INTERNATIONAL COURSE IN FOOD SCIENCE AND NUTRITION

State University of Gent 1989-90

PROBLEMS OF NUTRITION IN GHANA

(COUNTRY PRESENTATION)

B Y : Nanam Tay Dziedzoave

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1. INTRODUCTION

Ghana like most developing coutries has it`s share of nutritional problems which are manifested as protein energy malnutrition and undernutrition in it's varying shades.

At various times in the history of the country, studies have been conducted - some at national levels, others at regional or comunity levels and some at the village levels; to assess the nutritional status of the population.

In 1956 for example; Waddy studied the height and weight of school children between the ages of 6 -12 years in Northern Ghana.

Fiawoo in 1968 studied the relationship between growth and socio-economic factors in 4,585 primary and middle school children and 715 secondary children, obtaining data on heights and weights in relation to age.

Asante in 1971 studied 2,457 children between 4 - 18 years of age in a school at Peki in the Volta Region. Data on height weight chest and head circumference in relation to age were obtained.

Then also in 1973, Ofosu-Amaah studied 7000 school children in Accra using 15 anthropometric parameters.

In 1981 Twumasi also carried out a survey at Akorabo a village in Ghana; and in that same year a nutritional survey accross the country was conducted jointly by the Ministry of Finance and Economic Planning, the Ministry of Health and the Secretariat of the FAO /WHO / OAU Regional Food and Nutrition Commission For Africa.

In 1986 a National Data Collection Exercise was undertaken jointly by UNICEF and the Nutritional Division of the Ministry of Health.

In 1988, Parasitic Infection in 317 children in some parts of Greater Accra Region were studied by Minakani and others.

These studies which are just a few of the many studies carried out, revealed a number of nutritional problems the causes of which are many and varried.

In this presentation the results of some of these studies would be highlighted, the identified underlying causes of the nutritional problems elaborated upon, and the strategies being adopted nation wide to solve these problems discussed.

This would however be preceded by a brief outline of some historical and geographical information on Ghana and a little elaboration on the scientific, technological and industrial development of the country.

2. BACKGROUND INFORMATION

2.1. HISTORICAL

Ghana was under the British Colonial rule for over ten centuries until it became an Independent country on the 6th. of March 1957. Before Independence the country was known as the Gold Coast because of its rich deposits of Gold.

2.2. GEOGRAPHICAL

Ghana is in West Africa and is bounded by three countries; on the West by Ivory Coast, on the East by Togo and by Burkina Faso on the North, and on the South by the Gulf of Guinea.

It has a land surface area of about 236,000sqkm. with a population of about 14 million. Over 50 different languages and dialets are spoken by its different ethnic groups. The people can however be divided into eight (8) major tribes. The table below shows the distribution of the population between the various tribes.

TABLE 1. Distribution of Major Tribes

TRIBE	% of Population
1. Akan	44.1 %
2. Ewe	13.0 %
3. Ga Adangme	8.3 %
4. Dagomba	
5. Mossi	
6. Gurma	34.6 %
7. Grusi	
8. Mande, Hausa,etc	

Source: Ref.16

The country is divided into nine (9) administrative regions with each region having one major city as its capital.

The capital city of the country is Accra which is also the regional capital of the Greater Accra Region.

Other major cities in the country include, Kumasi, Sunyani, Ho, Tamale, Takoradi, Koforidua, Tema and Cape Coast

2.3. CLIMATE

Ghana is under the Influence of the Inter-tropical Convergence Zone which oscillates between the Coast and the North drawing with it associate weather zones.Three major climatic zones can be identified:

2.3.1. The Guinea Climatic Zone:

This is of the humid equitorial and tropical type. The rainfall curve often shows two maxima and two minima. Both always exceed 100 mm. The dry season is very short and temperatures range between 25 to 27°C.

2.3.2. The Sudano Guinean Climatic Zone:

The tropical temperatures are lower (24 to 28oC) and the rainfall heavier (950mm to 1750mm). The dry season lasts for four to five months and the rainy season five to seven months. Precipitation occurs mainly in the summer.

2.3.3. The Dry Coastal Climate:

This drier climate is found on the coastal belt of Ghana and is formed by an incursor of the Sudano Guinean Climate.

