ANNEX I

SPECIAL PROGRAMME FOR FOOD SECURITY (SPFS)

JOINT FAO-EGYPT-TANZANIA FORMULATION MISSION REPORT

SOUTH-SOUTH COOPERATION BETWEEN THE ARAB REPUBLIC OF EGYPT AND THE UNITED REPUBLIC OF TANZANIA

SUMMARY REPORT

Rome, September 1998

SPFS SOUTH-SOUTH COOPERATION EXPLORATORY AND FORMULATION MISSION

Summary Report to the Government of Tanzania, FAO and the Government of Egypt

I. The Context

- Tanzania's goal of sustained growth in food and agriculture production to change chronic food deficit into sustained sufficiency (adequate food for all) and on to surplus status
- The many policies and projects to contribute towards achievement of this goal
- The SPFS as a national instrument of consolidating experiences and resources as a national and local effort to achieve the national goal
- The need and role of technical assistance in the Pilot and Expansion phases of the SPFP/FS
- The place, role and importance of South-South Cooperation (SSC) to support the country's SPFP/FS Expansion Phase.

II. Purpose and Activities of the Mission

The purpose of the mission was to formulate the framework of the SPFP/FS Expansion Phase and to explore the appropriateness and need for SSC in the implementation of the SPFP/FS in Tanzania and to produce a report of its findings and recommendations. (see Terms of Reference of the Mission for details).

To achieve this purpose, meetings were held with the Minister of Agriculture and Cooperative, the Principal Secretary, Senior Officials of the Ministry of Agriculture, the Prime Minister's Office, the Planning Commission, the Civil Service Commission and the donors' community in Dar es Salaam, namely: the World Bank, UNDP, WFP, Italian Embassy, JICA, the Netherlands Embassy.

The Mission travelled for six days covering around 3,000 km in "search of food", visited projects and sites and had meetings with officials and local people in Tanga, Kilimanjaro, Arusha, Iringa, Morogoro and Zanzibar. Furthermore, the Mission reviewed a long list of documents and worked closely with the Egyptian Ambassador and his staff and with the FAO Representative and his staff. (see Programme of visit of the Mission for details). The Mission had only around two days for drafting three related documents. Completion of these reports will be carried out in Dar es Salaam and FAO, Rome, through e-mail.

III. Major Observations and Findings of the Mission

1. The achievements and experience of the Pilot Phase of the SP in Tanzania are highly regarded and appreciated by the people met. The Principal Secretary noted a problem created by the Pilot Phase: other regions are demanding to be covered by the SPFP/FS. In Morogoro, the enthusiasm at all levels of the SP was highly evident. All the regions visited wished to be covered by the SP. A delegation from Zanzibar came to ascertain that it is included in the next phase of the SPFS.

2. There is a general consensus in the MAC that the Pilot Phase which ends in June 1998 should immediately graduate into the Expansion Phase, consistent with the agreed and approved (by FAO & GOT) National Special Programme Plan of 1995 and to secure continuity of this important programme of Tanzania on agricultural production for food security.

3. Resource constraints of the MAC for the Expansion Phase are clearly recognized and have been discussed. The management capacity for the Expansion Phase was also discussed. Also the transport and communication infrastructure problems as well as the constraints identified during the Pilot Phase were discussed.

4. There was a favourable attitude on the part of the donors visited towards the SPFP/FS and its expansion plan. For example, the World Bank officials met think support of the SPFP is possible from the current NAEP II, within the scope of its flexibility, however a proposal should be made. The UNDP indicated that, subject to GOT's decision, some of its TCDC funds could be used to invite or send experts on food production for food security. The WFP expressed interest in supporting the water control and management activities through food for work arrangements. JICA has already completed a study of the irrigation expansion of the Mkindo pilot project to cover around 600 ha. from the current 20 ha and also think that it could assist in the area of training. The Netherlands, which is supporting a number of irrigation and dairy projects, wishes to be kept informed of the expansion plans. The Italian Ambassador is interested in supporting the private sector's initiative to invest in agro-business in Tanzania under its privatization policy. The Ambassador of Egypt also expressed interest in Egypt's private sector investing in agricultural support services.

5. There is a fundamental consideration that has been neglected in previous planning for food production for food security in Tanzania, i.e. the relatively small area suitable and devoted for food and agriculture production, around 5.2 million ha. or around 6 percent of total land being used in Tanzania. Furthermore, these areas are widely scattered. In Iringa for example, about 2000 ha. suitable for rice production, of which only 500 ha. is under irrigated cultivation, could be reached from the town in 3 hours time for a distance of around 100 km. If Dr. Tito Contado were to write a book on his travels in Tanzania for food production and food security (3,500 km during exploratory mission and around 3,000 km for the Expansion and SSC mission), he would give it the title "In Search of Food".

6. The old question could be raised again: can Tanzania feed itself? Subject to more in depth analysis, the experience of the SPFP/FS as well as the Sasakawa 2000, the irrigation project in Moshi, the land under cultivation could easily more than double its yield. Given this

assumption, if the more than 3 million farmers of Tanzania could produce an average of 2 to 3 tons per hectare, the current cultivated land could produce as much as 10 to 15 million tons of food (Note: in 1994/95 total production stood at 3.8 million tons.)

Beyond this projection of production from 5.2 million ha. there shall be pressure to put into food production some grazing land (35.0 million ha. or 39 % and woodlands/forest of 44 million ha. or 50% of the land cultivation area). An analysis of GDP of Tanzania shows that the 5.2 million hectares contributes 50% to country's GDP while the livestock sector contributes about 10 percent of the GDP.

7. The Mission noted that there are several large projects in the regions visited which are focusing on the production of the major food crops. Among these are the World Bank funded NAEP II, the WB Irrigation Project in several river basins, the IFAD extension project in the southern regions, the Netherlands irrigation and dairy projects, the irrigation project in Moshi with Japanese support and the likely expansion project in Mkindo and the Sasakawa 2000.

They are in different stages of implementation. The SPFP/FS, as a programme, cuts across the objectives and activities of these projects and could provide added value to these projects as in the case of the Water Harvesting Irrigation Project of IFAD in the Pilot area in Dodoma. In the Irrigation Projects visited, its impact and return to investment could be enhanced if the extension service is directed towards on farm water management, soil and plant nutrient management and IPM through locally organized farmers field school. Furthermore, the effectiveness of NAEP II could be enhanced with a strong participatory extension philosophy specific message on: a) water control and management in irrigation project locations, b) crop intensification in most crop production areas, c) diversification in most locations even in areas where crop production is not highly suitable and c) farm management training of farmers in all locations.

8. Therefore, there is already a sizeable volume of external investments for food and agricultural production which are under the charge of the Ministry of Agriculture and Cooperatives that could constitute as the basis for the launching of the SP Expansion Phase for water control and management, crop intensification and diversification which could be fine tuned by using appropriate experiences of the SP Pilot Phase and improving technical support from SSC experts and field technicians. For example, there is a wide scope for improvement on farm water management, introduction of farmers field schools in irrigated rice production areas (for farmers' training in farm water management, IPM and soil and plant nutrition management) and participatory farmers' groups for group learning and group attention to inputs, savings and credit and marketing concerns at the local level.

9. When the concept and modalities of the SSC were explained to the people meet in Dar es Salaam and in the regions, they were enthusiastically received. It is understood as a highly cost-effective partnership (amongst Tanzania, Egypt & FAO) approach to technical assistance and training in support of the SPFP/FS in the country.

This implies that, including the Pilot Phase the goal of achieving food sufficiency and graduating from the food deficit status it will take 18 years to reach that goal with a reasonable target growth for the sector annually.

6. As planned by the Ministry of Agriculture and Cooperatives, the Mission endorses the proposition that the Expansion Phase be initially operated within the context and resources of the NAEP II.

7. While formulating the draft General Framework for the Expansion Phase of the SPFP/FS, the Mission recommends an estimated "seed money" budget for Expansion Phase I in the amount of $8 million to cover 8 regions for five years and to be reprogrammed from the WB/GOT NAEP II.

8. As a significant immediate technical assistance and training support to the **Expansion Phase I,** the Mission strongly recommends that SSC between Tanzania and Egypt be employed and supported by Tanzania, Egypt and FAO.

9. The Mission recommends that the SPFP/FS SSC between Tanzania and Egypt should be for three years and cover eight identified regions (Rukwas, Ruvuma, Tanga, Mtwara, Morogoro, Dodoma, Iringa, and Mbeya) and Zanzibar.

10. The Mission recommends further that subject to periodic review, needs and capacity limitations, with some flexibility the delivery of technical assistance during the three year period shall be as follows:

Year 1 : 48 W/M Experts and 40 Field Technicians
Year 2 : 48 W/M Experts and 80 Field Technicians
Year 3 : 48 W/M Experts and 100 Field Technicians

11. To make this recommendation happen, the Mission recommends that the **Host Country (Tanzania),** the **Cooperating Country (Egypt)** and the **Sponsor (FAO)** faithfully fulfil their respective commitment in accordance with the SSC Protocol and the tripartite agreement.

12. To implement the recommendations of the Mission on SPFP/FS SSC, the section on Modalities of Implementation, Budget and Schedule of SSC, part IV of the main Mission Report, should be adopted by the three parties.

V. Major Outputs of the Mission

The Mission produced three principal documents and their attachments:

1. Mission's Summary Report to the Government of Tanzania, the Government of Egypt and FAO

2. SPFS/SSC Exploratory and Formulation Mission Report

3. Framework Plan for the Expansion Phase of the Special Programme on Food Production for Food Security in Tanzania (1999 to 2014)

VI. Steps to Follow-up Mission's Recommendations

1. The GOT and FAO may have to review, finalize, agree and approve this Framework Plan for the Expansion Phase of the SPFP/FS.

2. This Framework Plan once ageed and approved should be used in the planning of national and regional expansion phase projects and activities.

3. The Exploratory and Formulation Mission Report once accepted by all parties should be used by FAO in drafting the Agreement of the SSC on the SPFS amongst Tanzania, Egypt and FAO, and once the Agreement is signed by all parties, implementation should begin. The steps to follow for its implementation are contained in Part IV of the SSC Mission Main Report.

4. It is recommended that the MAC, officially and in writing, request FAO to assist in re-orienting the NAEP II to support the Expansion Phase I of the SPFP/FS. The positive elements of reorienting the NAEP II are as follows:

   (a) the extension programme message would be focused to food crops intensification, diversification and farm water management wherever appropriate;

   (b) increase in the effectiveness and ERR of rice irrigation projects of the WB by giving priority to farmers in irrigation project covered areas and using farmers field schools to train farmers in farm water management, integrated pest management and integrated plant nutrients management;

   (c) adjusting the extension approach from strictly training and visit to a participatory approach using mechanisms such as the Participatory Farmers Groups (PFG), successfully followed during the pilot phase, use of Farmers' Field Schools (FFS) where appropriate and use of participatory knowledge, attitude and practice surveys for participatory programme and activity planning;

   (d) adopting the region as the operational unit of a decentralized national agricultural extension system.

VI. Acknowledgements

The involvement and support of the Minister of Agriculture, Mr. Kiniti and the Principal Secretary and the MAC senior staff, the time they devoted in briefing and debriefing the Mission, for assigning well selected Tanzanian members of the Mission and for preparing the Mission's programme with FAO is gratefully acknowledged. The invitation and programme of

groups as vehicles for improved production technology transfer. By using proven available research recommendations, farmer training, and regular technical advice by the village extension workers, one acre farm demonstrations on improved, maize production were carried out on 103 farms. Similarly participatory rice demonstrations were carried out in 84 farms each of 0.5 ha in the SPFS villages of Morogoro and Dodoma regions. The participatory group members have learned through theory and practice and adopted most of the improved production technologies for the two grains. Significant results have been recorded with yields doubling. About 86 percent of maize demonstration farmers and 100 percent of rice demonstration farmers have repeated/adopted the improved production technologies. Similarly diffusion of these technologies has taken place with non-participatory group members using the improved seeds, fertilizers and correct plant spacing. Over and above, the groups have been sources of improved seed, composite seed for maize and line 88 for rice production.

Water Control and Management

Some 80 percent of the country receives less than 1000 mm of seasonal but unreliable rainfall which is the main threat to food security and self sufficiency. However, Tanzania has an irrigation potential of 851,310 ha out of which between 150,000 - 170,000 ha are presently being exploited for producing both cash crops such as tea, coffee, sugar cane and food crops, mainly rice and vegetables. The levels of production of food crops especially rice are very low 2.50 tons per hectare. The low yields could be attributed to among other things to poor water management/control, late field preparations and transplanting of rice seedlings.

