

The Government of Sudan



National Plan of Action for Nutrition (NPOAN) - Sudan

**Prepared in Accordance with
Recommendations of International
Conference on Nutrition
(ICN)**

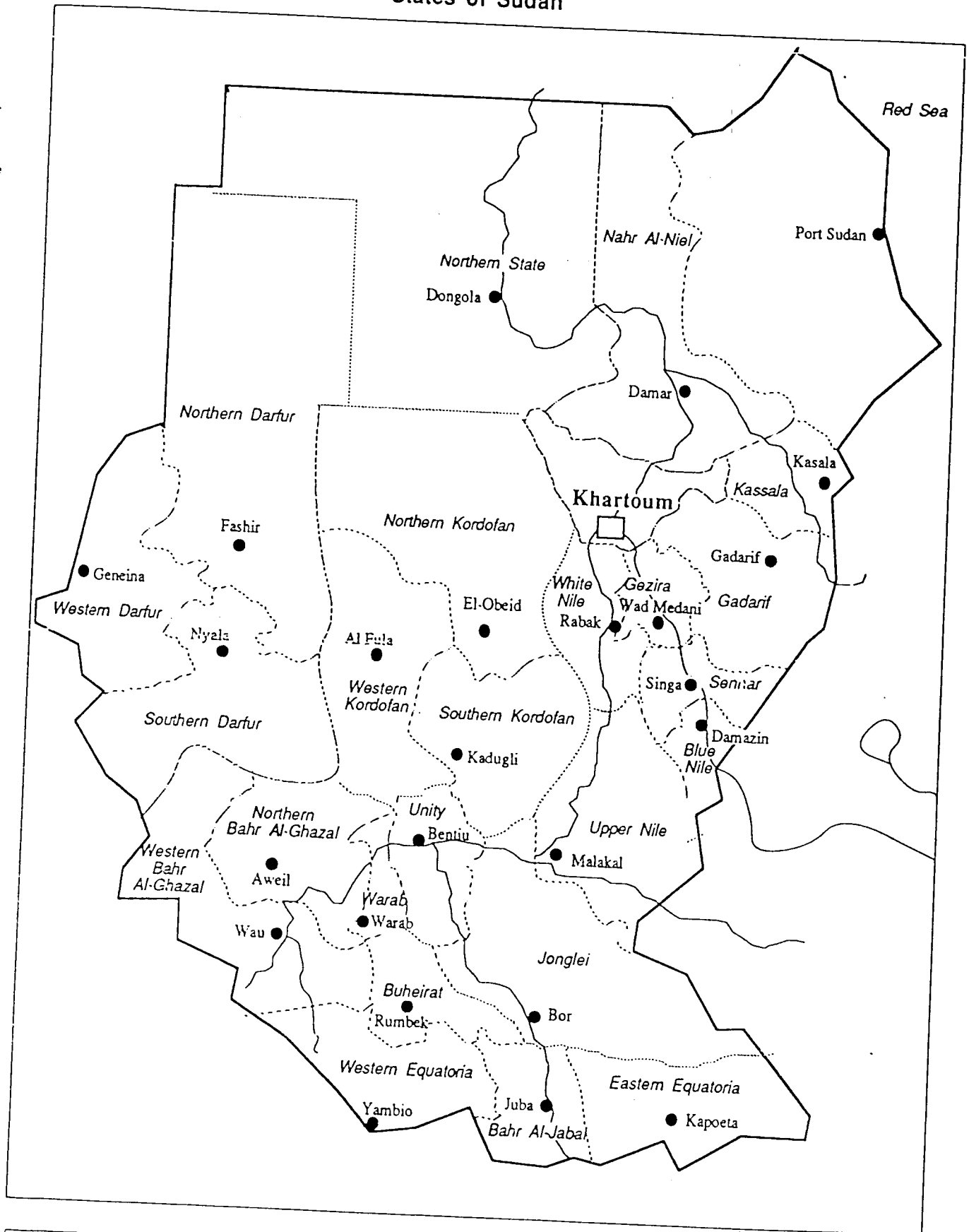
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States of Sudan



● State capitals

- - - State boundaries

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EXECUTIVE SUMMARY

This National Plan of Action for Nutrition in the Sudan (NPOAN-Sudan) is prepared by the inter-sectoral committee which prepared the Sudan Nutrition Country Paper for the International Conference on Nutrition (ICN) organized by FAO/WHO and held in FAO Rome, December, 1992.

It was prepared in response to one of the recommendations of the ICN in order to ensure the implementation of those recommendations at the national level in each country.

The NPOAN - Sudan is comprized of an introduction and three sections which may be summarized as follows:

The Introduction referred to the big size of the country and the diversity in its ecological zones and agricultural environments that resulted in the wide range of food crops and livestock produced under different agricultural systems. It also referred to the diversity in the population which resulted in the existence of varied food consumption patterns and dietary practices.

Consequently it is concluded that plans and programmes to deal with food and nutrition should be designed to suit the different regions of the country.

The recent adoption of a Federal System of Administration whereby the country is divided into 26 States administred by the State Governments and a Central Government with restricted functions will no doubt assist in the implementation of the NPOAN at State and local levels.

The introduction also described the consequences of the occassional incidence of droughts and floods coupled with the continuous desert creep from North to South and the occurance of food shortages and the immigration that resulted in the creation of displaced communities and refugees particularly in the Western and Southern States and part of the Eastern States.

The prevalence micronutrient deficiencies is increasing and hence their prevention and control measures are getting and equal priority to those directed for PEM. More coordination and integration is achieved among the National and International agencies involved in those efforts.

The Introduction concluded by stressing that the Government of Sudan participated in the ICN and is committed to put its recommendations into effect through this NPOAN - Sudan.

Section I dealt with a concise analysis of the food and nutrition situation in the Sudan. It emphasized the role of agriculture in the economy of the country and livelihood of more than 80% of the

population and consequently represents the greatest opportunity for socio-economic development and thus offers the greatest potential for achieving sustained improvements in the nutritional status of the population.

The new agricultural and food policies and plans with the objective of realizing national and household food security were outlined the constraints facing the economy particularly those due to shortage of foreign exchange and the incidence of natural disasters such as droughts, desertification and floods and man-made ones such the civil war in the South which resulted in displaced populations and refugees were described.

The major malnutrition problems (PEM, Micronutrient deficiencies) and the interventions needed to prevent and control them were outlined.

This section then referred to the National Comprehensive Strategy (NCS, 1993 - 2002) as an attempt to deal with the existing problems and to achieve national socio-economic development.

Section II described the actions needed to implement the nine themes identified by the ICN and the institutions involved in their implementation under each theme the relevant background information, strategies that need to be followed and the suggested actions and institutions involved (including Government Ministries, National and International NGOs and the UN Agencies) are described. The nine themes are:

- 1) Incorporating nutritional objectives, considerations and components into development policies and programmes.
- 2) Improving household food security
- 3) Protecting consumers through improved food quality and safety.
- 4) Preventing and managing infectious diseases.
- 5) Promoting Breast Feeding
- 6) Caring for the socio-economically deprived and nutritionally vulnerable.
- 7) Preventing and controlling specific micronutrient deficiencies
- 8) Promoting appropriate diets and healthy lifestyles.
- 9) Assessing and monitoring nutrition situations.

SECTION III included the project proposals that has been suggested by various government departments, research institutions with the objective of strengthening existing efforts in improving the food and nutrition situation in the country and promotion of those activities to reach a wider section of the population.

The implementation of those projects require local and foreign funding. It is hoped the co-sponsors of the ICN (FAO/WHO) will offer their assistance to implement them.

The following project proposals were recieved by the National Inter-sectoral committee and were recieved and included in this documents.

1. Establishment of a Food Security and Nutrition policy Unit in the Ministry of Agriculture, National Resources and Animal Wealth.
2. Strengthening household food security in drought - prone areas.
3. Formation of fortified creal-based diets
4. Improvement of FOOD and Nutrition Information System in the Sudan
5. Rehabilitation of the Central Food Laboratories and establishment of Regional and State labs.
6. Study of the quality of plastic packaging materials used in Food Packing & Packaging.
7. Establishment and strengthening of School Gardening and Nutrition Education Departments in the States.
8. Establishment of a National Centre for Food, Nutrition and Health Education Training and Research.
9. Reducing the Workload of Rural Women.
 - a) Rapid Rural Appraisal (RRA) Exploring incentives for improving "Jubrakas management in the Sudan".
 - b) Preparation of charcoal from crop residues.
10. Promotion of Breast Feeding using the Knowledge, Attitude and Practices (KAP) approach.
11. Survey of aneamia and infestation rates among school children and pregnant mothers.
12. Establishment of a catering centre for Dietetic services in Khartoum Teaching Hospital
13. Conduction of a National Nutrition survey with especial emphasis on children under five and their mothers.

- 14.Improving household food security in drought - prone areas.
- 15.Improving food security in the Southern States through rehabilitation of the Agricultural Sector.
- 16.Community Irrigated Farms in South Sudan
- 17.Determination of Spacing Pattern of Drinking Water Wells and Pit Latrines in Bahr ElGazal and Upper Nile Sectors of South Sudan.

INTRODUCTION :

Sudan is the largest country in Africa with a total area of 2.5 million square kilometers. It is characterized by diverse ecological zones: ranging from desert in the North to the tropical rain forests in the extreme South. Between these two extremes there are semi-arid and savannah zones supporting natural pasture for livestock, rain-fed farming and some of the largest irrigation schemes in the world (Gezira and Rahad) fed by the Nile and its tributaries.

A similar diversity exists in the nature of the population resulting in various socio-cultural features which affects the dietary patterns in the country. These diversities resulted in the existence of different food consumption patterns and the incidence of varying food and nutrition problems which require regional and local approaches to deal with them. Thus a national plan of action to address food and nutrition concerns should take into consideration the necessity to develop policies and strategies at regional and local levels.

Recently the Sudan Government adopted a Federal System of administration whereby the country was divided into 26 states and a restricted Central authority. The objective of this administrative structure is to delegate more authority to states to enable them to deal with their local problems and plan and implement their development plans. Therefore the national plan of action for Sudan will have to be modified from time to time to take into account changes that occur at the State and local levels.

Since the preparation of Sudan position paper in 1991, various changes took place. The political commitment of the government to the declarations and plan of action of the three unique events in the history of Nutrition (The World Summit of Children Sept. 1990, the International Conference on "Ending Hidden Hunger" October, 1991 and the International Conference on Nutrition December, 1992), have accelerated the implementation of nutrition programmes in the country.

The after effects of the food gap which was then going on were greatly reduced in the mostly hit States of Darfur, Kordofan, Eastern and parts of the Central state. The intervention measures in implementation (Nutrition monitoring surveys, and establishment of Nutrition centres, Vit. A capsules distribution, iodinated oil administration, nutrition education, community oriented surveillance programme, adhoc distribution of iron and folate at MCH centres etc. have led to some improvement in nutrition deficiency disorders, but not among all groups of the population such as the displaced communities.

But unfortunately these favourable situations did not continue because of the on going civil war in the South and the recurrence of the food gap especially in the Western and

Southern States which once again entered the country into the chronic problem of displacement. So The nutrition status in the country is once again showing great fluctuations. The country is therefore reprogramming and reprioritizing its activities.

Micronutrient deficiencies are now resurfacing to have an equal priority with PEM in the government policy. The problem of collaboration and integration is dissolving to a certain degree by the establishment of a high technical committee for IDD, the committee for the prevention of blindness, National committee for ICN, Follow-up and National Council for Cereals etc. the advanced stage in establishing a National Food and Nutrition Council and the very close collaboration with all international agencies and NGOs.

The Government of Sudan participated in the ICN and is committed to putting its recommendations into effect through the following National Plan of Action on Nutrition. A large part of the ICN recommendations falls within the National Comprehensive Strategy (NCS) 1992 - 2002, which aimed at overall development of the country. (economic, social, cultural and spritual aspects).

SECTION I

ANALYSIS OF THE FOOD AND NUTRITION SITUATION IN THE SUDAN:

Agriculture constitutes the major source of income and livelihood for more than 80% of the population in the country. It represents the greatest opportunity for socio-economic development and consequently offers the greatest potential for achieving sustained improvements in nutritional status of the population.

The Government of Sudan adopted a ten-year National Comprehensive Strategy (1992 - 2002). In this Strategy, agriculture is considered the dominant and leading sector receiving the highest share of the total resources to be allocated.

Among the top most important objectives of this strategy with respect to the agricultural sector are the following:

- a. Realization of food security at the national and household levels
- b. Transformation of the unstable food production base to a stable one through increasing irrigated area and relying on the irrigated sector to produce most of the food requirements.
- c. Responding to the challenges posed by climatic changes and macroeconomic reforms.

Specific macroeconomic policies were adopted as part of the economic adjustment programmes, and which affect food and nutrition. These policies may be summarized as follows:

- a. Removal of subsidies from the prices of sugar and petroleum products and substantial reduction of the subsidy on bread with the ultimate objective of removing it.
- b. Reduction of taxes on agricultural commodities.
- c. Increasing the credit allocated to the agricultural sector to 50% of the credit ceiling made available by the Central Bank to all sectors. Prior to 1990, agriculture used to get only 3% of the total credit ceiling.
- d. Liberalization of prices of agricultural commodities and allowing market forces to determine prices. An exception to this is the fixing of a minimum procurement price in the case of certain important commodities such as wheat, at which the government is committed to purchase any quantity produced.
- e. Elimination of restrictions on exports and imports.

To mitigate the impact of the price liberalization policies on vulnerable groups the following measures were taken:

- a. Establishment of a "Solidarity Fund" which supports about 500,000 poor families.
 - b. Zakat fund which supports 200,000 families.
- The Solidarity and Zakat funds provide cash income as well as help needy families to establish income generating activities.

The beneficiaries of these programmes represent about 15 - 20% of the population.

- c. The government increased salaries of its employees by 700% for the lower brackets and 200% for higher brackets following the introduction of the economic reform measures in 1992. The private sector followed suit. A High Council for Wages representing the public sector, the private sector and the Labour Union is formed with the mandate to review salaries and wages every six months.
- d. A ration card for sugar is introduced and a specified quantity is distributed at a subsidized price. The quantity distributed depend on the size of the family. Bread is subsidized partially.
- e. Cooperatives provide their members certain basic food commodities at ex-factory prices with reduced or no taxes.

The government adopted the following food policies with objectives of improving the food and nutrition situation:

- a. Increasing food production to secure enough food throughout the year through:
 - i) Emphasis on increasing yield per unit area of food crops in all types of farming systems, especially in the traditional rainfed sector, which is characterized by very low yields at present. Expansion of the cultivated area will also be considered.
 - ii) Introduction of new food crops such as maize in the irrigated schemes and sunflower in the rainfed mechanized sector and the provision of the necessary incentives for farmers to grow them.
 - iii) Encouraging the use of composite flour by substituting sorghum (usually available in abundance) for wheat in order to reduce the amounts of wheat consumption.
 - iv) Changing the rotation in the irrigated schemes with the view to increase the area under food crops (i.e. sorghum and wheat) at the expense of cash crops. The objective is to produce about 70% of the staple food under irrigation which is less risky (compared to rainfed agriculture) instead of 30% at present.
 - v) Discouraging consumption of wheat in the rural areas and encouraging the consumption of locally available cereals such as sorghum and millet as well as casava in the South.
 - vi) Expansion of wheat in the Nile and Northern states where the climatic conditions are more favourable for its production.
 - vii) Directing agricultural research and extension services towards increasing and improving the production of food crops.
 - viii) Encouraging local and foreign investors to invest in food production (both crops and livestock)
 - ix) Reduction of post harvest losses through better storage, processing, handling and transportation of food commodities.

b. Promotion of household food security through:

- i) Encouraging a high degree of selfsufficiency in food needs at the household level in the rural areas through the provision of agricultural inputs such as improved seeds, fertilizer, crop protection services and the provision credit facilities.
- ii) Introduction of food crops of high nutritional value in the household backyard gardens "gubrakas".
- iii) Facilitating the rearing of small animals by rural households in their backyards to provide milk, meat and eggs.
- iv) Training women in simple methods of food processing and preservation.

However, the main causes of food and nutrition problems facing the country may be summarised as follows:

- i) Economically the country depends on a few cash crops (e.g cotton, sesame, groundnuts, gum arabic) and limited exports of livestock to neighbouring countries as its major source of foreign exchange. The low levels of productivity of these commodities coupled with their fluctuating prices in the international markets makes the amount of foreign exchange available to the country most uncertain. This situation is made worse by the occasional incidence of periods of drought and floods which disrupt agricultural production in many parts of the country.
- ii) Politically the Sudan is suffering from the continuing civil war in the South, the cost of which is enormous in both human and economic terms. One of its main consequences is the creation of a large number of displaced communities which need to be looked after and thus turn from food producers to food consumers.

Malnutrition is a major public health problem in Sudan contributing significantly to the high rates of morbidity and mortality in infants, children and their mothers. The problem is made worse by the high prevalence of infectious diseases, poverty, improper intra-household food distribution and limited knowledge about proper nutrition practices as well as inadequate health care delivery systems.

The two major nutrition problems which require immediate attention are:

- a) Protein-Energy Malnutrition (PEM) among children under five years of age.
- b) Micronutrient deficiencies particularly those related to vitamin A, iodine and iron deficiency anaemia.

In addition some of the diet related non-communicable diseases are emerging among the urban population.

In order to deal with all these problems the Government of Sudan has recently adopted socio-economic policies and plans to be implemented in the next ten years as stated in the National Comprehensive Strategy(NCS,1992-2002).This plan of action on nutrition in the Sudan is designed to be implemented as part of the NCS.

More information on the food and nutrition situation is given as background to the nine themes in the next section.

SECTION II

BACKGROUND, STRATEGIES, ACTIONS, AND INSTITUTIONS INVOLVED TO ADDRESS THE NINE THEMES IDENTIFIED BY ICN.

THEME (1) :

INCORPORATING NUTRITIONAL OBJECTIVES, CONSIDERATIONS AND COMPONENTS INTO DEVELOPMENT POLICIES AND PROGRAMMES.

A. BACKGROUND :

Agriculture is the major source of income and livelihood for more than 80% of the population in the Sudan. It represents the greatest opportunity for socio-economic development and consequently offers the greatest potential for achieving sustained improvements in the nutritional status of the population particularly the rural poor. It is therefore necessary to incorporate food consumption and nutritional objectives in policies and projects which support and shape the country's agricultural and socio-economic development plans.

Nutritional objectives need to be deliberately built into all area development projects and programmes at the planning stage and throughout the planning cycle in order to ensure that appropriate resources to improve food consumption and nutritional status are channeled to the most malnourished and those most at risk.