2.4. VEGETATION

Ghana`s vegetation falls within four regions.

2.4.1. The Tropical Rain Forest:

It consist of several strata including an upper stratum of large trees which may be 40 to 60m high. Spiecies include Celtis Soyanxii and Alchorea.

2.4.2. The Tropical Decidious Forest:

Rain forest species are arrayed with decidous species. Semi-decidous rain forest grows especially along rivers and in groves on hills and plateaus.

The presence of Savanna here is due to degradation (insufficient water holding capacity of sandy soils).

2.4.3. The Tropical Undurated Coastal Formations:

Extensive mangrove forest are found on loamy soils exposed directly to the tides along the coast.

2.4.4. Savanna:

This includes large leaved semi-decidious tree savanna, moist savanna and dry savanna. In the semi-decidous tree savanna, tree cover density varies greatly with edaphic conditions and the nature and extent of human activity.Grass height varies from 60cm to 4m high.

2.5. MAJOR SOIL TYPES:

The main soils are Ferric Luvisols and their hydromorphic variants, Gleyic and Plinthic Luvisols.The lowlying parts have Vertisols and Planosols, Gleyic soils are dominant along the rivers. Acrisols predominate in the transition zone between Ferric Luvisols and Ferralsols.

2.6. MINERAL RESOURCES.

The major minerals mined in Ghana include gold, diamond, manganese and bauxite. Production Levels are as stated in Table 3.

Table 2. Minerals (1983 Production Figures).

Minerals	Production
Gold	8.6 kg
Diamond	339000 carat
Mangaese	173000 tons
Bauxite	70000 tons

Source:Ref.16

2.7. AGRICULTURE

Cocoa is the main cash crop of Ghana. Cocoa export began in 1891 and it accounts for over 50% of the national export. Other cash crops include timber and shea nuts.

A large percentage of the nation`s food crops are produced by peasant farmers. Mechanised farming accounts for a very small percentage.

The damming of the Volta River has led to the formation of the volta lake, the largest man made lake in the world.And this has immensely improved farming in the volta region. However it must be noted that Ghana`s agriculture is predominantly rain-fed and only about 1% of the country`s food production is under irrigation.

The major food crops cultivated include yams, cassava, plantain, maize, cowpeas and cocoyam in addition to a variety of vegetables and fruits. Livestock production embraces the rearing of cattle, sheep, goats,chicken and pigs.

Table 3. Production Figures For Some Major Agricultural And Livestock Products

Product	Production(*'000 tons)
Agricultural	
Cassava	1900
Maize	534
Coconut	160
Sugar Cane	110
Sorghum	140
Tomatoes	170
Rice	66
Citrus & Lemon	30
Copra	7
Oranges	35
Tuberous Plants	3510
Groundnuts	90
Millet	132
Livestock	
Beef	12
Mutton	6
Goatmeat	6
Pork	8
Chicken	39
Other Meat	68
Cow Milk	8
Chicken Eggs	16
Cattle Skin	15

Source: Ref.17

Table.4 Crop Distribution In The Regions

Northern And Upper Regions	Ashanti,Brong Ahafo & Western Regions	Volta,Eastern Central & Greater Accra Regions
Guinea Corn	Plantains	Cassava
Millets	Cassava	Maize
Yams	Cocoyams	Citrus Fruits
Maize	Yams	Tomatoes
Beans	Beans	Pepper
Groundnuts	Garden Eggs	Okro
Rice	Okro	Sugar Cane
	Citrus Fruits	Rice
	Tomatoes	Beans
	Oil Palm	Oil Palm
	Pepper	Garden Eggs
	Sugar Cane	Banana

2.8. POPULATION.

Table 5. gives a summary of some basic population data on Ghana over the past 3 years. Currently the population of Ghana is about 14.4 million according to 1988 estimates (Pop. Ref.Bureau Inc., 1988). The rate of population growth over the past 20 years has been about 2.6% (Nabila, 1989).

About 70% of the population live in the rural areas and are engaged in traditional activities such as farming, fishing, livestock rearing etc. However the rate of urbanisation has been rapidly inceasing over the years. (See Figure 1 below).The population of children under 15 years is about 44% whilst 3% of the population is above 65 years. The sex ratio is about 97.3, (ie. 97 males to 100 females). According to the 1980 estimates literacy rates for Ghana are 54% males and 35% female.