Farm demonstrations in rice during the Pilot Phase under three types of irrigation (gravity in Mkindo Wet Rice Project, bonding field in Kilombero and Morogoro districts and water harvesting in Bahi/Chipanga IFAD Project where the use of shallow wells were used for early raising of rice seedlings gave significant yield results with farmers doubling yields per hectare.

Diversification

Another important component within the SPFS, Pilot Phase is the diversification of the food security at household levels, involving small stocks mainly local chicken and goat improvement. The main purpose of the diversification is to improve the incomes of the small scale farmers especially women through increased production and sales of meat, milk, eggs and skins. This would enable farmers to store their maize and rice for a much longer time to wait for the producer prices to improve. Also paramount to this, is to improve the health of women and children through increase intake of animal protein.

Under the Pilot Phase, 115 small stock demonstration farmers and 27 village extension workers were training on improved livestock management, 16,497 chicken were vaccinated against the prevalent Newcastle disease 170 improved cockerels and 60 improved breeds of bucks were distributed to the demonstration farmer group members. Similarly, the construction of 146 improved houses for goats and chicken was demonstrated. All these interventions have resulted into increase survival rates of local chicken and increased meat and egg production. Farmers have been impressed by the good results and are willing to contribute money for the purchase of vaccines and drugs for treating their animals.

Constraints Analysis

Using a national consultant, a guide to constraints analysis to increasing food production and sustainable adoption of available proven technologies by men and women farmers and active participation of the target farmer groups, the following important constraints were identified:

i. Lack of working capital or credit
ii. Inadequate farm power
iii. Lack of or late supply of production inputs
iv. Inefficient market outlets and low producer prices to farmers
v. High post harvest losses (30-35%)
vi. Lack of funds for the expansion and exploitation of the available irrigation potential and
vii. Inadequate funding for other essential support services such as extension and research

With consistently higher crop yields of the farm demonstration compared to previous and national average yields of maize and rice, the experience and enthusiasm that the SP Pilot Phase has developed among participating farmers, local government & NGO leaders, agricultural technicians and experts, managers and decision makers, the SP in Tanzania has gained adequate path-finding experiences and should be ready for the gradual Expansion Phase at the planned completion date of the Pilot Phase in June 1998. However, the expansion phase must address adequately the identified constraints.

23. Recommendations for Improving the SPFS in Tanzania

During the last three years, the Pilot Phase of the SPFS in Tanzania has progressed very well beyond reasonable expectations. As a result of limited but carefully administered resources seven recognized factors contributed significantly to this high level successful pilot phase:

- a high sense of ownership on the part of the government and the local people in the people area;

- a participatory approach to problem analysis, decision on solutions to production problems and action to implement the plan,

- the organization of farmers participatory groups of the SPFS (a learning, saving, coordinated action group);

- the facilitating support of extension, research, and private input supply, credit and marketing organs in the locality;

- the efficacy of the locally available packaged set of technologies for demonstration in water management, intensification and diversification in farming; and

- the dedication of those involved in the operation of the Pilot Phase at the local and national levels contributed significantly to the high level of achievement of the Pilot Phase.

- A good Pilot Phase Plan of action which was followed closely during its implementation.

Therefore, the challenge of the future is not only improving the SPFS in Tanzania but consolidating its gains and expanding the application of the experiences of the Pilot Phase to a gradually larger number of farmers and regions in the country. To make this possible, the following recommendations are being made:

1. Consistent with the National Special Programme plan, and since the Pilot Phase has achieved its objectives, the Government should adopt the policy of moving from the Pilot Phase which ends in June 1998 to the Expansion Phase to officially begin in July 1998. Furthermore, other regions expressed readiness to participate and be covered by the SPFP/FS because of what they observed in Morogoro and Dodoma regions where the Pilot Phase has been implemented.

2. Due to resource constraints and management capacity limitation, adopt a two phased Expansion Programme of the SPFS in Tanzania, where Phase I should be for 5 years and Phase II for 10 years.

3. The ultimate aim of the SPFS Expansion Phase is to graduate from the chronic food deficit history in Tanzania to sustained food production that would more than meet the national food requirements to achieve food for all Tanzanians. To achieve this aim, the SPFS Expansion Phase should use the tested methodology of the Pilot Phase and with policy support achieve the following contributory outputs:

- Policy and practical solutions to the constraints identified during the Pilot Phase
- Steady and sustained food and agriculture production growth every year in SPFS covered regions
- Improved environment for policy and programme adjustments and development
- Enhanced human and institutional capacities development through participatory training and
- Extension and the formation/strengthening of public and private saving & credit, input supply,
- Marketing and farmers local institutions
- Contribute towards sustainable agriculture by integrating into the recommendations for farmers integrated pest management (IPM), integrated plant nutrition management (IPNM) and other environmentally sound practices and technologies
- Focusing on achieving the goals of the SPFP/FS, create and strengthen partnerships of the public and the private sectors, of national and international donors, investors and technical assistance stakeholders

4. Adopt a policy of consolidating coherently existing resource inputs on food and agricultural production, processing and distribution/marketing, rural finance, including, water management and control in support of the Expansion Phase of the SPFP/FS in Tanzania

5. Supplement national and local resources (technical and managerial human resources and financial resources) with technical assistance through South-South Cooperation (SSC)and Technical Cooperation among Developing Countries (TCDC) within the framework of FAO's partnership programme.

III. TECHNICAL ASSISTANCE PROPOSALS IN THE FRAMEWORK OF SOUTH- SOUTH COOPERATION

31. Objectives and Strategic Options

The widely recognized success of the SPFP/FS in the piloting of water management and control, crop intensification and farming diversification (which mobilized the farmers and demonstrated doubling of maize and rice production and significantly increasing the production and availability of vegetables, poultry and small farm animals) should be extended to a significantly larger number of farmers, farmers organizations and in more regions of the country.

Within the framework of the Expansion Phase of the SPFP/FS, during the 5 years Phase I, the Special Programme is to be extended to 8 regions and the state of Zanzibar (two original and seven new regions including Zanzibar). There are three common problems in all the 8 regions and Zanzibar: a) financial, b) expertise and technical manpower and c) infra-structure and services. All these three problems are being addressed in the Framework Plan for the Expansion Phase.

The South-South Cooperation specifically addresses the second problem. While it is recognized that Tanzania has one of the longer history on agricultural manpower development and training both domestically and abroad and one of the countries in Africa with a large number of highly trained agriculturists, it was concluded that successful implementation of Phase I of the Expansion Phase could be significantly enhanced with a well planned and administered SSC programme. With FAO and Tanzania's initiative, Egypt was focused to be a suitable cooperating country. It has a much longer history of experience with food production and a larger critical mass of agriculture experts and field technicians.

The objectives of SSC in Phase I of the Expansion Phase are:

a) to supplement the expertise and experience of Tanzania on crop intensification, diversification, water control and management and constraints analysis with experts in these fields from Egypt

b) to augment and beef up the capacity and experience of Tanzania at the field level with technicians in on farm water management and control, crop intensification and farming diversification including acquaculture, honey production, local food processing, etc. with experienced agricultural technicians from Egypt

Three strategic options of undertaking the SSC were considered: a) one was to have several experts as trainers without agricultural technicians, b) the other was a few experts and a limited number of technicians who would have training functions at the national and regional levels and c) the third was to have four experts as national technical advisors for each of the four components of the SPFP/FS and the maximum number of technicians who would work in the field with Tanzanian technicians in selected sites in the 8 regions and the state of Zanzibar.

Considering the nature and requirements of Phase I of the Expansion Phase, the third option was agreed. In choosing this option, the phasing of the assignment of the experts and the technicians was also agreed as follows: a) the four expert posts would be for a period of three years, b) the actual number of technicians to be assigned will depend upon a detailed need assessment of the selected sites, c) the first batch of technicians for a three year assignment would be for the high priority fields that require longer presence of SSC technicians while d) the last batch who will be for only one year would be in fields that could be fully satisfied within a shorter period of time.

32. General Assistance

To make this SSC work successfully and effectively the role of Tanzania as the host country, Egypt as the cooperating country and FAO as the sponsoring organization were clarified.

It is the responsibility of Tanzania to determine the specific needs of experts and technicians, approve proposed experts and technicians, provide counterparts to work with the experts and field technicians, pay to each expert and field technicians monthly subsidies equivalent to US$300 per month, cover local and regional travel expenses, provides adequate accommodation including utilities and to monitor and report on performance.

Egypt as Cooperating Country has the responsibility to provide four experts and roughly 100 field technicians for periods of one to three years as agreed by the parties concerned; retains the experts and field technicians, if they are civil servants in Egypt for the duration of their assignment in Tanzania; continue to pay salary, social insurance and other allowances to which the experts and field technicians have the right in Egypt and to meet the travel costs within Egypt.

FAO ensures screening of candidates and provides technical supervision and monitoring; pays a monthly subsistence allowance equivalent to US$700 to each expert and US$300 to each field technician; provides a one-time installation grant of US$300 to each expert and field technician; provides a return air-ticket for international travel but these SSC experts and field technicians do not become staff members of FAO.

This SSC technical assistance would be located in Dar Es Salaam (for the four expert posts), and in 8 of the 21 regions in the mainland and in the state of Zanzibar. The criteria in selecting the sites in each region and the list of the selected regions is found in Annex 3.

33. Assistance on water control and management and soil fertility and plant nutrition

About one-third of Tanzania is arid or semi-arid, with rainfall below 800 mm, while another third is occupied by highland areas with precipitation in excess of 1,000 mm. However a long dry spell (June to October) results in low river flows, causing seasonal scarcity. Recently, scarcity and conflict among users has been exacerbated by a few years of less than average rainfall, coupled with the expansion of irrigation and the increase in demand for hydropower and water for urban uses. On the other hand, the soils of Tanzania differs greatly (41 soil units were identified (De Pauw 1984).

Control and water management has two scales. One is the large scale dealing mainly with the main infrastructure of the system and large schemes. The second is the small scale dealing with the small schemes or the farm level (on-farm water management).

Fertilization to satisfy the nutrient needs of any crop is essential to attain potential yield. Soil fertility status is a basic data to give the fertilizer recommendations. Soil type and its characteristics in addition to agricultural practice such as green manuring,appliction of organic matter and irrigation method are playing a great role in the selection of fertilizers as well as the rate and method of application. Time of fertilizer application is mainly dependent on type of crop cultivated.

The technical assistance proposals will be mainly in the area of small-scales schemes (on-farm water management) and how to integrate it within the existing large-scale schemes as well as in soil fertility and plant nutrition.

The Water Control and Management expert in collaboration with the national counterpart will train and supervise the field technicians and their counterparts on the following responsibilities:

1. Through participatory approaches involving all the water users, extension workers and other stake holders undertake a comprehensive situation analysis of the irrigation project with a view of identifying the problems, - technical, sociological and work out practical solutions.

2. In collaboration with farmers establish a mechanism for scheduling the delivery of irrigation water to satisfy crop water requirement.

3. Advise on maintenance of the existing irrigation and drainage systems on the farm level. Increase the water use efficiency on the farm level.

4. Assisting farmers to improve the farm irrigation layout for optimum irrigation practices.

5. Working with the irrigation groups, water user associations, or irrigation cooperatives where they exist.

6. Help in the establishment of irrigation groups, water user associations, or irrigation cooperatives in the irrigation schemes where it is not found.

7. Train farmers, extension staff , and technicians on the execution and implementation of the on-farm water management activities.

8. Increase the public awareness regarding the scarcity of water and the importance of the on-farm water management to increase crop production and the sustainability of natural resources.

9. Advising and cooperating in highlighting the importance of the integration between soil(type and properties), irrigation and other agricultural practices maximum sustainable crop production.

10. In collaboration with farmers, carry out participatory demonstrations.

11. Proposing certain fertilizer recommendations for different crops based on soil type, soil properties and soil fertility status.

12. Conduct on-farm trials to verify the proposed fertilizer recommendations.

13. Train farmers, extension staff and technicians on the proper use of fertilizers (when and how to deal with the application of the recommended fertilizers).

14. Increase the public awareness about the important role of fertilizers in increasing crop yield as a part of the integrated agricultural practices.