Experience to date indicates that the above mentioned approach in most cases has not been followed. It is often assumed that improvements in nutrition and health of the population will be automatically realized as an outcome of economic development. Sectoral development plans in agriculture, health and social welfare etc. are executed and evaluated in isolation of each other. Unfortunately most donors and international agencies advocate coordination but fail to fully embody the idea.

It therefore becomes necessary to emphasize the importance of this theme to all those concerned with development planning to adopt the suggested integrated approach in future planning policies, projects and programmes at the Central and State levels.

B. STRATEGIES :

- * Incorporation of clear-cut nutritional goals and components in National and State development plans, projects and programmes.

- * Analysis of the effects of macro-economic level policies and development plans, projects and programmes to determine to what extent economic development is reflected in the nutritional well-being of the targeted group of the population
- * Strengthening the technical capabilities of each of the relevant ministries and agencies to identify food and nutrition problems and improve the monitoring and evaluation of development projects and programmes that affect nutrition.
- * Promotion of inter-sectoral cooperation and coordination to keep nutritional status of the population under continuous review and to facilitate the development of national food and nutrition policies and programmes.
- * Development and use of relevant indicators to monitor and evaluate the impact of socio-economic projects and programmes on the improvement of nutritional status of the population.
- * Incorporation of food and nutrition education informal and non-formal education systems in order to raise the level of awareness in these aspects for both planners, and recipients.

C. ACTIONS NEEDED AND INSTITUTIONS INVOLVED:

ACTIONS	INSTITUTIONS INVOLVED
* Incorporation of clear goals and components in National and State development plans	Central Ministry of Finance and Economic Planning, State and Sectoral Planning Units.
* Incorporation of nutritional considerations in all stages of the project preparation cycle.	Project preparation Units at national, state and sectoral levels. Financial & Technical assistance offered by donors and international agencies
* Institutional support to strengthen technical capabilities of the relevant Ministries and agencies in Food & Nutrition.	Government of Sudan International Agencies
* Promotion of inter-sectoral cooperation and coordination	Government of Sudan through speeding up of the formation of the National Food and Nutrition council.
* Incorporation of food and nutrition education in formal and non-formal education	Ministry of Education (Central and State Ministries) through SGNED. Ministry of Health through National Nutrition Dept., PHC, and Health Education, Ministry of Agric. through Extension services, Ministry of Culture and Inform.
* Promotion of the integrated approach by Donors, International Agencies and NGOs.	Donors, International Agencies, NGOS.

THEME (2)

IMPROVING HOUSEHOLDS FOOD SECURITY.

A. BACKGROUND :

Food security in the Sudan is a problem of accessibility and entitlement rather than availability. It is a consumption problem characterized by pockets of food shortage and specific forms of malnutrition. The situation is most critical in certain states mainly North Darfur, North Kordofan, the Red Sea state, and the Southern States affected by the civil war. The food insecure groups include displaced communities, refugees, and the rural urban poor and the female headed household.

Within the framework of the National Comprehensive Strategy (NCS, 1992 - 2002), the Government has on - going policies and plans to improve food security at both national and household levels which may be summarized as follows:-

1. Adoption of a free market mechanism
2. Adoption of a flexible exchange rate
3. Minimizing the budget deficit.
4. Replacing the general subsidy system by a targeted subsidy.
5. Raising the minimum wage with a mechanism of reviewing it every six months.
6. Formation of the Solidarity Fund and reactivating and improving the collection and distribution channels of Zakat as a safety net for poor households.
7. Stimulation of agricultural productivity and animal production through strengthening the provision of agricultural inputs and services especially to the traditional small holders.
8. Application of the Federal System of Government as a means of decentralization aimed at equitable distribution of resources.

However several constraints are facing these policies and plans which may be summarized as follows:

1. Social constraints limiting the accessibility of women food producers to modern and agricultural technologies and the overall weak access of traditional rain-fed sector to agricultural inputs.
2. Fluctuation of food production in the rain-fed sector due to unpredictable rainfall and occasional pest and disease infestation etc.
3. The expanding weak asset base and prevalence of poverty.

4. Weak agricultural research and extension services directed towards rain-fed agriculture.
- 5 Weak infrastructure particularly, transport and communication networks.
6. Nutrition improvement is not in most cases specified as a direct goal in rural development projects and programmes.

B. STRATEGIES :

- * Adoption of development plans (at Central, State and Sectoral levels) to promote economic growth with particular focus on the alleviation of poverty and improvement of food accessibility and entitlement .
- * Improving household food security should be stated as an objective in all Government Sectors i.e agricultural, health and socio-economic policies and plans as well as other development sectors such as the private sector National and International NGOs and the international agencies involved.
- * Provision of agricultural inputs and credit facilitate to small farmers to enable them to improve their productivity of food crops and animal production.
- * Promotion of income-generation activities to improve opportunities for employment and income of rural and urban poor families.
- * Improving Food Security in the drought prone and area of civil conflict through rehabilitation of the agricultural sector and provision of social services (Health, Education & Social Welfare etc.)
- * Rehabilitation of the agricultural sector in the war affected areas in order to ensure household food security.

C. ACTIONS AND THE INSTITUTIONS INVOLVED.

ACTION	INSTITUTIONS INVOLVED
*Adoption and implementation of socio-economic development plans to create conditions for economic growth and alleviation of poverty	Ministry of Finance & Economic Planning (Central & State and Sectoral Planning Units) Ministry of Agriculture (Central & State) Ministry of Industry & and Trade. Specialized Banks, the Private Sector and International agencies & NGOs involved
*Minimising food losses at all stages of the food chain *Establishment of post-harvest management administration.	Agricultural Res. Corporat. (Food Research Centre), Universities (Faculty of Agric. & Science), Agric. Extension Service (Central & State) MOA, FAO.
*Timely provision of food in different locations & EWS in emergency situations & strategic reserves of staple cereals	RRC, MOA, MOT, Strategic Storage of Staple cereals through MOF, ABS & UN agencies, WFP & NGOs
*Promotion of Home & School gardens wherever possible (Jubrakas).	MOE (SGNED), MOA (Extension service) and NGOs. FAO.
*Improving of labour market by establishing an information centre to provide information about potential job and wage levels and labour supply.	Ministry of Labour
*Continuation of cash food for work programmes to provide off-farm income opportunities and strengthen asset base of households	Project management Units and income-generation in relevant Ministries, WFP and NGOs
*Promotion of the production & consumption of fruits and vegetables	Federal & State Ministries of Agriculture (Horticulture Administration & Agric. Extension services) SGNED's in the States

ACTIONS	INSTITUTIONS INVOLVED
<p>*Improving food security in drought prone and areas of civil conflict</p>	<p>Federal & State Ministries of Agriculture, Finance & Economic Planning, Health, Education, National and International, NGO's, UN-Agencies (FAO, UNDP), National Council for Cereal</p>
<p>*Improving agronomic practices of local food crops in the war affected areas (eg. root crops such as cassava and sweet potatoes) maize, pulses and introduction of palm oil trees.</p> <p>-Improving fish production & preservation methods</p> <p>-Strengthening of agric. research & extension service in the Southern States.</p> <p>-Provision of credit facilities agric. inputs etc through the specialized banks.</p>	<p>Federal & State Ministry of Agricultural (Agric. Research crop & Agric. Extension Administration) Opening of branches for Agric. Bank, Farmers Bank & Industrial Bank etc. International agencies particularly FAO, WFP, UNHCR & National and International NGOs.</p>

THEME(3):

PROTECTING CONSUMERS THROUGH IMPROVED FOOD QUALITY AND SAFETY:

A. BACKGROUND :

Food safety and control provides protection for the consumer from fraud adulteration, deteriorated foods, inferior quality and contamination. This can be achieved through well established food control infrastructure e.g. proper inspection system and compliance with food laws including laboratory analysis to check the standards and enforcement food laws and regulations.

The system should cover the whole country for the locally produced foods and food export as well as the imported foods, to ensure safe handling starting with the raw and/or primary materials and food additives through packing, transportation, storage up to distribution and consumption including its related effects according to Codex Alimentarius standards.

In Sudan there is food legislation, including:

- food control act, regulations and local and international food standards (food hygiene, additives and contaminants).
- Licensing of food establishment including street vendors.
- Regulations regarding the registration of pre-packed foods, (ingredients, packaging materials and labelling).

Regarding food quality control and management of food laboratory, development of infrastructure (labs. and inspection) is considered together with the involvement of the food industry.

B. STRATEGIES :

1. To know the nutritive value of locally produced foods
2. To reduce health hazards resulting from canned foods and plastics packing.
3. Control of IDD
4. Formulation of weaning foods from locally available food stuff.
5. Promoting consumers & producers awareness and involvement.
6. Provision of clean water for domestic use.
7. To strengthen food quality control.

C.ACTIONS AND INSTITUTIONS INVOLVED :

ACTION	INSTITUTIONS INVOLVED
*.Development & completion of volume II of food composition tables	Ministry of Health (National Health Lab.)
*.Study of toxic trace metals in canned foods and other toxic constituents (white cheese, tomatoe paste, fish & salted fish, vegetables & fruits including jams and drinks	Ministry of Health (National Health lab.)
*.To study the quality of plastic packaging materials used in contact with foods.	MOH (National Health lab).
*.To study the stability of iodine in the iodized salt.	MOH, Salt Producing Companies.
*.Education and training	MOH, MOA, MOE, MOI MOINFORM, MOSP.
*.Analysis of weaning recipees	MOH, Food Research Centre
*.Rehabilitation of existing food quality control laboratories, (National & States)& establishmen of new labs.especially at entry points(airports).	MOH, SUD GOV.& Doners

THEME (4)

PREVENTING AND MANAGING INFECTIOUS DISEASES :

A. BACKGROUND :

Information related to incidence and prevalence of infectious and endemic diseases is lacking and only for those diseases for which there are specific programmes or projects. Some surveys to highlight their prevalence and incidence are done or on their way to be determine e.g. TB, Aids, Brucellosis --etc.

And for some immunisable diseases e.g. measles, diarrhoeal diseases of children (under 5 yrs) and to some extent malaria and bilharsia some studies and mostly (Academic) have printed out their negative impact on some target groups, except for these, no other large scale study or survey was conducted.

This is primarily due to the deficient information system where the data is either incomplete, untimely or misused due to the lack of trained personnel to generate the data and cater for its properness and usefulness both at the level of collection, compilation, analysis or use.

Among the diseases with known negative impact on health and nutrition, yet undermined, are the intestinal worms that prevail almost in every community with poor sanitation urban being or rural; specially with the suburbs of cities like Khartoum, affecting the particular women and children especially underfive and school children.

B. STRATEGIES:

To establish a reliable and sustainable system for Emergency preparedness and Response (EP&R), especially regarding outbreak of epidemics e.g. diarrhoea, measles, T.B, ARI.

C.ACTIONS AND INSTITUTIONS INVOLVED: -

ACTION	INSTITUTIONS INVOLVED
* Training of health cadres at different level, in the area of prevention and control of infectious diseases.	Ministry of Health (Aids, EPR, CDD, ARI, Malaria Control Dept. EPI)
* Review & development of education materials & audio visual aids	Ministry of Health (Health Education)
* Increase ORS(Oral Rehydration Salt) availability accessibility and use	Ministry of Health CDD (Federal & State)
* To reduce ARI prevalence through availability of drugs and supplies	Ministry of Health ARI(Federal & State)
* To replicate DTUs & ORT coners	Ministry of Health (CDD & other Health facilities)
* To raise the awarness of the public particularly mothers through session, talk, mass media and demonstration	Ministry of Health (PHC, especially HE, Information)at Federal & State
* To determine the rate of infestation among school children to highlight the regular impact of poor sanitation and misbeliefs that lead to poor nutritonal status	Ministry of Health (Epidemilogy Dept.& Nut.Dept)

THEME (5)

PROMOTING BREAST FEEDING:

A. BACKGROUND:-

Breast feeding is the best food for the infants and children and has no substitute.

During the first four months, breastmilk provides all necessary nutrients without need to give other foods or liquids including water. This can be achieved provided that the mother is well-nourished, consuming enough food and breastfeed the child continuously on demand.

Breast feeding protects infants and young children from childhood infectious diseases. Breast feeding should continue till the age of two years and complementary foods should be introduced at the age of four months (from the locally available and affordable foodstuffs).

To raise the awareness of women and support them to breastfeed is mainly done through health and nutrition education at all levels specially through MCH clinics.

In the early 1980's a research was conducted about the duration of breast feeding in Sudan. It was found to be 13.4 months.

A National committee for the promotion of breast feeding was established in 1992.

A working group from the different concerned bodies (Paediatricians, Obstetricians, nutritionists and nurses), was formulated for planning the establishment of Baby Friendly Hospital Initiative (BFHI) in maternity hospitals.

B. STRATEGIES:-

1. Strengthening the existing efforts to promote and support breast feeding through raising the public awareness particularly mothers.
2. Promoting sound weaning practices

C. ACTIONS AND INSTITUTIONS INVOLVED:

ACTION	INSTITUTIONS INVOLVED
*. To replicate the establishment of BFHI	MOH, Medical Schools & Private Hospitals.
*. Establishment of baby & mothers friendly services at community level.	MOH, NOGs, MOE, MOSP & community.
*. Modification of the law regarding maternity leave.	MOH, MOL, *, women societies.
*. Adoption of the international code of marketing of breast milk substitutes	MOH, MOINFORM, MOSP, MOE, Private Hospital
*. Campaign to advocate the importance of formulating a law for a four months maternity leave	MOH, MOSP, MOE, MOA, MOINFOR, Women Trade Union & Assoc.
*. KAP survey	MOH, Medical institutions, MOE.
* Weaning food mixes & recipes	Nat. & State Nut. & other bodies

THEME (6)

CARING FOR THE SOCIO-ECONOMICALLY DEPRIVED AND NUTRITIONALLY VULNERABLE :

A. BACKGROUND :

Caring refers to the provision in the household and the community of time, attention, support and skills to meet the physical, mental and social needs of the socio-economically deprived and nutritionally vulnerable groups. These groups include infants and growing children, women, the elderly, the disabled, the displaced, refugees, orphans and the unemployed.

The Government should provide a supportive environment for family and community-based care as well as direct services when additional care is needed.

Care within the family includes support during and after pregnancy, breast-feeding, reducing child stress, provision of shelter, clothing, feeding, prevention and treatment of illness and showing affection and respect.

Care facilities outside the family include preventive and curative health services, social care and development, and basic education.

In the Sudan social care services have been going on for a long time. Recently a Ministry of Social Planning has been established to take care of most of those requirements. The Ministries of Health, Education and Culture & Information are also involved. Other institutions involved include several national and international NGOs and charity organizations.

B. STRATEGIES :

- a) Ensuring that all infants and young children particularly those in difficult circumstances have access to adequate well-balanced and safe diets, health care, basic education and social services.
- b) Enhancing legal and social status of women in view of their pivotal role in household and the community and decrease their workload to spare more time for child and family care.
- c) Providing nutrition, health and education support services to adolescent boys and girls to prepare them to fulfill their future roles as productive adults and parents
- d) Strengthening of existing efforts to promote caring facilities for disabled individuals.

- e) Strengthening of existing efforts to enhance food and nutrition programmes directed to urban poor and street children.
- f) Strengthening efforts to targetted assistance of the displaced and refugees.

C. ACTIONS AND INSTITUTIONS INVOLVED :

ACTION	INSTITUTIONS INVOLVED
* Expansion of Social care services and special homes for disabled individuals and orphans, the elderly and displaced	Ministry of Social Planning, National & International NGOs and charity organizations,
* Expansion of income generating projects to improve the purchasing power of urban & rural poor families	Ministry of gricultural, Ministry of Education (SGNED), Ministry of Social Planning, NGOs
* Expansion of school feeding programmes particularly in poor and remote areas	Ministry of Education (Federal & State) NGOs & International agencies(WFP). MOH related sectors

THEME (7)

PREVENTING AND CONTROLLING SPECIFIC MICRONUTRIENT DEFICIENCIES:-

A. BACKGROUND:-

The three major micronutrients (vitamin A, iodine and iron), will be taken as on package as far as it is feasible passing through the full spectrum of planning, implementation, supervision, monitoring and evaluation with special emphasis on intervention measures, training and laboratory monitoring.

Since the quarterly nutrition monitoring surveys is still in action and will continue either in a systematic way or in the form of adhoc surveys as needed, the new plan is to incorporate some easy means with quarterly surveys to monitor the three micronutrients as well. One of the main objectives behind this is the unification and the proper channelling of the reporting system of all nutrition activities.

The second main objective is that all major nutrition activities will be undertaken by a well trained and well supervised cadres. First line of defence personnel at the village level will be skilled in detecting very simple signs and symptoms like night blindness, paleness, pitting up oedema and thyroid swelling.

The existing programmes for the elimination of the micronutrient deficiencies include:

- Iodine supplementation in endemic areas (iodinated oil tabs & injections).
- Fortification of sugar with iodine (at an experimental level), and filtration of iodine in wells in Bara district North Kordofan
- Salt iodization policy is undertaken by the government.
- Supplementation of Vitamin A capsules in most affected areas.
- Detection of signs and symptoms of micronutrient deficiencies.
- Intensive education programmes for the enhancement of the consumption of the locally available and appropriate rich sources of Vit.A, iodine and iron.

B. STRATEGIES:-

1. To prevent and control micronutrient deficiencies through:

Identification of etiology, geographical distribution, underlining causes, severity and magnitude of the problem, together with the development of different intervention measures.

C. ACTIONS AND INSTITUTIONS INVOLVED :-

ACTION	INSTITUTIONS INVOLVED
*Micronutrient prevalence surveys	Ministry of Health (Central & State), Universities (Fac. Medicine), MOE, NGOs
*Supplementation: - Vit A capsules - Iodized oil tabs - Folic acid & iron Tabs	MOH/PHC/NUT. (Central & State) & NGOs
*Production of iodized salt	MOH, NUT. (Central & State) Nat.H.Lab. Salt producing companies.
*Expand and establish of nutrition centres	MOH, MOA, MOE, NGOs
*Training and extension at village level	MOH/PHC/NUT. (National & State).
*Development and printing of educational materials	MOH (National Nut.)

THEME (8)

PROMOTING APPROPRIATE DIETS AND HEALTHY LIFE-STYLES:

A. BACKGROUND :

Promoting adequate diets and life-styles is largely a matter of information and education .Since the most urgent problems in the Sudan are those associated with undernutrition, this theme is not receiving high priority at present.

The current strategies therefore, aim at promoting adequate and balanced and safe diets, specially in areas where people depend on the staple cereal alone. Problems related to overnutrition leading to obesity and chronic diet related non-communicable diseases such as diabetes mellitus, hypertension, and cancers are not at present properly surveyed and recorded. Records on these diseases are kept in hospitals from admitted patients.

