World Food Summit

Prevalence and consequences of malnutrition

Malnutrition has been defined as a pathological condition, brought about by inadequacy of one or more of the nutrients essential for survival, growth, reproduction and capacity to learn and function in society (Latham, 1997). People whose diets fall short of standard levels of intake for essential nutrients suffer from malnutrition that can be mild, moderate or severe, depending on the level of deficiency.

Current trends in malnutrition (Gillespie Mason and Martorell, 1996) show that although nutritional status is improving for many people in the world, for some the rate is not fast enough. At the World Food Summit (WFS) in 1996, it was stated that more than 800 million people do not have sufficient food to meet their nutritional needs (See Tables 1-3). This situation results from many inter-related factors, including social, economic, environmental and political ones.

The nutrition situation reports of the United Nations Administrative Committee on Co-ordination/ Sub-Committee on Nutrition (ACC/SCN) stated that protein-energy malnutrition (PEM), measured by the proportion of children falling below the accepted weight standards, affects 26.7 percent of all pre-school children in the developing world. In 2000, the problem affected some 150 million children, based on national anthropometric measurements (ACC/SCN, 2000). WHO reports that in developing countries, 10.7 million children die each year, and of these deaths, 49 percent are associated with malnutrition (WHO, 2000). Data from

R. Jones

A community health attendant examines a two-month-old baby during a monthly medical check-up at a health post

Table 4 confirm that malnutrition has a far more powerful impact on child mortality than is generally believed (WHO, 1995).

Trends in underweight prevalence among children are key to understanding nutritional status in relation to human development. About 29 percent of children in South Asia, 6 percent in Latin America and 28 percent in Sub-Saharan Africa are underweight. Although Sub-Saharan Africa has a slightly lower prevalence than South Asia, the situation in this region is not improving. Underweight prevalence rate in South Asia is improving slowly but is still the highest in the world, and more than half of the underweight children in the world live in this region (ACC/SCN, 2000) (see Table 5).

Asia has also been characterized by a slowly rising gross national product per capita and a high rate of poverty.

In 1995, the global underweight rate in developing countries was estimated to be 29 percent (ACC/SCN,1996). Cutbacks in health expenditures in some developing countries could account for this high rate. Other factors influencing underweight prevalence can be political instability, insufficient and inaccessible health care (i.e. immunization), poor hygiene and sanitation, and poor access to nutrient-rich foods (ACC/SCN,1996).

TABLE 1

Average per caput dietary energy supply (DES)

COUNTRIES	1990-92 (CALORIES/CAPUT/DAY)	1997-99 (CALORIES/CAPUT/DAY)
Developing World	2 540	2 530
Asia and the Pacific	2 710	3 010
Latin America and Caribbean	2 120	n/a
Near East and North Africa	2 680	2 710
Sub-Saharan Africa	2 830	3 010
Countries in Transition	2 190	2 910

Adapted from FAO, 2001. The State of Food Insecurity in the World

TABLE 2

Population in countries grouped by average per capita (DES)

COUNTRY GROUP (average DES/caput) (Millions)	1969-1971	1990-92	2010
< 2 100 calories	1 747	411	286
2 100 to 2 500	644	1 537	736
2 500 to 2 700	76	338	1 933
> 2 700 calories	145	1 821	2 738

FAO, 1996. Technical Background Documents Vol. 1 pg. viii. World Food Summit

TABLE 3

Estimates and projection of undernourished populations in developing countries

POPULATION WITH ACCESS BELOW THE NUTRITION THRESHOLD	1990-92	2010
Total population (millions)	4 064	5 668
Undernutrition threshold (calories)	1 844	1 875
Number below nutrition threshold (millions)	840	680
Percentage of total	20	12

Adapted from FAO, 1996. Technical Background Documents Vol. 1 p.9 World Food Summit

TABLE 4

Percentage of all deaths of children under five years of age associated with malnutrition for selected countries in Africa

COUNTRIES	%		%
Tanzania	53	Sierra Leone	42
Burundi	52	Togo	41
Nigeria	52	Senegal	39
Mali	48	Lesotho	29
Namibia	44	Cote d'Ivoire	26
Rwanda	44	Zimbabwe	24
Ghana	42		

David L. Pelletier and others. The effects of malnutrition on child mortality in developing countries, Bulletin of the World Health Organization, vol. 73 No. 4, 1995

TABLE 5

Estimated prevalence and number of underweight preschool children, 1990-2005

UN REGIONS AND SUB REGIONS	PREVALENCE OF UNDERWEIGHT (%)				NUMBER UNDERWEIGHT (millions)			
	1990	1995	2000	2005	1990	1995	2000	2005
AFRICA	27.3	27.9	28.5	29.1	30.11	34.03	38.32	42.45
Eastern	30.4	33.2	35.9	38.7	11.03	13.42	16.47	19.48
Northern	15.6	14.8	14.0	13.2	3.27	3.11	3.08	2.99
Western	33.3	34.9	36.5	38.1	11.23	13.34	15.41	17.66
ASIA	36.5	32.8	29.0	25.3	141.31	121.03	107.91	93.16
South Central	50.9	47.3	43.6	40.0	90.90	82.40	78.49	73.48
South-East	36.2	32.6	28.9	25.3	20.60	18.56	16.68	14.27
LATIN AMERICA AND THE CARIBBEAN	10.2	8.3	6.3	4.3	5.57	4.48	3.40	2.35
Caribbean	17.2	14.4	11.5	8.7	0.65	0.54	0.43	0.32
Central America	15.2	15.3	15.4	15.4	2.36	2.46	2.52	2.51
South America	8.2	5.7	3.2	2.3	2.88	1.96	1.08	0.80
ALL DEVELOPING COUNTRIES	32.1	29.2	26.7	24.3	176.99	159.55	149.63	137.95

ACC/SCN, 2000. Fourth Report on the World Nutrition Situation

Notes: Underweight is defined as low weight-for-age at <-2 standard deviations of the median value of the NCHS/WHO international growth reference

TABLE 6

Estimated prevalence and number of stunted children, 1990-2005

UN REGIONS AND SUB REGIONS	PREVALENCE OF STUNTING (%)				NUMBER STUNTED (millions)			
	1990	1995	2000	2005	1990	1995	2000	2005
AFRICA	37.8	36.5	35.2	33.8	41.68	44.51	47.30	49.40
Eastern	47.3	47.7	48.1	48.5	17.13	19.28	22.03	24.41
Northern	26.5	23.3	20.2	17.0	5.55	4.90	4.44	3.86
Western	35.5	35.2	34.9	34.6	11.99	13.47	14.74	16.03
ASIA	43.3	38.8	34.4	29.9	167.66	143.49	127.80	110.19
South Central	52.2	48.0	43.7	39.4	93.36	83.62	78.53	72.28
South-East	42.6	37.7	32.8	27.9	24.24	21.51	18.94	15.78
LATIN AMERICA AND THE CARIBBEAN	19.1	15.8	12.6	9.3	10.38	8.59	6.82	5.11
Caribbean	21.7	19.0	16.3	13.7	0.81	0.71	0.61	0.51
Central America	25.0	24.5	24.0	23.5	3.87	3.94	3.92	3.82
South America	17.2	13.2	9.3	5.3	6.05	4.55	3.16	1.84
ALL DEVELOPING COUNTRIES	39.8	36.0	32.5	29.0	219.73	196.59	181.92	164.70

ACC/SCN, 2000. Fourth Report on the World Nutrition Situation

Notes: Underweight is defined as low weight-for-age at <-2 standard deviations of the median value of the NCHS/WHO international growth reference

Micronutrient malnutrition

Micronutrient malnutrition is a term commonly used to refer to vitamin and mineral deficiency disorders. Vitamins and minerals are referred to as micronutrients because the body needs them in only small amounts to maintain normal health and functioning. However, lack of these micronutrients results in serious health repercussions. Vitamin A deficiency (VAD), iron deficiency anaemia (IDA) and iodine deficiency disorders (IDD) are among the most common forms of micronutrient malnutrition. Vitamin A is found only in animal products such as eggs, liver and milk. Many fruits and vegetables, such mangoes, papaya, pumpkin and carrots, contain chemicals called carotenes which the body can convert into vitamin A. Good sources of iron are foods such as meat, beans and dark green leafy vegetables. Iodine is normally found in foods that are grown in soils that are rich in iodine, as well as food from the sea. Because it is not normally easy to know if the food we eat contains enough iodine, the use of iodized salt for normal seasoning of food is highly recommended.

A large proportion of people, particularly children under five years of age, school-age children, and pregnant and lactating women, suffer from problems of PEM and micronutrient malnutrition disorders. Usually, people do not suffer from single nutrient deficiencies, as micronutrient deficiencies often occur in conjunction with other nutritional deficiencies. The concurrent prevalence of chronic malnutrition, IDD and IDA can reduce the gross domestic product (GDP) by 2-4 percent. According to FAO, over 2 billion people in the world suffer from micronutrient malnutrition (FAO 2002).

VAD principally affects pre-school age children. The March of Dimes estimates that worldwide, about 251 million children from 0-5 years of age are either at risk of or affected VAD because of inadequate diets; and 2.8 million are afflicted with xerophthalmia (see Table 7). VAD can lead to xerophthalmia, night blindness and, eventually, total blindness. Every year, 250,000 to 500,000 children lose their sight as a result of VAD: two-thirds of these children are likely to die. An estimated one million additional children die each year of infectious diseases because VAD impairs their resistance to infection (FAO, 2002).

IDA is caused by insufficient intake and/or inadequate biological utilization of dietary iron. It is considered the most frequently occurring nutritional disorder in the world, and affects mainly young children, pregnant women, lactating women and women in the reproductive age range. It is estimated that in developing

countries, the prevalence of anaemia is three to four times that of industrialized countries (see Table 7). In developing countries, the most affected group are pregnant women (57%), compared to 43 percent in women in the 15- to 59-year age range, and 42.2 percent in children 0-4 years of age. The prevalence in developed countries is almost reversed, with the highest figure being that of the 0- to 4-year age group at 16.7 percent, followed by 14 percent for pregnant women and 10.3 percent for women in the 15- to 59-year age range (March of Dimes, 2002).

For women, poor nutritional status is associated with an increased prevalence of anaemia, pregnancy and delivery problems, increased rates of intra-uterine growth retardation, low birth-weight and perinatal mortality. According to FAO, where iron deficiency is prevalent, the risk of women dying at childbirth can be increased by as much as 20 percent. Anaemia in infants and children is associated with retardation of physical, intellectual and psychomotor development, as well as reduced resistance to infection. In adults, undernourishment and anaemia can lead to poor health and productivity, resulting in impaired physical and intellectual performance, and subsequently constrained community and national development. Studies show that IDA can reduce work capacity and productivity by 10-15 percent, and GDP by 0.5-1.8 percent (FAO, 2002a).