34. Assistance on crops intensification

Tanzania has 39.5 million ha. of arable land under rainfed conditions and also has sufficient land resources to sustain a much higher level of crop production than what exists at present. According to the recent estimates, Tanzania has 3.0 million hectares suitable for maize at low level of input another 6.0 million hectares suitable at intermediate levels and 6.5 million ha. at high levels, compared with approximately 2.0 million hectares presently cultivated yielding about 2.5 million tonnes. Average yield level is between 0.6-1.5 tonnes/ha while the potential yields are between 4.0-8.0 tonnes per hectare.

With regard to rice production there are 6 major rice producing regions in the country which are suitable for paddy cultivation at the average of producing 387,000 tons per year. Production levels for rice is still very low despite the fact that suitable area under irrigation is between 100,000 ha. to 170,000 hectare (about 26,000 ha are under modern irrigation system). Currently yield levels range between 1.5-2.0 tonnes per hectare while the potential yield is 6.0-8.0 tonnes per hectare.

There is minimal use of improved farming technologies such as high yielding seed varieties fertilizers and other recommended cultural practices by majority of farmers. As a result of these low yields and frequent food deficits, government food importations and food aid have been an important factor in guaranteeing food security in Tanzania. The food demand outlook is high and likely to increase due to high population growth, 2.8% per year and increasing urbanization. The population which is currently estimated 30.0 million people is expected to reach 39.0 million people by the year 2000. The total demand for the major

strategic grains - maize and rice as expected to increase by more than three and a half times by the year 2025.

Therefore the focus of technical assistance on crop intensification would be on increasing the production of the major food crops which have market demand without degrading the land and natural environment. This would include maize, rice, sorghum and vegetables. There shall be one expert on intensification who will be stationed in Dar es Salaam. The expert will provide technical leadership, train and will technically supervise the work of the field technicians and train counterparts on crop intensification in the 8 Expansion Phase I regions and the state of Zanzibar. The terms of reference of the expert and field technicians of this component of the SPFP/FS is found in Annex 5.

35. Assistance on diversification

A major objective of the diversification component is to promote income generation activities in support of food security. In order to achieve this objective, the diversification component will concentrate on short cycle livestock species such as improved local chicken, goats, sheep, diarying Pigs, rabbits, beekeeping, aquaculture and local food processing depending on the obtaining environment.

a. Poultry High mortality rates of local chicken due to Newcastle disease and to some extent internal parasites, inadequate nutrition, poor housing and predation is an important problem to many households in the rural areas. The survival rates and increased production of eggs table meat would be achieved through vaccination against vaccination against Newcastle Disease and farmer training on improved poultry management and demonstrations of improved shelters. Similarly other interventions such as cross breeding using improved cockerels (Rhode Island Red) are likely to have significant impact on production and productivity.

b. Goats and rabbits Small ruminants such as goats and rabbits which could be easily owned by many rural women and resource poor farmers are a cheap source of animal protein. Similarly dairy goats could also supply milk for the improvement of the nutritional standards of the rural children and women. However, majority lack knowledge and skills for improved goats and rabbit management. Within the framework of the SPFS Expansion Phase, the target groups will be equipped with the improved management skills which will include, disease control, vaccination, improvement of nutrition and construction of improved shelters and processing of good quality participatory training and demonstrations.

c. Aquaculture Within the selected areas, for expansion phase, there is a big potential for aquaculture activities through the exploitation of experiences from previous projects such as Aquaculture for Local Communities ALCOM in Morogoro and Mbeya regions. Fish could easily be another big source of protein for rural farm families and increased income through sale of surplus fish.

In order to realize these benefits, farmers will be trained on improved fish farming which will include:

i. Proper fish pond construction and management

ii. Stocking with good fingerlings

iii. Feeds and feeding regimes

iv. Fish harvesting

v. Processing and storage

d. Agri-based cottage processing industries As a means of creating additional sources of income for rural farmers in the selected regions within the SPFS Expansion Phase I, technical assistance will be made available on agro-based cottage processing industries. The cottage industries will put an added value to the raw materials which are currently being produced under the on-going projects the 8 regions. Specifically, farmers in these areas will be equipped with skills and knowledge for processing dairy products such as cheese, and butter to absorb the surplus milk being produced by small scale farmers in regions such as Iringa, Mbeya, Dodoma etc.

Similarly, farmers will be equipped with skills and knowledge on improved bee keeping, honey processing quality control, packing and marketing strategies.

36. Assistance on development and management of support services organizations/ institutions

During the pilot phase of the SPFS, it was learnt that farmers faced a number of problems which are associated with the support services organizations/institutions which included the following:

- Lack of financial Institutions which provide credit to farmers
- Weak agencies delivering the agricultural inputs to the farmers
- Trading agencies which purchase the producer from the farmers
- Lack of an institution to deliver marketing extension services

Financial Institutions

These institutions do not have a favourable policy to lend money to the small scale farmers. Farmers are charged high interest rates and they are bound to have collaterals to cushion the borrowed money in case of defaulting. This policy is not in favour of the small scale farmers because they cannot afford to pay high interest rates on borrowed money and they have no collaterals. Also individual self-financing through savings is not possible.

The solution to this problem could be sought through the creation of farmers' associations and cooperatives with the aim of pooling together the savings for the purpose of financing the agricultural activities in the SPFS areas.

Agencies Trading in Agricultural Inputs

Formerly, all the agricultural inputs destined to the farmers used to pass through the hands of the state controlled organs, which included the cooperatives. After the demise of the state-run cooperatives partly due to insolvency hence their inability to compete in the liberalized environment the agro-inputs were handled by the stockists. There are private traders who supply the inputs in the villages after having purchased them either from the external markets or from the state-run Agricultural Input Trust Fund (AGITF).

The problem with this new supply system is the delay to supply the needed inputs at the right time. The experience in the pilot areas of the SPFS has shown that late arrival of the inputs cause the farmers not to apply them at the right time and the results are negative to production.

Trading Agencies purchasing surplus food crops from the farmers

Under the liberalized economy, the purchasing of the surplus food crops from the farmers is done by the private traders. This is unlike in the past when surplus of food crops were being bought by the state controlled organs, i.e. Cooperatives, the National Milling Corporation and the National Distributors Ltd. In the new system, prices are determined by the free market forces of supply and demand, whereas in the past prices were being determined by the government.

The problem with the system of supply and demand determining the producer price is that the farmers have been receiving lower producer prices per unit of output than the cost of production per unit of output. This should not be a problem by itself but there were cases which caused this problem. These included the following:-

i. Lack of storage facilities at household levels to store the surplus crops so that they could be sold after the harvesting period was over and the prices were up.

ii. The farmers being the food surplus producing units placed at long distances from the markets therefore being placed at the mercy of the unscrupulous private traders who can afford to transport food crops at long distances.

Training in marketing extension services

Demand oriented agricultural food production needs the provision of the Marketing Extension Services on different issues, which include the following:-

i. Price information
ii. Quality Control
iii. Standardization and grading
iv. Packaging
v. Product promotion/advertising
vi. Weights and Measures etc.

These issues had never been addressed in the era of the state-controlled marketing system therefore the farmers are naive on these issues. Due to the fact that the policy of trade liberalization has been disadvantageous to the food surplus producers placed at long distances

from the markets and the routes to the markets but has favoured those close to the markets and the routes to the markets, the introduction of these values will lead the traders to look for qualitative products wherever they are produced.

a. Agri-business Cooperatives/Farmer Associations Experience gained from the Savings and Credit Associations formed during the Pilot Phase of the SPFS show that there is a big potential for these associations to address most of the production constraints such as unavailability of input supplies, credit, marketing of their produce if they are properly organized and consolidated. However, most of these associations lack adequate skills and knowledge on business planning, financial/credit management, procurement of agricultural inputs and marketing strategies.

Within the framework of the SPFS - Expansion Phase I, technical assistance with regard to the formation of viable agri-business Cooperatives/Farmers Association would be made available under the South-South Cooperation.

b. Co-op activities Saving: Increase the public awareness between farmers about saving benefits and advise them to the methodologies to be followed within the farmers groups and cooperatives.

Finance: To find financial resources from Banks, Donors, projects and bind it with agricultural inputs and marketing.
Agricultural inputs: To find ways to facilitate the availability of needed agricultural inputs including certified seeds, fertilizers etc. either in cash or in kind.

Marketing:Orienting farmers to market their products with good prices through cooperatives and farmers groups.

Storages:Assist farmers to establish their own storages either on house or on Community level to avoid and decrease losses in crops and increase opportunities of getting better prices.

Mechanization:Assist farmers to improve and introduce small scale farm machinery suitable for their environmental conditions. Also develop and improve their traditional ones.

IV. MODALITIES OF IMPLEMENTATION, BUDGET AND SCHEDULE OF TECHNICAL COOPERATING COUNTRY ASSISTANCE

The Target

By the end of three years (starting with the deployment of the first expert and field technician), the maximum implementation target of this SSC between Egypt and Tanzania would consists of:

- 4 experts for 3 years or 12 person/year
- 40 field technicians for 3 years or 120 person/year

- 40 field technicians for 2 years or 80 person/year
- 20 field technicians for 1 year or 20 person/year

Steps and Schedule of Implementation

To implement successfully and efficiently this SSC technical assistance programme, including operationally meeting a high percentage of the above target, the following steps and activities should be faithfully understood and followed:

1. Based on the SSC Formulation Mission Report; prepare and sign the Agreement (Action: FAO for preparation, GOT and GOE for review and signature) - before end of October 1998

2. Based on the SSC Formulation report and the SPFP/FS Phase I Expansion Framework Plan, make detailed site selection in the 8 regions and the State of Zanzibar, make general SPFP/FS plan for each site and determine the field technician needs of each site and region (field of assistance: intensification, diversification and water control and management and number of field technicians needed)

Action: (GOT and SPFP/FS staff) - before the end of December 1998 for the 4 experts and a maximum of 40 field technicians).

3. Consolidate the list of needed Experts and Field Technicians under the SSC programme, at least the 4 Experts and a maximum of 40 field technicians for the first year of operation. This should be transmitted to the GOE in a form of a request.

Action: (GOT and SP staff and FAOR) - before the end of December 1998

4. Based on the SSC Mission Report, conduct preliminary recruitment and identification of qualified and interested experts and field technicians at least for the first year plan and target. (Action: GOE)- start soon after agreement is signed or earlier.

5. Based on the list of needs from the GOT, (#3 above), make actual recruitment of 4 Experts and a maximum of 40 field technicians according to agreed terms of reference, have them fill up required forms and sent to the GOT & FAO for technical clearance. This process will have to be repeated for the second and third year: (Action: GOE) - before end of January 1999.

6. Technical clearance of Egypt's nominated experts (for a maximum of 4 posts) and field technicians (for a maximum of 40 posts) (Action: GOT and FAO) - before end of February 1999

7. Notification of technically cleared experts and field technicians (Action: FAO to GOE) and preparation and issuance of appointments and travel authorization for technically cleared Experts and Field Technicians (Action: FAO) - before end of March 1999

8. Preparation of provision for accommodation, transport and
monthly allowance for the four Egyptian Experts and a maximum of 40 Egyptian Field Technicians (for the first year of operation - to be repeated for the second and third years).