Table 5. Some Selected Data On Ghana's Population.

	1986	1987	1988
1. Population Estimate (mill.)	13.6	13.9	14.4
2. Crude Birth Rate	47	42	42
3. Crude Death Rate	13	14	11
4. National Increase (anual%)	3.4	2.8	3.1
5. Population Doubling Time In Years	21	25	22
6. Infant Mortality Rate	90	94	72
7. Total Fertility Rate	6.5	5.8	5.8
8. Population Under 15/65+	47/3	47/3	44/3
9. Life Exp. at Birth (yrs).	54	54	58
10. Urban Population	31	31	31
11. Sex Ratio			97.3
12. Literacy Rate (1980)	54% m		35% f

Source; Ref.15

The distribution of the population between the 9 administrative regions is as follows.

Table 6. Population Distribution Between The Administrative Regions (1984 figures).

Region	Population (* 1000).
1. Westhern Region	1117
2. Central Region	1146
3. Greater Accra	1420
4. Eastern Region	1679
5. Volta Region	1201
6. Ashanti Region	2090
7. Brong Ahafo Region	1179
8. Northern Region	1163
9. Upper Region	1211

Source: Ref.17

2.9. SOCIAL SET-UP

Some characteristic features of the Ghanaian social set-up which exert enormous influence on the diet of the people are:
a. Polygamy and a tendency toward a large family size with few wage earners especialy in the rural areas.

b. The extended family system.
c. Religious prohibitions, taboos and food avoidances
   eg.1. Children being forbidden to eat eggs, meat, fish.
      2. Muslims not taking pork.
d. superstitions: especially among the illiterate population eg. diseases being thought of to be of mysterious origins and not associated with bad nutrition.
e. Strong adherence to traditional beliefs and customs.

The effect of these social features would be discussed in a subsequent chapter.

2.10. SCIENCE AND TECHNOLOGY

2.10.1. Research

Most of the Scientific and Technological Research Work is supervised and coordinated by the Council for Scientific and Industrial Research (C.S.I.R.). Under the council are various institutions responsible for various aspects of research. These institutions include:

The Food Research Institute
The Industrial Research Institute
The Institute Of Aquatic Biology
The Water Resources Research Institute.
The Scientific Instrumentation Centre.
The Oil Palm Research Institute.
The Building And Road Research Institute.
The Animal Research Institute
The Crops Research Institute.
The Ghana Atlas Projeect.
The Technology Consultancy Centre.

Other institutions engaged in R & D work but which do not operate under the umbrella of the C.S.I.R. include;

The Cocoa Research Institute.
The Forest Products Research Institute
The Universities.

The identified problems for almost all these institutions are:
1. Staff training.
2. Lack of up to date scientific equipment and facilities for work.

Even though each institution is staffed with a cream of well qualified staff the young up and coming researchers who are mainly first degree holders do not get scholarship opportunities for further training and therefore there is a gap which does notaugur well for continuity and efficiency in research work.

2.10.2. Industrial Development.

The cocoa and timber industries are the most developed in the country. There are about 3 main cocoa processing factories (sitedat Tema and Takoradi-the two habour cities), several sawmills and a sizeable number of furniture manufacturing companies.
Some notable food Processing Factories include:

1. The Tema Food Complex Coorporation - Engaged in Flour Milling Canning of Sardines and Milk, Production of Margarine etc.
2. The Tomato Processing Factory - Production of Tomato Puree.
3. The Nsawam Cannery - Processing of Friuts and Vegetables.
4. Astek Company Ltd. - Production of Friut Juices.
5. Nkulenu Industries - " " " " .
6. Meat Processing Factory - Corned Beef Production.

2.11. OTHERS.

The annual per capita income of Ghana is about US$ 390.(Pop. Ref. Bureau Inc.,1988). The currency in use in the country is the Cedi and it has the equivalent of about C300 to US$ 1.00.