However, in view of their gradual emergence particularly among urban communities it will be necessary to follow-up their incidence and spread and identification of the population groups most affected should be monitored in order to target specific information messages to raise the level of awareness.

B. STRATEGIES:

- * Identification of the magnitude of the incidence and spread and the age groups most affected by the problem of diet related non-communicable diseases.
- * Production and dissemination of targeted messages to the population groups most affected by this problem.
- * Expansion specialized hospitals and clinic services to deal with out and in-patients to deal with both preventive and curative measures.

C. ACTIONS AND INSTITUTIONS INVOLVED:

ACTIONS	INSTITUTIONS INVOLVED
* Collection and analysis of data on the magnitude of diet related non-communicable diseases	Ministry of Health (National Nutrition Dept. Hospital records) private hospital and clinics
* Formation of information messages to the population groups most affected and the public in general through mass media, agric. extension workers etc.	Ministry of Health (National Nutrition Nutrition Dept., Health Education Dept. "PHC"), Ministry of Education (SGNED), Ministry of Agriculture (Agriculture Extension services), Ministry of Culture & Information (Central & State levels).
* Strengthening of efforts to promote the consumption of adequate and balanced diets.	Same institution as above
* Enforcement of laws on the prohibition of alcoholic drinks, smoking and use of narcotics	Ministry of Interior, Ministry of Justice, Ministry of Culture & Information
* Expansion of sport facilities for all age groups and encouraging their use.	Ministry of Social Planning, Ministry of Education and Sport Unions.
* Improving diet therapy and dietetic units in hospitals & clinics	Ministry of Health Private & Public hospitals & clinics.

THEME (9)

ASSESSING, ANALYSING AND MONITORING NUTRITION SITUATIONS:

A. BACKGROUND :

During the period 1986 -87 the MOH(National Nutrition Department and Health Statistics Department) conducted a national nutrition survey " SERISS " Sudan Emergency, Recovery Information & Surveillance System, with the financial support of USAID. The survey covered 80,000 children under five in all the six northern regions at that time. The data was collected over a period of a whole year covering the different seasons.

SERISS has since then served as the baseline data for future surveys to be compared with.

Since 1990 quarterly nutrition monitoring surveys were implemented at the national level in order to bridge the food gap which was then going on in some parts of the country-mainly Kordofan, Darfur, Eastern and parts of Central zones.

It proved to be the best reporting system up to now. The format of these surveys was revised to assess the prevalence of micronutrient deficiencies using very simple indicators.

In 1992 a community - based nutrition surveillance for "early warning purposes" was introduced. Among its objectives is the timely and appropriate intervention. To meet this objective, the data is analysed at the provincial level. The nutritional status of the mothers is also monitored with their children. This programme is expanded at the health area (health area is the rural council including a number of villages around a rural hospital). This programme is now functioning in Kassala, Sennar and N. Kordofan States and will be expanded to other states.

Growth monitoring is a long standing activity in the country. It will continue in close collaboration in MCH centre, hospitals and all other health facilities together with SGNEC units down down to the village level.

Micronutrient prevalence surveys (IDD, VAD, IDA) are conducted in some parts of the country. Recently questions were added to the quarterly monitoring surveys to cover micronutrient deficiencies as well.

B. STRATEGIES :

- * Regular assessment of nutritional status.
- * To standardize indicators reflecting socio-economic situation in relation to nutritional status.

C. ACTIONS AND INSTITUTIONS INVOLVED :

ACTIONS	INSTITUTIONS INVOLVED
*National Nutrition Survey	MOH (Nut. Central & State) MOE(SGNED), MOA (Agric. Extension), NGOs.
*Community -based nutrition surveillance.	MOH (state Nut. Units, Health area team, Health committee at village level and NGOs.
*Growth monitoring in all health facilities	MOH/PHC(NUT.& MCH State, province, district & village units), SGNED & NGOs.
*Conducting regular food consumption surveys	MOH, (Central & State Nut. units), MOA, MOE, MOSP, Statistical Bureau.
*Institutional support to strengthen the capabilities of data analysis at Central and States level.	Sudan Govs., Donors, UN agencies & NGOs
*Training: - Post-graduate - Basic training - In-service training	MOH(PHC/Nut. Central & State), MOE(SGNED), NGOs.
*Conducting operational research in area of nutritional deficiency	MOH (Nat. Nut. Dept), Research Centre, Universities.
* Nutrition Monitoring survey Twice/year	State Nutrition Unit with other related sectors.

SECTION III. "PROJECT PROPOSALS".

Title : Establishment of A Food Security and Nutrition Policy Unit in the Ministry of Agriculture.

Sector : Agriculture

Government Implementing Agency : Planning and Agricultural Economics Administration

Donor Contribution : Equipment, Expertise, training, USD.150,000.

Starting Date and Duration : July 1995 (2 years)

Location : Headquarters of MANRAW, Khartoum

I. Problem Definition

Development policies and programmes are designed with little consideration for nutritional objectives, considerations and components. The incorporation of nutritional considerations into the broader policies of economic developments, structural adjustment, food and agricultural production, processing and marketing of food have an impact on nutrition through food availability and prices, incomes, environmental conditions and health status. Development policies and programmes can also have varying impacts on the nutritional well-being of different population groups. The lack of proper attention to nutrition considerations in the Sudan may be attributed to the absence of a unit within the Ministry of Agriculture capable of designing nutrition policies. Hence the need to strengthen the capacity of the Ministry of Agriculture in the area of nutrition policy formulation, monitoring and evaluation. This necessitates the establishment of a Nutrition Unit within the Planning and Agricultural Economics of the Ministry of Agriculture staffed with properly trained and equipped personnel to perform the required duties and responsibilities. The Unit will also take care of the post-harvest phase of food production which is not receiving enough attention at present.

II. Specific Issues to be Addressed:

Impact of macro policies, development programmes and projects on:-

- Food availability and prices
- Incomes
- Special emphasis will be on vulnerable groups.
- Food Security issues
- Nutritional needs of the population (preparation of a FBS for Sudan)

III. Current Policy and Relevant Activities:

Since 1990, the Government introduced several policies reform measures including the Investment Encouragement Act(1991), the

Disposition of Public Enterprises Act(1990), the National Strategic Plan (1991). In 1992 the Council of Ministers passed a decree which included the elimination of subsidies on bread, sugar and petroleum, shifting finance of parastatals to commercial banks and increasing credit to agriculture to 50% of total money available for lending, floating of the currency, abolishing the minimum price for exports, repealing import and export licensing system. A three year programme for the disposition of public enterprises was approved which included 15 agricultural production and marketing parastatals. To mitigate the negative impact of these policies on vulnerable groups salaries and wages in the public and private sectors by 700% for the lower brackets and 200% for the higher brackets. The Government established certain programmes to alleviate poverty including the Solidarity Fund which supports half a million poor families and the Zakat Fund which supports two hundred thousand poor families.

IV. Expected End of Project Situation:

The training of a core of economists at the Federal Ministry of Agriculture on methods and techniques of analysis of impacts of policies, programmes and projects on the nutritional status of target groups. This group will also help in training staff at state and project levels.

V. Description of Work to be Carried out:

Objectives:

- Establishment of a food security and nutrition policy unit in the Ministry of Agriculture, Natural Resources and Animal wealth.

OUTPUTS:

- Training of trainers on nutrition aspects of policy analysis
- Training of staff from states and projects
- Evaluation reports on impacts of policies and programmes on nutritional status and realization of food security of target groups.

Scheduling of Activities:

The project will be implemented within a period of 24 months:

First year: Establishment of the Unit, recruitment of the staff, recruitment of an expert, start up workshop, training of trainers, procurement of equipment

Second year: Training of trainees from projects and States, final workshop to discuss coordination with other units.

VI. Institutional Arrangements and coordination:

The Unit will be established under the Planning and Agricultural Economics Administration in the Ministry of Agriculture. The Unit will be the focal point for coordinating related activities within the Ministry. It will also be responsible for coordination with the National Committee as well as with the relevant units in the State Ministries of Agriculture etc.

VII. Inputs:

- 2 personal computers with printers, accessories and software
- 2 typewriters
- 1 heavy duty photocopying machines
- overhead projector
- land cruiser station 4WD
- operating expenses
- 12 m/m of consultancies
- training locally and aboard

VIII. Government Priority Commitment and participation:

The Government considers this project a high priority. The Government will provide staff, office space, exemption of project imports from custom duties.

IX. Prerequisites and Assumptions:

Prerequisites:

- Ministerial decree establishing the Unit
- designation of the required staff
- Designation of required office space

Assumptions:

- The cost of equipment, consultants, training aboard and vehicle will be met by donors
- Government of Sudan exempt project imports from import duties.

TITLE	: PROMOTION OF FOOD SECURITY IN DROUGHT PRONE AREAS.
SECTOR & SUB-SECTORS	: AGRICULTURAL, LIVESTOCK SOCIAL WELFARE, HEALTH.
GOVERNMENT IMPLEMENTING AGENCIES.	: NGOs, MOA, MSP, MOE, MOH
DONOR CONTRIBUTION	: US\$ 15,600,000
GOVERNMENT CONTRIBUTION	: Ls. 35,100,000
STARTING DATE	: JULY 1995
DURATION	: 5 years
LOCATION	: SODARI PROVINCE/N.KORDOFAN.

I. PROBLEM DEFINITION :

North Kordofan had been severely hit by drought and desertification within the last decade. The population, who are mainly livestock owners lost their herds and the basic assets to make a living. The degradation of the resources has led to the migration of these rural population to the urban centres in search for new job opportunities, thus creating a new poor segment around the cities. Main immigrants were males, leaving the females with the heavy load of supporting the household. Both the degraded resources and the heavy load of productive and reproductive role laid on the rural women, caught the females in a vicious circle of poverty and malnourishment. The local production which is mainly subsistence was too small to support the household, and there was no technical intervention to improve the situation. Lack of physical, institutional and marketing infrastructure aggravated the situation further.

II. SPECIFIC ISSUES TO BE ADDRESSED :

The project should be considered as a model which would be replicated in other drought prone areas all around Sudan. The model should address the following basic issues :-

1. Provision of basic services which includes education, health and domestic water sources.
2. Food security realisation and poverty alleviation through:
 - a. promotion of agricultural production.
 - b. stimulation of sedentary livestock production as an income generating activity.
 - c. diversifying the production

3. Improving the standard of living through:
 - a. improving the dietary consumption
 - b. reducing the work load on females.
 - c. raising the level of income
 - d. improving health, sanitation and mother and child care
4. Natural resources preservation

III. CURRENT POLICIES:

Within the framework of the National Ten Years Strategy, the government has placed its policy focus on the following:

1. Food security realisation
2. Enhancing economic growth
3. Preserving the environment and keeping the ecological balance.

RELEVANT ACTIVITIES :

The government development programmes is stressing the importance of the rural sector. The rural population are targeted with programmes that address their basic needs and solve the problems of the traditional rainfed sector. The package includes:-

1. extending the credit services to the small holders.
2. raising income level
3. improving the life style.
4. Promoting the community participation.

The success of this approach is illustrated by the IFAD supported projects and Jabel Marra Rural Development project.

IV. EXPECTED END OF PROJECT SITUATION:

At the end of the project the community is expected to enjoy a better life style of about 10,000 persons through:

1. Provision of basic services
2. Accessibility to better means of production
3. Restoring the production capacity at the community level.
4. Reducing out-migration from the rural areas.
5. Restocking of livestock
6. Improvement of dietary consumption and nutrition status.
7. Full utilisation of the seasonal water resources
8. Cultivating about 2000 fd in Wadi Milk area
9. Cultivating 50,000 - 6000 fd. using small scale irrigation and water harvesting techniques
10. Promotion of the private forests
11. Preservation of about 60 sq. kilometers of natural pasture.
12. Distribution of about 10,000 goat through the line of credit.

13. Improving the managerial skills and improve the quality of cottage industries through training.

OBJECTIVES :

1. Alleviation of poverty
2. Preservation of natural resources
3. Improving the standard of living
4. Reducing rural migration
5. Empowerment of rural women

ACTIVITIES :

1. Agricultural Programme:-
 - * Extension services
 - * Provision of inputs and appropriate technology.
 - * Applied research
 - * Supplementary irrigation
 - * Credit services
2. Veterinary Programme:-
 - * Restocking of sedentary animals, through a time of credit
 - * Revolving fund for the provision of drugs and feed
 - * Veterinary services.
3. Jubraka Programme:-
 - * Extension services
 - * Provision of improved seeds.
 - * Diversifying the production.
4. Capacity Building:-
 - * Group formation
 - * Training in bookkeeping and managerial issues.
5. Community Development :-
 - * Provision of basic services through self-help initiation and community participation in management.
 - * Training in income generating activities to improve traditional skills
 - * Provision of investment opportunities in income generating activities through the banking system and creation of revolving fund.
 - * Social training centres to raise the awareness in child and mother care, health and sanitation, nutrition, home-economics, breast feeding, weaning foods, and literacy programmes.
 - * Seasonal cash/work or food/work programmes to generate income and rehabilitate the infrastructure.
6. Natural Resources Preservation :-
 - * Pasture management
 - * Water harvesting

- * Private and community forests
- * Sand fixation
- *

7. Monitoring and Evaluation:-

- * Baseline survey
- * Use of socio-economic indicators with health and nutrition indicators.
- * Regular sample survey to monitor the performance
- * Mid-term evaluation
- * Final evaluation.

VI. INSTITUTIONAL ARRANGEMENT & COORDINATION:

The project would be implemented by a national NGOs, whose technical staff would work with the community's informal groups and committees and the village leaders.

Training of trainers would be undertaken in the Social Welfare Training Centres.

The School Gardening and Nutrition Education would supplement the training. The extension message, applied research provided in close collaboration with the specialised government institutions.

The banking system would provide line of credit for the provision of water pumps inputs, livestock and funding for other income generating activities.

The project would make use of the national campaigns e.g. vaccination, literacy etc.

VII. INPUTS :-

It includes building of offices and staff housing with local materials, vehicles and fuel tankers, pumps and water harvesting techniques, veterinary equipment and drugs, the technical staff and short term consultants and the line of credit. It also includes the operational cost for the project:

	GOVs (000 Ls.)	DONORS (000 \$)
Building & Construction	2,000	1000
Vehicles	-	2000
Equipment	5,000	5000
Personnel	5,000	-
Operational cost	10,000	2000
Miscellaneous	5,000	2000
	-----	-----
Sub-Total	27,000	12,000
Contingencies(30%)	8,100	3,600
	-----	-----
Grand Total	35,1000	15,600

VIII. GOVERNMENT PRIORITY, COMMITMENT & PARTICIPATION :

The Government Commitment to the development of the rural sector and the balanced distribution of resources is clearly illustrated in the application of the Federal system which is expected to spread the government focuss all over the country to ensure the decentralisation of decision making process and planning.

Income generating activities are one of the targeted programmes adopted by the government. The government policy is also directed to ensure the accessibility of small holders to means of production through the spread of credit institutions in the rural sector.

The National Ten Years Strategy is also stressing the importance of provision of primary health and education service and the right of every citizen to have access to these services.

IX. PREREQUISITES AND ASSUMPTIONS:-

1. MOA should give due attention to the importance of applied research for rainfed crops. Improving traditional storage & preservation facilities is also essential to reduce the crop losses and overcome seasonal food shortages.
2. Marketing is considered as an essential limiting factor in the expansion of food production, distribution and full utilization of resources.
3. The flow of veterinary drugs and animal feed should be granted. Also the veterinary supporting services in the field of extension and health need to be available at the project level.
4. Based on Bangladesh Grameen Bank experience, the government should develop an institutional framework capable of providing small scale credit and investment opportunities to poor families. The loaning should be based on the principles of shared responsibilities.
5. Government and donors institutions should apply an integrated approach to address the problems of the rural sector. They should apply a complementary and comprehensive approach in which each would contribute in his area of specialisation. The project management should co-ordinate these efforts.
6. The community should be involved in the early stages of the project preparation to ensure their commitment and that the project meet their needs. Also they should participate in the management of the project activities to ensure its sustainability.

TITLE (A) : IMPROVING HOUSEHOLD FOOD SECURITY THROUGH PROMOTION OF PRODUCTIVE CAPACITIES IN THE SOUTHERN STATES

SECTOR & SUB-SECTORS : FEDERAL & STATE MINISTRIES OF AGRICULTURE

IMPLEMENTING GOVERNMENT AGENCIES : STATE'S AGRICULTURE MINISTRIES, RESEARCH CORPORATION AND AGRICULTURE EXTENSION ADMINISTRATION.

DONOR CONTRIBUTION : BUDGET=70% USD \$ 60,000,000
TECHNICAL & FINANCIAL SUPPORT TO IMPROVE AGRONOMIC PRACTICES, IMPROVING YIELDS & QUALITY LOCAL CROPS (e.g. ROOT CROPS PARTICULARLY CASSAVA & SWEET POTATOES), MAIZE, PULSES & OILSEEDS THROUGH PROVISION OF AGRICULTURAL INPUTS & SUPPORT OF AGRICULTURAL RESEARCH & EXTENSION INSTITUTIONS & PROVISION OF TRAINING OPPORTUNITIES.

GOVERNMENT CONTRIBUTION : 30% = Ls. 48,000,000
REHABILITATION OF AGRICULTURE SYSTEMS IN THE SOUTH THROUGH & ASSIGNMENT OF THE TECHNICAL PERSONNEL AND INFRA-STRUCTURES AT ALL LEVELS. PROVISION OF CREDIT FACILITIES, AGRICULTURAL INPUTS, STORAGE AND FOOD PROCESSING & PRESERVATION TECHNIQUES. PROVISION OF TECHNICAL PERSONNEL TO ADMINISTER AND MANAGE AGRICULTURAL RESEARCH & EXTENSION SERVICES.

STARTING DATE & DURATION : JULY, 1995 FOR 5 YEARS.

LOCATION : SOUTHERN STATES.

I. PROBLEM DEFINITION :

The Southern Region of the Sudan has been suffering from the grave consequences of the civil conflict that has been going on for more than a decade. A large number of the population left the region and formed displaced communities in other parts of the country or as refugees in neighbouring countries. This situation resulted in deterioration in health and nutrition status. Consequently local food production has virtually stopped and people became dependent on intermittent food aid.

Since the situation now is gradually coming back to normal it is essential to provide all types of assistance to encourage people to re-settle and start leading their normal lives particularly

with regard to agriculture and food production. Hence this project proposal aims at improving local food production and health condition and provision of agricultural research and extension and health services.