IDD occur in populations living in areas where iodine in the soil has been washed away by glaciers and rain, and in areas of frequent flooding. Over 2 billion people in the world are at risk of IDD, although this is undoubtedly the easiest of the micronutrient deficiencies to reduce (March of Dimes, 2002). IDD can lead to visible goitre and impaired physical and mental development. Worldwide, about 20 million people are mentally retarded due to iodine deficiency. Severe or moderate iodine deficiency during pregnancy can lead to foetal neurological or hypothyroid cretinism, resulting in impaired hearing, mutism, impaired motor co-ordination, severe mental defects and increased rates of abortion and/or still births. It is the most common cause of preventable mental retardation. The March of Dimes reports that about 741 million people worldwide are affected by goitre (see Table 7). South East Asia has the highest number of people at risk (599 million), followed by West Pacific (513 million) and East Mediterranean (348 million). East Mediterranean has the highest number of people affected by goitre (152 million), followed by Africa and West Pacific, with 124 million people affected in each of the two regions.

Fortifying salt with iodine is one of the most effective ways of eliminating IDD. Increasingly, countries with IDD problems are now using iodized salt (see Table 8).

Although some countries continue to have significant iodine deficiency, availability and consumption of iodized salt has increased significantly – to about 90 percent in the Americas, 70 percent in Southeast Asia and 63 percent in Africa (see Table 8). This has had a significant effect on the goitre rate in those regions, and millions of children each year are being protected from mental retardation and loss of intellectual potential.

TABLE 7

Global prevalence estimates of deficiencies of iodine, vitamin A, and iron

REGION	IODINE DEFICIENCY DISORDERS		VITAMIN A DEFICIENCY (0-5 YEARS)		IRON DEFICIENCY ANAEMIA		
	At Risk (million)	Affected (Goiter) (million)	At Risk and Affected (million)	Affected (xerophthalmia) (million)	Children 0-4 yr (%)	Women Preg 15-59 yr (%)	Women All 15-59 yr (%)
Africa	295	124	52	1.0	42.1	50.0	38.3
The Americasa	196	39	16	0.1	23.3a	39.0	30.6
Southeast Asia	599	72	125	1.5	62.6	76.0	58.5
Europe	2751	30	-	-	21.7	24.0	10.3
Eastern Mediterranean	348	152	16	0.1	45.4	55.0	49.8
West Pacific	513	124	42	0.1	21.4b	40.0	31.9
Total	**2 226**	**741**	**251**	**2.8**	**42.2**	**57.1**	**43.0**

a Includes countries in the Americas, with the exception of the United States and Canada. United States and Canada: 4.7% children 0-4 yrs, 17.0% pregnant women, and 10.3% all women in the 15- 59-yr age range.

b Includes countries in the Western Pacific, with the exception of Australia, Japan New Zealand. Australia, Japan, and New Zealand: 15.5% children 0-4 yrs, 27.0% pregnant women, and 10.3% all women in the 15- to 59-yr age range.

March of Dimes, 2000. Nutrition Today Matters Tomorrow

Multisectoral and multifactoral causes of malnutrition

It is often assumed that access to a stable and varied food supply and good health are the only pre-conditions for good nutritional status. Yet, achieving nutritional well-being can be a complex issue because of the intersectoral factors involved in the process.

TABLE 8

Current status of household consumption of iodized salt, 1999

REGION	NUMBER OF COUNTRIES WITH IDD	NUMBER OF COUNTRIES WITH A GIVEN % OF HOUSEHOLDS CONSUMING IODIZED SALT					OVERALL % OF HOUSEHOLDS CONSUMING IODIZED SALT
		NO DATA	<10%	10-50%	51-90%	>90%	
Africa	4	8	6	8	19	3	63
The Americas	19	0	0	3	6	10	90
Southeast Asia	9	0	1	2	5	1	70
Eastern Mediterranean	17	5	1	2	6	3	66
Europe	32	10	4	12	4	2	27
Western Pacific	9	0	1	4	3	1	76
Total	**130**	**23**	**13**	**31**	**43**	**20**	**68**

Source: ACC/SCN, 2000 4th Report on the World Nutrition Situation

Notes: These figures reflect household survey data where this is available; otherwise, production-level data are used as a proxy. To estimate the overall iodization rate, the total population of each country is multiplied by the percent of households consuming iodized salt. Numbers are then totaled for each region and divided by the total regional population.

Factors which influence nutritional well-being relate to a country's political, economic and social environment; its institutional capacity; and delivery and empowerment capacity. This range of factors may be grouped into three categories: basic factors, underlying factors and outcomes.

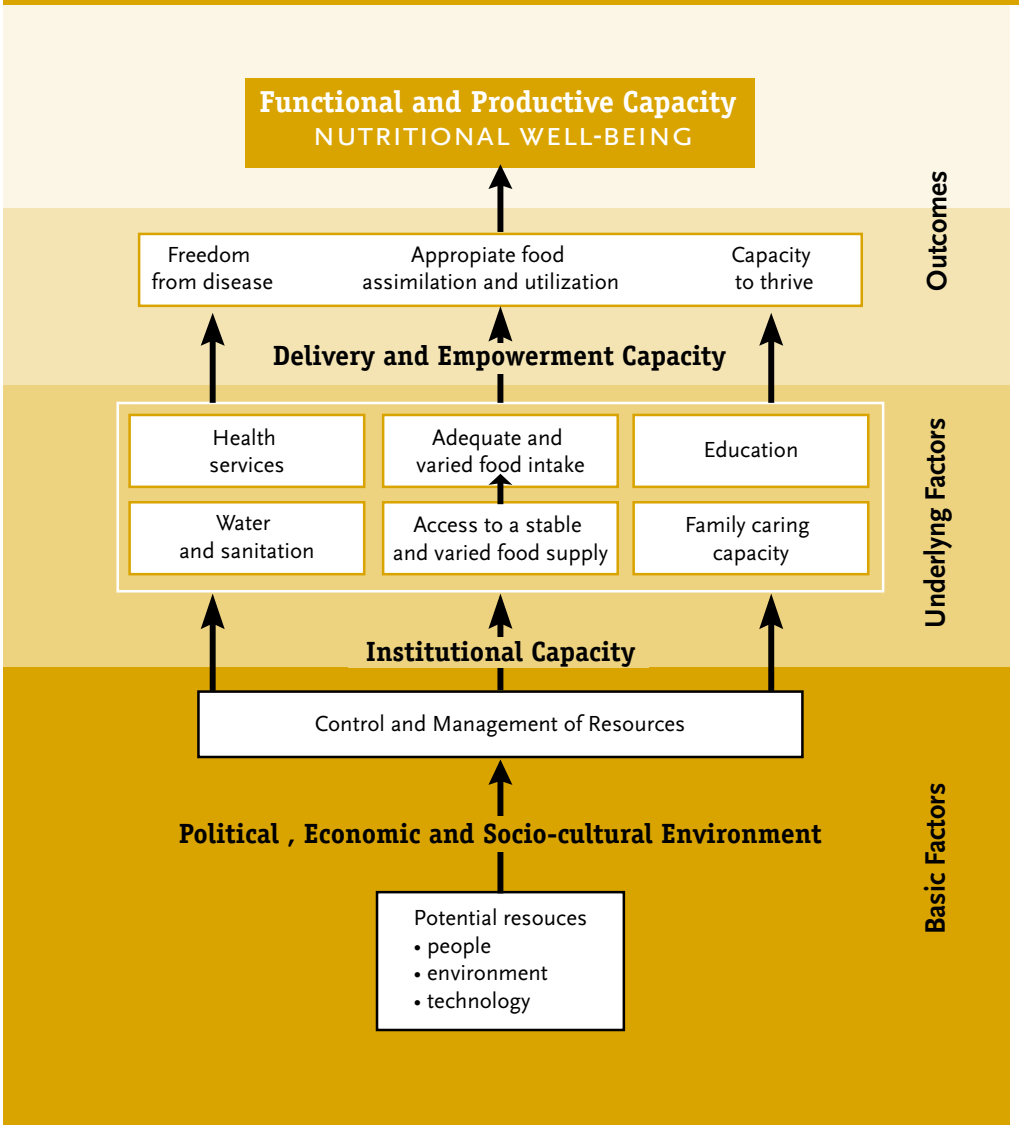
To a large extent, the development process determines people's health and nutritional well-being. It is influenced by a country's potential resources, which are its people, natural resources and agricultural land.

However, the political, economic and socio-cultural environment which influences the control, management and distribution of national resources is a major determinant of the extent to which national resources can be exploited, to enable the majority of the inhabitants to participate in and benefit from the development process (see Figure 1).

In order for people to enjoy active, productive lives, it is mandatory that their basic needs – a stable and varied food supply all year-round, for all family members; good health services; safe water supply and good sanitation; education; and adequate family care – are met. Where these basic needs cannot be met by the majority, good health and nutritional well-being will remain elusive.

FIGURE 1

Conceptual Framework for Nutrition Improvement



Current efforts to prevent and control malnutrition

Globally, efforts to prevent and control malnutrition have been in the areas of advocacy, service delivery, institutional capacity building and community empowerment. Programmes for improving nutrition have focused on several interventions, including household food security, a problem that is of major concern to many countries. The success of nutrition interventions is dependant

on prevailing socio-economic and political conditions. As such, attributing positive or negative nutritional outcomes to specific interventions could be a very complex and nebulous issue. Nevertheless, there are successes that have been demonstrated and widely acknowledged, and it is intended that lessons learnt from these positive experiences can be applied to benefit other countries, particularly the most disadvantaged people in these countries. Programmes included are:

- Household Food and Nutrition Security
- Child Survival and Development
- Micronutrient Initiatives (such as backyard gardening, Vitamin A fortification and salt iodization)
- Nutrition Surveillance and Intervention
- Poverty Alleviation
- Nutrition Education

The organization and process of implementing activities are crucial. In particular, genuine community ownership of programmes, from the initial planning, organization and implementation stage, is a key factor for success. An integrated community development approach, in which nutrition improvement is a key outcome indicator, has facilitated success in many programmes.

G. Bizzarri

A woman farmer raises chickens as part of a food security and poverty alleviation project

An analysis of case studies of nutrition programmes from Africa, Asia and Latin America, carried out by FAO, revealed that the following factors play a significant role in the success of nutrition projects: supportive macro environment; effective community participation; promotion of nutrition and food security as a human right; linking nutrition to the development process; clearly defined intersectoral approach and collaboration; and decentralization (FAO, 2003).

HOUSEHOLD FOOD AND NUTRITION SECURITY PROGRAMMES

At the household level, food security implies physical and economic access to foods that are adequate in terms of quantity, nutritional quality, safety and cultural acceptability to meet each person's needs. However, household food security can only be translated into good nutritional status if household members have:

- sufficient knowledge and skills to acquire, prepare and consume food that provides a nutritionally balanced-diet, with special attention to the needs of young children; and
- access to health services and a healthy environment to ensure effective biological utilization of foods consumed.

Household food insecurity can result from decreased crop production caused by droughts and seasonal constraints; inappropriate or unfavourable agricultural trade (disruption of exports or imports); sudden and large rises in food prices; decreases in household or individual wage earnings; political and policy failures; and vulnerability affecting some population groups such as women, children and the elderly (FAO/WHO 1992b).

FAO, in collaboration with governments and all actors in civil society, is working on developing and maintaining up to date, the Food Insecurity and Vulnerability Information and Mapping System (FIVIMS), which was launched at the WFS in 1996. FIVIMS was developed to identify food-insecure and vulnerable groups; prevalence and degree of low food intake; undernutrition; and causes of food insecurity and vulnerability (FAO, 2000). Seven general categories of national information systems relevant to FIVIMS are listed below:

- agricultural information systems;
- health information systems;
- land, water and climatic information systems;
- early warning systems;
- household food security and nutrition information systems;
- market information systems; and
- vulnerability assessment and mapping systems.