3. GENERAL NUTRITIONAL SITUATION.

3.1. INFANT FEEDING.

The 1981 Nutritional Survey revealed that the correct feeding of infants during the weaning period is a major problem in Ghana. Itwas discovered that growth is excellent in infants from birth to about three months because they are fully breastfed. However growth begins to slow down from 3 to 4 months of age onwards due to the poor quality of supplementary food that they are served.

Infants are usually given the traditional porridge Akasa/Koko which is monotonous, not nutritious because it is low in protiens and energy and can not provide all the nutrients needed for rapid growth in young children; and secondly the dough gets sour and cannot be kept for a long time.

The imported cereal foods are expensive and cannot be afforded by the nursing mother (Nut. Div. M.O.H.).

3.2. LEVEL OF MALNUTRITION.

The National Data Collection in 1986 revealed over 30% malnutrition in the country, and during the survey of children from urban and rural Greater Accra Region malnutrition was recorded in 68 children within the age group of 0-5years out of the 317 children studied.

3.3. FOOD INTAKE AND FEEDING PRACTICES.

In the survey at Akorabo (Twumasi, 1981) where 179 persons were studied in 1981 it was observed that in terms of quantity and calorie content the food eaten by most people in this community is not sufficient intake.

Children ate mainly carbohydrate meals at times at irregular intervals. Oldmen and women ate very little and almost in all households visited meat protein content of the prepared meals were judged to be insufficient - insufficient for growing children, for adolescents and for the pregnant and nursing mothers.

Growth malformities were noticed among many children from poor households. Children whose chronological ages were about six years old looked very lean and lanky.

Even among school going age groups it was noted that the body growth was not in conformity with what was expected of such age group. Malnutritional diseaseslike Marasmus and Kwashiorkor were observed .

3.4. INFANT MORTALITY RATE. NUTRITIONAL DISEASES AND DEFICIENCY SYMPTOMS.

Population figures (table 3) indicate a very high infant mortality rate: 90 in 1986, 94 in 1987,and 72 in 1988 (Pop. Ref. Bureau Inc.,1988). This is an obvious reflection of the poor nutritional status of the population.

Furthermore data from the National Health statistcs indicate that the degree of prevalence of malnutritional diseases and difficiency symptoms is quite high - diseases like kwashiorkor, marasmus, diarrhoeal diseases, anaemia, measles, malaria infection, intestinal parasitism, oedemia etc. are quite rampant.

4. CAUSES OF FOOD AND NUTRITION PROBLEMS IN GHANA

The main cause of food and nutrition problems in Ghana is inadequate intake of food generally and of proteins in particular.But underlying this are a host of socio-economic, demographic,agricultural& technological factors, the interplay of which result in the unavailability of sufficient quantities of food in general and of protein foods in particular. These factors would be discussed in turn.

4.1. DEMOGRAPHIC FACTORS

4.1.1. Population Growth In Relation To Food Production.

The rate of Ghana's population growth calculated over the period 1970-84 is 2.6% per year, whilst the growth of agricultural production over the same period is -0.9% per year (Nabila, 1989). Thus whilst the population is increasing the agricultural production rate is dereasing.The demand for the major food staples, therefore far exceed the supply (see Table.8.)

TABLE 7. Selected Data On Population And Food

	YEAR	DESCRIPTION
1.Population	1987	13.2 million
2.Population Growth	1970-84	2.6%per year
3.Agricultural Population	1984	55% of total
4.Agricultural Population Growth Rate	1965-80	1.9%
5.Agriculture As A Per Cent Of GDP	1985	41%
6.Growth Of Agricultural Production(total)	1970-84	-0.9% per year
7.Growth Of Agricultural Production(per capita)	1970-84	-3.9% per year
8.Industrial Growth Rate	1980-85	-5.5% per year

Source: Ref. 10

TABLE 8. Shortfalls In Domestic Food Production - 1987

Crop	Net Domestic Production ('000 Mt)	Total Consumption Need('000 Mt.	Shortfall(-)Or Surplus(+) I Domestic Production Against Domestic Consumption('000 Mt.
Maize	317	448	-131
Rice	50	109	- 59
Millet & Sorghum	209	211	- 2
Cassava	2047	1990	+ 57
Yam	690	823	-133

Source: Ref.10

4.1.2. Rate Of Urbanisation & Reduction In Agricultural Productivity

Ghana, like most developing countries is going through a rapid urbanisation process. Within the period 1941-1970 the urban population increased from about 117,000 to just over 2.4 million, a growth rate of 3.5% to 4.5% (Nabila, 1989).