II. SPECIFIC ISSUES TO BE ADDRESSED:

- a. Improve agronomic practices of food crops with especial emphasis on rootcrops (e.g. cassava & sweet potatoes), maize, palm oil trees and pulses.
- b. Promote methods of fish catching and preserving from rivers and lakes.
- c. Agricultural research to improve both yields and quality of local crops and animal production particularly fish and poultry.
- d. Expand agricultural extension services in the region to transfer technologies to improve food production, storage and preservation.
- e. Provision of agricultural credit and inputs through the specialized banks e.g. Agric. Bank and Farmers Bank and Industrial Bank.
- f. Encourage formation of farmers cooperation to serve both food production and consumption.
- g. Provision of health services particularly Primary Health Care.

III. CURRENT POLICY AND RELEVANT ACTIVITIES:

The Government plans and policies aim at re-settlement of the returning displaced and refugees to their homes and villages to resume their normal activities particularly in agriculture. Therefore all efforts in this direction are encouraged and supported.

IV. EXPECTED END OF THE PROJECT SITUATION :

The local communities in the Southern States will be able to produce enough food to meet their nutritional needs and hence ensure food security and improved health.

V. INSTITUTIONAL ARRANGEMENTS AND COORDINATION :

Strengthening the existing institutions related to agriculture (both for food crops production and animal production) coordination between government agencies, International agencies and National and International NGOs to serve common objectives.

VI. INPUTS :

No. COMPONENT	DONORS USD\$(000)	GOVs Ls.(00)
1. Constructions	5,000	10,000
2. Vehicles	10,000	-
3. Equipment	18,000	5,000
4. Personel	5,000	4,000
5. Training	5,000	4,000
6. Community Development	7,000	5,000
7. Operational Cost	10,000	12,000
Total	60,000	40,000

VII. PRE-REQUISTES AND ASSUMPTIONS:

The Government should ensure peace and security in the region. The Government is expected to provide the basic requirements such as the establishment of agricultural research and extension units and the technical and financial support for the State Ministries of Agriculture.

Opening of branches for the specialized banks in the region to provide credit and inputs for agric. production, storage, preservation and marketing facilities.

In a situation of partial settlement to the security problem in Southern Sudan, the problems of the displaced in the peace village and around the cities under the government control need to be address through small scale projects which would be implemented by NGO's.

In this respect the following project outline is presented to suit this specific situation.

TITLE (B) : PROMOTION OF FOOD SECURITY AT
HOUSEHOLD LEVEL.

IMPLEMENTING AGENCIES : NGOs

GOVERNMENT CONTRIBUTION : Ls.13 Million

DONOR CONTRIBUTION : USD \$ 2.3 Million

STARTING DATE : 1995

DURATION : 4 YEARS

I. PROBLEM DEFINITION :

1. Displacement due to the war
2. Dependancy on relief and food aid distribution
3. Low utilization of the available resources and the community potentials.
4. Lack of basic services
5. Poverty and high level of malnutrition and mortality.

II. SPECIFIC ISSUES TO BE ADDRESSED :

1. To realise food security at household level.
2. Give the target groups means for survival
3. Raise the level of productivity and promote production
4. Stimulate women activities through training and development of cottage industries.
5. Help the displaced to resettle
6. Reduce the workload on producers with special emphasis on women
7. Support the livestock production

8. Reduce the environmental degradation
9. Improve the living conditions in the project area
10. Evaluate the malnutrition status in the area.
11. Organize, mobilise and empower the community to be capable of sustaining the development process and restore the local capabilities.

III. OBJECTIVES AND OUTPUTS:

1. To support the production of stable food crops, agroforestry plantations and cash crops.
2. Improve the agricultural practises.
3. Provide credit services
4. Promote the management skills within the community through training and participation.
5. Stimulate small business and income generating activities through training, provision of inputs and credit.
6. Initiation of self help activities
7. Introduction of sanitation (pit - latrines) within the villages through food/work.
8. Provision of supplementary feeding to children and pregnant and lactating mothers.

IV. INPUTS :

ITEMS	DONORS \$(000)	GOV. Ls. (000)
Construction	-	2,000
Vehicles	180	-
Bicycles	60	-
Camping items	100	500
Animal draft	160	500
Agricultural tools	150	400
Extension equipment	150	600
Water pumps	200	-
Community Development	300	1,000
Personnel	400	2,000
Training	300	1,000
Operational Cost	300	5,000
	-----	-----
Total	2,3000	13,000

Title: Rehabilitation of the Central Food Labs.
and Establishment of Regional and
State's Labs

Sector & Subsector: Federal MOH, (National Chemical
Labs). Subsector: State's MOH.

Gov. Implementing Agencies: All above mentioned sector &
subsectors.

Donor Contribution: USD.1045,000

Gov. Contribution : Staff, Building, running expenses etc.

Starting Date & Duration: 1996, for seven years

Location: Phase I: Rehabilitation of the National Food Labs &
Regional Food at Port Sudan (1996/98).

Phase II: Establishment of the national Food Lab. At
Northern Region (Atbara) & Western (El Obeid) and
Southern (Juba) (1998/2002)

I. Problem Definition:

a) Most of the analytical services at the National level for food
control and safety is the responsibility of the National
laboratories.

Rehabilitation and strengthening of these laboratories are
vital for the following:-

- i) Shortage in imported supplies and equipment because of
shortage of foreign exchange.
- ii) Absence of training institutes for training senior
scientists as far updating their knowledge.
- iii) No qualified personnel are locally available for the
maintenance and repair of laboratory equipment at present.
- iv) Lack of up-to date references and scientific periodicals.

B) Absence of quality control laboratories in the regions, and
due to large area of Sudan resulted in difficulty in
transporting food samples from the different regions and
arrival of samples in a state sometimes unsuitable for
testing and also difficulty of communication and exchange
of information.

Therefore establishing of Regional Quality Control laboratories
as soon as possible is a top priority.

The Regional labs will be responsible for the control purposes in the regions and the nearby borders to supervise border food trade.

In the long run a laboratory in each State will be established to assist in improving the Food Quality Control and Safety at State level.

II. Specific Issues to be Addressed:

- Provision of equipment and chemicals
- Training scientists and technicians locally and aboard.
- Support for research and monitoring surveys.

III. Current Policy and Relevant Activities :

The policy of the country is to decentralize all the executive matters. Accordingly it is planned to rehabilitate the Central lab, and establish the Regional labs and the State's labs.

IV. Expected End of Project Situation:

Rehabilitation of the Central Food labs. includes:

- Supplies and equipment
- Training in Food Quality Control and management (local and aboard).
- Research and monitoring surveys
- Establishing a unit for repair of the scientific equipment.

V. Objectives and Outputs:

- a) To support the Central lab. to improve the achievements of its different activities.
- i) Analysis of food products for regulatory purposes (imports and exports).
- ii) Monitoring contaminants in foods and collaboration in WHO/FAO/UNEP programmes.
- iii) Analysis of foods and crops for food composition tables and for developing quality and specifications for locally produced foods
- iv) Training and research.
- b) Support of Regional Food laboratory at Port-Sudan includes:
 - Supplies and equipment
 - Training (local and aboard)
 - Monitoring programmes

Objectives and Output:

- Supporting this laboratory will assist to check food export and facilitate the control of imported food products and take the necessary action before leaving the port.
- Food monitoring surveys in the Eastern Zone.
- Continuous monitoring the level of iodine in iodated salt at the stage of production in Port-Sudan and at other various stages of handling.

C) Establishment of the following regional laboratories:

- Northern food laboratory at Atbara
- Western food laboratory at El Obeid
- Southern food laboratory at Juba

" For supplies and equipment, training and surveys)

Objectives and output:-

Each of these laboratories will be responsible to cover its region for food and water analytical services including the imported foods through the nearby entry points.

D) Establishment of food labs. in all states:

"in the long run"(supplies and equipment, training and surveys).

Objectives and output:-

Its responsibility will cover the State for food quality, control and safety.

INPUTS:-

1. Rehabilitation :

Central Food Lab.:-

	<u>Costs in USD</u>
- Supplies & equipment	100,000
- Training	50,000
- Building rehabilitation (partial)	200,000
- Establishment scientific equipment repair unit	70,000
- One vehicle	25,000
Total	445,000

Port-Sudan Regional Laboratory :-

- Supplies & equipment	100,000
- Training (local & aboard)	20,000
- Building rehabilitation (partial)	20,000
- One vehicle	25,000
Total	----- 165,000

2. Establishment of regional labs:-
(Atbara, El Obeid, Juba)

- Supplies & equipment	100,000
- Training (local & aboard)	20,000
- One vehicle	25,000
Total	----- 145,000

VIII. Government Priority, Commitment and Participation:-

Since the overall food quality, control and safety is priority areas for the government. It will highly committed since it is within the NCS (1993 - 2002) to the sustainability of its activities.

The government will be committed through its continuous support regarding to staff, building, electricity and water supply and other minor expenses such as fuel etc.

Title : Study of the Quality of Plastic Packaging Materials Used in Foods packing & packaging.

Sector & Sub-sector : Federal MOH (National Chemical Labs(NCL)

Government Implementing agencies : as above

Donor Contribution : USD \$ 165,000

Government Contribution: Building, staff, general expenses.

Starting Date /Duration : 1996 - for 2.5 years

Location : Khartoum State

I. Problem Definition :

Plastic packaging materials is relatively a new area of work. The different types of plastics used in contact with foods are necessary every day.

There are many chemical compounds which potentially can migrate into foods from food packaging materials and the ingestion of these contaminants is hazardous. Therefore studying the levels of these substances in food contact materials used locally and in foods with which they have been in contact is vital.

II. Sepecific Issues to be Addressed:

- a. Collection of informaton about the various types of "plastics used in contact with foods", which are used locally.
- b. Information about the food contact uses of these plastic materials.
- c. Studying the quality of these plastic materials's i.e composition and plasticisers contents.
- d. Studying the level of migration of constituents from the plastics into foodstuffs.

III. Current Policy and Relevant Activities :

The policy of the government is to provide the consumer with safe and sound food and protect his health from any harm, e.g contaminated foods. Therefore, surveys and laboratory analysis are going on to enforce food law and regulations, taking into consideration the international standards and specification.

IV. Expected end of the project situation:

Investigation about the different types of plastic packaging materials used in the Sudan and the extent of the safety of their use, followed by action.

V. Description of work :

Activity	Proposed time
- Colletion of information about the types of plastic packaging materials used locally, and the foods used in contact with each type.	6 months (Jan.1996 - June,1996)
- Ordering and recieving the required supplies and equipment	6 months (Jan.1996 - June,1996)
- Identification of the plastic packaging materials and their constituents (IR), and global migration.	One year (July 1996 - June 1997)
- Quantitative analysis of the migrated substances from the plastics using standard method(GLC), (consultation in this area is required and training aboard)	One year (July 1997 - June 1998)

VII. INPUTS :

Budget Category	Budget Request (USD)
- Supplies & Equipment (GLC,IR...)	100,000
- Personnel (2 Scientists,2 Technicians, 1 Lab Assistant,1 Food Inspector, 1 Driver)	20,000
- Training aboard (2 scientists for 3 months each)	25,000
- Consultant (one month)	10,000
- Transport,fuel..etc	5,000
- Stationaries & others expenses	5,000

Total	165,000

VIII. GOVERNMENT PRIORITY, COMMITMENT & PARTICIPATION:

Since the food control and safety is a priority area for the government, it will be highly committed to sustainability of its activity. Being within the (NCS) of the government 1993/2002 The government will be committed through its continuous support regarding the staff, building power, water supplies and other running expenses.
supplies and other running expenses

TITLE : FORTIFIED CEREAL BASED DIETS

SECTOR & SUB-SECTOR : AGRICULTURE - FOOD RESEARCH CENTRE

GOVERNMENT IMPLEMENTING AGENCY : FOOD RESEARCH CENTRE - SHAMBAT

DONOR CONTRIBUTION : EQUIPMENT AND EXPERTISE

GOVERNMENT CONTRIBUTION : LAND, UTILITIES, PERSONNEL

STARTING DATE & DURATION : 1995 DURATION: 3 years

LOCATION : FOOD RESEARCH CENTRE, SHAMBAT

SUMMARY :

The main purpose of this project is to produce cereal based foods (sorghum, millet, maize, wheat) including legumes (chickpea, cowpea, pigeonpea, lentil etc), dry skim milk and micronutrients (vitamins, iron, iodine etc.).

This food mix is intended for vulnerable groups to ensure nutritious food and household food security. The equipment may be imported since stainless steel is preferred for processing units. Demand for foreign donor/manufacturer is imperative to supply equipment and expertise for on-job training.

I. PROBLEM DEFINITION :

One of the recommendations of the International Conference on Nutrition (ICN, FAO, Rome 1992) was to strengthen the food processing capabilities by conducting Research and Development on processing of local food commodities.

This in turn will ensure wholesomeness of the foods with uniformity to all consumers. Sudan, with all her existing human resource and large production of food grains, haven't manufactured food for vulnerable groups e.g. infants, pre-school children, low-income and displaced population.

The household insecurity caused by family low purchasing power aggravated the nutritional problems in the country. Nutritional problems faced include Protein-Energy Malnutrition (PEM) and deficiency of the micronutrients iron, iodine and vitamin A especially among the vulnerable groups. In spite of these problems, Sudan still has great potentials for food production to satisfy its needs and hence partially solve the nutritional problems. Efforts are now being exerted towards production of sweet potatoes being a cheaper carbohydrate source and carotene (vitamin A precursor) in coloured varieties.

The proposed fortified cereal based (sorghum, millet, wheat, maize) mixes will include different proportions of legumes (bean - bean,

lentil, chickpea, cowpea, phaseolus) all produced locally and fortified with premix (vitamins and minerals mixture) and skim milk powder.

II. SPECIFIC ISSUES TO BE ADDRESSED:

- Selection of cereals and legumes available in the different regions
- To produce food mixes of good nutritional value that will contribute in combating the existing nutritional deficiencies
- Selection of processing technology suitable for local crops that can be applied either on small scale rural basis or on larger industrial scale .
- Upgrading of indigenous family and rural technologies that can be transferred to industrial application.
- Promotion of high quality legumes cultivation (Protein derived from vegetable source is twice that from animal source in Sudan. FAO Food Balance Sheets, 1987-89).

III. CURRENT POLICY AND RELEVANT ACTIVITIES :

The Government of Sudan economic policy on investment is based on privatization. The policy encourages individual or groups to take over public industries. The banking system is based on Islamic Code of "Murabaha" and "Musharaka". This has greatly encouraged industrial activities. Foreign investment is also encouraged. The food industries are given priority in the Government policy of investment.

The institutions involved in country investment, Government/ Private sector, are Sudan Development Corporation (SDC), Sudan Agricultural Bank (SAB), Nilean Industrial and Investment Bank, Sudan Rural Development Corporation, Sudan Animal Production Bank, Bank of Sudan and other private banks.

IV. EXPECTED END OF PROJECT SITUATION:

Production of fortified cereal based mixes that can be easily prepared and available to all groups. The main raw materials included in the food mixes are cereals, legumes, skim milk and multi-vitamin mix. The last two ingredients may have to be imported. Research and Development will continue at FRC to standardize various formulae for target groups. The FRC activities at pilot plants could be an asset for establishing the new project. The end-product will be distributed in all states as large and small packets.

V. DESCRIPTION OF WORK TO BE CARRIED OUT:

Objectives:

- Adequate supply of nutritious foods from local crops to help in combating malnutrition problems faced by the vulnerable groups.
- Transfer of technology to different regions of Sudan where it can be applied using locally available raw materials.

Outputs:

The main products will be

- Sorghum based
- Millet based
- Wheat based
- Maize based (marginal)

Scheduling of activities :

- Installation of laboratory equipment
- Installation of pilot plant
- Research & Development of products (formulation the nutritional, sensory, microbiological and stability studies).
- Marketing studies.

VI. INSTITUTIONAL ARRANGEMENTS AND COORDINATION:

FRC, an executing body, should utilize all trained manpower at its disposal. This institute should coordinate with various bodies e.g.

- Breeders and farmers (ARC and Ministry of Agriculture).
- Federal and State Nutrition Departments (Ministry of Health and Education)
- Sudan standards and Meterology Corporation
- Millers Association.

VII. INPUTS:

Laboratory equipment(+ installation)	US\$	143,000
Pilot plant(+ installation)		1,075,000
Chemicals glassware, packaging materials		180,000
Raw materials		500,000
Prefabricated building to house pilot plant		200,000
Transport(2 pickups + 8 ton truck + fuel)		140,000
Training		50,000
Personnel		40,000

		2,328,000
Contingencies(10%)		240,000

GRAND TOTAL	US\$	2,568,000

FRC Contribution :

- Land for pilot plant installation
- Manpower (scientists, technicians, labourers)
- Laboratory facilities
- Utilities (electricity + water)
- Storage facilities
- Stationary
- Pilot plants facilities that include: Sorghum mill, bakery, drum drier, cabinet drier, spray drier, concentrator, fruits & vegetables processing plant and cold stores.

Execution of the project by FRC where there is a complete infrastructure for the implementation of the project. In addition experience gained in the commercial operation of the bakery and sorghum mill is an advantage.

VIII. GOVERNMENT PRIORITY, COMMITMENT AND PARTICIPATION:

This is a top priority project where government participation is through FRC.

IX. PREREQUISITES AND ASSUMPTIONS:

- Preparation of land
- Purchase of equipment
- Building materials
- Training of operators
- Erection of building
- Installation of equipment
- Research and Development activities
- Availability of efficient channels for information, education and extension
- Visits to relevant plants in Ethiopia, Sri Lanka etc.

TITLE : SURVEY OF ANAEMIA & INFESTATION
RATE AMONG SCHOOL CHILDREN AND
PREGNANT MOTHERS IN AL DURUSHAB AREA

SECTOR : FEDERAL MOH-EPIDEMIOLOGY DEPT.&
NAT.NUTRITION DEPT.

GOVERNMENT IMPLEMENTING AGENCY : PHC DIRECTORATE (NAT.NUT.DEPT).
PREVENTIVE & SOCIAL MEDICINE
DIRECTORATE (EPIDEMIOLOGY DEPT).

DONOR CONTRIBUTION : DRUGS,TRANSPORTATION,HMORASUIM,
COMPUTER & LAB.EQUIPMENT

GOVERNMENT CONTRIBUTION : 11 WORKERS (2 DOCTORS,2 NUTRITION
OFFICERS,2 LAB.TECHNICIANS,COMPUTOR
TECHNICIAN OPERATOR & OTHERS.

STRATING DATE & DURATION : MAY 1995, FOR TWO YEARS

LOCATION : KHARTOUM STATE,KHARTOUM NORTH
PROVINCE,EL DURUHAB AREA.