Because of lack of access to resources and information, food security has remained elusive to many, particularly small, resource-poor, farm families in developing countries.

FAO and national counterparts have implemented various projects and programmes to help stabilize food supply and therefore increase food security, and improve nutritional status. (Two household food security initiatives are described in boxes 2 and 3).

BOX 2

Household Food Security and Nutrition in the Luapula Valley, Zambia

In 1997, in the Luapula Valley of Northern Zambia, FAO in collaboration with the Government of Zambia, initiated the *Improving Household Food Security and Nutrition Project*. A participatory rural appraisal revealed that causes of poor nutritional status of communities in this area are multi-dimensional, ranging from inadequate access to food, health care and good sanitation, to a lack of basic skills and education.

The main objectives of this project include increasing year-round production of a wider variety of foods; improving food availability and storage; empowering individuals and communities to identify, plan and implement activities and micro-projects aimed at improved household food security; strengthening the knowledge of communities and other support services; and establishing a system of sustainable participation, monitoring and evaluation (FAO,1998d). The project has enabled community members and extension workers to gain a better understanding of the multi-dimensional nature of the causes of malnutrition and the need for an integrated approach in solving the problems of malnutrition. Subsequently, more than 100 communities are in the process of planning or implementing micro-projects, using an integrated, participatory approach.

FAO, 1998c. Food Nutrition and Agriculture

Other successful innovative efforts to ensure household food and nutrition security in developing countries include:

- *Iringa Nutrition Programme in Tanzania;*
- *Tamal Nadu Integrated Nutrition Project in India;*
- *Project COPACA in Peru;*
- *Pilot Food Price Subsidy Scheme in the Philippines; and*
- *Alternative School Nutrition Programme in the Philippines* (ACC/SNC,1991).

BOX 3

Participatory Development of a Household Food Security and Nutrition

Improvement Programme

The Food-Based Action Programme for Household Food Security and Nutrition Improvement was developed in Kano State, Nigeria in 1996. The objective of the programme was to alleviate the high rates of malnutrition in the northern savannah zone of Nigeria.

Community members, representatives from all government sectors and a multi-disciplinary team (with expertise in participatory rural appraisal, farming systems, agricultural extension, nutrition programmes and training, and nutrition-related health issues) provided by FAO participated in developing the programme.

A participatory rural appraisal was undertaken, which revealed the causes of poor nutritional status to be food insecurity due to inadequate access to farming inputs; poor access to drinking water; poor infant feeding practices and childhood diseases; and insufficient health, nutrition and extension services.

Consequently, the programme was designed to address these inadequacies in an integrated, participatory manner. The multi-disciplinary team developed an action plan over a one-year period, in six different consultative stages. The participatory approach accelerated the approval of the project. (FAO,1998d). The approach used confirmed that solving food security problems alone may not necessarily result in improved nutritional status. It is imperative to integrate nutrition considerations into food security projects if better nutritional status is an expected outcome.`

FAO, 1998d. Food Nutrition and Agriculture

BOX 4

Factors for assesssing and designing nutrition projects

Macro contextual factors

- supportive policy environment
- intersectoral collaboration
- technical information
- economic and political stability

Community-level factors

- participatory approach and empowerment
- capacity building
- technical information
- sustainability
- good institutional structure
- multifaceted project activities
- availability of infrastructure
- recurrent cost recovery

FAO, 2002. Community-based Nutrition Programmes

Box 4 displays factors that may be used for measuring successes of community-based food and nutrition projects. These factors can also be used as a guide when designing, implementing, monitoring and assessing project activities:

CHILD SURVIVAL AND DEVELOPMENT PROGRAMMES

Young child malnutrition in developing countries remains high. This has been largely attributed to poor breastfeeding practices and inadequacy of complementary feeding. WHO recommends that all infants receive only breastmilk from birth to six months of age. This requires appropriate policy support from governments to encourage and assist all women to initiate and exclusively breastfeed their infants for four to six months and continue breastfeeding with adequate complementary feeding up to two years (WHO/UNICEF, 1989). In order to promote and support breastfeeding, it is recommended that institutions have in place supportive policies and measures such as the establishment of day-care facilities at the work place and/ or paid maternity leave. Appropriate supportive measures should be put in place at the community and household levels as well, such as providing breastfeeding outlets/rooms in public places; and alleviating the nursing mother's workload to allow her time for relaxation and breastfeeding.

I. Balderi

Experts recommend that infants be fed breastmilk only, from birth to six months of age

It is further recommended that countries participate in the Baby Friendly Hospital Initiative (BFHI), which guides hospitals and health facilities in promoting and supporting good breastfeeding practices (WHO/UNICEF, 1991). Since the launch of the BFHI in 1992, an increasing number of countries have adopted the initiative. Statistics show that by 2000, more than 14,500 hospitals in 142 countries had been designated as baby-friendly (ACC/SCN, 2000).

Efforts towards child survival and development have also concentrated on preventing and controlling infections through immunization for infants and mothers, as well as other critical micronutrient supplementation programmes and projects.

MICRONUTRIENT INITIATIVES

Although malnutrition is associated with poverty, this does not mean that some forms of malnutrition do not exist among population groups that have enough food to eat. Micronutrient deficiencies continue to exist even among these population groups. For example, moderate levels of iodine deficiency still exist in some European countries that have failed to take adequate, sustainable measures to overcome the disorder. Four main strategies have been proposed to combat micronutrient deficiencies (FAO/ILSI, 1997):

i. **Dietary diversification** (availability and consumption of micronutrient-rich foods) through: social marketing of micronutrient-rich foods; increasing consumption of dark green leafy vegetables; small-scale and community gardening; and solar drying technology for preserving micronutrient-rich foods.
ii. **Food fortification** (the addition of nutrients to commonly eaten foods to maintain or improve the quality of a diet). A fortification programme is usually

TABLE 9

Foods fortified with micronutrients in developing countries

	VITAMIN A	IRON	IODINE	MULTI-MIX
Ongoing	Sugar Margarine	Wheat flour Infant formulae Rice Biscuits	Salt Corn flour Water Bread Milk	Brick tea
Experimental	Whole wheat Rice Tea *Oil *Salt	Sugar Milk Water Fish sauce Curry powder Maize meal Kool-AidTM *Salt	*Sugar	Wheat flour Corn meal Wheat flour Noodles

* Laboratory stage only

Adapted from FAO/ILSI (1997). Preventing Micronutrient Malnutrition: A Guide to Food-based Approaches A Manual for Policy-makers and Programme Planners

undertaken in response to dietary, biochemical or clinical evidence of nutrient needs. Table 9 lists foods that have been fortified with vitamin A, iron and iodine in developing countries.

iii. **Vitamin and mineral supplementation** programmes and initiatives such as the Vitamin A Supplementation and the Expanded Programme on Immunization. These programmes incorporate the transition from reliance on universal supplementation to a mixture of fortification, other food-based approaches, and targeted supplementation (OMNI, 1998).

iv. **Global public health and disease control measures** such as combatting public health diseases and providing safe water and sanitation to communities. Diseases such as diarrhoea, intestinal parasites (caused mainly by lack of good sanitation and clean drinking water) and childhood illnesses which primarily afflict young children in developing countries, often have a negative impact on nutrient absorption and utilization (FAO/ILSI, 1997).

Food-based approaches play an essential role in preventing micronutrient malnutrition since they increase the availability and consumption of micronutrient-rich foods. In the long term, such approaches are more likely to be sustainable. If overt micronutrient malnutrition is present, short-term supplementation programmes can be helpful but need to be gradually taken over by food-based activities, as the former are generally not sustainable.

In rural areas, major food-based efforts will likely be linked to horticulture programmes. In urban settings, overall food availability as well as the potential for access to fortified food products is generally better than in rural settings. It is the cost of food that is the impediment. However, it is still beneficial to promote home gardens in peri-urban areas. Furthermore, nutrition education activities will strengthen and complement efforts to enhance availability of micronutrient-rich foods.

NUTRITION SURVEILLANCE AND INTERVENTION PROGRAMMES

Nutrition surveillance systems can be described as the broadest management information systems found in nutrition programmes (Mason and Gillepsie, 1991). They entail monitoring the nutrition situation and taking appropriate action. Even under favourable conditions of development at the national level, discrete sub-groups remain in need of nutrition information and support on a continual basis.

A. Conti

Statisticians analyse data from maternal and child health clinics to generate information for appropriate interventions and programme development

Indicators commonly used in nutrition surveillance are: (i) food security information such as food availability and access; (ii) nutritional status such as anthropometric data which includes underweight, stunting and wasting; (iii) specific micronutrient status such as for vitamin A, iron and iodine; (iv) health information such as birthweight, infant and child mortality rates, morbidity incidence or prevalence; and (v) socio-economic variables such as income and selected assets. These indicators are used in order to generate estimates on the number of people at risk of inadequate access to food or undernourishment. Most nutrition programmes emphasize the use of nutrition surveillance systems and an early warning system to monitor and evaluate the efficacy of these programmes.

Many countries have established information units or systems for specific purposes, such as providing early warning, promoting market efficiency, monitoring health and nutrition status, or preparing food security situation assessments. In many developing countries, similar information systems are maintained by donor agencies or non-governmental organizations (NGOs), either in parallel to ongoing government-supported information systems or in partnership with governments. These activities are usually established for purposes of monitoring specific programmes or for assessing the need for food aid and targeting its delivery. Some examples of national surveillance systems which have been developed using the FIVIMS guidelines are (FAO, 1998d):

- Mozambique's National Early Warning System (SNAP)
- Zambia's Food, Health and Nutrition Information System (FHANIS)
- Peru's Food and Nutrition Surveillance Information System (SUISAN)

POVERTY ALLEVIATION PROGRAMMES

In general, the major objective of poverty alleviation programmes is to assist communities to meet their basic needs. Food is usually the first need identified by poor people. Hence, nutrition projects are a good entry point in developing poverty alleviation programmes. In many projects designed to alleviate poverty, income-generating activities are developed to assist poor households to purchase food.

Thailand is one of the countries that has had much success in improving nutritional status through poverty alleviation programmes. Four key programmes described below were implemented as part of a poverty alleviation plan which began in Thailand in 1982 (Tontisirin and Winichagoon, 1977):

- **Rural job creation programme:** Jobs were created within the rural setting during the dry season to boost household income and to ensure that people would remain in their communities and participate in community development activities.
- **Agricultural production programme:** Agricultural programmes included production of nutritious foods (especially crops used for supplementary feeding of young children), upland rice improvement projects and soil improvement projects. Direct benefits of these projects were income generation and household food security.
- **Village development projects:** Activities included building village fish ponds, creating safe water sources, poultry raising and other projects that focused on helping the rural poor to improve their economic status and household food security.
- **Provision of basic services:** Public services for the rural poor, such as health facilities, clean water supplies, and literacy and nutrition education programmes, were improved.