Sunday 17 May, 1998
8.00p.m: Depart for Iringa

Monday 18 May, 1998

9.00a.m: Courtesy call on TheRegionalCommissioner
10.00a.m: Meeting with Regional Administrative Secretary and her Team of Advisors
11.00a.m: Depart for Pawaga Irrigation Project
5.00 p.m: Depart for Morogoro

Tuesday 19 May, 1998
10.00 a.m: Meeting with the Regional Administrative Secretary and Members of the Secretariat RAS' Office Morogoro
1.00 a.m: Visit Mkindo Irrigation Project Morogoro
2.00 p.m: Depart for Dar es Salaam

Wednesday 20 May, 1998
10.00 a.m: Met the Coordinator for the Rufiji Basin Management Irrigation Project
11.00 a.m: Met Managing Director National Microfinance Bank
12.00 a.m: Met Liaison Officer Sasakawa - Global 2000
13.00 p.m: Met an Official with the Agricultural Inputs Trust Fund (AGITF)
14.00 p.m: Working Session for all team members

Thursday 21 May, 1998
8.00 a.m: Working Session for all team members

Friday 22 May, 1998:
8.00 a.m: Preparation of Mission documents, report
10.00a.m: Met Minister for Agriculture and Cooperatives for presentation of the findings and draft proposals on the Expansion Phase of the SPFS in view of the South - South Cooperation with Egypt.
1.30 p.m: Depart for Zanzibar

Saturday 23 May, 1998
9.00 a.m:Meeting with the Principal Secretary Minister for Agriculture, Livestock and Natural Resources and Senior Officials
10.30 a.m:Meeting with the Minister for Agriculture, Livestock and Natural Resources and Senior Officials
11.00 a.m:Field Visit to Mtwango Irrigation Fields
1.30 p.m: Depart for Dar es Salaam
3.30 p.m: Mission members meeting at The FAO Office for brief discussions on pending assignments
4.00 p.m: Team leader and Egyptian delegation Depart for Rome

ANNEX II

List of persons met

FAO 11.5.1998

1. S.S. M'boob, FAO Representative
2. J.K. Kabyemera, Programme Officer

CALD/ MoAC 11.5.1998

1. S. Muro, Ag. Commissioner Agriculture and Livestock Development
2. E. Lujuo, Assistant Commissioner Agroculture and Livestock Development
3. Mr. Tirumanywa Magere, Permanent Secretary Ministry of Agriculture and Cooperatives
4. Hon. P. Kimiti, Minister For Agriculture and Cooperatives
5. Hon. N. Kasaka, Deputy Minister For Agriculture and Cooperatives
6. H.E. Rafik Khalil, Egyptian Ambassador to Tanzania
7. J.S. Mawalla, Assistant Commissioner Planning and Marketing (PPMB)
8. M. Mtweve, Assistant Commissioner Extension Services
9. T.N. Kirway, Assistant Commissioner Farming Systems Research
10. G Mitawa, Assistant Commissioner Crop Research
11. P. Kimati, Assistant Commissioner Planning and Marketing Livestock
12. J.N. Melewas, Assistant Commissioner Livestock Development
13. G.M. Kalinga, Ag. Assistant Commissioner Irrigation
14. J.I. Fussi, Ag. Assistant Commissioner Livestock Research
15. J.B. Ndunguru, Ag. Commissioner Research and Training
16. B.W. Rwenyagira, Principal Agricultural Officer -Extension
17. M.A. Nkumbi, Ag. Assistant Commissioner Planning and Marketing (Agriculture)
18. D.A. Kajumulo, Director of Food Security Department

Ministry of Natural Resources and Tourism, Dar es Salaam

1. R. Mapunda

Prime Minister's Office 12.5.1998

1. Ms. Sijaona, Deputy Principal Secretary, Regional Administration and Local Government
2. Mr. Nyakimori, Advisor PMO Office

Civil Service reform Commission

1. D. Ntukamazina, Chairman Civil service Reform commission

MoAC 12.5.1998

1. J. Mawalla, Ag. CPM

Planning Commission 12.5.1998

1. Ms. Kamuzora, AG. Director Agriculture and Natural Resources
2. Ms. C. Sonyi, Economist

WFP 13.5.1998

1. Mr. Benedict Fultang, Deputy Country Director

World Bank 13.5.1998

1. Mr. Ron Brigish, Country Director
2. Mr. Dan Sungusia, Agriculture Services Specialist
3. Mr. Tony Thompson, Operations Officer - Portfolios Matters

UNDP 13.5.1998

1. Mr. S. Nhongo, Resident Representative a.i
2. Mr. Musikira, Programme Officer

JICA 13.5.1998

1. Mr. Shinya Nakai, Resident Representative

Italian Embassy 13.5.1998

1.H.E. Mr. Alfredo Cardella, Italian Ambassador to Tanzania

Netherlands Embassy 13.5.1998

1. H.E. Dr. Sjoerd Leenstra, Netherlands Ambassador to Tanzania

Tanga, 14.5.1998

1. Mr. P. Barie, Regional Administrative Secretary
2. Mr. L.M.S. Tungu, Agricultural Officer
3. Dr. F. Minja, Livestock Officer to the Secretariat

Agriculture Research Institute - Tanga 14.5.1998

1. Dr. Adolph Nyaki, Director

Kilimanjaro 15.5.1998

1. Y.K. Luther, Regional Agricultural officer
2. J.S. Mwafulilwa, Agricultural officer, KADP
3. Seikichi Sugawara, KADP - JICA Expert
4. D.R. Kimicho, Irrigation Officer - KADP
5. R.K. Makange, KADP Tractor Hire Services Section
6. B.D. Mrisho, KADP Extension Section

Arusha 16.5.1998

1. J.B.S. Kitambi, Regional Planning Officer
2. S.E Kiwoli, Planning Officer
3. L.R. Chalamila, Regional Agricultural Officer

CAMARTEC 16.5.1998

1. Evarist Ng'wandu, Director of Rural technology

Iringa 18.5.1998

1. Nicodemus Banduka, Regional Commissioner
2. Ms. Shirima, Regional Administrative Secretary
3. M. Mdidi, Regional Planning Officer
4. S.A. Faraji, Adviser River Basin Project
5. H. Tarimo, Assistant Project Coordinator, IFAD SHERFS
6. H.J. Magayane, Planning Officer
7. Adam Swai, Agricultural officer to the Regional Secretariat

Site Visit At Pawaga Irrigation Scheme

Morogoro 19.5.1998

1. Ms. Ndeshukuru Sumari, Regional Administrative Secretary
2. Ms. E. Shayo, Regional Extension Officer
3. Mrs. A. Mziray, Regional Action Officer (SPFS)
4. Mr. B.W. Kimaryo, Livestock Officer - Secretariat
5. Mr. A. Mwakalinga, Regional Planning officer
6. Mr. O. Ishumi, Principal Agricultural officer
7. Ms. Y. Kidawa, District Action Officer (Morogoro)
8. Ms. J.D. Masanja, Community Development officer
9. Mr. L.G. Noah, Natural Resources Officer
10. Ms. J. Foya, Planning Officer
11. Mr. P.K. Ndosa, Building Engineer, Regional Engineer's Office
12. L. Yamo, Regional Cooperatives Officer
13. Ms. Maggie Chande, Local Government Officer
14. M.H. Mhode, Trade Officer
15. A.A. Hayghaimo, DALDO - Morogoro District

River Basin Management Project 20.5.1998

1. Mr. E. Masija, Project coordinator

National Microfinance Bank, 20.5.1998

1. James Karashani, Managing Director
2. Mr. Kalinga, Product Development Manager
3. Mr. Muwowo, Director of Customer Services

Sasakawa Global 2000, 20.5.1998

1. Dr. N. Sicilima, Country Director

Agricultural Inputs Trust Fund (AGITF) 20.5.1998

1. Mr. Mrikaria, Finance Manager

MoAC 22.05.1998

1. Mr. Paul Kimiti, Minister of Agriculture and Cooperatives

Zanzibar 23.5.1998

1. Hon. Brgd. A. Mwakanjuki, Ministre of Agriculture, Livestock and Natural resources
2. Deputy Minster Agriculture, Livestock and Natural resources
3. Dr. Mwinyihaji Makame Principal Secretary Ministry of Agriculture, Livestock and Natural resources
4. Masoud M. Hemed, Advisor - MALNR

5. Mchenga M.A, Irrigation Engineer
6. Rashid Said, Deputy I.a Irrigation Section
7. Ali H. Haji, Irrigation
8. Dr. Mwatima A. Juma, Commissioner for Research & Extension - MALNR
9. Kutenga M.H. Deputy Commissioner Agriculture and Livestock
10. Dr. Kassim G. Juma, Commissioner for Livestock and Agriculture
11. Amina Shaban, Director Of Administration & Planning (MALNR)
12. Hassan Ussi, Chief Statistician
13. Ali Pachota, Rice Agronimist (Irrigation)
14. Juma A. Juma, Executive Secretary CCFC, MALNR
15. Ramadhan A. Ramadhan, Irrigation

ANNEX III

Site Selection

A3.1 Map Showing the 8 Regions and the State of Zanzibar

A3.2 Criteria of Selection:

1. Suitable and high potential for any or all the SP components: water control, intensification and diversification

2. Agro-ecological zone where demonstration and diffusion could be undertaken of locally available well tested cultural practices and technologies to dramatically increase food crop, animal and horticultural production

3. Accessible by road and rail and not too far from regional supply and market centres and local available farm credit

4. Availability of reasonable standard of accommodation for SSC technicians

5. High participation interest of farmers (men and women) local leaders, agricultural support services (public and private), cooperatives and farmers groups as well as of the research and extension services

A3.3 Selected Regions

Given the large size of the country and the limited time of the Mission, the most that could be done was to assist the GOT select the Regions where SSC Field Technicians are needed and where they could be deployed.

The Formulation Mission has recommended eight regions to be included in Phase I of The Expansion Phase of the SPFS within the Framework of South South Cooperation. These include Morogoro and Dodoma (Pilot Phase SPFS); Tanga, Rukwa, Ruvuma, Iringa, Mbeya and Mtwara. However, proceeding with these recommended regions is subject to Government approval. Nevertheless, the identification of Specific sites will be undertaken at a later stage.

Under the Expansion Phase I of the SPFS within the Framework of South South Cooperation two sites have been identified for implementation of the SPFS in Zanzibar.

ANNEX IV Major on-going Activities in the different regions

Title	Objective	Location/Coverage	Duration
Agricultural Sector management Project (ASMP)	To Strengthen MAC Institutional Capacity to formulate and implement the Government's Agricultural development policies, strategies and programmes	Nation wide	1993 - 1999
River Basin Management & Smallholder Irrigation Improvement Programme	To develop irrigation in the project area by providing irrigation infrastructure and appropriate agronomic packages to the beneficiaries.	Rufiji Basin Mbeya, Iringa, Coast and Morogoro regions Pangani Basin Arusha, Tanga and Kilimanjaro	1996 - 2002
National Agricultural Extension Project Phase II (NAEP II)	To continue to improve the delivery of extension services to smallholder farmers following the essential elements of the Training and Visit System of Agricultural Extension.	Nation wide (Mainland except Southern highlands of Iringa, Mbeya, Rukwa and Ruvuma)	1996 - 2000
National Agricultural and livestock research Project (NALRP)	To develop agricultural research in Tanzania as a long term process and establish a strong foundation for an effective Agricultural research system	Nation wide	1989 - 2003
Tanzania Livestock Marketing Project (TLMP)	To increase the availability of beef for local and export market through development of livestock markets, infrastructure and rehabilitation of infrastructures	Mara, Mwanza, Shinyanga, Tabora, Dodoma, Dar es Salaam, Tanga & Singida, Arusha and Kilimanjaro	1993 - 2002
Madibira smallholder Rice Scheme irrigation Project	development of a smallscale irrigation scheme at the Usangu plains	Mbeya	1995 - 2000
Southern Highlands Extension and Rural Financial Services Project (SHERFS)	removing constraints limiting improved food production and food security by smallholder farmers through provision of credit to the disadvantaged farmers and delivery of extension services and technologies and sustainable environmental conservation.	Southern highlands of Iringa, Mbeya, Rukwa and Ruvuma (340 villages)	

Smallholder Development Project For Marginal Areas (SDPMA)	To develop Irrigation through improvement/construction of infrastructure and application of water harvesting techniques; and afforestation in the marginal areas	Dodoma, Singida, Tabora, Shinyanga and Mwanza	1990 - 1998
Mara region Farmers Initiative Project		Mara region	
Integrated Pest Management (IPM)	To reduce pre and post harvest losses considerably by using ecologically and economically sound methods of plant protection.	Shinyanga, Arusha, Kilimanjaro regions and national level (advisory services)	1992 - 2000
Institutional Strengthening Component	Agricultural Sector Programmed Support in Tanzania to increase income and improved nutrition of the poorer section of smallholders, in particular women.	Tanzania mainland	1997 - 2002
On-farm Seed Production Component	"	Dodoma, Morogoro and Iringa	1997 - 2002
Smallholder irrigation Component	"	Mbeya, Morogoro and Iringa	1997 - 2002
Research on Utilization of Tanzanian Phosphate Rock for Crop Production Component	"	Tanzania mainland	1997 - 2002
Hima Soil and Water Conservation Project	Improving soil and water conservation activities in the country	Iringa (Iringa, Njombe, Makete, Mufindi and Ludewa districts)	1997 - 2002
Sokoine Extension Project	To improve the performance of extensionists throughout Tanzania and Increase Agricultural Production and incomes of smallholder farmers	Morogoro	1996 - 1998
Assistance to Tanzanian farmers in the Field of Food Crop Production	To Assist the selected African needy countries in boosting food crop production especially rice and secondly to promote the spirit of solidarity and mutual understanding among farmers of developing countries.	Mkindo - Morogoro	1997 - 1998