I. PROBLEM DEFINITION :

- a. High rate of infestation with Hook worms among pregnant mothers.
- b. High rate of infestation with whip worms among school children and under five children.
- c. Decreased persnnal hygiene among inhabitants
- d. Increased rate of Anaemia (nutritional) among children below 15 years of age and pregnant women.

II. SPECIFIC ISSUES TO BE ADDRESSED :

- 1) Health education : a personal hygiene
 - nutritional education
 - environmental sanitation
 - combat harmful practics
- 2) Worms:- a) to determine the infestation rate among target group:- children below 15 years (all basic education pupils)
 - pregnant mothers
 - b) treatment of cases - and their families
- 3) Anaemia: Determine anaemia prevalence among target group (pregnant mothers & < 15 yrs children)
4. Nutritional status of target group: e.g W/H for school children and under five's.
 - Hb % level for target group

5. Correlation between nutritional status of the target group, poor sanitation and infestation.

III. CURRENT POLICY AND RELEVANT ACTIVITIES :

- The only clear policy is the (Economical Treatment), the system that has been introduced by the government and which comprises of: payment for every service received by a client /patient (beneficiary) which seems not work in such area as the one proposed for study due to low type of social class residing in the area with very decreased income. There is only one health centres poorly equipped and lacks health workers and it serves in the above mentioned manner;
- No proper or even proposal system for sanitation
- There are some trials from non-governmental organizations and mass organizations e.g. Women Union to organize literacy campaigns for the women in the area. Newly formed popular committees together with the Youth organization and the S.R.C. Unit try to organize some activities, but all still lack support and sponsorship.

IV. EXPECTED END OF THE PROJECT SITUATION :

By the end of the project:-

- 1) Target groups should know causes of the problem :
 - Types of worms prevailing.
 - How can be contracted
 - Treatment and prevention.Indicators:
 1. Types and number of health education sessions provided and total number of beneficiaries assisted.
 2. Type and quantity of health education materials produced and distributed.
 3. Degree of change in KAP (evaluation, survey).
- 2) Improvement of Nutritional Status:
 - Prevalence of Anaemia among target group
 - Prevalence of children (<15) below the percentile (WFH)Indicators: % target with Anaemia
 % target below the fixed percentile (WT/HT)
- 3) Cases Reduction:
 - Indicators: a. % of patient infested
 - b. Total number of patient received ANTI-WORM drugs (by type)

- 4) Increased community awareness of the problem:
Indicators: degree of involvement of the community in project implementation e.g.:-
- Environmental sanitation
 - Health education
 - Funding (how much, kind etc)
 - Etc.

V. DESCRIPTION OF WORK TO BE CARRIED OUT:-

ACTION	INSTITUTIONS INVOLVED
1) Agreement on project & site selection	PHC/Prev.& Social M. Directorate/State MOH etc.
2) Orientation for the community	Project staff/popular committee in target area.
3) Finalization of the Plan e.g sampling, methodology etc. Personnel allotment.	Involved Directorates/ Sponsoring Agency.
4) Baseline survey for:- to determine : infestation rate.-Prevalence of Anaemia.- Nutritional status	Project staff/the local community
5) Management of cases &/or families. - specification and perscription and distribution of drugs - Follow-up for cases:- - determine the period for frequency of follow-up. -Re-examine for worms -Reassess % Hb% and Nutritional status as necessary.	Health workers, project staff
6) Health Education: - Preparation & distribution of H.Education material. - Health education messages(fix how, when & by whom).	Community, Project staff, others(T.V.Radio etc.)
7) Outcome Evaluation: at 2 years - survey: - Prevalence of Anaemia - Infestation Rate - Nutritional Status - Assess degree of change in KAP	Project staff, Sponsoring Agency & others Project staff and Community

VI. INSTITUTIONAL ARRANGEMENTS AND CO-ORDINATION:

- Federal Ministry of Health represented by Nutrition Dept & Epidemiology Dept : Implementing Agency.
- Institute of Tropical Medicine U of Krt.
- Khartoum State: MOH - shares in implementing through:
Availing of Health Workers, & logistics.
- * A project co-ordinator should liaise between different parties involved and donor Agent.
- An Assistant co-ordinator to follow-up and monitor implementation.
- A steering committee from different concerned bodies, including the community with its concerned Mass organizations- to supervise implementation.

VII. INPUTS :

COMPONENT	TOTAL. USD(\$)
1) Equipment	30,000
2) Furniture	20,000
3) Computer & Accessories	10,000
4) Refrigerator	5,000
5) Stationary	5,000
6) Vehicles(2 cars + Motor-cycle)	30,000
7) Fuel,oils & spareparts	8,000
8) Rental for house	10,000
9) Personnel	200,000
10) Training	150,000
Total	468,000
Contugency (10%)	46,800
Grand Total (USD)	514,800

VIII. GOVERNMENT PRIORITY, COMMITMENT & PARTICIPATION :

- Premesis for the project (Health Centre)
- Health workers :- Salaries
- Government should avail seed funds to revolve in the scope of generating continues flow of money to maintain cost of health education, environmental sanitation, lab-services and drugs.

IX. PREREQUISITES AND ASSUMPTIONS :

- The community should be involved in a large scale from the beginning ,by sensitization towards the importance of the problems to be addressed ,through their vital role in the success of the project and their full enjoyment in the implementation process, specially in health education, environmental sanitation, still a clearly delineated role should be tailored not for the community with quantified indicator for which the community is fully responsible. In the other hand the community should be responsible for issuance and follow-up of legislations that can help in enhancement of project activities:- e.g:
guidelines and sometimes related to environmental sanitation, eradication of harmful traditional practices, and the community contribution in

TITLE : DETERMINATION OF SPACING PATTERN OF
DRINKING WATER WELLS AND PIT LATRINES
IN BAHR ELGAZAL AND UPPER NILE SECTORS
OF SOUTH SUDAN

SECTOR AND SUB-SECTOR : MOWAFAQ FND AND COLLEGE OF HEALTH &
ENVIRONMENTAL STUDIES.

DONOR CONTRIBUTION : USD\$ 79,200

GOVERNMENT CONTRIBUTION : STAFF, SALARIES, Ls. 500,000

STARTING DATE & DURATION : 1995 - 1996, FOR ONE YEAR.

LOCATION : NORTH BAHR ELGAZAL, WARAP, UPPER NILE

I. PROBLEMS DEFINITION:

In spite of the widely reported cases of water - borne diseases, yet the statistical data related in this field is completely unavailable, specially in the war affected areas of South Sudan.

It was also highly reported that close installation of pit latrines and water wells increased the chances of contamination due to high water level and high soil porosity.

In the mean time intensive programmes are prepared to dig more surface wells and pit-latrine. This is expected to aggravate the situation as more chances of contaminations will avail if proper spacing between water source and latrines is not identified and maintained.

This project suggests intensive investigation to determine a proper system for both services. This will include study of quality of water (chemical, microbiological and flavour) and soil morphology during both summer and rainy seasons.

II. OBJECTIVES :

1. Improve health condition in Southern Sudan by provision of safe drinking water.
2. Promote improved sanitation practices by encouraging behavioral change among target beneficiaries.

BENEFICIARIES:

1. Approximately 120,000 war affected people (displaced & refugees) in Upper Nile and Bahr ElGazal sectors of Southern Sudan.
2. About ten NGOs working or interested to work in the field of pit latrines and provision of drinking water.

III. DESCRIPTION OF WORK TO BE CARRIED OUT:

1. Collection of basic information on water levels and geological set up of targeted areas.
2. Based on above data, designing of a suitable model for implementation.
3. Chemical and Microbiological analysis of drinking water on ten selected locations in the South and assessing its' suitability for drinking (tests carried in the field and Central Laboratories).
4. Final recommendation on types of water sources and pit latrines to be installed in the different parts studied. Adjustment of final model.
5. Training of local health staff on suggested model.

VI. INSTITUTIONAL ARRANGEMENTS AND CO-ORDINATION :

1. Emergency and Health Dept - MOWAFAQ Foundation Implementing Agency - Assigning two technical staff one in water analysis and another in public health.
2. College of Health and environmental studies consultant.
3. State Ministries of Health for provision of local information access to project site - also for seconding staff for training.

V. INPUTS :

No. COMPONENT	TOTAL USD(\$)
1. Equipment	30,000
2. Computer and Accessories	10,000
3. Stationary	3,000
4. Training	15,000
5. Travel Expenses	10,000
6. Labour cost	4,000
TOTAL	72,000
Contingency (10%)	7,200
Grand Total (USD \$)	79,200

TITLE : PROMOTION OF BREAST FEEDING
USING KNOWLEDGE, ATTITUDE &
PRACTICES (KAP) APPROACH

SECTOR & SUB-SECTOR : FEDERAL MINISTRY OF HEALTH,
SUB-SECTOR: PHC, (NUT. & MCH),
SGNED, AGRIC. EXTENSION, WOMEN
ASSOCIATIONS & NGOS.

GOVERNMENT IMPLEMENTING AGENCY : ALL ABOVE MENTIONED SUB-SECTORS
AT STATE LEVEL.

DONOR CONTRIBUTIONS : USD\$ 450,000 & Ls. 16 Mill.

GOVERNMENT CONTRIBUTION : STAFF, SALARIES

STARTING DATE & DURATION : 1995/1996, FOR 12 MONTHS

LOCATION : NINE STATES, (GEZIRA, KASSALA
NAHR ELNEIL, N. KORDOFAN, N.
DARFUR, KHARTOUM, UPPER NILE,
BAHR ELGABEL, BAHR ELGAZAL.

I. PROBLEM DEFINITION :

In Sudan exclusive Breast Feeding is not yet widespread because there are strong beliefs and traditions regarding the importance of giving the newborn infants large quantities of water.

Traditionally new born infants are given boiled water added to it little amounts of sugar and salt. Sometimes they are given boiled herbs. It is strongly believed that due to the dryness & hotness of the weather, if the new borns do not take enough water, this will lead to deafness and will suffer from jaundice.

II. SPECIFIC ISSUES TO BE ADDRESSED :

To the Mothers:-

- i) To know the mothers knowledge about importance of BF for the infant
- ii) Time of starting Breast Feeding (BF)
- iii) Duration of breast feeding and mode of breast feeding.
- iv) Mode of stopping breast feeding
- v) To know whether the mothers know about exclusive BF, practice it and if not why?
- vi) From whom was advice received about exclusive BF (+ve & -ve) if any.
- vii) Is the mother prepared to practice exclusive BF in future.

To Health Cadres: (Obstetrician, Paediatrician & other paramedical staff)

- i) Their opinion about exclusive breast feeding
- ii) Do they have any training about exclusive BF.
- iii) Do they apply what they have learnt about exclusive breast feeding e.g. during education session, to the mothers.
- iv) Means of follow-up
- v) Is there a change in the attitude & practice of mothers regarding exclusive breast feeding.

III. CURRENT POLICY AND RELEVANT ACTIVITIES:-

- Formation of Breast Feeding National Committee by the Ministerial Decree.
- Formation of Working Group for Baby Friendly Hospital Initiative (BFHI) adoption.
- Training of Master Trainers at National level.

Planned Activities:

- 30 maternity hospitals (Government & Private) to be certified as Baby Friendly Hospital by the end of 1995.
- Updating, Development & Printing of educational materials.
- To conduct training courses for Paediatricians, Obstetricians, Mid-level managers and Field workers.
- To conduct a workshop to raise the awareness of decision makers.

IV. EXPECTED END OF PROJECT SITUATION :-

By the end of the project will know:

- The attitude of mothers and health cadres about exclusive breast feeding.
- The status of training and areas that need strengthening.
- % of prevalence of exclusive breast feeding
- Based on the KAP results, the following activities will be carried out:-
 - * To adapt the WHO 18 & 40 hours training manuals to the local situation.
 - * To design suitable educational materials.
 - * To decide on the different cadres which should be trained at all levels.

V. DESCRIPTION OF WORK TO BE CARRIED OUT:

OBJECTIVES :

- To identify the mothers and health cadres attitude to-wards exclusive breast feeding.
- To identify the % of mothers practicing exclusive BF.
- To identify the source of information regarding exclusive breast feeding.

OUTPUTS:

- To identify the source of information about exclusive breast feeding.
- To identify to what extent the health cadre especially Obstetricians & Paediatricians are convinced about the concept of exclusive breast feeding.
- Redesign the programme according to the results of the KAP study.

SCHEDULING OF ACTIVITIES :

ACTIVITY	DURATION
1. To contact selective state to discuss with authorities concerned.	1st & 2nd months
2. Design & printing questionnaires and guidelines.	1st month
3. Training of interviewers.	3rd month
4. Data collection.	3rd - 5th months
5. Data analysis & reporting.	5th - 6th month
6. Supervision.	3rd - 5th month
7. Two days workshop to discuss the KAP results.	6th month
8. Finalization, translation & printing report.	7th - 8 th month
9. Its distribution to the concerned bodies.	9th month

VI. INSTITUTIONAL ARRANGEMENTS & CO-ORDINATION:-

ACTIVITY	BY WHOM
1. Contact proposed states	Federal MOH (NUT.& MCH)
2. Design of questiionnaires & guidelines	" " "
3. Training of interviewers	" " "
4. Data Collection	At state level (PHC,NUT.& MCH,SGNED,AGRIC.Extension & NGOs
5. Data analysis & reporting	Federal MOH,PHC Informat-ion Unit
6. Supervision	Federal MOH,PHC (NUT & MCH
7. National Workshop	Fed.MOH,MOA,MOE.
8. Finalization,translation & printing of the KAP study Report.	Fed.MOH (NUT & MCH)

VII. INPUTS :

ITEM	RECURRENT COST
1. Transport (Vehicles)Rental	USD \$ 450,000
2. Mainenance & Operation (fuel,oils etc)	Ls. 1,000,000
3. Personnel	Ls.12,000,000
4. Stationary	Ls. 1,000,000
5. Training	Ls. 2,000,000
Total	----- Ls.16,000,000 + \$ 450,000.

VIII. GOVERNMENT PRIORITY, COMMITMENT & PARTICIPATION:

The Government will be committed to the promotion of breast feeding since it is within the National Comprehensive Strategy (NCS). The study being conducted and its cost will include staff involved at different level. i.e the majority of staff involved being government officials.

IX. PREREQUISITES AND ASSUMPTIONS :

The concerned authorities in the selected states agree to the study being contacted.

TITLE : ESTABLISHMENT AND STRENGTHENING OF SCHOOL GARDENING AND NUTRITION EDUCATION DEPARTMENTS IN THE STATES.

SECTOR AND SUB-SECTORS : CENTRAL SGNEED OF MINISTRY OF EDUCATION & STATE'S SGNEED.

GOVERNMENT IMPLEMENTING AGENCY: STATE'S LEVEL

DONOR CONTRIBUTION : US\$ 817,000

GOVERNMENT CONTRIBUTION : Ls.300,000,000

STARTING DATE AND DURATION : EARLY 1996, FOR 3 YEARS.

LOCATION : CENTRAL SGNEED & STATE'S SGNEED

I. PROBLEM DEFINITION :

The School Gardening and Nutrition Education Department (SGNEED) was established in 1964 by Ministry of Education to help alleviate the serious effects of malnutrition especially among those groups most at risk. The focus was to be at family level, with special attention to the rural population, combining Nutrition education with the encouragement of family food production and income generating activities. By 1977, the work (SGNEED Programme) had expanded from its start in Khartoum into (13) provinces, (the meantime these provinces are becoming states).

The Central SGNEED is technically responsible for the planning, guidance, follow-up and assessment of programme activities in the state SGNEED. It is also responsible for interstate training courses of six month's duration for basic education teachers and organization of an annual national workshops for the SGNEED Central and State staff (controllers & senior officers) aim at reviewing procession of the work and achievements, assessment of the programmes activities, training, exchange of experiences ..etc. The state SGNEED centres are usually located in capitals of the states. They are responsible for short courses in Nutrition & rural education training for teachers, training and refresher courses for Nutrition guides, and courses for local women. Each state SGNEED is responsible for a network of provincial, district and sub-centres.
(see Annex I - Infrastructure of the SGNEED programme of Ministry of Education).

At the present time, there are some constraints encounter process of the work in the SGNEED centres, Development and expansion of the programme and can be summarized in the following:

1. Shortage of qualified manpower due to the limit training opportunities and facilities.
2. Insufficient budgets allocated for running the activities of training programmes in addition to the late release of these budgets.

3. Inavailability of transport facilities without which the training and rural activities cannot be supervised, monitored and evaluated.
4. Acute lack of training facilities such as kitchen utensils, farm tools, educational aids etc....

II. SPECIFIC ISSUES TO BE ADDRESSED :

The objectives of the proposed project are to strengthen, expand and support the activities of the programme in the 13 -operating state SGNEDs, namely: Khartoum, Gezira, Northern, River Nile, North & South Kordofan, North & South Darfur, Kassala, Blue Nile, White Nile and Red Sea. It also aims at the establishing the SGNED centres in the remaining states (newly established states) not covered by the SGNED programmes at present especially the Southern states. It will also aim at supporting and reorienting activities at the Central SGNED.

At State/Provincial and village levels attention will be paid to:

1. Efforts will be made to establish and furnish the State SGNEDs in the 13 - States not yet covered by the SGNED programmes.
2. Establishment more SGNED Sub-centres to cover all the districts of each state, with emphasis on linking the sub-centres to local agricultural or rural development programmes.
3. Improvement and reorientation of courses in sub-centres to suit the local resources and need production and consumption and income - generating activities.
4. Improvement of the training of Nutrition guides who are responsible for the sub-centres to make their courses more effective.

At the Central level, SGNED Director and staff will continue to provide monitoring guidance for the state activities through interstate training courses, annual national workshops, regular field visits, feed-back reports and distribution of appropriate technical materials. As well as attention will be focussed on:

1. Promotion of income generating activities through establishing a revolving fund, nationally available agricultural credit facilities, to provide loans for group activities to be carried out by women who have attended SGNED courses at sub-centres and wish to launch co-operative food production/or income - generating activities.
2. Training of a select number of SGNED Central and State staff in household level food production (including small animals) and in use of Agricultural credit and the management of revolving fund, leading to a number of groups of women taking on reimbursable loans to enable them to launch food production /income - generating activities.

3. Training of SGNEC Central and State staff in adult education methods; developing and promoting the system or methodology used and practised in teaching the mothers and housewives in training courses.

IV. EXPECTED END OF PROJECT SITUATION:

Expand the SGNEC programme in the further into all rural and urban areas country wide, and linked the SGNEC sub-centres to local Development.

SGNECs will provide technical support for Development of curricula in home science and rural education for schools.