Since the rural areas are the major producing areas, and agricultural production in Ghana is more labour intensive than mechanised the implications of this high rate of urbanisation are that:

i. there is reduction in the number of food producers in the countryside.
ii. the urban immigrants being most often unskilled and therefore unemployed constitute a waste of potential labour and tend to parasite on urban relatives thus aggravating further the economic plight of these urban relatives.

4.1.3. Percentage Productive Population & Dependency Overload

Since 1921 till present the % of children under 15 years never fell bellow 44%. The proportion aged 56 and above is about 4%. The productive population aged between 15 - 56 has varied within the range of 49-51% between1921 and 1985. These characteristics highlight a high degree of youthfullness and dependency; and with a non-productive population of about 50% the dependency overload is quite high. As a result the breadwinner of the family cannot provide enough and in an attempt to try to provide enough the diet invariably tends to be deficient.

4.2. AGRICULTURAL FACTORS

Traditional agriculture is the main source of food and it is labour intensive. Therefore factors that affect the productivity of the paesant farmer directly affects the country's agricultural production as a whole .

As mentioned earlier the growth of agricultural production is -0.9% per year and this is the result of several factors which millitate against the productive capacity of the peasant farmer. These include:

a. Adverse environmental conditions:
e.g i. Low rainfall: Ghana's agriculture is predominantly rainfed. Less than 1% of all crops is produced under irrigation.
ii. Infertile sandy or laterite soils which cannot support agricultural production without the application of high doses of fertilizers.
iii. floods and droughts.
iv. soil erosion & exhaustion
v. agricultural pests(e.g. cassava bacterial blight, birds, locusts, rats, caspids e.t.c.)
vi. thick undergrowths.

b. Backward farm practices which do not give maximum returns.
c. Inadequate financial resources.
d. Lack of economic incentives for farmers(e.g.difficulty in obtaining credit facilities and lack of pricing and marketing incentives in the past.)
e. Unfavourable land tenure systems.
f. Endemic diseases which affect the health and consequently the productive capacity of the farmers - diseases like river blindness, guinea-worm infections, intestinal parasitism, diarrhoeal diseases, e.t.c..
g. Shortage of farm labour due to migration to urban centres.

4.3. ECONOMIC FACTORS

4.3.1. Real Income And Purchasing Power.

One of the most important single economic factors that determine what people eat is their real income or purchasing power (Idusogie, 1988).

The annual per capita GNP of Ghana of $390(in 1988) is very low compared to that of developed countries like Canada and Belgium of 14,000 and 9230 respectively; and this is a reflection of the poverty of the country and it's people as is the case for most developing countries.This low per capita GNP coupled with national inflation, soaring food prices and low incomes weaken the purchasing capacity of the people. As a result the diet and feeding habits of the people is greatly affected.
For example:
i. in some areas meals are taken two times a day.
ii. there is a high dependency on carbohydrate foods which are normally cheaper and more affordable but less nutritious than the more expensive protein foods.The diet invariably is therefore monotonous and deficient.

4.4. SOCIOLOGICAL FACTORS.

As mentioned earlier certain characteristic features of the Ghanaian social set-up exert enormous influences on the diet of the people.

The effect of these social features are that:
i. polygamy and illegitimacy creates psychological stress among children as well as favouring inadequate feeding of them and this is known to precipitate or aggravate the incidence of malnutrition among children.
ii. The large family sizes and the extended family system of living coupled with the economic factors already discussed makes it impossible for the few wage earners to provide nutritious meals for the family. Furthermore it creates a situation of high child density in homes which make for rapid spread of childhood infections which invariably causes deterioration of nutritional status. Then also the frequency of births affects the nutritional status of mothers.
iii. a misplaced priority is given to male adults over children and women in the ditribution of food in quality and quantity (Idusogie, 1988).

iv. The relationship between malnutrition and infection is not appreciated and therefore there is no motivation towards nutritional improvement and potential highly nutritious foods are avoided.