Livestock Marketing and Small Stock Export promotion	to increase the supply of beef delivery to the local and export market through rehabilitation of stock routes, infrastructures and equipments at the livestock marketing centres	Dodoma, Dar es salaam,	1996 - 1999
Lower Moshi Integrated Agricultural and Rural Development project	To introduce Irrigated rice farming techniques and raise incomes of small scale farmers	Kilimanjaro	
Kilimanjaro Agricultural Training Centre Project (KATC)	Strengthening of institutional capacity building for extension personnel and other concerned stakeholders in the field of irrigated rice cultivation.	Kilimanjaro	1994 - 1998
National Dairy Development Programme	Development of the dairy industry and increasing milk production for improved nutritional status and income generation while reducing imports of milk and dairy products	Nation wide including KALIDEP - Kagera, SSDP - Tanga and SSDP - Mbeya	1985 - 2000
Rehabilitation of Research and Training Institutes		Nation wide	1993 - 2003
Control of Tick and Tick Borne Diseases	Eradication of Ticks and Tick borne diseases by using appropriate and cost effective techniques	Arusha, Kilimanjaro, Iringa, Tanga, Mwanza, Coast and Morogoro.	1996 - 1999
Agriculture and Forest Extension Project		Iringa	
Syndicate Towards Introduction of Activities towards Rural Development		Mbeya region (Mbeya and Mbozi district - 12 villages)	
Sasakawa Global 2000	To enhance food security in the country through technology demonstration (including crop husbandry, post harvest management and storage, animal traction and input supply channels) in cooperation with national extension services	Arusha - Babati, Hanang, Mbulu & Arumeru - 80 villages), Dodoma (Kondoa, Dodoma, Mpwapwa - 38 villages), Mbeya, Rukwa (Sumbawanga, Nkansi, Mpanda - 79 villages)	
Soil Conservation and		Arusha (63 villages)	

Agroforestry (SCAPA)			
Agricultural development Project (ADP)		Mbeya (Mbozi district - 150 villages)	
Agriculture Sector Support Project (Coffee)	Coffee Production and Marketing	Arusha (Arumeru, Babati, Mbulu, Hanang), Ruvuma (Songea & Mbinga - 150 villages)	
Land Management Project (LAMP)		Arusha (Babati, Kiteto, Simanjiro - 25 villages) & Singida	
Mbulu Rural Development Programme	integrated Extension	Arusha (Mbulu)	
Monduli Rural Credit for Women	Input Supply and Client Based Extension System	Arusha (Monduli - 21 villages)	
Heifer Project International (HPI)		Arusha (Arusha, Arumeru, Monduli, Babati, Mbulu & Hanang) Dodoma (Kondoa, Mpwapwa - 9 villages)	
Farm Africa		Arusha (Babati - 5 villages)	
Songea Development Action		Ruvuma (Songea District - 39 villages)	
Child Survival development project (CSDP)		Morogoro (201 villages)	
Traditional Irrigation Project		Morogoro	
Gairo Agro-Forestry and land Use Project		Morogoro	
Small Scale Irrigation project		Dodoma (Kondoa, Mpwapwa - 10 villages)	
Hifadhi Ardhi Dodoma (HADO)		Dodoma (Dodoma. Kondoa, Mpwapwa - 22 villages)	
Small Scale Dairy extension Project		Tanga (Tanga, Muheza, Korogwe, Pangani, Lushoto)	

International Union for the Conservation of Nature		Tanga (Muheza - 27 villages)	
Farm power And Agri-Business Sup[port Services (Phase I) - An Initiative of the private sector Towards national food Security.	To improve the private sector input supply chain both for items of hardware (agricultural tools, machinery and equipment) as well as provision of services (Spare parts, repair and maintenance, machinery hire services).	Dodoma	1998 (Six Months)
Soil Erosion control and Agroforestry Project (SECAP).	Assistance in developing of adapted extension contents, land use planning on village level and reforestation and management of public lands and forest reserves	Tanga (Lushoto District)	1989 - 1999
Tanzania Forestry Action Plan North Pare (TFAP)	promotion of sustainable use of forest and other land resources in the North pare Mountains (400km2)	Kilimanjaro region (Same district)	1992 - 1998
Handeni Integrated Agroforestry Project (HIAP)	Rehabilitation of Existing Natural resource Base through participatory village level land-use planning and promotion of the application of soil and water conservation measures	Tanga (handeni District)	
National coconut Development Programme (NCDP)	breeding for diverse and drought resistant material , Integrated Pest management, agronomic and farming systems research, smallscale oil processing extension through the national extension service.	Tanga, Morogoro Coast, Dar es Salaam, Lindi, Mtwara and Zanzibar	1993 - 1999
Village Development Programme (VDP)	To increase the capacities of communities and poorer village groups to identify and implement appropriate problem solutions on a demand oriented bias (improvement of village infrastructure, income generating activities of different kinds)	Tanga (Muheza and Korogwe) district.	1995 -1999
Agricultural Mechanization Management AMM)	To optimize the utilization of agricultural resources available for cereal production in the region between West kilimanjaro and	Arusha and Kilimanjaro	1990 - 1998

	Karatu on a sustainable basis by providing and using agricultural technology.		
Assistance for tanzanian farmers in the Field of Food crops production	To assist the selected African needy countries in boosting food crop production especially rice; To Promote the spirit of solidarity and mutual understanding among farmers of developing countries.	Morogoro (Mkindo FTC)	1997 - 1998
Catchment Forestry Project		Kilimanjaro, Arusha, Tanga and Morogoro	1998 - 2001
District Rural development Programme (DRDP)		Kagera, Shinyanga & Arusha (Various Districts)	1997 - 2003
Support to Food Security and Rural Infrastructure in Drought prone areas through self help schemes	It is proposed in 1989/99 to undertake this project as a link between the drought emergency food operation and the promotion of household food security in drought vulnerable communities	Kilimanjaro, Arusha, Tanga (Handeni district) and Dodoma	1988 - 1999
Sustainable Management of the Usangu Wetland and its catchment (SMUWC0) - pipeline	This project currently on pipeline on parallel funding with River Basin Management Project (WB) aim at developing local capacity to manage the usangu Wetland and its catchment sustainably by reducing conflicts over use of aquatic resources, improving overall water use efficiency and downstream flows in the Great Ruaha river and reducing threats to biodiversity	Mbeya - Usangu	1998 - 2001

ANNEX V

Technical Cooperation Profiles, terms of reference and duty stations.

The South-South Cooperation Protocol provides for a minimum of 4 experts, representing the four components of the SPFS and as much as 100 Field technicians with training and experience in crop intensification, diversified farming and on-farm water management. The field technicians should also have training and experience in participatory approaches of working with farmers to tackle with the production, conservation, credit, input supply and marketing concerns.

During the Mission, it was found out that the needs of technical cooperation experts profiles were more than four, namely: 1) crop intensification 2) crop diversification, 3) water management, 4) constraints analysis (to include monitoring and evaluation), 5) soil fertility and plant nutrition, 6) post-harvest management 7) farm power owner, and 8) farm management (to handle marketing, credit and cooperatives).

Three options were considered for the current SSC plan, namely: a) limit the technical cooperation expert profiles to the four experts in the protocol b) maintain four expert posts and increase the number of experts to cover more fields and c) maintain four expert posts and find experts who can cover adequately more than one field. A combination of (b) and (c) was decided. Hence, five Terms of References were prepared as follows:

1. Water Management Expert (for 1.5 to 2.0 crops)
2. Soil Fertility and Plant Nutrition Expert (1.5 to1.0 crops)
3. Crops Intensification Expert (for field crops and horticulture crops)
4. Diversification Experts (for diversified farming systems-small farm animals and crops, including dairying, acquaculture, etc)
5. Constraints Analyses cum farm management expert (who would cover monitoring and Evaluation, credit and marketing, input supply and cooperatives).

Note should be made that other expertise for farm power, post-harvest management, etc should be supplied to the SPFS Expansion Phase through means other than SSC. For example, the farm power expertise could be provided through the New Holland Support Project and post-harvest management could be met through TCDC arrangements.

5.1A Terms of Reference

The Water Management Expert

The Water Management Expert (WME), will work in collaboration with his national counterpart (Subject Matter Specialist) on the water control and management of SPFP/FS, and other concerned officials with a view to developing improved water management practices. The WME will be responsible for the technical training and field supervision of the SSCc field technicians and their counterparts in the area of on-farm water management. Specifically, the WME would be responsible in training and technical supervision in the following areas:

- Getting acquainted with water control and irrigation systems in the country/Region technology packages available and their suitability to farmers' conditions.

- Preparing the detailed work plan for the water control and water management activities (paddy and vegetable crops, water harvesting, upland farming, etc.)

- Demonstrating improved on farm water management practices including irrigation scheduling

- Devising simple low-cost water conservation, water harvesting and water lifting methods for small-scale irrigation work

- Organizing training in cooperation with Irrigation groups and extensionists through the farmers field schools on improved irrigation and water conservation methods especially on the farm level.

- Assisting, guiding and supervising the work of the field technicians responsible for implementation of water management activities.

- Cooperating with the soil and crop production experts in designing, implementation, supervising and analysis of some integrated activities that may need further research.

- Prepare six monthly-report on progress of his/her work, technical observations and recommendations and general plan for the next six months.

Qualifications: Ph.D. or M.Sc. in Irrigation or Agricultural Engineering with relevant experience in irrigation development and water management plus 3 years with Ph.D or 5 years relevant experience for an Expert with an M.Sc. degree.

Duty Station Proposed: Dar es Salaam

5.1B Terms of Reference

Soil Fertility and Plant Nutrition Expert

The Soil Fertility and Plant Nutrition Expert will work in collaboration with his national counterparts in the SPFP/FS and other concerned experts with a view to improving soil fertility management for increased and sustainable crop production and soil fertility conservation. The expert shall be responsible in the training and technical supervision of SSC field technicians and their counterparts with respect to soil fertility and plant nutrition concerns specifically, he/she should be responsible in the training and technical supervision on the following areas:

- Getting acquainted with soils of Tanzania and fertilization practices of the traditional agriculture.
- Getting acquainted with the research activities and recommendations in relation to nutrient deficiency, toxicity and the use of legumes and organic sources.
- Preparing detailed work plan related to soil fertility and plant nutrition in collaboration with the water management staff.
- How to collaborate with research specialist to study identified soil and plan nutrition problems and how to reach recommendations.
- Organizing training on integrated plant nutrition arrangements at the farmers' field schools where such farmers' training facilities exist.
- Determining optimum fertilizer recommendations based on research results, field trails and traditional practices in different regions under different soil, crop and environmental conditions.
- Prepare six monthly progress reports on progress of work, technical observations, recommendations and Plan of Work for the succeeding six months.

Qualifications: Ph.D. or M.Sc. in Plant Nutrition and/ or Soil Fertility with at least 3 years of relevant experience on Soil fertility, plan nutrition and integrated plan nutrition management for the Ph.D. candidate and 5 years experience for the M.Sc. candidate.

Duty Station Proposed:
Dar es Salaam

5.2 Terms of Reference

Crop Production Expert (Rice, Maize, Horticulture)

The Crop Intensification Expert will work in collaboration with the relevant National Subject Matter Specialists who will be his/her counterparts. He will be responsible the transfer of improved crop production technologies to the target farmer groups with a view of increasing food crop production for household and national food security. Together with the national counterparts, the Crop Intensification Expert will have the responsibility of training and technically backstopping the SSC FT and their counterparts in the following subject matters:

- Familiarizing himself with the available crop production eco-systems, recommended production technologies and farmers' practices in rice and maize farming systems.

- Preparing a detailed work plan with regard to all activities in the selected villages for rice and maize production.

- Identifing the knowledge, attitudes and skills needed by extension workers and farmers through participatory approaches.

- Based on the identified knowledge and skill needs, planning and organizing the training programmes for the extension workers and the participatory farmers' groups or at the farmers' field school to equip them all the essential production lessons and practices.

- In collaboration with technicians, Village Extension workers and farmer groups carry out participatory demonstration.