V. DESCRIPTION OF WORK TO BE CARRIED OUT :

This project is of three years duration and will strengthen, expand and reorient the SGNEC programme activities at the Central SGNEC and in the 13 of existing State SGNECs. It also assist in establishing new centres of the SGNEC in other 13 states. The project will be phased as follows:

* 1st year (phase I):

This phase will support and strengthen the Central SGNEC and (6) of the existing state SGNECs. It will also assist in establishing (4) new centres of the SGNEC at states which hav'nt centres of the SGNEC.

* 2nd year (phase II):

It will strengthen (5) of the existing state SGNECs, and assist in establishment of (4) new centres of the SGNEC at other states.

* 3rd year (phase III):

It will involve, support and strengthening (2) of the existing state SGNECs and establishment of (5) new centres of the SGNEC at states.

INPUTS :

* CONTRIBUTIONS - (INPUTS) :-

1. National Contribution & Commitments:

The ministries of education and guidance (at Central and State levels) shall continue to support SGNED, providing staff, labourers, furniture, the establishment of premises for the SGNED, (at provincial and district levels), provide an operating budgets for their educational activities, also drivers, fuel and repair service for the vehicles.

2. External Donor Support: (see Annex II)

This external support will involve :

- a. Provision of national consultants to assist in developing the training programmes and participate in the design, implementation, monitoring and evaluation of the SGNED activities country wide.
(Recurrent technical consultancy)
- b. Vehicles for state SGNEDs (one for each state) and one vehicle + one Minibus for the Central SGNED at Khartoum.
- c. Supplies and Materials: (training facilities)
 - Kitchen utensils (for each state)
 - Educational aids (for each state)
 - Farm tools (for each state)
- d. Training for SGNED Central and State controllers and senior staff, and providing study tours to appropriate staff for acquainting similar regional and international experience in these areas.

* Monitoring and Evaluation :

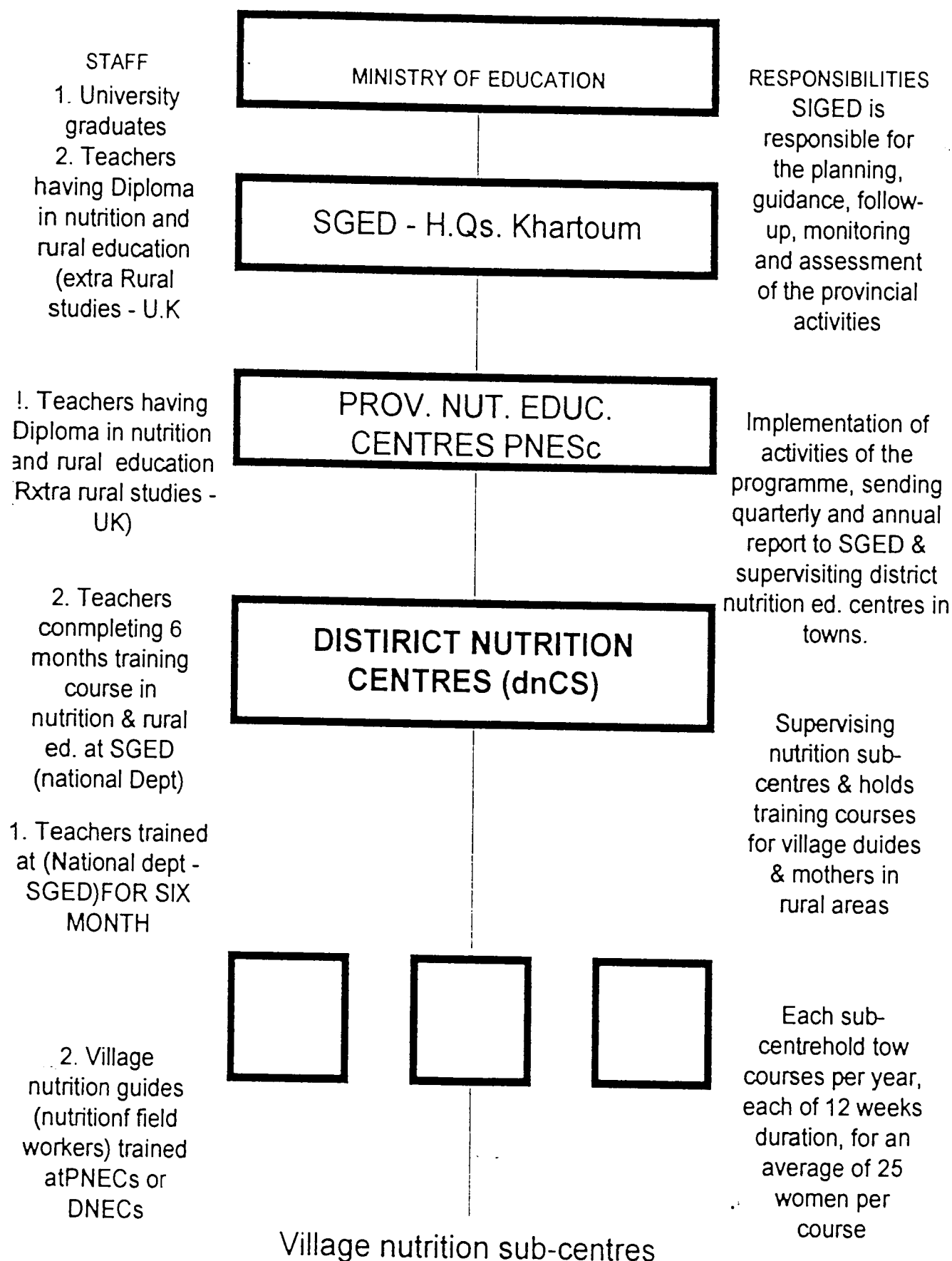
The Donor, consultant, director of the project and director assistants will continue to provide monitoring, follow-up and guidance for Central and state activities through regular field visits, feed and feed-back reports, workshop and/or training.

Evaluation of the project will start with inception of implementation as well as after its conclusion.

* Response and Sustainability :

The ministries of Education and Guidance of Sudan (at Central and State levels) have been undertaking their support to the SGNED programmes activities by providing staff, workers, offices, furniture, current budgets, fuel and repair service for the means of transport. At the grass - root level, where the SGNED sub-centres are financially and physically supported by local community and the SGNED courses recipients themselves.

INFRASTRUCTURE OF SGED PROGRAMME - MOE



ANNEX II.

DONOR CONTRIBUTION (IN USD \$)

SUPPLIES & EQUIPMENT	PHASE I	PHASE II	PHASE III	TOTAL
1.Vehicles(14)	180,000	150,000	120,000	450,000
2.Educational Aids	45,000	45,000	40,000	130,000
3.Kitchen Utensils	36,000	36,000	32,000	104,000
4.Farm tools	27,000	27,000	24,000	78,000
5.Training	10,000	10,000	10,000	30,000
6.Consultancy	10,000	-	15,000	25,000
Total	308,000	268,000	241,000	817,000

TITLE : REHABILITATION OF THE
NATIONAL CENTRE FOR FOOD,
NUTRITION, HEALTH EDUCATION
AND RESEARCH.

SECTOR AND SUB-SECTOR : FEDERAL MOH(NAT.NUT.DEPT.&
HEALTH EDUCATION DEPT.), MOE
(SGNED), MOA(AGRIC.EXTENSION),
MO SOCIAL PLANNING, MO INFORMATION.

GOVERNMENT IMPLEMENTING AGENCY : ABOVE MENTIONED SUB-SECTORS AT
STATE LEVEL.

DONOR CONTRIBUTION : FUND FOR:

a. EQUIPMENT & MACHINES	US\$ 250,000
b. TRAINING OF THE STAFF	" 75,000
c. PRINTING MATERIALS	" 125,000
d. PAYMENT FOR EXPATRIATE & NATIONAL EXPERTS 2/YEAR	" 150,000
<hr/>	
TOTAL	US\$ 600,000

GOVERNMENT CONTRIBUTION : FUND FOR:

a. PAYMENT FOR THE STAFF	LS. 3 MILL
b. ESTABLISHMENT OF PREMISES FOR WORK	" 60 MILL
c. LOCAL COMPONENTS FOR DESIGN- ING, PRINTING, AND DISTRIBUTION OF EDUCATIONAL MATERIALS	5 MILL
d. COST OF PUBLIC RELATION	1 MILL
<hr/>	
TOTAL(ONE YEAR)	69 MILL.

STARTING DATE & DURATION : JULY 1995 - TWO YEARS:
- ONE FOR ESTABLISHMENT
- ONE AS PILOT PROJECT
FOR PRODUCTION.

LOCATION : KHARTOUM (HEALTH EDUCATION BUILDING).

I. PROBLEM DEFINITION :

In the mean time there is no national technical focal point carrying out the responsibility for designing, producing, printing and distribution of educational materials and other audio visual aids for health education on food and nutrition.

The proposed centre is going to increase the capacity of the technical unit at the health education department on designing and producing health education materials and training.

II. SPECIFIC ISSUES TO BE ADDRESSED :

1. Appropriate management for the centre to plan, supervise, monitor and finance the activities.
2. Advisory committee should be formed at the health education department to assist in planning the development of education materials and audio visual aids in the field of food & nutrition and evaluating the activities carried out by the centre.
3. Revolving fund system will be created to secure the continuity of the centre activities.

III. CURRENT POLICY AND RELEVANT ACTIVITIES:

Due to many reasons, one of them is lack of fund for repairing the available printing machines at the health education department, all educational materials for health education are designed and produced in the free market. Efforts have been carried out to enable health education department to design and produce health education materials but the output is very limited due to the lack of fund.

IV. EXPECTED END OF PROJECT SITUATION :

1. The project will enhance the production of the educational materials and audio visual aids for health, food and nutrition.
2. The project will have good impact on the quality and cost of production of educational materials.
3. Unification of educational messages in the area of health, food and nutrition.
4. The centre will serve as a national training unit for the different cadres in addition to the training of the technique of popular communication.
5. Research will be part of the activities of the centre.

V. DESCRIPTION OF WORK TO BE CARRIED OUT :

The centre is a technical body for designing, producing and distributing educational materials for health education on food and nutrition.

a) OBJECTIVES: The following objectives will be achieved by the centre:

1. To secure availability of health education material for food and nutrition in good quality and sufficient quantity.

2. To reduce the cost of the production of education materials.
3. To develop and improve means and ways for production of education materials.

- b) **OUTPUTS:** The following are the output of the centre:
1. Production of printed and other audio visual materials for health education for food and nutrition.
 2. Training of technician on the different processes of producing educational materials.
 3. Pre-testing and evaluation of the impacts of the printing and other audio visual materials on the target groups.

)SCHEDULING OF ACTIVITIES:

ACTIVITY	BY WHOM	WHEN	BUDGET
Rehabilitation of Building	SUD/GOV.	Q1+Q2	LS. 6 Mill
Equipment, machines	Donors	Q3+Q4	LS. 125,500,000
Training for Technicians.	Donors	Q1+Q4	37,500,000
Printing materials	Donors	Q4	62,750,000
Payment for expatriate + national experts (first year)	Donors	Q3+Q4	25,000,000
Total cost (1st ")			256,750,000
Payment for local staff	SUD/GOV	Q1+Q4	LS. 3,000,000
Local components for production	"	"	5,000,000
Management & public relation	"	"	1,000,000
Total cost (2nd year)			9,000,000
Total cost (1st ")			256,750,000
Grand Total			265,750,000
Monitoring & evaluation of the project (including research)		Q1+Q2 of the 3rd. ye.	21,000,000
Grand total			265,750,000
Total			286,750,000

VI. INSTITUTIONAL ARRANGEMENT AND COORDINATION :

The centre will be established at the health education department after up-grading of the building and available equipment and printing machains.

Technical body in formal high committee will be formed for co-ordination between concerned departments and Ministeries.

VII. INPUTS :

Scheduling of activities table shows financial and physical inputs needed for the project implementation.

VIII. GOVERNMENT PRIORITY, COMMITMENT & PARTICIPATION:

The table of the scheduling of activities shows government priority, commitment and participation for the establishment of the centre, since it is within the National Comprehensive Strategy (NCS).

IX. PREREQUISTES AND ASSUMPTIONS :

1. Agreement should be signed by the parteners (MOH, MOA, MOE) for the establishment of the centre to specify responsibilities, obligation and role of each partners.
2. Available technical resources for production of educational materials for food and nutrition should be part of this project.
3. The final goal of the project is to support availability of educational materials for food and nutrition and it can help on the availability of printing materials for health, agriculture and education.
4. Independent identity should be given to the project. Advisory committee for production and evaluation should be formed as co-ordinating body for management of the project.
5. The project should be run in revolving fund-base to secure its continuity.
6. Detailed plan of action should be made for the establishment of the project after the approval of this project.

TITLE : REDUCING WORK LOAD OF RURAL WOMEN.

PROJECT (A):

TITLE : RAPID RURAL APPRIZAL(RRA)-EXPLORING INCENTIVES FOR IMPROVING "JUBRAKA" MANAGEMENT IN SUDAN.

SECTOR & SUB-SECTOR : RURAL SECTOR, AGRICULTURAL SUB-SECTOR

GOVERNMENT IMPLEMENTING AGENCY : MANRAW

DONOR CONTRIBUTION : COST OF CONTACT, TABULATION AND ANALYSIS OF RRA

STARTING DATE & DURATION : MID-1995 AND FOR A ONE YEAR

LOCATION : NATIONWIDE(REPRESENTATIVE VILLAGE NORTHERN, EASTERN, CENTRAL, WESTERN SOUTHERN REGIONS(5 REPRESENTATIVE ZONES.

I. PROBLEM DEFINITION :

In varying degrees, rural women in Sudan are directly responsible for providing for the food requirements of their households.

Because of their multiple roles in reproduction, domestic and production, the women are restricted to areas close to their homes in which to produce this food. In general, the gardens that women tend are here called "Jubraaka" or "Jabarik".

This is used to differentiate these farms from cultivation around homes for aesthetic purposes. Economic depression, the recurrent environmental calamities including droughts, pests such as locusts, army worms and the like singly and collectively depress food security, encourages migration of male to urban labor markets and increase amount of labor required to provide sufficient food for rural household. Consequently, women carry the burden of providing this increased demand for labor. Depressed food security in the midst of increasing labor demands cannot but affect women's nutritional status. Malnourished women affect their capacities as food providers and thus directly affect the nutritional status of their households.

II. SPECIFIC ISSUES TO BE ADDRESSED :

The issue here is resource management. How can rural women be assisted to meet their responsibilities as household food providers within the framework of the "jabarik"? A thorough understanding of the issue is vital to designing any intervention. This understanding of the situation as well as ideas of how best the situation can be improved can only be drawn up with the cooperation of the women, their households and their communities. Several studies of rural Sudan have been undertaken citing the existence, women's responsibility for and importance of "Jabarik". However, no detailed understanding of the land use patterns, resource (including labor, tools, capital, time) requirements and management patterns as well as qualitative and quantitative productivity of these "jabarik" has ever been undertaken. Thus, assistance to this vital household food source and women's responsibility, in the past, has been haphazard.

III. CURRENT POLICY AND RELEVANT ACTIVITIES:

The 10-year National Strategy on Sudan: Agricultural Sector Strategy gives priority concern for increasing food production and special emphasis directed toward the traditional sector. Increased productivity through vertical expansion and consolidated support for small farmers as a basic model for agricultural development and equity has been stipulated as a strategy for assisting the rainfed, traditional sector. This is the area in which most "jabarik" activity is found and where it is most important and vulnerable.

Ministrial Order no.34 created the Women in Agricultural Development Administration (WADA) concerned with looking into the situation of women in agriculture and how their contribution to rural development can be enhanced.

Several rural development projects in support of rural women's agricultural activities have been and are on-going throughout Sudan. These include international donor supported projects including UNDP, FAO, UNICEF, UNIFEM, IFAD, EEC, World Bank, Netherlands German, as well as a wide range of International and National Non-Government Institutions. The Government Ministries including the Ministry of Agriculture, Education, Social Planning as well as State Governments have likewise initiated support for rural women's agricultural activities.

IV. EXPECTED END OF PROJECT SITUATION :

The Ultimate objective of the project is to develop a comprehensive understanding of the "jubarik", their resource requirements and use of, as well the constraints their women operator/managers face as seen from the standpoint of these women, their household and community collaborators.

Understanding will likewise include insights on how resource management can be improved to ease women's efforts and thus reduce negative effects on their nutritional situation.

There will be at least five representative comprehensive patterns drawn-up, representing the major regional divisions of Sudan - North, Eastern, Central, West and South. These patterns will be basis on which interventions can be premised. Likewise, the understanding developed can be the basis for policy and strategy.

V. DESCRIPTION OF WORK TO BE CARRIED OUT INCLUDING OBJECTIVES OUTPUTS AND SCHEDULING OF ACTIVITIES:

OBJECTIVES : To undertake, through Rapid Rural Appraisal:
a. a comprehensive inventory of resource requirements and use of women's "jubarik".

b. an exploration of incentives for improving "jubarik" management.

OUTPUT : 5 representative regional inventories of resource requirements and use patterns as well as equivalent incentives for improving women's "jubarik".

SCHEDULE OF: Preparation of RRA Program, Kits, schedule - 4 months
ACTIVITIES Selection and training of RRA teams - 2 months
Field Work - 4 months
Tabulation, verification, analysis and report making - 2 months

VI. INSTITUTIONAL ARRANGEMENTS AND COORDINATION:

MANRAW Federal, involving relevant Departments and institutions, will coordinate with State Governments and State MANRAW. MANRAW and the Donor Agency may contact the services of an appropriate Agency or Institution to assist in the undertaking of the project.

VII. INPUTS :

1. Donor Contribution:

- RRA Expertise to design the programme, train collaborative staff, tabulate, analyse data and prepare reports (National Expertise).
- Equipment and office supplies including a computer, calculators stationary.
- Local training cost for national staff in RRA techniques.
- Cost of transport for field teams, not necessarily vehicles but fuel and lubricants.
- Operating cost for project.

2. Government Contribution:

- Staff of collaborating Departments and Institutions, their salaries, DSAs and regular remuneration's.
- Office space and facilities both at Federal and State locations including training facilities(classrooms).

VIII. GOVERNMENT PRIORITY, COMMITMENT AND PARTICIPATION :

Government through MANRAW, is mandated to review, recommend and implement policies and strategies for agricultural development in line with the 10 - Year National Strategy for Sudan. MANRAW has sufficient manpower at Federal and State levels to assist in undertaking the project. Increasing productivity of the traditional sector through vertical expansion (improved productivity per unit area) is Government's strategy for that sector and this project will help clarify the situation and identify possible incentives to improve "jabarik" typical of the sector and a women - specific area of responsibility.