4.5. TECHNOLOGICAL FACTORS

4.5.1. Food Storage And Preservation

Unfortunately against the already lamentable background of low agricultural production, enormous losses of food occur during harvesting, storage and processing. And this is the result of inadequate facilities for the storage of the crops and for processing them into storable forms.

4.5.2. Unused Sources Of Food

These include leguminous crops like winged beans,soybeans,pigeon peas e.t.c. and non-conventional foods of animal origins (e.g.snails) which are rich in protein and are relatively cheaper than the conventional foods,but are neglected. Their neglect is partly due to lack of knowledge on their nutritional value;partly to the fact that there are no known traditional food preparations involving their use,and also to the non-existence of suitable technologies for developing these crops into convenience foods for easy use.

4.6. EDUCATIONAL/LITERACY FACTORS

Cutting accross all the above factors is the literacy problem; 1980 estimates put literacy rates for Ghana at 54% males and 35% females. This high illiteracy rate coupled with the lack of a regular programme of education for the rural folks makes them ignorant of the importance of good nutrition as a prerequisite to good health,and of foods of high nutritional value.

5. STRATEGIES BEING ADOPTED TO IMPROVE THE FOOD AND NUTRITION SITUATION IN THE COUNTRY.

Following the study of the Food and Nutritional situation in the country in December 1981 and the subsequent National Data Collection in 1986 various measures were instituted to solve some of the food and nutrition problems identified (Nut. Div.,M.O.H.).

1. First, the Ministry of Health assisted by the Joint FAO/WHO /OAU Regional Food and Nutrition Commission for Africa were commissioned to draft a set of guidelines on proper weaning pratices in Ghana.
2. Secondly, a National Food and Nutrition Coordination Committee was set up to coordinate all nutrition activities and also to among other things draft a National Food and Nutrition Policy. The committee comprised representatives from:

   i. The Ministries of Economic Planning, Health, Agriculture and Education.
   ii. The Departments of Social Welfare and Community Development.
   iii. The Ghana National Commission On Children
   iv. The Food Research Institute.
   v. The Joint FAO/WHO/OAU Regional Food And Nutrition Commission.
   vi. The National Council On Women and Development.
   vii. International agencies like the UNICEF, WHO, WORLD VISION and ADRA (Adventist Development and Relief Agency).
3. Two major projects were initiated namely:

   i. The Weaning Food Production Projects.
   ii. Improving Child Feeding Pratices in Ghana.

5.1. THE WEANING FOOD PRODUCTION PROJECT.

The project involves the development of nutritionally Low-cost weaning foods based on locally available raw materials prepared as flours. Even though the project was initiated in the Nutrition Division of the Ministry Of Health , other organisations both private and governmental have gotten involved
one way or the other producing or researching into and developing weaning foods.

Currently the Nutrition Division of the Ministry of Health has come up with "Weanimix" which is a composite flour made fromcereals and legumes. The major cereals used are corn, rice,millet or sorghum whilst cowpeas and groundnuts constitute the legumes used.

The Food Research Institute has also come up with another weaning food "Browinlac" which is made of a mixture of Roasted Maize, Winged Bean, and Milk Powder; and also "Peacomix" a high protein instant cereal food developed for a private company (Plahar, & Hoyle, 1987). It is composed of Maize, Cowpea, Groundnuts, Sugar and salt. In addition, the F.R.I. has a grain legume project a

section of which deals with fermention of legumes, both conventional and non-conventional types with the aim of upgrading or improving their nutritive value. It is observed that despite the high quality of legume proteins most are unavaliable or unutilized by the body because of the way they are processed before consumption. The presence of antinutrients reduces the digestability of legumes. The fermentation method of processing them has proved to be very efficient, it improves the digestability, the protein efficiency ratio and results in an increase of some B vitamins such as niacin ,riboflavin, thiamin and cobalamin in particular which is only obtained from animal sources. Factors such as beany flavour and flatus factor are all reduced greatly resulting in a high quality protein product (Hayford, 1986).This product in the form of a powder will be used to complement cereals for weaning foods.

Another product also on the market now is "Vitalmix" produced by a private company.

All these mixtures have been based on the high protein contents of legumes which when added to cereals produce a food mixture good in protein, energy, mineral and vitamins.