- Conducting participatory meetings with farmers to identify problems or constraints to the adoption of the recommended production technologies and working out practical solutions.

- Prepare regular six months progress reports with regard to the implementation of SPFS activities according to the work plan. Such reports should include progresss of activities carried out, observations of constraints and solutions, and recommendations for interventions by appropriate authorities. It should also have a plan for the succeeding six months.

Qualifications: Ph.D. or M.Sc. in Agronomy or Tropical Agriculture with at least 3 years experience in rice and maize production for the Ph.D. candidate and 5 years relevant field experience in rice and maize production for the M.Sc. candidate.

Duty Station Proposed:
Dar es Salaam

Terms of Reference

Credit and Marketing Specialist

- To advise on the development of Farmer Associations which will pull together their financial resources with the aim of financing food production destined to markets.

- To advise on the formulation of Cooperative Societies which will joint the resources of their members in order to purchase the agricultural inputs for food production.

- To advise on the construction of less costly storage facilities at household level with the aim of extending the time for the availability of the produce from the time of harvesting to the time when there is scarcity of the same produce.

- To advise on the type and intensify of the Marketing Extension Services to be delivered to the farmers with the aim of raising the quality of the producer to meet the standards required by both the domestic and export markets.

- To advise on the right and less costly promotional techniques to be undertaken in order to have the surplus quantities of the produced food crops known and sold to the traders.

- To review the policy issues touching the production and marketing aspects of the food crops at small scale production and recommend the necessary changes in order to remove the policies which are antagonistic to increased food production and advise the GOT accordingly.

- To organize seminars and workshops to teach the farmers on issues like weights and measures and other marketing extension issues.

- To observe, measure the post-harvest losses at the level of a farmer and advise how to minimize this loss.

- To survey and recommend where Regional Markets to serve the farmers as collection centres of their livestock and produce could be established.

Qualifications: A Msc. in Agricultural Economics with a major in Marketing, a Ph.D in Agricultural Economics will be an advantage.

Working Experience: Not less than 10 years working in the field of Agricultural Marketing

Languages: English, Kiswahili and the knowledge of French will be an added advantage.

Computer knowledge: This is a pre-requisite

5.3 Terms of Reference

Diversification Expert

The Diversification Expert for diversified farming systemss which include poultry, small ruminants, dairy production and processing, bee keeping, silk worm production and/or fish production and duck fish production will work in collaboration with national counterpart in order to increase the variety of available food and source of income of the rural household. Specifically, the responsibility of the Expert should be in training and technical backstopping of the SSC field technicians and their counterparts in the following areas:

- Getting acquainted with known and available technologies for diversified farming systems, which would be suitable to local farming conditions.

- Preparing a detailed work plan for the selected sites for increasing diversification farming, production and marketing.

- Organizing training for courses for extensionists and farmers on improved methods of production, vaccination, processing and marketing etc.

- Participatory approaches of working with farmers with diversified farming enterprises.

- Prepare a progress report every six months covering progress of work, observation of constraints and solutions, some recommendations and plan for the succeeding months.

Qualifications: At least a M.Sc. degree and preferably a Ph.D. degree in Animal Production or mixed farming systems. If M.Sc., with 5 years of relevant field experience in small animal production, mixed or diversified farming and if with a Ph.D. degree with at least 3 years of relevant field experience.

Duty Station Proposed:
Dar es Salaam

5.4 Terms of Reference

Constraint Analysis cum farm Management Expert

In collaboration with his/her counterpart, and working closely with the SPFS Management the Expert shall be responsible in a) planning and operating the Monitoring and Evaluation Septeur (a network of Regional MES into a national MES) of the SPFS/FS, b) Designing and periodically conducting Constrain Analysis of the SPFP/FS Expansion phase operation and c) training and supervision for regional SPFP/FS teams and SSC field technicians and their counterparts on 1) participatory farmers group formation and operation (as farming learn group, as a savings association and as farmers' pre-cooperative training) 2) farm credit ad marketing policies and approaches and 3) partnership with the private sector in affordable accessing of farming inputs.

Specifically, the Expert shall be expected to advise and train regional SPFS teams, field technicians and counterparts on:

- the development of Farmer Associations which will pull together their financial resources with the aim of financing food production destined to markets

- the formation of Cooperative Societies which will consolidate the resources of their members in order to purchase the agricultural inputs for food production

- the construction of less costly storage facilities at household level with the aim of extending the time for the availability of the produce from the time of harvesting to the time when there is scarcity of the same produce

- the type and intensity of the Marketing Services to be delivered to the farmers with the aim of raising the quality of the produce to meet the standards required by both the domestic and expert markets

- the right and less costly promotional techniques to be undertaken in order to have the surplus quantities of the produced food crops known and sold to the traders

- the policy issues touching the production and marketing aspects of the food crops at small scale production and recommend the necessary changes in order to remove the policies which are antagonistic to increased food production and advise the GOT accordingly

- seminars and workshops to field technicians and extension workers to teach farmers on marketing related knowledge like weights and measures and other marketing standards

- surveys and recommendations of regional and district markets which serve as collection/marketing centres of their livestock ad farm produce

- prepare progress reports every six months indicating progress of work, observation of constraints, solutions and recommendations plan for the succeeding six months

Qualifications: At least a M.Sc. degree and preferably a Ph.D. in Agricultural Economics with significant training in constraints analysis, credit, marketing and cooperatives.

Working experience: not less than 10 years working in the field of Agricultural Economics and farm Management

Languages: English and the knowledge of Kiswahili will be an added advantage

Computer Knowledge: This is a pre-requisite.

Proposed Duty Station: Dar es Salaam

5.5 Terms of Reference

SSC Field Technician

The SSC field Technician (FT), shall be assigned to the local SPFP/FS team. He shall work with counterparts in the team as senior field technician with training and advisory responsibilities. The (FT) and counterparts shall be technically backstopped, trained and supervised by the relevant SSC experts and their national counterparts.

Specifically, together with the local SPFS/FS counterpart, the SSC FT shall be expected to undertake the following:

- familiarize with the field of work in his/her area of assignment
- assist in the periodic assessment of the needs and situation of the farmers using rapid rural appraisal and KAP surveys and in planning the programme of action for the year
- serve as trainer in his/her subject matter of competence in the in-service training of extension agents and farmers' leaders
- advise farmers through their Participatory farmers' groups or in their farmers field schools and through method and farm demonstrations
- prepare progress reports every six months reporting on scope and progress of his/her assignment, observations of problems/constraints and their solutions, recommendations and plan for the next six months.

Qualifications: with a university degree in agriculture and with 5 to 20 years in technical professional field work experience in agricultural extension or similar work in the fields of irrigated an non-irrigated maize and rice production in mixed farming systems characterised by diversification with small farm animals and/or on-farm water arrangement/irrigation, soil, plant nutrition and integrated pest management.

Duty Station Proposed: at the district of assignment.

ESTIMATED BUDGET FOR THE SPFS SOUTH-SOUTH COOPERATION -

			YEAR 1		YEAR 2	
BUDGET LINES	**UNIT**	**UNIT COST**	**NO. OF UNITS**	**TOTAL COST**	**NO. OF UNITS**	**TOTAL COST**
A. Contribution of Tanzania						
1. Payment of benefits						
- Professional Experts	Expert	US$ 300 per mm	4	14,400	4	14,400
- Field Technicians	Technician	US$ 300 per mm	40	144,000	80	288,000
2. Administrative Support (in kind)						
- Secretary	1		2		2	
- Drivers	1		4		4	
- Housing-Professional staff at Dar	House-monthly rent		4		4	
- Field Technicians District Level	"					
3. Utilities for Experts and Technicians (in kind)	Monthly				-	
4. Medical coverage						
- Experts	Monthly	150	4	600	4	600
- Technicians	Monthly	150	40	6,000	80	12,000
TOTAL TANZANIA				165,000		315,000

BUDGET LINES	UNIT	UNIT COST	YEAR 1		YEAR 2	
			NO. OF UNITS	TOTAL COST	NO. OF UNITS	TOTAL COST
B. Contribution of Egypt						
1. Payment of Benefits						
- Professional Experts	Person	18,000	4	72,000	4	72,000
- Field Technicians	Person	7,200	40	288,000	80	576,000
2. Expenditures for Recruitment	Person	150	44	6,600	84	12,600
3. Purchase of Small Equipment/Tools	Person	150	44	6,600	84	12,600
TOTAL EGYPT				**373,200**		**673,200**

			YEAR 1		YEAR 2		
BUDGET LINES	UNIT	UNIT COST	NO. OF UNIT	TOTAL COST	NO. OF UNIT	TOTAL COST	NO. UNI
C. FAO Contribution							
1. International Travel	Person	700	44	30,800	84	58,800	10
2. Installation Allowances	Person	300	44	13,200	40	12,000	20
3. Subsistence Allowances							
- Professional Experts	Person	700	4	33,600	4	33,600	4
- Fields Technicians	Person	300	40	144,000	80	288,000	10
TOTAL FAO				**221,600**		**392,400**	
TOTAL TANZANIA & FAO				**386,600**		**707,400**	
TOTAL TANZANIA, EGYPT & FAO				**759,800**		**1,380,600**	

SPFS SOUTH-SOUTH COOPERATION EXPLORATORY AND FORMULATION MISSION

Summary Report to the Government of Tanzania, FAO and the Government of Egypt

I. The Context

- Tanzania's goal of sustained growth in food and agriculture production to change chronic food deficit into sustained sufficiency (adequate food for all) and on to surplus status
- The many policies and projects to contribute towards achievement of this goal
- The SPFS as a national instrument of consolidating experiences and resources as a national and local effort to achieve the national goal
- The need and role of technical assistance in the Pilot and Expansion phases of the SPFP/FS
- The place, role and importance of South-South Cooperation (SSC) to support the country's SPFP/FS Expansion Phase.

II. Purpose and Activities of the Mission

The purpose of the mission was to formulate the framework of the SPFP/FS Expansion Phase and to explore the appropriateness and need for SSC in the implementation of the SPFP/FS in Tanzania and to produce a report of its findings and recommendations. (see Terms of Reference of the Mission for details).

To achieve this purpose, meetings were held with the Minister of Agriculture and Cooperative, the Principal Secretary, Senior Officials of the Ministry of Agriculture, the Prime Minister's Office, the Planning Commission, the Civil Service Commission and the donors' community in Dar es Salaam, namely: the World Bank, UNDP, WFP, Italian Embassy, JICA, the Netherlands Embassy.

The Mission travelled for six days covering around 3,000 km in "search of food", visited projects and sites and had meetings with officials and local people in Tanga, Kilimanjaro, Arusha, Iringa, Morogoro and Zanzibar. Furthermore, the Mission reviewed a long list of documents and worked closely with the Egyptian Ambassador and his staff and with the FAO Representative and his staff. (see Programme of visit of the Mission for details). The Mission had only around two days for drafting three related documents. Completion of these reports will be carried out in Dar es Salaam and FAO, Rome, through e-mail.

III. Major Observations and Findings of the Mission

1. The achievements and experience of the Pilot Phase of the SP in Tanzania are highly regarded and appreciated by the people met. The Principal Secretary noted a problem created by the Pilot Phase: other regions are demanding to be covered by the SPFP/FS. In Morogoro, the enthusiasm at all levels of the SP was highly evident. All the regions visited wished to be covered by the SP. A delegation from Zanzibar came to ascertain that it is included in the next phase of the SPFS.

2. There is a general consensus in the MAC that the Pilot Phase which ends in June 1998 should immediately graduate into the Expansion Phase, consistent with the agreed and approved (by FAO & GOT) National Special Programme Plan of 1995 and to secure continuity of this important programme of Tanzania on agricultural production for food security.

3. Resource constraints of the MAC for the Expansion Phase are clearly recognized and have been discussed. The management capacity for the Expansion Phase was also discussed. Also the transport and communication infrastructure problems as well as the constraints identified during the Pilot Phase were discussed.

4. There was a favourable attitude on the part of the donors visited towards the SPFP/FS and its expansion plan. For example, the World Bank officials met think support of the SPFP is possible from the current NAEP II, within the scope of its flexibility, however a proposal should be made. The UNDP indicated that, subject to GOT's decision, some of its TCDC funds could be used to invite or send experts on food production for food security. The WFP expressed interest in supporting the water control and management activities through food for work arrangements. JICA has already completed a study of the irrigation expansion of the Mkindo pilot project to cover around 600 ha. from the current 20 ha and also think that it could assist in the area of training. The Netherlands, which is supporting a number of irrigation and dairy projects, wishes to be kept informed of the expansion plans. The Italian Ambassador is interested in supporting the private sector's initiative to invest in agro-business in Tanzania under its privatization policy. The Ambassador of Egypt also expressed interest in Egypt's private sector investing in agricultural support services.