IX. PREREQUISITES AND ASSUMPTIONS:

1. Campaign to enlighten rural women of their equal right to land ownership as provided them by law should be undertaken by Government.
Implementing orders to ensure women's access, ownership and use of land be issued and rural women appraised of these Government instruments.
2. Government and MANRAW establish mechanisms for women's equal and if necessary, specifically defined access to extension services, appropriate technology, credit, farm inputs and agricultural services.

X. BUDGET :

A. Donor Contributions:

	US\$
- RRA expertise for 3 months to design programme & train collaborating staff	6,000
- Cost of tabulation, analysis of data & preparation of reports.	15,000
- Equipment and office supplies including a computer, calculators & stationary	10,000
- Local training cost for national staff in RRA techniques (20 trainees)	10,000
- Cost of transportation	50,000
- Operating cost	15,000
- Miscellaneous	10,000
Total	<hr/> 116,000

2. Government Contributions:

	Ls.
- Staff of collaborating departments and institutions(20x4xSP 15,000)	1,200,000
- WADA (1x12xSP 17,000)	204,000
- Office space and facilities at Fereal & State locations including training facilities(classrooms).	20,000,000
- Operating cost	10,000,000
- Miscellaneous	5,000,000
Total	<hr/> 36,404,000

PROJECT (B):

TITLE : PREPARATION OF CHARCOAL FROM CROP RESIDUALS.

SECTOR : IRRIGATED AGRICULTURE

GOVERNMENT IMPLEMENTING AGENCY : MANRAW

STARTING DATE & DURATION : 1995 - (FOR 2 YEARS).

LOCATION : GEZIRA SCHEME.GEZIRA STATE

I. PROBLEM DEFINITION :

Ninety per cent of Sudan's energy requirements for cooking is provided by firewood and charcoal (biomass).The per capita consumption per yet is roughly 500 KG.

In the large scale,irrigated agricultural schemes such as the Gezira scheme, 50 per cent of the households buy their firewood /charcoal needs.While the other 50 per cent gather these by themselves.Igbal Mohammed's study(1990) shows that these households have to travel as much as 1.5 Kilometers.In the Gezira as elsewhere in Sudan,women are largely responsible for fuel gathering.

To supplement fuel wood supplies,households in the Gezira utilize crop residues such as cotton stalks.On the other hand,the Government discourages movement of crop residues to reduce spread of serious crop pests and diseases,thus the women are not free to gather,take home and utilize cottons stalks.Cotton stalks can replace up to 5% of the fuel wood consumption,reduce distance walked to source of firewood conserves the remaining forests and reduce women's workload.Ultimately the nutritional demands (energy)to undertake stionous work would be reduced.

II. SPECIFIC ISSUES TO BE ADDRESSED :

1. Reduce women's workload,improve her health and nutritional status.
2. Replace part of fuelwood requirements of households with crop residues.
3. Reduce degredation of forest/tree resources and reduce environmental degredation.
4. Prevent spread of cotton diseases by moving only charcoal products of cotton stalks carbonization.

III. CURRENT POLICY AND RELEVANT ACTIVITIES :

Concern for the nutritional status of the population, including women's is a priority issue in the National Nutrition plan of action. One strategy is to reduce the workload (labour) demands on women to conserve their energy supplies. Conservation of Sudan's natural resources, including forests and fuelwood sources, is a priority concern of the 10-year strategy for development of Sudan. Introduction of appropriate technology to ease women's workload and liberate some of her time for productive enterprise is likewise a priority goal of the government and WID proponents.

IV. EXPECTED END OF PROJECT REQUIREMENT :

1. Replace 5% of firewood consumption of Gezira households with carbonized cotton stalks thus conserving forest/tree reserves.
2. Reduce time/energy of women spend in gathering firewood.
3. Utilize cotton stalks for fuel by carbonization, on the farm, thus prevent spread of diseases.
4. Introduce a self - repaying source of energy - sale - at - cost of carbonized stalks.

V. DESCRIPTION OF WORK TO BE CARRIED OUT :

A. OBJECTIVE :

1. Decrease women's workload and time in firewood gathering.
2. Make use of crop residues of fuel source
3. Conserve forest/tree reserves.
4. Train women how to carbonize cotton stalks.

B. ACTIVITIES:

1. Design, fabricate apporo-tech carbonization units. Map out project operation plan.
2. Install units in strategic areas in cotton fields.
3. Train women in cotton stalk carbonization
4. Carbonize cotton stalks, package and sell to house-holds at-cost or with minimal margin of profit for women's income.
5. Document operations and results.

C. SCHEDULING :

- 3 Blocks to be covered first year.
3 Blocks to be covered second year

VI. INSTITUTIONALIZATION AND COORDINATION:

The work will be a collaboration effort between NFC. Gezira scheme, energy affairs coordination secretariat, GCP/SUD/047/NET and the Gezira State. Women agric development administration will monitor the progress of the project.

VII. INPUTS :

- Donor contribution
- Carbonizing units
- Training materials (drums and cotton stalks)
- Office stationary
- Transportation cost
- Operations cost

VIII. GOVERNMENT PRIORITY, COMMITMENT & PARTICIPATION:

The Ministry of Agriculture, specifically FNC, Gezira Agricultural corporation, Agricultural Extension and the Energy Affairs Coordinating Secretariat, will collaborate to implement the project.

IX. PREREQUISITES AND ASSUMPTIONS:

1. Gezira Agricultural scheme agree to participate in the project, allocating staff and facilities for use of project, identify location of carbonization units: agree to use of cotton stalks free.
2. Women in Gezira give their concensus to participate and undertake project.

BUDGET OF THE PROJECT(LOAD RELIEF
FOR RURAL WOMEN BY CARBONIZATION OF
THE COTTON STEM).

Donor Contribution :

- Carbonizing unit	:	31.000	US\$
- Training materials,drums,cotton stalk	:	10.000	"
- Office stationary	:	10.000	"
- Transportation cost	:	50.000	"
- Operational cost	:	10.000	"
- Other	:	10.000	"
Total	:	121.000	"

Government Contribution :

- National staff(2 for each unit)	:	5.000.000	Ls.
- Training centres & facilities	:	15.000.000	"
- Office space	:	5.000.000	"
- Operation cost	:	4.000.000	"
- Other	:	2.000.000	"
Total	:	31.000.000	"

TITLE

: RESEARCH PROJECT ON PRODUCTION
OF VITAMIN A AND IRON RICH FOODS
AND PROMOTION OF THEIR CONSUMPTION

I. PRBLEM DEFINITION :

Sweet potato (*Ipomea batatas*) is an important crop throughout the tropics and temperate regions of the world. It is cultivated for its edible storage roots and foliage. It is second to potato in world root and tuber production (F.A.O. 1987).

Sweet potato can make significant nutritional contribution to the diet as food for human consumption and feed for animals. The tuberous roots and green foliage contain high amounts of nutrients excellent source of calories, high quality proteins and vitamins.

Vitamin A deficiency is one of the major diseases and widespread nutritional problem in developing countries.

In Sudan night blindness among children due to vitamin A deficiency has already reached an alarming level that needs quick action. Sweet potato varieties planted in Sudan are either the white-fleshed or creamy-colored types which are poor source of pro-vitamin A. The orange flesh varieties containing high levels of beta carotene (pro-vitamin A) are not planted anywhere in Sudan.

The level of carotene in the orange - fleshed varieties preferred in U.S.A. are sufficiently high to provide several days of supply of vitamin A per serving (Bouwkamp, 1985).

Iron deficiency causing anaemic problems is another major and widespread disease in Sudan. Iron is found in varying amounts in many vegetable crops like peas, bagdooris, girgir, lettuce, carrot, snapbeans, jews mallow, portulaca and green peppers. It is also found in Guddein (*G Tenax*) amounting to 7.4 mg/100 gm edible part (Omar. Ph.D Thesis. U. of K., 1991).

Guddein grows under rainfed in Western Sudan. Consumption of these vegetable crops in rural areas and among displaced people is not adequate.

People in rural areas need to be aware of the value of salad crops in their daily diet.

II. SPECIFIC ISSUES TO BE ADDRESS :

1. To introduce the orange colored sweet potato cultivators from international organizations e.g. CIP and other recognized institutes (North Caroline University) to enrich the dietary status in Sudan especially among displaced people.
2. To study Iron content of various types and varieties of snapbeans, peas, peppers, lettuce, girgir (*Eruca stiva*), jews mallow, bagdoonis and portulaca.

3. Establishment of demonstration farms of these crops in different regions of Sudan for promotion of their consumption
4. To study the storability of the orange- flesh cultivars.

III. CURRENT POLICY AND RELEVANT ACTIVITIES :

Research efforts on most of the above mentioned vegetable crops to increase yield through improved production techniques and breeding are minimal. With the present status of food shortage and malnutrition, the importance of these vegetable crops for food has been realized and some research is being done on green peppers, peas and snapbeans.

IV. EXPECTED END OF THE PROJECT SITUATION :-

Sweet potato is an important natural resource for the tropics. In Sudan it can be grown all year round. It can be adapted to low or high technology input agricultural systems. It does not usually require high levels of inputs. It can make significant contribution to the diet and play an indispensable role as a source of food for humans and feed for animals. The orange colored types with high level of vitamin A could be a key factor in alleviating the problem of night blindness in children.

Promotion and consumption of the above mentioned vegetable crops will to great extent solve the anaemic problem encountered in rural areas and among the displaced people.

V. DESCRIPTION OF THE WORK TO BE CARRIED OUT :

OBJECTIVES:

- a. Introduction of orange - colored sweet potato cultivars, determination of their carotene value (pro-vitamin A) and their storability using cheap methods of storage.
- b. Various kitchen uses of sweet potato.
- c. To Determine the iron content of various types and varieties of snapbeans, peas, peppers, lettuce, Girgir (Eruca Sativa) Jew Mallow, bagdoonis, portulaca and carrot.
- d. Establishment of applied research on these crops in different regions of Sudan in an attempt to promote their cultivation and consumption.

SCHEDULING ACTIVITIES:

1st Year :-

- a. Communication with various international organizations e.g CFP and recognized Institutes to supply plant material for the orange flesh cultivars
- b. Preparation of nurseries preferably at Shambat Research Station, Khartoum North, where research has already been initiated.
- c. Introduction and evaluation of snapbean, pepper and peas varieties for iron content.
- d. Planting other crops e.g Girgir, Jew Mallow and Portulaca to study their iron content

2nd Year :-

- a. Continuation of cultural practices studies.
- b. Supply of sweet potato tubers for storage and quality studies.

3rd Year :-

- a. Continuation of cultural practices.
- b. Supply of sweet potato tubers for storage and quality studies.

3. TRAINING:-

- a. Workshop on cultural practices, storability and uses of these vegetable crops.
- b. Post-graduate student to study the effect of sweet potato meals on general health of dislocated children and in preventing vitamin A deficiency.
- c. Fellowships for senior scientists to attend workshops and Visit International Centres Working on sweet potato e.g.CFP AVRDC.

VI. INSTITUTIONAL ARRANGEMENT AND CO-ORDINATION:

1. Institutes:-

Shambat Research Station
Food Research Centre
University of Khartoum, Faculty of Agriculture.

2. Project Leader:

Dr.Ali Khalafalla Mohamed
Shambat Research Station
P.O.Box 30, Khartoum North.

VII. INPUTS:

	<u>Sudanese Dinnars</u>
i) Nursery contraction	100,000
ii) Labour (3 years)	150,000
iii) Plant material	50,000
iv) Farm tools	20,000
v) Fertilizer and Insecticides	65,000
vi) Chemicals and Lab Equipment	100,000
vii) Sacs and containers	25,000
viii) Tution fees for 2 M.SC.students	75,000
ix) Workshop and training	200,000
x) Total	<u>785,000</u>

VIII. GOVERNMENT PRIORITY, COMMITMENT & PARTICIPATION:

The sustainability of the project is assured through demonstration farms that are executed in various regions of the country. The technical staff to execute this project is present in the government executing institutes. The Farm and basic facilities like land preparation, irrigation...etc will be provided by Shambat Research Staion. Most of the laboratory facilities for quality studies can be provided by the Food Research Centre.

IX. PREREQUISITES AND ASSUMPTIONS:

Foreign Component should be provided for procurement of planting material, laboratory, equipment, chemicals and training.

TITLE : ESTABLISHMENT OF PROPER CATERING
CENTRE FOR DIETETIC SERVICES IN
KHARTOUM TEACHING HOSPITAL.

SECTOR AND SUB-SECTOR : FEDERAL MOH (NAT.NUT.DEPT &
HOSPITAL AUTHORITIES).

GOVERNMENT IMPLEMENTING AGENCY : DIETETIC UNIT IN KHARTOUM
HOSPITAL.

DONOR CONTRIBUTION : US \$ 1,730,000+Ls.50,000,000

GOVERNMENT CONTRIBUTION : Staff, services

STARTING DATE & DURATION : 1996 - 1998 (2 YEARS).

LOCATION : KHARTOUM

I. PROBLEM DEFINITION :

The dietetic activities in Sudan have been started since 1974 by the National Nutrition Department. The activity was first started at the paediatric units especially for malnutrition wards in a number of hospitals throughout Sudan.

Since 1978 the National Nutrition Department started to establish and strengthen the nutritional services in some hospitals. Most of the dietetic cadres are graduated from the school of family science, mainly from Ahfad, Islamic and Khartoum Universities.

Nutrition services in hospitals for a long time started as just providing meals for the inpatients irrespective of how to properly plan a diet. This was the main obstacle facing the newly introduced system of dietetic units in hospitals. It was the main cause that these units do not function properly.

Now some improvement has been achieved and still there is need for further improvement through the establishment of this proposed catering centre.

II. SPECIFIC ISSUES TO BE ADDRESSED:

- Proper catering services in Khartoum Teaching Hospital including handling, preparation, storage and distribution.
- Proper feeding programme for the different diseases.
- To have a national training unit in the field of dietetic.

SCHEDULING OF ACTIVITIES:

ACTIVITY	TIME
1. Formation of a technical steering committee from Nat.Nut.Dept & Hospital Authorities	1996
2. Visiting Tour	1996
3. Preparation of the plan of action of the centre	1996
4. Development of guidelines including training manual for different levels and simple dietary sheet for patients (pamphlets)	1996
5. Rehabilitation of the centre	1996/97
6. Post-graduate training	1996/97
7. Supply of all needed facilities including equipment, utensils, stationary etc.	1997
8. Beginning of the centre activity	1997/98
9. Evaluation	1998.

VI. INSTITUTIONAL ARRANGEMENT & COORDINATION :

ACTIVITY	BY WHOM
1. Steering committee	Federal MOH
2. Visiting tour	Committee members
3. Preparation of POA	" "
4. Development Of dietetic guidelines	" "
5. Rehabilitation of building	SUD/GOV.
6. Post-graduate training	DONORS
7. Supply of needs	DONORS
8. Implementation of activity	Dietetic unit
9. Evaluation	Committee

VII. INPUTS :

ITEMS	RECURRENT COST
1.Personnel	U\$ 5,000
2.Rehabilitation of building	Ls.50,000,000
3.Equipment	U\$ 1,000,000
4.Utensils	U\$ 500,000
5.Stationary	U\$ 200,000
6.Visiting tour & post-graduate	U\$ 20,000
7.Evaluation	U\$ 5,000
Total	U\$ 1,730,000 + Ls.50,000,000

VIII. GOVERNMENT PRIOTITY, COMMITMENT & PARTICIPATION :

Since this type of centre is not yet available although its existence is very important.

The Government will be high committed and interested in its establishment.

The dietary factors play an essential role in the treatment of non-communicable diseases.

TITLE	: IMPROVEMENT OF FOOD AND NUTRITION INFORMATION SYSTEM(F.N.I.S) in Sudan.
SECTOR & SUB-SECTOR	: AGRICULTURE AND HEALTH
GOVERNMENT IMPLEMENTING AGENCY	: MINISTRIES OF AGRICULTURE, HEALTH, RELEIF & REHABILITATION COMMISSION METEROLOGICAL DEPARTMENT AND NGOS
DONOR CONTRIBUTION	: 1.7 MILLION DOLLURS
GOVERNMENT CONTRIBUTION	: 3.5 MILLION SUDANESE POUNTS
DURATION	: 3 YEARS
LOCATION	: SUDAN (KHARTOUM)

I. JUSTIFICATION AND PROBLEM DEFINITION:

Over 90% of production of basic food crops in Sudan is undertaken under rain-fed conditions. Due to variability in rainfall and related agro-metrological factors, marked flucuations in food crops output has occured in the last decades. During the period 1983/84 - 1987/88, ssuccessive years of drought led to famine conditions, social disturbances and wide spread health problems. Although the drought and variability in rainfall could not have been avoided, yet the scarcity of timely and reliable information has hampered the preparation of proper plans, and the national and international efforts to respond to the crisis more effectively.

II. SPECIFIC ISSUES TO BE ADDRESSED :

- 1) Monitoring of crop conditions through field reports, surveys, agrometrological observations and remote sensing data.
- 2) Preparation of advanced periodic estimates of food crops, which serve as key elements in determining the anticipated domestic supply of food crops
- 3) Early quantiative assessment of regional deficits and surpluses in basic foods.
- 4) Health monitoring and nutrition surveillane in terms of:
 - a. Socio-economic data
 - b. Anthropometric data
 - c. Morbidity of common child diseases.
- 5) Monitoring of important market prices, market arrivals, stocks, procurement a distribution of major food crops.
- 6) Monitoring of livestock population, products & prices and monitoring of pastoral conditions.

III. CURRENT POLICY AND RELEVANT ACTIVITIES :

- Current Policy :

The government policy accords high priority to:

- a) Increase food production to achieve self sufficiency.
- b) More efforts to strengthen the nutrition and food information system. Although still, what has been realized in this field is far beyond the real needs.

- On-going or planned projects or activities:

The Early Warning Unit (EWU):

An E.W.U. was established within RRC in 1987. At the beginning of the project, the unit received financial support from government of Norway, Sweden and Denmark. A short term assistance and a T.C.P. were provided by FAO. In 1991, a project was formulated and its implementation was to be conducted in two phases of 18 months each. For shortage of finance, only the first phase was executed and the project funding came to an end in June 1992. The project aimed at strengthening the capabilities of the unit to generate a regular flow of food information. The unit receives secondary information from the concerned ministries and organizations.

The major activities of EWU are oriented towards the following:

- 1) monitoring of crops conditions, and provision of pre-harvest food crops forecasts.
- 2) Early quantitative assessment of regional deficit and surpluses in basic food.
- 3) Monitoring of crops and livestock prices in main markets.
- 4) Demographic monitoring
- 5) Monitoring of donations and deliveries of relief.