L Spaventa

Manual weeding of crops is an income-generating activity that provides non-farming families with seasonal work

NUTRITION EDUCATION PROGRAMMES

One of the principal aims of nutrition education is to provide people with adequate information, skills and motivation to procure and to consume appropriate foods. Education programmes can focus on strategies to improve family food supplies and efficient utilization of available food and economic resources to provide well balanced diets and better care for vulnerable groups.

Nutrition education programmes should have at least three components, which are directed at various social groups:

- Increasing nutrition knowledge and awareness of the public and policy-makers.
- Promoting desirable healthy food choices and nutritional practices.
- Increasing diversity and quantity of family food supplies.

Incorporating these three components into nutrition education and training programmes in ministries of agriculture, education and health can help to facilitate improvement in local food and nutrition conditions (FAO, 1997a). Both traditional and new methods are needed to reach large sections of the population, including school children, youth, men and women in the workplace and at home.

As part of the commitment to improving nutrition in developing countries, FAO sponsored the Expert Consultation on Nutrition Education for the Public in Rome in 1995. The consultation adopted recommendations regarding strategies for national and community programme development, training of nutrition educators, as well as evaluation and use of mass media and computer technologies. Experts highlighted the need for collaboration among government, the media, food industries, universities and NGOs in developing and implementing nutrition education activities (FAO,1996a).

FAO Madagascar

Women learning about food groups in a nutrition education class

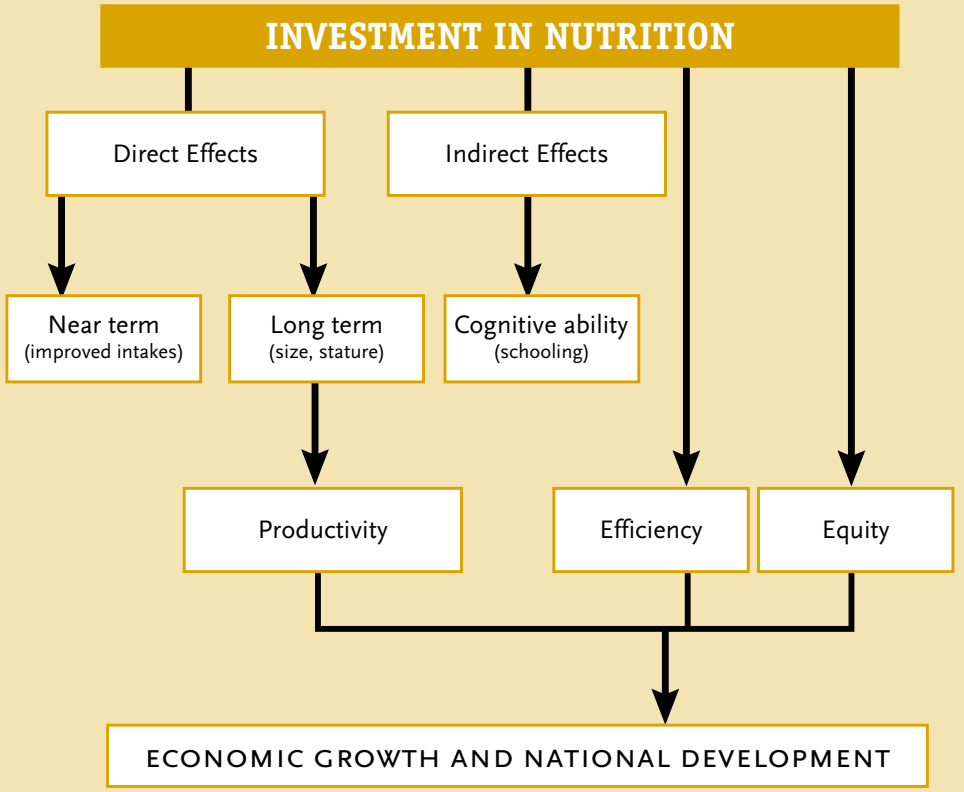
Economic benefits of investing in nutrition

Investing in nutrition is an efficient use of resources because the enormous social and financial costs of malnutrition are averted. Moreover, improved nutrition has an enhancing effect on investments in health, education and agriculture sectors. Investing in a wide array of low-cost solutions for malnutrition can therefore be of immense economic benefit to a country.

Investing in good nutrition can result in social and economic returns provided that it is firmly based on principles of effective community participation. Benefits include good quality of life, increased productivity and good economic returns. In children, the investment leads to an increase in their cognitive ability, attendance rate and intellectual performance in school. In addition, adequate returns in investment made in the educational sector can be realized (See Figure 2).

FIGURE 2

The Benefits of Improved Nutrition for Economic Growth



Adapted from World Bank, 1993. Investing in Nutrition in Developing Countries

In adults, income will be improved through a substantial increase in productivity, resulting in a higher standard of living and overall improvement in the quality of life.

From a broad perspective, the basic economic goals of developing countries are related to (i) productivity growth in order to expand consumption of goods and services; and (ii) distribution of that consumption among members of society. The link between nutrition and productivity in developing countries suggests that improved nutritional status can contribute to the attainment of both broad goals (FAO/ILSI, 1997).

Determining the cost of malnutrition

The social and economic impacts of nutritional disorders on individuals are wide-ranging. For example, children with IDD have a reduced learning capacity and poor attendance at school. In adults, IDD leads to poor income-earning capacity due to mental and physical impairment, as well as decreased productivity, which has a negative effect on both family and national economies. As a result, health care costs for IDD sufferers are often high. Moreover, since IDD can result in cretinism, the implications are most serious, leading to a lifetime of complete dependency on social services and informal caregivers.

On the other hand, IDA in pregnant women affects not only the sufferer, but the outcome of pregnancy as well. Low birth-weight in newborns is often the result, and the mother's energy level is reduced to the point of jeopardizing her caregiving practices for the newborn and other children in the family. The newborn will most likely be iron deficient and at high risk of remaining in this condition while undergoing rapid growth. Thus, a condition that affects women of child-bearing age has consequences for growth of the foetus, and for normal growth and development of newborns and other children in the family. This deficiency does not only affect the women afflicted by it, but it also disrupts normal growth and development potential for the next generation. Anaemia can therefore reduce the learning capacity and productivity of an entire nation.

In order to determine the Global Burden of Disease, WHO in collaboration with Harvard University and the World Bank (WB), developed an international standard form of the Quality-Adjusted Life Years (QALY) called Disability-Adjusted Life Year (DALY). The DALY expresses years of life lost to premature

BOX 5

The cost of malnutrition in Nigeria

An infant born in 1994 in Nigeria has a potential annual productivity of US$ 280. The infant can lose this productivity, partly or totally, if he/she is incapacitated by childhood malnutrition.* The disability adjustment life years (DALY) is calculated as follows:

Total live births in Nigeria in 1994: 4 855 000
Malnutrition in children under five years of age in1994: 36%
4 855 000 x 36% = 1 747 800 malnourished children
DALY = US$ 280 x 1 747 800 = US$ 489 384 000
This shows that Nigeria can lose up to US$489 384 000 each year due to childhood malnutrition.

* In addition, such an individual becomes a social burden, reducing the contribution of others toward economic development.

Adapted from WB, 1993. Investing in Nutrition in Developing Countries

death and years lived with a disability of specific severity and duration (WHO, 1996). Overall, DALY is the disability suffered by an individual as a result of a disease condition, malnutrition being one of them.

The DALY helps provide a rough estimate of economic loss to a nation where malnutrition levels are high. For example, using 36 percent as the prevalent level of malnutrition in 1994, it has been estimated that Nigeria lost about US$ 489 million as a result. This is a conservative estimate and is certainly higher if current indices are used (See Box 5). In order to reduce economic loss due to malnutrition and related illnesses, political will and the commitment of all concerned to make a difference are essential.

G Thomas

Policies which provide linkages among various development sectors and promote the involvement of stakeholders in all development activities will most likely impact on the nutritional status of people

CHAPTER TWO

Policy Environment and Considerations for Nutrition in Developing Countries

Global commitment to nutrition

Awareness of the nutrition problem and its direct relationship to poverty, economic progress and quality of life increased considerably during the 1990s. Consequently, there is a better understanding of the multisectoral and multifactoral causes of nutrition problems in developing countries. Indeed, at no time in human history has the common resolution to solve the problem been so pervasive.

BOX 6

Nutrition goals of the World Summit for Children

The goals set to be reached by the year 2000 were:

(a) a reduction in severe as well as moderate malnutrition, among children under five years of age, by half of the 1990 levels;

(b) a reduction in the rate of low birth weight (2.5 kg or less) to less than 10%;

(c) a reduction in iron deficiency anaemia in women by one-third of the 1990 levels;

(d) virtual elimination of iodine deficiency disorders;

(e) virtual elimination of vitamin A deficiency and its consequences, including blindness;

(f) empowerment of all women to breastfeed their children exclusively for four to six months and to continue breastfeeding, with complementary food, well into the second year;

(g) promotion of growth and regular monitoring to be institutionalized in all countries by the end of the 1990s; and

(h) dissemination of knowledge and supporting services to increase food production to ensure household food security.

WHO/UNICEF,1990. Report of the World Summit for Children

In 1990, the World Summit for Children, held in New York, brought together heads and representatives of governments, who not only agreed to take positive actions to redress the situation, but drew up eight goals for nutrition, to be reached by the year 2000 (see Box 6). The United Nations itself enumerated four nutrition goals for its Fourth Development Decade, which in broad terms seek to end hunger and malnutrition (see Box 7).

BOX 7

Nutrition goals of the Fourth United Nations Development Decade

Member States must implement agreements already reached in order for the following four goals to be achieved during the decade:

(a) eliminate starvation and death caused by famine;

(b) reduce malnutrition and mortality among children substantially;

(c) reduce chronic hunger tangibly; and

(d) eliminate major nutritional diseases.

ACC/SCN, 1995. Report of the World Summit for Social Development

Other recent global initiatives in which nutrition figured prominently include:

- Den Bosch Conference on Agriculture and the Environment, held in 1991 and organized by FAO and the Government of the Netherlands;
- United Nations Conference on Environment and Development, held in Rio de Janeiro in 1992;
- International Conference on Population and Development, held in Cairo in 1994;
- World Summit for Social Development, held in Copenhagen in 1995;
- Fourth International Conference on Women, held in Beijing in 1995;
- The World Food Summit, held in Rome in 1996;
- The United Nations Millennium Summit, held in New York in September, 2000;
- The World Food Summit Five Years Later, held in Rome in 2002; and

- The World Summit on Sustainable Development, held in Johannesburg in 2002.

The United Nations Conference on Environment and Development (UNCED) resulted in the adoption of Agenda 21 and the Rio Declaration (UN,1992). Adherence to these conventions is essential to ensure a stable and predictable environment for agricultural production, in order to meet the global food security challenge and growing demands from food consumers. Commitments made at the UNCED were re-affirmed at the World Food Summit on Sustainable Development. Of direct relevance to nutrition, this summit also re-affirmed the Millenium Development Goal, "to halve by the year 2015, the proportion of the world's people whose income is less than $1 a day; and halve between 1992 and 2015, the proportion of people who suffer from hunger".