5. There is a fundamental consideration that has been neglected in previous planning for food production for food security in Tanzania, i.e. the relatively small area suitable and devoted for food and agriculture production, around 5.2 million ha. or around 6 percent of total land being used in Tanzania. Furthermore, these areas are widely scattered. In Iringa for example, about 2000 ha. suitable for rice production, of which only 500 ha. is under irrigated cultivation, could be reached from the town in 3 hours time for a distance of around 100 km. If Dr. Tito Contado were to write a book on his travels in Tanzania for food production and food security (3,500 km during exploratory mission and around 3,000 km for the Expansion and SSC mission), he would give it the title "In Search of Food".

6. The old question could be raised again: can Tanzania feed itself? Subject to more in depth analysis, the experience of the SPFP/FS as well as the Sasakawa 2000, the irrigation project in Moshi, the land under cultivation could easily more than double its yield. Given this

assumption, if the more than 3 million farmers of Tanzania could produce an average of 2 to 3 tons per hectare, the current cultivated land could produce as much as 10 to 15 million tons of food (Note: in 1994/95 total production stood at 3.8 million tons.)

Beyond this projection of production from 5.2 million ha. there shall be pressure to put into food production some grazing land (35.0 million ha. or 39 % and woodlands/forest of 44 million ha. or 50% of the land cultivation area). An analysis of GDP of Tanzania shows that the 5.2 million hectares contributes 50% to country's GDP while the livestock sector contributes about 10 percent of the GDP.

7. The Mission noted that there are several large projects in the regions visited which are focusing on the production of the major food crops. Among these are the World Bank funded NAEP II, the WB Irrigation Project in several river basins, the IFAD extension project in the southern regions, the Netherlands irrigation and dairy projects, the irrigation project in Moshi with Japanese support and the likely expansion project in Mkindo and the Sasakawa 2000.

They are in different stages of implementation. The SPFP/FS, as a programme, cuts across the objectives and activities of these projects and could provide added value to these projects as in the case of the Water Harvesting Irrigation Project of IFAD in the Pilot area in Dodoma. In the Irrigation Projects visited, its impact and return to investment could be enhanced if the extension service is directed towards on farm water management, soil and plant nutrient management and IPM through locally organized farmers field school. Furthermore, the effectiveness of NAEP II could be enhanced with a strong participatory extension philosophy specific message on: a) water control and management in irrigation project locations, b) crop intensification in most crop production areas, c) diversification in most locations even in areas where crop production is not highly suitable and c) farm management training of farmers in all locations.

8. Therefore, there is already a sizeable volume of external investments for food and agricultural production which are under the charge of the Ministry of Agriculture and Cooperatives that could constitute as the basis for the launching of the SP Expansion Phase for water control and management, crop intensification and diversification which could be fine tuned by using appropriate experiences of the SP Pilot Phase and improving technical support from SSC experts and field technicians. For example, there is a wide scope for improvement on farm water management, introduction of farmers field schools in irrigated rice production areas (for farmers' training in farm water management, IPM and soil and plant nutrition management) and participatory farmers' groups for group learning and group attention to inputs, savings and credit and marketing concerns at the local level.

9. When the concept and modalities of the SSC were explained to the people meet in Dar es Salaam and in the regions, they were enthusiastically received. It is understood as a highly cost-effective partnership (amongst Tanzania, Egypt & FAO) approach to technical assistance and training in support of the SPFP/FS in the country.

It was observed, both in Dar es Salaam and in the regions visited, that the people met recognize and appreciate the higher level of expertise and experience of Egyptians and welcome their offer to become Tanzania's cooperating country in the SSC that FAO is sponsoring.

Given this atmosphere, the areas of expertise needed and the fields of work for field technicians were readily identified. All the regional people met expressed readiness to assist in providing accomodation for the field technicians who may be assigned to them.

10. The Mission noted that the key elements for a successful SSC in support of the SPFP/FS in Tanzania were in place. The interest and commitment of the GOT were adequately expressed at the central and regional levels, the official and personal support and commitment of the Egyptian government was expressed clearly by the Ambassador of Egypt and the two members of the Mission and strong facilitating support of the FAO Representative and staff was demonstrated during this Mission. The Mission concluded that SSC between Tanzania and Egypt with FAO's sponsorship is timely and highly feasible.

IV. Major Recommendations of the Mission

1. The SPFP/FS in Tanzania should immediately start its Expansion Phase at the official completion of the Pilot Phase in June 1998. Consistent with the approved National Special Programme on Food Production for Food Security, it is recommended that the Minister of Agriculture issue a policy statement that the Expansion Phase of the SPFS would begin in July 1998 within the context of the National Agricultural Extension Project II.

2. Recognizing the resource constraints, management capacity and the readiness for the SPFP/FS activities in some regions (serious shortage of transportation and communication infrastructure, unavailability of basic support services), the Mission recommends that the Expansion Phase of the SPFP/FS be implemented: a) **in two Phases, b) with a strong participatory orientation and c) with a true partnership spirit.**

3. To cultivate the partnership between the GOT's SPFP/FS and the World Bank, it is recommended that the meeting with the World Bank in Dar be followed-up with a concrete proposal which may be formulated with the assistance of FAO.

4. There is a wide scope for building the support services for the 3.5 million farmers scattered throughout the country for: marketing centres of farm products, distribution and production of farm inputs (seeds, fertilizer, implements), farm credit and rural finance, food and agricultural processing and transportation. These calls for partnership with local and even international private sector investors.

5. The Mission is recommending that the **Expansion Programme** be implemented for 15 years and be divided into:

Expansion Phase I for 5 years and **Expansion Phase II** for 10 years.

This implies that, including the Pilot Phase the goal of achieving food sufficiency and graduating from the food deficit status it will take 18 years to reach that goal with a reasonable target growth for the sector annually.

6. As planned by the Ministry of Agriculture and Cooperatives, the Mission endorses the proposition that the Expansion Phase be initially operated within the context and resources of the NAEP II.

7. While formulating the draft General Framework for the Expansion Phase of the SPFP/FS, the Mission recommends an estimated "seed money" budget for Expansion Phase I in the amount of $8 million to cover 8 regions for five years and to be reprogrammed from the WB/GOT NAEP II.

8. As a significant immediate technical assistance and training support to the **Expansion Phase I,** the Mission strongly recommends that SSC between Tanzania and Egypt be employed and supported by Tanzania, Egypt and FAO.

9. The Mission recommends that the SPFP/FS SSC between Tanzania and Egypt should be for three years and cover eight identified regions (Rukwas, Ruvuma, Tanga, Mtwara, Morogoro, Dodoma, Iringa, and Mbeya) and Zanzibar.

10. The Mission recommends further that subject to periodic review, needs and capacity limitations, with some flexibility the delivery of technical assistance during the three year period shall be as follows:

Year 1 : 48 W/M Experts and 40 Field Technicians
Year 2 : 48 W/M Experts and 80 Field Technicians
Year 3 : 48 W/M Experts and 100 Field Technicians

11. To make this recommendation happen, the Mission recommends that the **Host Country (Tanzania),** the **Cooperating Country (Egypt)** and the **Sponsor (FAO)** faithfully fulfil their respective commitment in accordance with the SSC Protocol and the tripartite agreement.

12. To implement the recommendations of the Mission on SPFP/FS SSC, the section on Modalities of Implementation, Budget and Schedule of SSC, part IV of the main Mission Report, should be adopted by the three parties.

V. Major Outputs of the Mission

The Mission produced three principal documents and their attachments:

1. Mission's Summary Report to the Government of Tanzania, the Government of Egypt and FAO

2. SPFS/SSC Exploratory and Formulation Mission Report

3. Framework Plan for the Expansion Phase of the Special Programme on Food Production for Food Security in Tanzania (1999 to 2014)

VI. Steps to Follow-up Mission's Recommendations

1. The GOT and FAO may have to review, finalize, agree and approve this Framework Plan for the Expansion Phase of the SPFP/FS.

2. This Framework Plan once ageed and approved should be used in the planning of national and regional expansion phase projects and activities.

3. The Exploratory and Formulation Mission Report once accepted by all parties should be used by FAO in drafting the Agreement of the SSC on the SPFS amongst Tanzania, Egypt and FAO, and once the Agreement is signed by all parties, implementation should begin. The steps to follow for its implementation are contained in Part IV of the SSC Mission Main Report.

4. It is recommended that the MAC, officially and in writing, request FAO to assist in re-orienting the NAEP II to support the Expansion Phase I of the SPFP/FS. The positive elements of reorienting the NAEP II are as follows:

   (a) the extension programme message would be focused to food crops intensification, diversification and farm water management wherever appropriate;

   (b) increase in the effectiveness and ERR of rice irrigation projects of the WB by giving priority to farmers in irrigation project covered areas and using farmers field schools to train farmers in farm water management, integrated pest management and integrated plant nutrients management;

   (c) adjusting the extension approach from strictly training and visit to a participatory approach using mechanisms such as the Participatory Farmers Groups (PFG), successfully followed during the pilot phase, use of Farmers' Field Schools (FFS) where appropriate and use of participatory knowledge, attitude and practice surveys for participatory programme and activity planning;

   (d) adopting the region as the operational unit of a decentralized national agricultural extension system.

VI. Acknowledgements

The involvement and support of the Minister of Agriculture, Mr. Kiniti and the Principal Secretary and the MAC senior staff, the time they devoted in briefing and debriefing the Mission, for assigning well selected Tanzanian members of the Mission and for preparing the Mission's programme with FAO is gratefully acknowledged. The invitation and programme of

visit by the Minister of Agriculture and Livestock, the Principal Secretary and senior staff of Zanzibar is also acknowledge.

The Ambassador of Egypt for his official and personal interest and support to the SSC with Tanzania on the Expansion Phase of the SPFP/FS proposal and for assigning Mr. Adel Ibrahim to be with the Mission in Dar and during the field trips. His attendance in meetings with the Minister of Agriculture and hosting a dinner in honour of the Mission are highly appreciated.

The FAO Representative has worked hard in coordinating the work of the Mission as well as providing highly appreciated directions and advice.. Mobilizing the FAOR's staff and facilities in support of the Mission was invaluable and gratefully acknowledged.

The attention, interest and collaboration of the hosts in the regions visited are highly appreciated.

The Members of this Mission that acknowledge and thank all those responsible in making the Mission a success are:

Dr. Tito E. Contado, FAO, Mission Leader
Dr. Ahmed Taher, Representative of Egypt, Cooperating Country
Eng. Samir Shehata, Representative of Egypt, Cooperating Country
Mr. A.A. Mbwele, Representative of Tanzania, Host Country
Mr. John Mngodo, Representative of Tanzania, Host Country
Mr. Andy Juruwagulu, Representative of Tanzania, Host Country
Mr. Abel Mero, SPFP/FS Specialist in Tanzania

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ANNEX II

SPECIAL PROGRAMME FOR FOOD SECURITY (SPFS)

JOINT FAO-EGYPT-TANZANIA FORMULATION MISSION REPORT

SOUTH-SOUTH COOPERATION BETWEEN THE ARAB REPUBLIC OF EGYPT AND THE UNITED REPUBLIC OF TANZANIA

A REPORT

Rome, September 1998

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Special Programme for Food Security (SPFS)
South-South Cooperation

EXPLORATORY AND FORMULATION MISSION REPORT

(10-23 May 1998)

PREAMBLE

The Mission was mutually agreed amongst the governments of Tanzania and Egypt and the Food and Agriculture of the United Nations. Within the framework of the Expansion Phase of the Special Programme on Food Production for Food Security (SPFP/FS) in Tanzania, the objectives of the Mission were: 1) to determine the need and scope of South-South Cooperation (SSC) for the SPFP/FS, 2) to visit sample sites and formulate a realistic programme of SSC in Tanzania and 3) to assist in formulating the general framework plan for the Expansion Phase of the SPFP/FS which would serve as the basis for the SSC plan.