Primary Sources of Food and Nutrition System are:

- 1) Ministry of Agriculture, Natural Resources & Animal Wealth:
 - a. Administration of Agricultural Statistics- is responsible for data collection, tabulation and publication of agricultural current statistics at the national level.
 - b. Administration of Agriculture Economics provides data on whole sale prices of food crops and livestock in some selected markets
 - c. Administration of Economics of livestock published data concerning number and composition of livestock, meat and eggs production and animal diseases and veterinary health care.
 - d. Crop Production administration submits reports identifying pests and diseases during the agricultural season.

2) Metrological Department:

- a) Published data on rainfall and temperature for a number of stations in different regions and their deviations from normal.
- b) Issues the 10 days metrological bulletin.
- c) Recieves and interprets relevant satallaita imigery e.g c.c.d maps and vegetation index maps.

3) Nutrition & Health Administration :

- a) Nutritional surveillance (Children & their mothers nutritional status)
- b) Socio-economic information
- c) Morbidity (Childhood diseases)

4) Agricultural Development projects and the Early Warning Unit in Kordofan region.

5) Non-governmental organizations (NGOs) national and international.

IV. EXPECTED END OF PROJECT SITUATION :

- 1) Provides advanced warning of impending food crisis to enable the authorities to adopt preventive and reliable measures in good line
- 2) Provides timely and reliable information about food and nutrition situation that helps planners and decision makers to adopt and execute proper plans in the field of food and nutrition.
- 3) Creates a strong and efficient body to coordinate the activities of all units concerned with the food and nutrition information.
- 4) Disseminate reliable and timely data in a simple, interesting and understandable manner.

V. DESCRIPTION OF WORK TO BE CARRIED OUT:

1) Objectives and Activities of the Project:

a. Development objectives:

The long term development objective is to achieve enhanced food security at national, regional and at household levels, through the provision of advance information on the food and nutrition situation.

c) Department of Metrology :

- Expand the coverage of agro-metrological data in the country.
- Promote analysis of agro-metrological remote sensing data
- Develop data transmission and communication facilities.

d) Early Warning Unit:

Promote data analysis and data presentation & distribution.

VI. INSTITUTIONAL ARRANGEMENTS AND CO-ORDINATION :

One of the weakest points in the former Early Warning and Information System is the lack of co-ordination and linkage among the different units. For the proposed Nutrition and Information system a steering and technical committees should be formed from the concerned ministries and organizations.

Steering Committee:

This committee should be formed of high rank officials in the line ministries and organizations (Ministries of Agriculture, Health, RRC, Department of Metrology, Ministry of education, Ministry of Finance & Economic Planning, Agricultural Bank, COVA, Representative of National and International NGOs will intense activities.

The main objectives of the steering committee are:

- 1) To plan and follow implementation of plans on nutrition and information system.
- 2) To designate participating agencies with specific responsibility to generate data sets relevant to food security.
- 3) To review and make recommendations to the utilization of the existing facilities so as to serve the purpose of the project.
- 4) The committee should be a permanent body.

Technical Committee :

A technical committee from the key technical staff in the concerned ministries and organizations should be formed with the main objectives:

- 1) Gives technical advice to steering committee
- 2) Reviews concepts and methodologies
- 3) Recommends improvements about standardization and uniformity.
- 4) Ensure coverage and standard analytical content.
- 5) Improve data presentation.

VII. INPUTS:

The financial and physical inputs are intended to the strengthen the capabilities of the main data producing units namely administration of Agric. Statistics, National nutrition Department Department of Metrology and Early Warning Unit of RRC.

For details see Annex I.

Annex I:

INPUTS (financial & physical)

ITEM OR ACTIVITY	DURATION	ESTIMATED COST
A) <u>Government Contribution:</u>		
1) Office space for all officials and consultants working on the project.	3 years	Ls. 30 Mill.
2) Customs & laxes for all equipment & materials imported by the project.	3 years	Ls.200 Mill.
3) Salaries of local permanent staff.	3 years	Ls. 20 Mill.
4) Participate with part of the existing facilities in the radio units, e.g vehicles, radio, transmitters, computers.	3 years	Ls.100 Mill.
Total		----- Ls.350 Mill.
B) <u>Donors Contribution :</u>		
1) <u>Technical Advice:</u>		
a.Chief technical advisor to supervise & co-ordinate all project activities.	3 years	\$.150,000
b.Consultant on computer service and data analysis.	12 months	\$. 40,000

ITEM OF ACTIVITY	DURATION	ESTIMATED COST
c. A.s.F.specialist	months	20,000
d. Agric.Statistician with special exper- ience in modelling	months	12,000
e. Nutritional inform- ation specialist	months	12,000
f. Agro-metrologist with statistical background	months	12,000
Sub-Total (1)		----- 266,000
2) <u>Training:</u>		-----
a. Internal training in the field of nutrition and information system		50,000
b. Long & Medium train- ing.		80,000
c. Short training		60,000
d. Study tour		40,000
Sub-Total (2)		----- 230,000
3) <u>Transport Facilities:</u>		-----
a. 8 Vehicles(Toyoto, double cabinet) 4 wheel drive	st.year & nd year of project	200,000
b. 40 Motorcycles	"	150,000
c. 50 bicycles	"	20,000
Sub-Total		----- 370,000
4) <u>Data Analysis Equip- ment:</u>	"	-----
10 PCs		50,000
4 Photocopying machines		60,000
Calculators		10,000
Sub-Total		----- 120,000
5) <u>Communication Facil- ities:</u>		-----
45 radio -transmitters	3 years	90,000
6) <u>Materials</u> (Land-sat imigery,...etc)		100,000
7) <u>Stationary:</u>		20,000
8) <u>Running Cost & Unforseen Items:</u>		134,000
Total		----- 1,700,000

VIII. GOVERNMENT PRIORITY, COMMITMENT & PARTICIPATION:

The Government in its strategic and short term plans accords food and nutrition information optimum importance.

The 4th population census has been conducted and plan to conduct an agric. census are on the way.

IX. PREREQUISITS AND ASSUMPTIONS:

Co-ordination between the different units is very important for the success of the project.

TITLE	: NATIONAL NUTRITION SURVEY
SECTOR AND SUB-SECTOR	: FEDERAL MOH, MOA, MOE, MOSP STATISTICAL BEAURU, UNIVERSITIES. SECTORS: PHC (NUT.), SGNE, NGOs.
GOVERNMENT IMPLEMENTING AGENCY	: ALL ABOVE MENTIONED SUB-SECTORS AT STATE LEVEL.
DONOR CONTRIBUTION	: USD \$ 1,505,000 + Ls. 48 Mill.
GOVERNMENT CONTRIBUTION	: STAFF, CONSTRUCTION & SERVICES
STARTING DATE & DURATION	: 1996/1997, FOUR ROUNDS TO COVER THE DIFFERENT SEASONS OF THE YEAR
LOCATION	: ALL 26 STATES.

I. PROBLEM DEFINITION :

In 1986/87 the first National Nutrition Survey was conducted in Sudan. It formulated the base line against which nutritional status at the National level it is compared. It is important to repeat the survey every 10 years to have a National view of the nutritional status especially knowing that in the first survey all the three Southern zones were not included due to security reasons.

The new survey will cover as well micronutrient deficiencies prevalence, and socio-economic indicators.

II. SPECIFIC ISSUES TO BE ADDRESSED :

- Assessment of the nutritional status of children <5 and their mothers nationally.
- Prevalence of micronutrient deficiencies (VAD, IDD, IDA).
- Socio-economic indicators
- Morbidity

III. CURRENT POLICY AND RELEVANT ACTIVITIES :

* HEALTH & NUTRITION STATUS :

- Quarterly monitoring nutritional survey
- Community - based nutrition surveillance

- Micro-nutrient deficiencies prevalence surveys
- Growth monitoring.
- * Establishment of the National Technical Committee on Nutrition.
- * National Interministerial Committee on Food and Nutrition.

IV. EXPECTED END OF PROJECT SITUATION :

- Update nutritional situation at the National level.
- Combined information about the different nutritional deficiencies for joint intervention actions involving the different concerned sectors.
- Geographic distribution of the nutritional deficiencies together with their magnitude giving opportunity for priority intervention measures including establishment and/or strengthening of nutritional units.

V. DESCRIPTION OF WORK TO BE CARRIED OUT :

OBJECTIVES :

- To identify the nutritional status of children <5 and their mothers at the National level.
- To identify the magnitude and prevalence of micro-nutrient deficiencies in the different parts of the country.

OUTPUTS:

- To identify the up-to date nutritional status of children <5 and their mothers at the National level.
- To have a map of micro-nutrient deficiencies prevalence at National level.

SCHEDULING OF ACTIVITIES:

ACTIVITY	DURATION
1. Formation of Steering Committee from different sectors (National level)	1st months
2. Updating questionnaires & guidelines (1986/87)	1st & 2nd months
3. Training	2nd-3rd months
4. Round one (Data collection, data analysis & reporting)	3rd-5th months
5. Round two (refresher training, data collection, data analysis & reporting)	6th, 7th, 8th months
6. Round three (as above)	9th, 10th, 11th months
7. Round four (as above)	12th, 13th, 14th "
8. Supervision	3th - 14 th "
9. Compilation of all rounds	15 th month
10. Finalization, translation and printing of final survey report including a final presentation workshop.	16th month

VI. INSTITUTIONAL ARRANGEMENTS AND CO-ORDINATION :

ACTIVITY	BY WHOM
1. National Steering Committee	Federal MOH.MOA,MOE, Universities,Statistica Bearu.
2. Updating questionnaires and guidelines	National Steering Committee
3. Training of field teams	National Steering Committee
4. Data collection	At state level,PHC (NUT.),SGNED,Agric. Extension,Women Associations and NGOs.
5. Data analysis	PHC,Information & H.Statistic (FEDERAL)
6. Supervision	National Steering Committee,State level supervisors.
7. Compilation od all rounds	National Steering Committee
8. Finalization,translation & printing of final survey report including the final presentation workshop.	National Steering Committee

VII. INPUTS :

ITEM	RECURRENT COST
1. Steering Committee (10 persons)	USD \$ 5,000
2. Transport-Vehicle Rental + 3 velicles(project administ.)	" 1 Mill
3. Maintenance & Operation	Ls. 3 Mill.
4. Personnel	Ls.36 Mill.
5. Stationary	Ls. 3 Mill.
6. Equipment	U\$ 500,000
7. Training	Ls. 4 Mill.
8. Data analysis,reporting,compilation and finalization including workshop	Ls. 2 Mill.
TOTAL	U\$ 1,505,000 + Ls.468 Mill

VIII. GOVERNMENT PRIORITY, COMMITMENT & PARTICIPATION :

Since the National Nutrition survey will avail valuable information for future planning and priority programme in the field of nutrition needed for the implementation of the National Comprehensive Strategy, so the Government will be committed to the survey being conducted. The Staff involved of both levels National & State will be the responsibility of the Government.

IX. PREREQUISTES AND ASSUMPTIONS:

The survey should be conducted nationwide and at the same time.

TITLE : COMMUNITY IRRIGATED FARMS IN SOUTH SUDAN

SECTOR AND SUBSECTOR : RURAL SECTOR, AGRICULTURAL SUBSECTOR

IMPLEMENTING AGENCIES : MOWAFAQ FOUNDATION AND SUDANESE AGRICULTURAL BANK (SAB)

DONOR CONTRIBUTION : -

STARTING DATE AND DURATION : MID 1995 AND FOR ONE YEAR

LOCATION : MALAKAL, TORIT, JUBA, GOGRIAL, RAJA, BIBOR TOWNS OF THE SOUTH SUDAN.

I. PROBLEM DEFINITION :

Around 1.4 million people in Southern Sudan have been receiving relief food aid for the last six years. This is due to the regional conflicts affecting large areas of the South.

Many attempts were carried trying to help returnees and displaced people to produce their own food by supporting rainfed agriculture.

Local Governments, Peace and Development Corporation, UNICEF and NGOs have contributed substantially to this programme.

This programme has achieved limited success due to security measures limiting movement of farmers and the limited secure land for farming. Another major limiting factor was the inconsistency in rain distribution around towns and villages as well as birds attacks.

It was also observed that food produced under these conditions hardly suffice for three months ie. December, January and February. During the rest period of the year ie. March to July hardly there is any source of food except waiting for relief aid which many times failed to reach at the right time.

This project proposes an intervention to close the "hunger gap" by supporting community pump irrigated farms, for growing of cereals, root crops and legumes.

This package was tried by Mowafaq Foundation in Juba town and showed great satisfaction by local community.

Mowafaq Foundation is the coordinating organization within national NGOs in the field of Agriculture and Rural Development programmes.

II. SPECIFIC ISSUES TO BE ADDRESSED :

- Availing of water pumps (diesel operated water current, solar and triddle pumps) and fuel at reasonable financing terms.
- Study of a proper crop rotation for these farms according to locations and formation of local production groups
- Agriculture extension programme to increase awareness among farmers
- Development of marketing channels ie. agreement with Peace and Development Foundation trading company.

III. CURRENT POLICY AND RELEVANT ACTIVITIES :

The agriculture sector strategy of Sudan gives priority concern for increasing food production with special emphasis on the small farmers to achieve food security at different parts of the country. This project help them to come back to their normal pattern of life and eliminate gradually aid dependency.

IV. EXPECTED END OF PROJECT SITUATION:

The ultimate objective of the project is to set a typical example of a community operated programmes of food security through continuous farming during the dry period of the South.

This pattern will be extended to other towns and cities of the South in the years to come as the project pays back its' cost.

With this in sight food security will be achieved.

V. DESCRIPTION OF WORK TO BE CARRIED OUT :

1. OBJECTIVE

- To develop a proper crop rotation to meet the feeding and economic needs of local community.

OUTPUT

- Have a model for farming with peoples' participation in the study and implementation of the project

2. OBJECTIVE

- To study reasonable irrigation system

OUTPUT

- People choosing an efficient method of irrigation (ie. diesel engines solar, current turbines, triddles or bucket).

3. OBJECTIVE

- To develop a reasonable production and marketing channel

OUTPUT

- Formation of farmers cooperatives and agreements with national trading companies for marketing of produce.

VI. SCHEDULING OF ACTIVITY :

NO. ACTIVITY	DURATION
1. Formation of a national steering committee and regional sub-committees	1st.month
2. Formation of farmers unions and cooperatives	1st and 2nd months
3. Development of a farming rotation	1st and 2nd months
4. Procurement of pumps, fuels and extension aids	1st and 3rd months
5. Land Preparation and execution of programmes	2nd to 12th month
6. Training on proper farming practices (including production, storage and marketing).	2nd to 12th month
7. Assessment of programme and writing of final report	9th - 12th month

VII. INSTITUTIONAL ARRANGEMENTS AND COORDINATION :

No. ACTIVITY	PARTICIPANT
1. Steering committees a.National B.Regional	Donor,NGOs,SAB, Ministry of Agric. NGOs,Local groups
2. Formation of farmers Unions and cooperatives	NGOs
3. Development of farming Rotation	Ministry of Agric. NGOs.
4. Procurement of inputs	Donor,SAB
5. Land Preparation and execution of programmes	NGOs,Farmers cooperatives
6. Training	NGOs,Farmers Cooper- atives,Ministry of Agric.
7. Assessment	Donor,NGOs,Ministry of Agric.,Local groups

VIII. INPUTS :

NO. ITEM	RECURRENT COST
1. Personnel and steering committee	USD 5,000
2. Stationary	" 200,000
3. Agric.Extension equipment	" 60,000
4. Extension and training program	"1,500,000
5. Seeds and hand tools	" 500,000
6. Pumps (100)	" 600,000
7. Fuel	3,500,000
	6,365,000

NOTE :

Items 5,6 and 7 are rebatable to revolve in this project for coming years under the financial supervision of the Sudanese Agricultural Bank.

THIS DOCUMENT IS PREPARED BY THE FOLLOWING NATIONAL FOOD AND NUTRITION INTERSECTORAL COMMITTEE:

1. MINISTRY OF HEALTH:

NATIONAL NUTRITION DEPT:(ICN FOCAL POINT)

- a.Dr.KAMAL AHMED MOHD,DIRECTOR.
- b.Mrs.ALAWIA EL AMIN,DEPUTY DIRECTOR
- c.Mrs.Igbal A/MAGEED,SENIOR NUTRITIONIST

2. MINISTRY OF AGRICULTURE :

- a.Dr.A/RAZIG EL BASHER,DIRECTOR,AGRICULTURE PLANNING DEPT.
- b.Dr.HASSAN EL SHEIKH, DIRECTOR AGRICULTUREAL STATISTICS DEPT.
- c.Dr.ALI DINAR,ANIMAL WEALTH

3. MINISTRY OF FINANCE & ECONOMIC PLANNING :

- a.Mrs.LEILA OMER,DIRECTOR,FOOD SECURITY UNIT.

4. MINISTRY OF EDUCATION & SCIENTIFIC RESEARCH :

- a. ISAM MOHAMMED A/RAHIM,SGNED

5. UNIVERSITY OF KHARTOUM:

PROF.ABDEL GADIR KHATTAB,FACULTY OF AGRICULTURE,SAMBAT.

ABBREVIATIONS

ICN	: International Conference on Nutrition
NPOAN	: National Plan of Action for Nutrition
NCS	: National Comprehensive Strategy
MOH	: Ministry of Health
MOA	: Ministry of Agriculture
MOE	: Ministry of Education
MOSP	: Ministry of Social Planning
MOL	: Ministry of Labour
MOINFORM	: Ministry of Information
SGNED	: School Gardening & Nutrition Education Department
Agric.	: Agriculture
Nat.Nut.	: National Nutrition
Dept.	: Department
ARI	: Acute Respiratory Infection
CDD	: Control Diarrhoeal Disease
EPI	: Expansion Programme of Immunization
IDD	: Iodine Deficiency Disorders
VAD	: Vitamin A Deficiency
IDA	: Iron Deficiency Anaemia
PEM	: Protein-Energy Malnutrition
BF	: Breast Feeding
NGOs	: Non-Governmental Organizations
UN	: United Nation
FAO	: Food & Agriculture Organization
WHO	: World Health Organization
UNHCR	: United Nation High Commissioner for Refugees
UNDP	: United Nation Development Programme
LAB	: Laboratory
Associ	: Association
PHC	: Primary Health Care
Fac	: Faculty
RRC	: Rehabilitation & Relief Commission
EPR	: Emergency Preparedness & Response
MANRAW	: Ministry of Agriculture, Natural Resources & Animal Wealth.
RRA	: Rapid Rural Appraisal
KAP	: Knowledge Attitude & Practices
NCL	: National Chemical Laboratories
SUD	: Sudan
H.H	: Household
MCI	: Ministry of Culture & Information
SERISS	: Sudan Emergency, Recovery Information & Surveillance System.