In 1992, the ICN pledged itself to the World Declaration and Plan of Action for Nutrition. The ICN linked nutrition to development and articulated how the nutrition problem could effectively be tackled within the context of development. The World Declaration and Plan of Action for Nutrition sought to eliminate hunger and all forms of malnutrition, particularly among undernourished population groups. The ICN theme for incorporating nutrition into development policies and programmes articulated goals that clearly detail what actions can be taken to incorporate nutrition into development policies and programmes (see Box 8).

FAO Italy

United Nations member states have committed themselves to drastically reduce hunger and poverty by 2015

BOX 8

Recognizing that sustainable development of food and nutrition security needs to be addressed simultaneously with economic growth, governments, in collaboration with all parties concerned and supported where necessary by appropriate legislative measures should:

(a) Analyse the effects of macro-level policies and sectoral or integrated development plans on nutritional well-being, especially of the most vulnerable population groups.

(b) Increase awareness among policy-makers and planners of the extent and severity of nutritional problems and their causes, of the economic benefits, the activity status of interventions and of activity status of different socio-economic groups.

(c) In countries where it is appropriate to do so, incorporate clear nutrition goals and components in national development policies and sectoral plans, programmes and projects, particularly in the areas of food and agriculture, livestock, fisheries, forestry, rural and urban development, commerce, infrastructure, credit, water and sanitation, health, education, environmental and social-welfare, and adopt benchmarks of success with clear time frames and budget allocations, as appropriate.

(d) In countries where the operation of the market as a mechanism for the coordination of production and the consumption of food is relied upon, develop education and communication programmes so that nutrition objectives can be achieved through appropriate consumer choice based on enhanced consumer awareness and knowledge, and encourage the development of social welfare policies that will enable the more vulnerable population groups to exercise informed dietary choice.

(e) Develop or strengthen the technical capacities of, and institutional mechanism with, each relevant ministry and at intermediate levels of government to identify nutritional problems and their causes, and to improve the planning, management and evaluation of programmes and development projects that affect nutrition. Links with appropriate research and training institutions should be strengthened as well.

(f) Establish a flexible national mechanism with strong technical support to promote effective intersectoral co-operation, to keep the nutrition situation in the country under continuous review and to facilitate the development of national nutrition policies and programmes.

(g) Encourage and support the full involvement of communities and the participation of the people therein in the identification of their own nutritional problems as well as in the implementation, monitoring and evaluation of development programmes.

(h) Encourage the private sector, including small-scale producers and processors, industries and NGOs, to promote nutritional well-being by considering the impact of its activities on the nutritional status of the people.

(i) Assess the impact of new development programmes and projects on nutrition to clearly identify the potential benefits for or risk to nutritional well-being among vulnerable population groups.

(j) Develop and use relevant indicators of nutritional well-being to monitor progress in social and economic development and establish appropriate mechanisms to regularly provide information on the population's nutritional status and factors affecting it, especially that of vulnerable groups, to policy-makers and planners and all interested sectors, both private and public.

(k) Incorporate appropriate and relevant elements of nutrition in school curricula, starting from primary school.

BOX 8 (Continued)

(l) Improve nutrition by directing additional investment into agricultural research where necessary to:

- address the problem of seasonality through diversification in food production, including fruits and vegetables, livestock, fishery and aquaculture;
- promote environmentally sound and economically viable farming systems to increase crop production and maintain soil quality to encourage resource management and resource recycling;
- encourage the development of safe biotechnology in animal and plant breeding and facilitate the exchange of new advances in biotechnology that are related to nutrition;
- develop techniques that decrease post-harvest crop losses and improve food processing, storage and marketing;
- develop and disseminate technologies that respond to women's needs and ease the workload of women;
- improve extension services to cooperate more effectively with farmer and consumer communities in identifying research needs;
- improve training methods at the international, national and local levels to ensure dissemination of new technologies;
- address the needs of small and poor farmers, including those dependent on poor-quality or fragile land;
- develop technology and systems applicable to small-scale agriculture;
- encourage intensive food production at the farm and household levels, taking account of prevailing local conditions; and
- develop more effective techniques for the traditional production of food at the household and community levels.

FAO/WHO, 1992b. ICN. World Declaration on Nutrition. Plan of Action for Nutrition. Rome

The link between poverty and nutrition

The world has come to accept that poverty not only constitutes a denial of fundamental human rights but also that poverty alleviation is an economic imperative for global prosperity. Without a significant reduction in the level of poverty, the well-being of a large proportion of the world's population is, and will continue to be, significantly compromised.

According to the 2002 Human Development Report, globally, the number of people living in extreme poverty is declining at a slow but steady rate. In 1990, 29 percent of the world's population lived in extreme poverty and the rate had decreased to 23 percent in 1999 (UNDP, 2002). The report also reveals that global primary school enrolments increased from 80 percent in 1990 to 84 percent in 1998. Furthermore, there has been some improvement in water and sanitation issues: since 1990, 800 million more people have access to improved water supply and 750 million more to better sanitation. However, disparities

continue to exist: 5 percent of the world's richest people have an income which is 114 times higher than that of the poorest 5 percent. Africa's situation is grim; in recent years, human development has degenerated in this region. Around the world, each day more than 30,000 children die of preventable diseases, and about 14,000 people are infected with HIV/AIDS. Each year, millions of people die because of hunger and of these, six million are children below the age of five (FAO, 2002).

Since malnutrition and poverty are intertwined, policies and programmes to reduce poverty are urgently required to alleviate malnutrition. These policies and programmes need to:

- empower individuals, households and communities to gain greater control over their life and resources;
- strengthen gender equality and empower women;
- facilitate the economic growth of the poor by creating an enabling environment to support productivity and increased income;
- ensure active participation of the poor in the political, social and economic development process; and
- facilitate the building of social safety nets to prevent people from falling into destitution.

L. Spaventa

In the design and management of targeted poverty alleviation programmes, it would be beneficial to consider the following issues:

- The political economy of poverty: the need to invest scarce resources on projects that benefit the poor.
- Strategic issues: the need for narrowly targeted programmes, and linkages between macro-economic policies and poverty alleviation programmes.

Policies and programmes which create an enabling environment to support productivity and increased incomes are urgently needed to promote equity and sustainble development

- Conceptual issues: how targeting and poverty are defined, and the distinction between the poor and vulnerable.
- Institutional issues: how governments can adapt their administrative and organizational systems to effectively reach the poor; how NGOs can most effectively be used; whether programmes should be implemented through existing line ministries or new institutions; the role of decentralization; and the strategies for capacity building.
- Operational issues: project selection, approaches to targeting, incorporating NGOs and improving project and programme sustainability.
- Data requirements: the definition of the kinds of information required and the feasibility of obtaining this information in a timely and cost-effective manner.
- Sectoral issues: the need to consider conducive conditions for agricultural and rural development, housing and urban development, education, health and nutrition and how these conditions affect the design and management of poverty alleviation programmes in each of these sectors.
- Gender issues: the need to consider that, while both men and women suffer from the effects of poverty, there are a number of reasons why the burden rests particularly on women and why poverty alleviation strategies would be most helpful if they specifically address gender issues.

Framework for analysis of nutrition and development

An analysis framework of nutrition and development can be found in Figure 3. This conceptual framework shows the multisectoral and multifactoral causes of malnutrition, identifying key issues in society -- the economy, health, education and the environment -- which link nutrition to development.

One of the main aims of development is to break the insidious inner cycle of malnutrition and disease, which leads to low productivity. This cycle reduces the capacity for an adult to generate income, thus resulting in the synergistic cycle of malnutrition-disease-poverty. The cycle is thus closed and poverty continues to flow from one generation to the next (Grant, 1995).

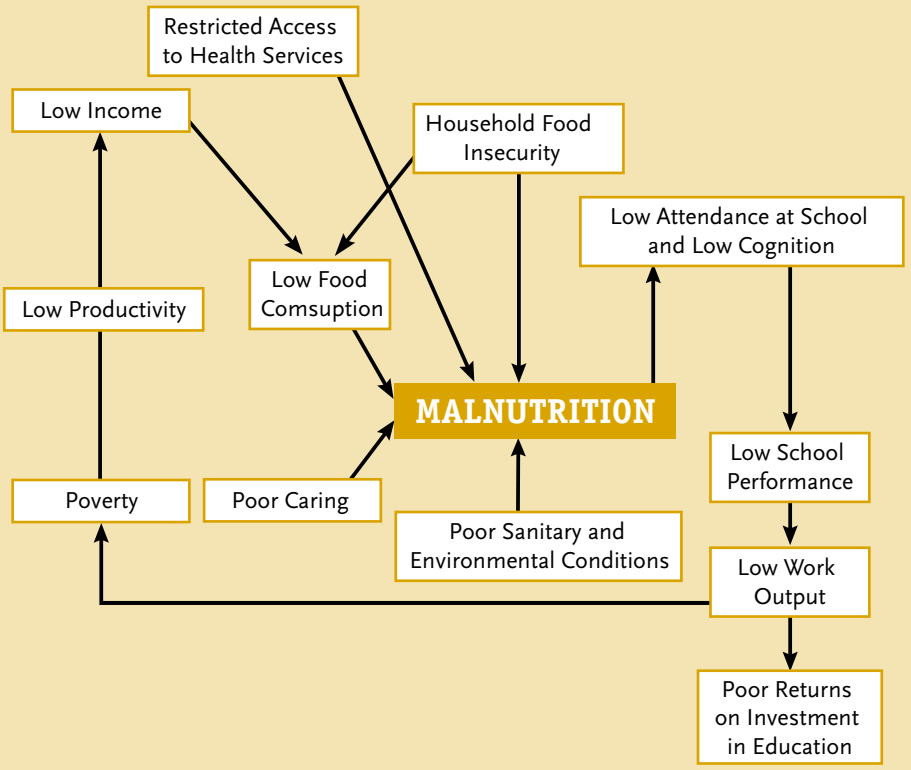
Policies are formulated to enhance the ability of a country to achieve set development goals. Generally, for a policy to directly impact on nutrition, it

must promote access to adequate food; good health and sanitation; and sound physical and psychological care. Furthermore, it is helpful when such policies are aimed at protecting the environment and conserving natural resources to support agriculture and the overall economy.

Policies which provide linkages between various development sectors and promote the involvement of stakeholders, in all development activities, will most likely impact on the nutritional status of people. It is critical that the capacities of people benefiting from programmes and projects arising from such policies be developed and strengthened. Sectoral policies that have an impact on nutrition are discussed in the following section.

FIGURE 3

Framework for Analysis of Nutrition and National Development



Adapted from FAO, 1999. Field Programme Management

Assessment of sectoral policies with impact on nutrition

POLICIES ON AGRICULTURE

A large number of people who are prone to food insecurity and are nutritionally vulnerable live in rural areas, where their occupation is mainly subsistence agriculture. The majority are low-income groups, such as small-scale farmers and pastoralists. Most of these people are unable to produce enough food to meet their daily requirements. At the same time, they cannot afford to buy enough food to supplement their needs. These people often lack required farming inputs such as extension services, access to technology, land, storage facilities and credit to increase their agricultural productivity.

In response, policies in agriculture need to encourage access to means of production such as land, credit, improved seeds, water, extension services, inputs and appropriate technology. Policies that provide support to food production by small-scale farmers will enhance household food security and increase the income of these farmers.