The Nutrition and Food Science Department of the University of Ghana has also been researching into how to reduce the viscosities of infant porridges in order to improve the effective quantity of food taken; and have recommended the addition of sprouted cereal flours as a way out (Oracah-Tetteh, 1989).

After the formulation of Weanimix, two pilot projects were set up in two communities to introduce the idea of the product to them. The two communities were provided with a cornmill each for the production of the weaning food. The success of these pilot projects generated varied interests and International agencies as UNICEF, WORLD BANK and WORLD VISION INTERNATIONAL have taken up the challenge to assist through the provision of cornmills (Nut. Div.,M.O.H.).

5.2. IMPROVING CHILD FEEDING PRACTICES IN GHANA.

This project supported by MANOFF INTERNATIONAL, a social marketing agency based in the U.S.A. which concentrates on dissemination of information through social marketing techniques to the General Public, addresses the problem of how to improve young-child feeding practices (Atuahene, 1989). It involves a study of existing infant feeding practices, the shortcommings and reasons for them and how these could be overcome. It also involves educating the public particularly mothers to develop in them a level of sound knowledge and responsible understanding of food that will promote maximum nutritional health; and promoting the use of such foods.

5.3 OTHER ACTIVITIES

Other on-going activites geared towards the improvement of the nutritional situation include.

5.3.1 Development Of The Countryside.

The present political structure of the country embodying the establishment of districts assemblies is aimed at motivating projects at the community level. By this means ecomonic activities would be boosted in the various communities, the standard of living of the people improved and the rural-urban migration will be in check; consequently agricultural productivity will increase.

5.3.2 General Agricultural Development.

The introduction of the Gobal 2000 Agricultural project in Ghana in Ghana in 1986 with the attendant encouraging results of high yields is a great boost to the country's agricultural development. The mode of operation of the Project -ie. supplying materials to farmers on credit to be paid after harvest, also partially solves the peasant farmers financial problem and thereby helpsincrease his productivity. Also a recent move by the Ministry Of Agriculture in instituting a mechanism for paying maize and rice farmers different prices according to grades is also aimed at solving the marketing problems of farmers and motivating higher production as well as quality production (Adam,1989).

5.3.3 Food Storage, Preservation And Fortification.

The Food Research Institute in Accra and other establishments have been addressing themselvses to them problem of post-harvest losses and the low nutritional value of the major staples. The

Institute is constantly researching into methods of improving upon the storage of various food crops, processing of perishable crops into storable forms, developing convenience intermediate foods froms the major staples and the fortification of the various starchy foods with selected legume crops. Some of the completed projects include:

i. Development of a Dehydrated Fermented Maize Meal.
ii. Development of a Dehydrated Cassava Meal (Dziedzoave, 1985).
iii. Fortification of the Fermented Maize Meal With Soy Flour.
iv. Fortification of Gari, a cassava product, with soy bean or winged bean flour.
v. Development of the Instant Fufu Powder.
vi. Development of the "Tatale Mix" a plaintain product.
vii. Development of Improved Cribs For Maize Storage.

5.3.4 PRIMARY HEALTH CARE / MATERNAL AND CHILD HEALTH ACTIVITIES.

The Ministry of Health has stepped up its efforts in extending simple maternal and child health activties to areas hitherto not reached. These activities include immunisation, postnatal care, emergency health care and control of infectious diseases. Family planning clinics have been established in many places and even within some markets. Furthermore several village health agents are beinng trained under the Ministry's Primary health care programme which occupies a priority attention in the Ministry`s activities.

6. CONCLUSION.

It is obvious that Ghana, like most other development countries is aware of the existence of malnutrition and undernutrition problems in her country, and efforts are being made to solve these problems. But then the success of the various programmes would depends on:

i. The availability of trained personnel to carry out the programmes.
ii. The availability of necessary facilities to facillitate the smooth implementation of the programmes.
iii. The soundness of the economy of the nation.

Courses like this help to improve the calibre of personnel, but the other two determining factors need to be addressed too by all well-meaning persons.

It is often said that there is enough food in the world to feed everyone. If that is true and yet some are still undernourished then others must definitely be eating more than their share and these should be identified and brought to book.

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