Promotion of cash crops and non-traditional foods can affect production and availability of food crops to the detriment of household consumption and nutritional status. Other conditions within this sector that affect nutrition indirectly are marketing, pricing, non-release of buffer stocks and absence of land reforms. A decrease in food consumption due to higher food prices resulting from a rise in producer prices can have a negative impact on food availability (particularly for the poor) and nutritional status. Therefore, appropriate intervention strategies that are targeted at the vulnerable need to be designed and put in place. Sound environmental policies are encouraged for those who live in environmentally fragile areas to support their farming activities. Governments are encouraged to adopt policies that promote the production and availability of nutritionally adequate foods to all population groups. In most countries where malnutrition is a public health problem, policy changes relating to export crops and staples, which could improve availability of domestic food supplies, need to be assessed.

POLICIES ON HEALTH

Access to basic health services is often inadequate in many developing countries. This is usually the result of an insufficient number of health centres, long

L. Spaventa

The Primary Health Care Programme integrates both curative and preventive services, and has made a positive impact on nutritional status

distances to reach health facilities and/or lack of infrastructure facilities such as roads and communications.

Often, illnesses such as measles, diarrhoea, gastro-enteritis and malaria are responsible for the high mortality rate of infants and young children in developing countries. These illnesses also have a direct impact on nutritional status. In addition, poor nutritional status further exacerbates this condition through a weakened immune system. If no intervention measures are taken, these diseases continue to ravage the poor rural populace. Programmes and projects to reduce the prevalence of these illnesses will improve infant and child survival rates.

Health policies that promote access to health care facilities and services for the poor, such as the Primary Health Care Programme, which integrates both curative and preventive care services for women and children, have shown a positive impact on the nutritional status of individuals (World Bank, 1994). Policies that promote the use of mobile clinics or health services in remote areas increase access to health services. For example, providing immunization for all children up to five years of age wherever they are located will reduce morbidity and mortality of infants and pre-school age children (World Bank, 1994). The overall effect is improved nutritional status and well-being for infants and children.

Policies that support the provision of teaching hospitals to the exclusion of neighbourhood clinics can reduce public access to health care facilities, thus affecting nutritional status negatively. Policies that encourage access to basic health services and family planning strengthen the primary health care system. Improving access can also be achieved through provision of better equipment, materials (drugs, vaccines, etc.), personnel, training of traditional health personnel such as birth attendants, and better incentives for health personnel who choose to work in rural areas.

Lack of sound population policies that promote affordable family sizes can negatively affect nutrition. In addition, high medical fees and government cutbacks in the social sector due to economic reform can also affect access to facilities such as family planning services, thereby undermining nutritional well-being. It would be beneficial to have policies that aim at promoting small families through well-spaced births and encouraging couples not to have more children than they can adequately care for. Family planning information and services could be actively promoted not as a birth control measure but as a component to the broader reproductive health care system. It is also useful for policies to strive to develop new partnerships with NGOs, civil society and the private sector in the health care delivery system.

POLICIES ON ACCESS TO SAFE WATER AND SANITATION

Adequate food supply, good health and safe water and sanitation are pre-conditions for good nutritional status. As they are interrelated, good nutritional status can only be achieved if all three conditions are ensured.

Current water and sanitation policies in many developing countries are inadequate. As a result, diseases such as guinea worm, diarrhoea, cholera and other water-borne illnesses are of high prevalence and nutritional status is compromised. In addition, improved access to safe water and adequate sanitation for all reduces the heavy workload of women who otherwise have to trek long distances in search of water, a situation that impedes on their child care and family nurturing responsibilities.

J. Isaac

Safe water and good sanitation are pre-conditions for good nutritional status

Policies that provide equitable access to safe water and put in place a system for maintaining good sanitation are strongly encouraged.

POLICIES ON EDUCATION

Basic education is the most powerful single intervention for increasing economic development and improving the health and nutritional

FAO Bangladesh

status of infants and young children. World Bank estimates (1991) show that, on average, each year of the first three years of basic education in a population adds 9 percent to the GDP; and each additional year from three to six years adds 4 percent to the GDP. Furthermore, the estimates revealed that an increase of one year of primary education for women lowers the infant mortality rate by 2 percent. Empirical studies have shown that, disregarding household food supply, income and other related factors, increased maternal education has a positive impact on nutritional status (FAO/WHO, 1992).

Basic education is the single most powerful intervention for increasing economic development

Discrimination in school enrolment of girls has an undesirable impact on nutrition: women's educational levels significantly affect fertility in that educated women are more likely to work in the paid labour force, and women who work outside the home tend to have fewer children than those who are not in formal employment (UN, 1989). Higher productivity of women, as measured by their income, is associated with delayed marriage and thus delayed child bearing and lower total fertility. Moreover, an educated woman is likely to be concerned with giving her family an adequate diet. Women's participation in the paid labour force is often associated with greater income control and increased influence on the family's nutritional well-being (UN, 1989). In order to enhance sustainable national development with equity and good quality of life, it is advised that policies that promote education, particularly qualitative universal primary education and adult education, are developed and implemented.

POLICIES ON INFRASTRUCTURE

Policies that do not support adequate provision of basic infrastructures to the general populace usually have a negative impact on nutrition. For example, roads that are not accessible throughout the year, or that by-pass food-producing areas or communities, can result in the instability of food supplies and food shortages.

Similarly, inadequate transportation systems can affect food availability through higher prices. Therefore, it is very important to analyze the effects of various infrastructural policies on nutrition in order to ensure that maximum benefit to nutrition and national development are able to be derived from such policies.

POLICIES THAT FOCUS ON WOMEN AND GENDER EQUALITY

Policies that focus on women promote gender equality while encouraging equal access to education, health, job opportunities, land and credit. These policies also need to provide strategies to end domestic violence. In addition, all forms of discrimination against women, especially in the economic sphere of life, need to be eliminated.

It is noteworthy that all countries have signed the protocols on the 1989 Convention on the Elimination of All Forms of Discrimination Against Women (FAO, 1998c).

People's participation, population and the development of human resources

People's participation on all issues that affect them socially, politically and economically is key. This promotes accountability and transparency in government and engenders good governance and equity. Popular participation in governance helps to prevent strife and conflicts, promote stability and legitimacy, and ultimately ensures household food security and nutritional well-being.

G. Bizzarri

Policies that promote gender equality need to promote equal access to education by both genders

The subject of population and development could best be addressed by considering issues such as population and birth spacing based on the sensitivities and cultures of the people. However,

urbanization takes place at a rapid pace in developing countries, and more than 60 million inhabitants are added every year to cities and towns. Consequences of rural-urban migration are of concern in many countries. Transformation of production, processing, marketing, transportation and distribution induced by rapid urbanization represent major challenges for the entire food sector. Population growth is the major reason for increased food production and it puts additional pressure on natural resources. Countries with rapid population growth face especially difficult challenges in ensuring food security. The early stabilization of the world's population is a condition for sustainable food security. Development of human resources is essential to promote rapid economic growth and overall national development. Without investment in human capital or human capital formation, the concept of sustainable human development would be illusory.

G. Diana

Therefore, an enabling environment could be established through policies that promote the participation of all citizens in all matters that concern them, while facilitating broad-based participation on a decentralized basis in the development process. Such policies help to create an enabling environment for small-scale agriculture, micro-enterprises and the informal sector. This is an essential pre-requisite for the stimulation of people's initiatives and creativity, and for enhancing output and productivity. In addition, policies and programmes that address economic growth with equity, especially among the poor, can promote a more humane, just and egalitarian society, which facilitates good governance and stable societies.

People's participation in social, economic and political issues that pertain to their lives is key to sustainable development and politically stable societies

J. Spaull

Policy-makers need to be aware of potential effects that various development policies can have on the poor and nutritionally vulnerable

CHAPTER THREE

Process and Strategies for Incorporating Nutrition into Development Policies

Potential impact of development policies and programmes on nutrition

Incorporating nutrition strategies into agricultural and community development initiatives does not necessarily mean designing new programmes. It does, however, require that at all stages planners and/or managers ensure that the design and implementation of development policies and programmes are not detrimental to nutrition and that potential opportunities to improve nutrition are identified and exploited.

It must also be recalled that nutrition intervention programmes can be effective only as a temporary measure to cushion vulnerable groups while other means of incorporating these population groups into the mainstream development process are being devised and implemented.

Policy-makers concerned with protecting and improving nutritional status need to be aware of potential effects that various development policies and programmes can have, either directly or indirectly, on the poor and nutritionally vulnerable. This is important because nutrition has a strong link to development sectors, such as agriculture, health, education and rural development, and subsectors such as population and environmental issues.

Policies and programmes in agriculture

Agriculture has perhaps the most potential among development sectors to alleviate rural poverty and undernutrition in developing countries. Aside from improving the livelihood and nutritional status of households through increased food production and improved food security, policies in agriculture that incorporate nutrition considerations can also impact on nutritional status through income, food prices, food diversification and gender considerations. Hence nutrition can be greatly influenced by the design and selection of agriculture policies and programmes.

EMPLOYMENT OPPORTUNITIES FOR WOMEN

Often, the nutritionally vulnerable and undernourished are landless or have very small pieces of land and depend on wages earned from working on farms to purchase most of their food. This same principle applies to the invention or introduction of labour-saving technologies. Generally, in developing countries, the agriculture sector employs a large percentage of women as labourers (FAO, 1996d). Therefore:

- *When designing policies, caution should be exercised not to deprive people of income-earning opportunities: while some degree of mechanization will increase production and free women's time for family care activities, income earned from providing farm labour may be more important for vulnerable households.*
- *A policy that is sensitive to women's role as caregivers could enhance nutritional status. For example, a policy that compels employers to allow "breastfeeding breaks" would have a positive impact on young child nutritional status and decrease morbidity and mortality rates.*

CASH CROPPING

While cash cropping has the potential to improve nutritional status through improved productivity and increased income, it may impact negatively if it creates an imbalance or shift in the control of income between men and women. Women are more likely than men to spend their income on food for feeding their families. Hence, if women have control over some income, nutritional status is likely to be improved. Further, when people change from subsistence to cash cropping, they may need to purchase most of the food they consume. This presents a likelihood of replacing good-quality foods with less nutritious foods. Therefore:

- *It is advisable that, as a policy, strategies to monitor the effects of cash cropping programmes on the nutritional and social welfare of communities be appropriately integrated into programme activities.*
- *Appropriate nutrition intervention programmes, such as nutrition education, should be incorporated into those programmes as well.*

FOOD PRICES

Price is a major determinant of consumer choice in purchasing non-staple foods. Therefore:

- *An initial assessment to review how these foods are processed, stored and marketed would be helpful.*
- *Price fluctuations of foods consumed primarily by nutritionally vulnerable groups need to be closely monitored for affordability. When the need arises, targeted interventions that guarantee and protect access by the vulnerable to sufficient quantity and quality of food should be put in place.*
- *Planners are also encouraged to assess the availability of commonly consumed foods whose prices vary with increase or decrease in supply, and determine how consumption of these foods is influenced by price changes and income levels.*
- *It would also be helpful to review relevant food laws and regulations. Factors related to import and export policies, as well as to informal border trade, can have a great impact not only on diet and food availability, but also on the outcome of food pricing and subsidy policies.*

FOOD DIVERSIFICATION

Indigenous foods and foods consumed by the poorest of the poor are often overlooked by agricultural research and extension programmes. As an example, in some countries, research and extension have promoted single staple foods to the exclusion of other local staples. In many cases, the excluded staples are resistant to adverse local weather conditions and are therefore dependable in terms of providing continuous food supply. Potentially, they can supplement major staples by providing food during hunger periods, when supplies of major staples have been depleted. In addition, in many countries, the food security situation has deteriorated because of the HIV/AIDS pandemic. The young productive age groups are killed by the disease, and food production is left for the very young and the old. Therefore:

- *Through agriculture policies, ministries of agriculture can be encouraged to improve the production and marketing of indigenous and low-cost foods through their extension programmes.*
- *Policies that foster close collaboration between nutrition and agricultural research need to be developed. Foods consumed by the poor can be identified through nutrition research. In collaboration with research, the nutrient content of indigenous foods and foods consumed by the poor can be analyzed, in order to enhance the production and consumption of these foods.*
- *In view of HIV/AIDS, when giving advice to affected farming families, it should be considered that family resources are usually depleted by medical care, and as such, farm inputs are unaffordable; available labour is often engaged in looking after the sick; therefore, crops that need less inputs and tending such as indigenous crops could be promoted.*

Policies and programmes in other development sectors

HEALTH

Nutrition and health are inextricable. Without good health, good nutritional status cannot be achieved and when nutritional status is poor, good health will remain elusive. Most policies that impact on health will directly or indirectly impact on nutrition. However, in many developing countries, nutrition issues are often not prioritized in health institutions. Furthermore, nutrition units are usually given a lower status in the policy-making hierarchy of these institutions. In order for health programmes to benefit target groups maximally, nutrition considerations ought to be integrated in the planning, monitoring and evaluation of these programmes.

G. Diana

Indigenous food crops are nutritious and need less inputs than other crops; they are a good choice for farming families that are affected by HIV/AIDS

The HIV/AIDS pandemic has had a negative impact on the health status of many people in developing countries, particularly in sub-Saharan Africa. Health facilities in these countries have been stretched beyond their capacities. Nonetheless, it is important that health units to continue to educate the public about ways to prolong their lives and contribute in development activities.

Therefore, when developing health policies, the following should be considered:

- *Ensuring that nutrition is an integral part of health policies;*
- *Enhancing the status of nutrition units to be on par with that of other programmes;*
- *Including the training of nutrition personnel in health human resources development programmes;*
- *Strengthening the nutrition component of the Primary Health Care programme, which is a strategy that has been adopted by many developing countries to increase health coverage and reach vulnerable population groups;*
- *Making available nutrition and health information for People Living With Aids and those infected or affected by the disease;*
- *Educating the public about the disease, and ways of preventing from infection;*
- *Developing clear guidelines on breastfeeding for HIV-positive mothers.*

EDUCATION

Education is the most effective single investment a country can make for good returns on economic growth and nutritional status (FAO/WHO, 1992a). The education of women in particular has a positive effect on family income, dietary intake, family environment and health. Universal primary education is probably the most equity-promoting development intervention since it raises the productivity and earning potential of all people, irrespective of their other assets. Sound education policies are therefore of primary importance in nation building, eradicating poverty and enhancing nutritional status.

The majority of people infected with the HIV/AIDS virus are young people in the prime of their productive lives. Hence, the HIV/AIDS scourge has had a devastating impact on the socio-economic development progress of many nations. Education has a crucial role to play in the control of the disease since many young people go through the system.

When developing policies, policy-makers in this sector need to ardently promote the following initiatives, taking into account national, local and individual household resources, as well as cultural values:

- *Compulsory universal primary education;*
- *Institution of affordable school feeding programmes that can be supported with local resources;*
- *Introducing nutrition as a subject in primary and secondary schools; and*
- *Introducing the subject of sexuality in schools and colleges and providing lessons on HIV/AIDS.*

MACRO-ECONOMIC POLICIES

Macro-economic policies can directly and indirectly impact on the socio-economic status of all population groups, and hence nutritional status. For example, if macro-economic policies do not support the agriculture sector, the impact on the rural poor is negative since they depend on agriculture for their livelihood; economic growth decreases; there are fewer employment opportunities; and income distribution is skewed against the poor, thereby affecting their nutritional status. In addition, macro-economic policies can impact negatively on nutritional status if there is reduced national expenditure on social services. A good example is the Structural Adjustment Programme that was promoted in many developing countries by the International Monetary Fund. This initiative resulted in the drastic reduction of expenditure on social services, such as health, and consequently on nutritional status. Therefore:

J. Isaac

Adequate infrastructure, such as good roads will enhance nutritional status through improved distribution of food, increased employment and low food prices

- *Policies need to be designed such that their negative impact on the economic and social lives of the poor is minimized. Alternatively, population groups that are most negatively affected need to be identified and targeted with compensatory programmes such as school or supplementary feeding programmes; subsidies or price moderation; and provision of health services.*
- *Policies that lead to improvement of infrastructure such as roads, transportation and communication will enhance improvement of nutritional status through employment (particularly of unskilled labour), improved food distribution and decreased food prices.*
- *Access to credit by poor households will enable them to increase their income through agriculture or self-employment. Policies that support financing or small-scale financing programmes also promote equity and are therefore encouraged. In low-income, food-deficit countries, population and environmental policies are essential for sustainable economic growth and improved nutritional status to be realized. In many cultures, population-related issues are sensitive and therefore such policies need to be developed and implemented within an acceptable cultural context.*

Nutrition communication and advocacy

Nutrition advocacy draws attention to issues that can bring about nutrition improvement within the population. Strategies aim at influencing decision-making at the organizational, community, national and international levels. They can include lobbying, social marketing, information, education and communication, and community mobilization for action. Improving nutritional status requires sustained efforts over a long period of time, usually with a time horizon of 20 to 30 years.

The development and delivery of nutrition messages must be appropriate in order to be effective. The following suggestions are offered:

- *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.*
- *Create a message that the audience will understand.*

Suggested message formats are listed in Box 9. Critical issues for nutrition promotion can be identified and communication plans developed to address

these issues with primary and secondary audiences as shown in Box 10. It might be necessary to target specific groups and individuals as follows:

- 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.

Policy mapping is a tool used to identify critical audiences. The first stage of policy mapping is to list key decision-makers, influential individuals and groups, also known as stakeholders. Ranking the stakeholders by importance is extremely helpful in planning a strategy. If there is some uncertainty regarding stakeholders, research may be required. Identifying stakeholders is a constant task for advocates.

BOX 9

Suggested message formats

- Formal or informal meetings
- Informal conversations at social, religious, political or business gatherings
- Letters: personal, organizational or coalition
- Briefings
- Programme site visits
- Fact sheets
- Pamphlets or brochures
- Graphics or illustrations
- Short video presentations
- Computer presentations
- Interactive computer modelling programmes
- Overhead or slide presentations
- Newspaper articles or advertisements

Sharma, 1997. An Introduction to Advocacy: A Training Guide. SARA/(AED)/USAID

BOX 10

Possible primary and secondary policy audiences

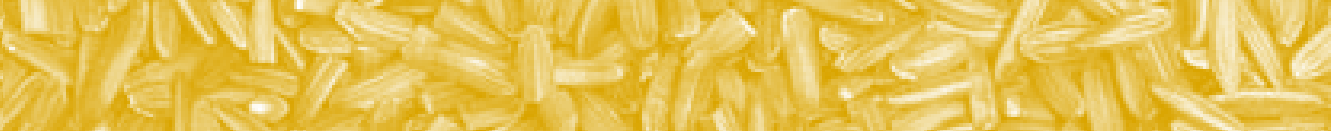
- Politicians (local, provincial, national)
- Businesses or business leaders
- Non-governmental organizations
- Community groups
- Religious groups/churches
- Political parties
- Labour organizations
- Academics/universities
- Professionals
- Opposition leaders
- Speech writers
- Spouses of politicians
- Media
- Women's organizations
- Ministry officials
- Voters
- United Nations agencies
- Other governments
- Multinational corporations
- Direct service organizations
- Practitioners
- Opinion leaders

Sharma, 1997. An Introduction to Advocacy: A Training Guide. SARA/(AED)/USAID

Glossary

BIOFORTIFICATION: a recently invented term to describe the nutrient enrichment of basic food crops through modern plant breeding, both traditional and molecular. Whilst many would argue that dietary diversification is the best way to ensure an adequate intake of both macro- and micronutrients, the grim reality is that a significant portion of the developing world's population relies largely on one or more of the major cereals (rice, wheat, maize) for their nutrition. As a result, deficiencies in essential micronutrients and vitamins are endemic in Asia, Sub-Saharan Africa and Latin America. Studies have shown that modern plant breeding is one of the cheapest, most effective and sustainable ways of supplying these needed nutrients through enrichment of staple food grains. Biofortification is not a panacea in itself but a very important complement to dietary variety and to supplementation.

FOOD FORTIFICATION: fortification is defined by the Codex Alimentarius as "the addition of one or more essential nutrients to a food, whether or not it is normally contained in the food, for the purpose of preventing or correcting a demonstrated deficiency of one or more nutrients in the population or specific population groups". This means that nutrients not naturally found in that particular food have been added during processing to enhance the consumer's diet.



FOOD INSECURITY: a situation that exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development of an active and healthy life. It may be caused by the unavailability of food, insufficient purchasing power, inappropriate distribution, or inadequate use of food at the household level. Food insecurity, poor conditions of health and sanitation, and inappropriate care and feeding practices are the major causes of poor nutritional status. Food insecurity may be either chronic, seasonal or transitory.

HEALTH: a state of complete physical, mental and social well-being and not merely the absence of disease or infermity.

MALNUTRITION: an abnormal physiological condition caused by deficiencies, excesses or imbalances in energy, protein and/or other nutrients.

MICRONUTRIENT MALNUTRITION: micronutrients are substances that are needed by the body in very small amounts because they can not be synthesized in the body. This means that they must be provided by the diet. These micronutrients are essential for the body to maintain its normal functions.

NUTRITIONAL STATUS: the physiological state of people that results from a combination of food intake, care practices and health and sanitation conditions.

OVERNUTRITION: result of excessive food intake; manifestations include overweight, obesity and poor health status.

UNDERNUTRITION: result of prolonged low level of food intake and/or absorption of food consumed; manifestations include wasting, stunting or underweight, reduced cognitive ability, poor health status and low productivity.

UNDERWEIGHT: low weight-for-age in children, and body mass index less than 18.5 in adults, reflecting a current condition resulting from inadequate food intake, past episodes of undernutrition and/or poor health conditions.

References

ABOSEDE, O. & J.S. MCGUIRE 1991. Improving Women's and Children's Nutrition in Sub-Saharan Africa. An Issues Paper Pre-Working Paper Series 723. Population and Human Resources Department. The World Bank, Washington, DC.

ACC/SCN 1991. Nutrition Policy Discussion Paper No. 8. Managing Successful Nutrition Programmes. J. Jennings, Stuart Glimpse, J. Mason, Mashed Lotfi &T. Scialfa. ACC/SCN of the United Nations. pp- 79,77,82,88,90, 97,109,112,113,121,136.

ACC/SCN, 1995. Report of the World Summit for Social Development. Copenhagen, Denmark United Nations New York, NY.

ACC/SCN, 1996. Summary of Results for the Third Report on the World Nutrition Situation. Update on the Nutrition Situation 1996. ACC/SCN of the United Nations.

ACC/SCN, 2000. 4th Report on the World Nutrition Situation. ACC/SCN in collaboration with IFPRI, Geneva, Switzerland.

CEESAY, S.M., A.M. PRENTICE , T.J. COLE, F. FORD, L.T. WEAVER, E.M.E. POSKITT & R.G. WHITEHEAD,1997. Effects on birth weight and perinatal mortality of dietary supplements in rural Gambia: 5 year controlled trial. British Medical Journal 315, 786-790.

THE COMMISSION ON HUMAN RIGHTS OF THE UNITED NATIONS: Assistance to Guatemala in the Field of Human Rights. January 22, 1997.

FAO, 1982. Integrating Nutrition into Agriculture and Rural Development Projects. A Manual. Nutrition in Agriculture Series No. 1. Nutrition Planning, Assessment and Evaluation Service, Food Policy and Nutrition Division. FAO of the United Nations.

FAO, 1983. Selecting Interventions for Nutritional Improvement. A Manual. Nutrition in Agriculture Series No.3. Rome.

FAO, 1984. Food, Agriculture and Rural Development Projects: six case studies. Nutrition in Agriculture Series No.2. Nutrition Planning, Assessment and Evaluation Service, Food Policy and Nutrition Division. Rome.

FAO, 1987. The Fifth World Food Survey. Rome.

FAO, 1992. Food and Nutrition: Creating a Well-Fed World. Rome.

FAO, 1995. The State of Food and Agriculture, 1995. Rome.

FAO, 1996a. Nutrition Education for the Public. Rome.

FAO, 1996b. The Sixth World Food Survey. Rome.

FAO, 1996c. Technical Background, Documents 1-5 Vol.1 World Food Summit 13–17 November, 1996, Rome. Rome.

FAO, 1996d. Technical Background, Documents 6 - 11, Vol.2. World Food Summit 13–17 November, 1996. Rome, Italy.

FAO, 1996e. Technical Background Documents 12-15. Vol.3. World Food Summit 13–17 November, 1996. Rome, Italy.

FAO, 1997a. Agriculture food and nutrition for Africa: A resource book for teachers of agriculture. Rome.

FAO, 1997b. Improving household hood security and nutrition in Nigeria – a training manual for agriculture, health, education and community development extension workers. ed. H. Abubakar, KNSG/FAO-UN TCP/NIR/4555 (T). Kano, Nigeria.

References

FAO,1998a. A community nutrition project in Vietnam: effects on child morbidity. Food, Nutrition and Agriculture 13-19.Vol 22. Rome, Italy.

FAO, 1998b Building on traditional gardening to improve household food security. Food, Nutrition and Agriculture 20-27.Vol 22. Rome, Italy.

FAO, 1998c. Household food security and nutrition in the Luapula Valley, Zambia. K. Callens and E.C. Phiri. Food, Nutrition and Agriculture 22-29.Vol 22. Rome, Italy.

FAO, 1998d. Participatory development of a household food security and nutrition improvement programme in Kano State, Nigeria. C Dirorimwe. Food, Nutrition and Agriculture 36-43.Vol 22. Rome, Italy.

FAO, 1999. Field Programme Management: Food Nutrition and Agriculture. Food and Agriculture Organization of the United Nations. Rome, Italy.

FAO, 2000. Guidelines for National FIVIMS: Background and Principles. The Inter-agency Working Group on Food Insecurity and Vulnerability Information and Mapping Systems. Rome, Italy.

FAO, 2002a. The State of Food Insecurity in the World. Food insecurity: when people must live with hunger and fear of starvation. Rome, Italy.

FAO, 2002b. Community Based Food and Nutrition Programmes: What Makes them Successful. A review and analysis of Experiences. S Ismail, M Immink, I. Mazar and G. Nantel.

FAO/ILSI, 1997. Preventing Micronutrient Malnutrition: A Guide to Food-based Approaches. A Manual for Policy-Makers and Programme Planners. Food and Agriculture Organization of the United Nations and International Life Sciences Institute.

FAO/WHO, 1992a. Incorporating Nutrition Objectives into Development Policies and Programmes. Theme paper No.8. Major Issues for Nutrition Strategies. International Conference on Nutrition.

FAO/WHO, 1992b. International Conference on Nutrition. World Declaration on Nutrition. Plan of Action for Nutrition. Rome.

GILLESPIE S.R. & J.B. MASON 1991. Nutrition Relevant Actions: Some experiences from the eighties and lessons for the nineties. ACC/SCN State-of-the Art Series Nutrition Policy Discussion Paper No. 10.

GILLEPSIE, S.R., J.B. MASON, & R. MARTORELL, 1996. How Nutrition Improves. A Report based on an ACC/SCN Workshop held on 25-27 September 1993 at the IUNS International Congress on Nutrition, Adelaide, Australia. ACC/SCN State-of-the-Art Series Nutrition Policy Discussion Paper No. 15.

ICPD, 1994. Report of the International Conference on Population and Development. Cairo, Egypt.

LATHAM, M. 1997. Human Nutrition in Developing Countries. Food and Nutrition Division, FAO Rome, Italy.

JOHNSON, 1990. Conceptual Framework for Malnutrition and Death UNICEF. New York, NY.

MARCH OF DIMES, 2000. Nutrition Today Matters Tomorrow. A Report from The March of Dimes Task Force on Nutrition and Optimal Human Development. March of Dimes Fulfillment Center, Pennsylvania.

MASON J.B. & S.R. GILLESPIE 1991. Managing Successful Nutrition Programmes. A Report based on an ACC/SCN Workshop at The 14th IUNS International Congress on Nutrition, Seoul, Korea. August 20 - 25, 1989. ACC/SCN State-of-the Art-Series Nutrition Policy Discussion Paper No. 8.

References

OMNI, 1995. The Economic Rationale for Investing in Nutrition in Developing Countries. Washington, DC.

OMNI. 1998. The Final Report. The OMNI Experience: Using Global Lessons to Move Local Programs. Washington, DC.

PELLETIER, D., E. FRONGILLO, D. SCHROEDOR, & G.P. HABICHT, 1994. A methodology for estimating the contribution of malnutrition to child mortality in developing countries. Journal of Nutrition 124 (105) 21065-21229.

SHARMA R.R. 1997. An Introduction to Advocacy: A Training Guide. Support for Analysis and Research in Africa (SARA)/Academy for Educational Development (AED)/USAID, Washington, DC.

TONTISIRIN, K. & P. WINICHAGOON, 1997. Community-based Programmes: Poverty Alleviation Programme: Experiences from Thailand. Paper Presented at the Workshop on Public Nutrition. Montreal, Canada.

UN, 1989. Convention on the Elimination of all Forms of Discrimination Against Women. Genearal Assembly Resolution. New York, NY.

UN, 1992. Report of the United Nations Conference on Environment and Development, G.A. res. 47/190, 47 U.N. GAOR Supp. (No. 49) at 141, U.N. Doc. A/47/49 (1992).

UN, 1995. Report of the World Summit for Social Development. Copenhagen.

UNDP, 1997. Human Development Report 1997. New York, NY.

UNICEF,1993. Social Marketing Vitamin A Rich Foods in Thailand. S Smitasiri, G Attig, A Valyasevi et al. Solaya Thailand: Institute of Nutrition/Mahidol University> UNICEF East Asia and Pacific Regional Office.

UNICEF/WHO, 1990. Plan of Action for Implementing the World Declaration on the Survival, Protection and Development of Children in the 1990s. New York, NY.

UNICEF/WHO. 1995. Report of the UNICEF/WHO Joint Committee on Health Policy, 13th Session, January 30-31. JCHP 30/95.7 WHO. Geneva, Switzerland.

WORLD BANK, 1992. *Policy Research and External Affairs Working Paper.* Successful Nutrition Programs in Africa: What makes them work. Eileen Kennedy, Washington, DC. pp7.

WORLD BANK, 1993. Investing in Nutrition in Developing Countries. Washington, DC.

WORLD BANK, 1994. Development in Practice; Better Health in Africa. Experience and Lessons Learned. Washington, DC.

WHO, 1992. The Prevalence of Anaemia in Women, 2nd ed. WHO/NCH/MSM/92.2 WHO. Geneva, Switzerland.

WHO, 2000. Nutrition for Health and Development. A Global Agenda for Combating Malnutrition. Progress Report. France.

WHO, 1995. The effects on malnutrition on child mortality in developing countries. Bulletin of the World Health Organization, vol 73 No. 4, Geneva, Switzerland.

WHO/UNICEF,1989. Ten Steps to Successful Breastfeeding. Geneva, Switzerland.

WHO/UNICEF,1990. Report of the World Summit for Children

WHO/UNICEF, 1991. Baby Friendly Hospital Initiative (BFHI). Geneva, Switzerland.

References

WHO, 1996. The Global Burden of Disease Study. C.J.L. Murray & A.D. Lopez. Geneva, Switzerland.

WHO/UNICEF, 1994. World Summit for Children–Mid-Decade Goal: Iodine Deficiency Disorders (IDD). UNICEF-WHO Joint Committee on Health Policy, Geneva, Switzerland.

WHO/UNICEF, 1995. Global prevalence of vitamin A deficiency. WHO, Micronutrient Deficiency Information System (MDIS) Working Paper No. 2. WHO/UNICEF Doc. WHO/NUT/95.3 Geneva, Switzerland.

WHO/UNICEF/ICCIDD, 1994. Indicators for assessing iodine deficiency disorders and their control through salt iodization. WHO/NUT/94.6, Geneva, Switzerland.

DEVELOPMENT AIMS TO PROVIDE PEOPLE with the means and the social and economic environment necessary to lead active, healthy and productive lives. To achieve this objective, developmental policies and programmes need to be directed towards improving the human development potential, including improvement of nutritional well-being. Nutrition-focused interventions are required primarily to reach and benefit vulnerable individuals. Factors that influence nutritional status, however, fall under the responsibilities of many sectors. All these factors need to be addressed in order to achieve good nutrition and health status. Furthermore, it is crucial that policy-makers and planners in all development sectors recognize and understand the socio-economic background and preferences of target groups. Hence, the principle of coordinated, holistic approaches in policy formulation and programme design is key to successful and sustainable development.

It is important that the integral role of nutrition in development be taken into account during policy formulation, programme planning and implementation. Most importantly, the synergistic effect of sector programmes (and hence policies) needs to be well understood. This will assist in discouraging unnecessary competition for political support and funding. Instead, it will promote collaboration among different sectors and disciplines, and will contribute to the elaboration of a development agenda which is sustainable and beneficial to the target groups.

The overall objective of this Policy Brief is to create awareness and understanding of the advantages of good nutritional status for the development process, so that nutrition considerations can be incorporated into development policies to facilitate sustainable development.

FOOD AND NUTRITION DIVISION
Food and Agriculture Organization of the United Nations
Viale delle Terme di Caracalla
00100 Rome, Italy
www.fao.org
www.fao.org/es/esn/NUTRI.htm

TC / D / Y5343E / 1 / 4.04 / 2500