The Mission was in Tanzania from 10 to 23 May 1998 and was composed of Dr. Tito E. Contado, Mission Leader, Dr. Ahmed Taher, Representative from Egypt, Eng. Samir Shehata, Representative from Egypt, Mr. A.A. Mbwele, Government of Tanzania, Mr. John Mngodo, Government of Tanzania, Mr. Andy Juruwagulu, Government of Tanzania and Mr. A. N. Mero, Field Programme Manager of the SPFP/FS in Tanzania. The findings and recommendations of this Mission are contained in the Framework for the Expansion Phase of the SPFP/FS in Tanzania and this report on South-South Cooperation of Egypt and Tanzania based on FAO's SSC guidelines.

SUMMARY

The Government of Tanzania and the FAO Representative in Tanzania prepared a sound agenda, a tight schedule of visits and appropriate contacts for the Mission. Interest and spirit of collaboration was strongly demonstrated by two meetings of the Mission with the Minister of Agriculture, the Ambassador of Egypt and the FAO Representative, held at the Minister of Agriculture's Office. In all the visits made in Dar Es Salaam with concerned national authorities and donors and in 5 regions, the Mission was warmly welcomed with general appreciation of the SSC idea and high expectations for its promised contribution to the expansion phase of the SPFP/FS.

Relevant to the SSC proposition in Tanzania are the following observations and conclusions of the Mission:

- The achievements and experience of the Pilot Phase of the Special Programme in Tanzania are widely acclaimed, so much so that the other regions are demanding to be covered by the SPFP/FS.

- There was a general consensus among those met that the three year Pilot Phase which ends in June 1998 should immediately graduate into the Expansion Phase.

- The resource question for the Expansion Phase is clearly recognized and discussion included management capacity, infrastructure and the constrains identified during the Pilot Phase. These have important implications in planning the SSC programme in Tanzania.

- There was a favorable attitude on the part of the donors visited towards the SPFP/FS and considerable interest towards its expansion. They were curious about the SSC concept of FAO.

- The WB officials met think that support of the SPFP is highly possible from the current NAEP II. UNDP indicated possibility of using its TCDC funds, the WFP expressed interest in supporting the water control and management activities through food for work arrangements while JICA expressed interest to support through training. The Ambassadors of Italy and Egypt were interested in helping stimulate the agro-business private sector to invest in Tanzania.

- The Mission noted that there are several large projects in the regions visited which could be refocused on the production of major food crops (Annex 4) . These could be supplemented and be made more effective with the SSC programme.

- When the concept and modalities of the SSC was explained, it was enthusiastically received. It is now understood as a highly cost-effective partnership amongst Tanzania, Egypt and FAO to technical assistance in support of the SPFP.

- While both Tanzania and Egypt have considerable experience and expertise in the broad field of food production and sustainable agriculture, the people met recognize and appreciate the higher level of expertise and experience of the Egyptian Experts and Technicians in many fields and welcome the opportunity of becoming Tanzania's cooperating partner in the SSC programme under FAO's sponsorship.

- The Mission noted that the key elements for a successful SSC in support of the SPFP/FS in Tanzania was in place. The two meetings of the Minister of Agriculture, the Ambassador of Egypt and the FAO Representatives together with the Mission reflect strongly the highest support needed for a successful SSC programme.

This Exploratory and Formulation Mission Report consists of: a) a description of the Setting of the SPFS, b) a brief description of the Special Programme for Food Security in Tanzania, c) Technical Assistance Proposals for SSC and d) Modalities of Implementation of the SSC within the context of the Expansion Phase of the SPFP/FS.

This report presents a three-year plan of SSC involving a maximum number of 4 Experts from Egypt and 100 technicians to work in Zanzibar and 8 regions of the country covered by Phase I of the Expansion Phase of the SPFP/FS in Tanzania.

I. THE SETTING

Agriculture and Economy

Area and Population

Tanzania has a total area of 945,000km^2 (826,973^2 when part of lakes such as Victoria, Tanganyika and Nyasa are excluded) located on the coast of East Africa. The country's economy is predominantly agricultural with a total population of about 30 million people (1998) and a population density of 31 people per km^2. The population growth rate is 2.8% per annum. More than 80 per cent of the population is rural based living in some 8,000 villages.

Climate

The climate is tropical with mean temperatures determined by altitude. The coastal plains which covers one-fifth of the land surface has a warm climate. The topography is varied and includes semi-arid plains, numerous plateaux and highlands. From the coast the land rises gradually to broad inland plateaux between 750 and 1,500 metres above the sea level, which constitute about one fifth of the total land area. The climate is moderately warm with daily temperatures between 21° centigrade and 24°. Precipitation is varied and presents different regimes in different areas. The coastal belt areas have a bimodal rainfall including some few area in Arusha, Kilimanjaro and the Lake Victoria Zone regions while the rest of the country has a unimodal rainfall regime. The highland area accounts for a little less than one fifth of the land area of the mainland.

About 56 per cent of the land is used for agricultural purposes, of which about 90 per cent is used for grazing while less than 10 per cent for crop production. An area of 400,000 sq.km (39.5 million ha) are arable land under rainfed conditions of which only 15% is cultivated (60,000 sq. km) under rainfed. Total irrigated area is estimated to be 150,000 ha. of which about 26,000 are "modern" and the remainder traditional, mainly used for paddy production and some vegetables. Agriculture being the most important sector of the economy is dominated by about 80 per cent of the population. The country's natural resource base is favourable for agricultural production. Good agricultural land is in abundance relative to the population but is seriously underutilized even though considerable potential for incremental development exists. The country is divided into nine physiographic regions subdivided into twenty agro-climatic areas which are grouped into four agro-economic zones as shown in table. 1 below:

Table 1. **Agroclimatic Zones of Tanzania**

Zones	General Characteristics features	Specific Features			Representative regions
		Rainfall	Dominant Food Crops	Main Activity	
I	Semi arid Central areas	Less than 500 mm	Sorghum Millet Maize	Livestock	Lowland areas in Dodoma, Singida, Arusha and Iringa
II	Most coastal Areas	500 - 1000 mm	Paddy Composite Maize Cassava Groundnuts	Agriculture Fishery Poultry	Mtwara, Lindi, Coast, Morogoro and Tanga
III	Most of the Western areas	1,000 - 1500 mm	Cassava, Composites Maize, Peas, Sweet potatoes	Intensive agriculture, keeping of sheep, goats and poultry	Mwanza, mara, Shinyanga, Tabora, Kigoma and Rukwa
IV	Most of highland areas	above 1,500 mm	Plantains Hybrids Maize Beans Potatoes	Agriculture dairy keeping of pigs, goats sheep and cattle	Almost all the highlands around Kilimanjaro, Arusha, Iringa, Ruvuma, Mbeya and Tanga

Source: Ministry of Agriculture and Cooperative Reports (Agriculture and Livestock Development Division)

Macroeconomic Framework

Economic Performance

Since 1986 Tanzania has been implementing a wide range of policies and institutional reforms. These policies and reforms were aimed at arresting the economic crises which faced the country since the 1970s. There were high external imbalances, aggravated by an increasingly overvalued exchange rate internally, large fiscal deficits due to increased Government spending, administrative practices in control of prices and resource allocation geared towards efficiency and social welfare though it led to rigidity and disincentive which

worked against allocative efficiency. For a greater part of the 1980s there was decline of food and cash crops
because reduced inputs use , poor agricultural practices, marketing and generally lack of incentives to producers and deterioration of physical infrastructure.

Economic Recovery Policies and Programmes

The government instituted different economic policies and programmes to arrest economic deterioration. Between 1982 and 1985 there was the Structural Adjustment Programme (SAP) which focused on among others agricultural pricing and marketing, exchange rate and trade, privatization and rationalization of public sector. This was followed in 1986 and 1989 by Economic Recovery Programme (ERP I) designed to orient the economy towards the market. Among others, it achieved positive improvement in GDP growth, output of food and export crops through price incentives, reduced Government involvement in marketing structure, increased industry capacity utilization, through allocation of foreign exchange in priority sector, reduced price control and currency devaluation, cuts in Government spending, improved tax incentives for investors and decreased inflation, and increased efficiency in government and parastatal institutions. a Second ERP - The Economic and Social Adjustment Programme (ESAP) was implemented between 1989 and 1992 targeting social aspects of structural adjustment to mitigate distortion introduced by abrupt and severe measures which were intended to direct the economy towards sustained development. Along with economic reforms was the introduction of public sector adjustment reforms which are geared to transform the role of the government to a facilitator of private sector development while providing public goods effectively and efficiently. The financial sector has also been undergoing transformation aimed at establishing an effective and efficiently market oriented and independent financial sector. The effect of these reforms where publicly owned banks were restructured and new private commercial banks established was provision of credit to mainly the modern sector and decreased credit and financial services to the agricultural sector and mainly the smallholders.

The Agricultural Sector Overview

Agriculture is the main sector of the economy in Tanzania contributing more than 50 per cent of the country's GDP 75 per cent of export earnings and employs about 90 per cent of the population. Some 85 per cent of the population depend on agriculture and livestock for their livelihood. The sector is characterized by some 3.5 million smallholder farmers cultivating less than two hectares and who contribute over 75 per cent of agricultural export earnings and about 80 per cent of the value of marketed grains.

The livestock population consist of about 15 million cattle and 12 million sheep and goats. It is estimated that the livestock sector provides about 10 per cent of GDP of which beef contributes 40 per cent, dairy 30 per cent and other livestock activities 30 per cent. Over 95 per cent of the livestock sector is characterized by traditional headers.

National Agricultural and Livestock Policies

The current National Agricultural and Livestock Policy (1997) has been a result of thorough review of the National Agriculture and Livestock Development Policies which dates back to

1983. The macroeconomic environment during the 1980s necessitated a major review of these policies to reflect current direction of the economic realities. The main objectives of the National Agricultural and Livestock Policy are promotion of food security for the nation, improvement of nutritional status of the population and national income through:

- increasing the output, quality and availability of food
- improved income and standard of living in rural areas
- increased foreign exchange earnings from increased export of crops and livestock products

Strategies

In order to realize the potential in the crops and livestock sector the Policy emphasizes of the following strategies:

- Investment in agricultural extension and research;
- encourage the diversification of food and export crops (both traditional and non traditional)
- development of livestock production and use of livestock products;
- to develop integrated and sustainable use and management of natural resources such as land, soil, water and vegetation for environmental conservation and
- to develop human resources within the sector so as to progressively improve ability, awareness and morale.
- Improvement of support services: extension, research, marketing, communications, credit and input supplies with active participation of the private sector.

II. THE SPECIAL PROGRAMME FOR FOOD SECURITY IN TANZANIA

21. The SPFS in Tanzania and its Status in May 1998

Based on the request by the Minister of Agriculture and Cooperatives in early 1996, the Special Programme on Food Security began with a joint FAO/Government of Tanzania Exploratory Mission in November 1994. Since 1995, the implementation of SPFS activities which involved crop intensification on rice and maize, water control, diversification and constraints analysis on a Pilot Phase were carried out in 16 villages of Morogoro and 8 villages in Dodoma regions respectively. By using participatory farmer groups for technology transfer, rice and maize production yields doubled, 73 savings credit formed, positive results were recorded with regard to intensification, diversification and water control. Similarly, constraints to increased adoption were identified. However, the 3 year Pilot Phase which has achieved all the planned objectives, comes to an end in June 1998.

22. Analysis of SPFS implementation in Tanzania

Crop intensification

During the Pilot Phase, the component focused on increasing food production and productivity of rice and maize as the two national strategic grains using small participatory

groups as vehicles for improved production technology transfer. By using proven available research recommendations, farmer training, and regular technical advice by the village extension workers, one acre farm demonstrations on improved, maize production were carried out on 103 farms. Similarly participatory rice demonstrations were carried out in 84 farms each of 0.5 ha in the SPFS villages of Morogoro and Dodoma regions. The participatory group members have learned through theory and practice and adopted most of the improved production technologies for the two grains. Significant results have been recorded with yields doubling. About 86 percent of maize demonstration farmers and 100 percent of rice demonstration farmers have repeated/adopted the improved production technologies. Similarly diffusion of these technologies has taken place with non-participatory group members using the improved seeds, fertilizers and correct plant spacing. Over and above, the groups have been sources of improved seed, composite seed for maize and line 88 for rice production.

Water Control and Management

Some 80 percent of the country receives less than 1000 mm of seasonal but unreliable rainfall which is the main threat to food security and self sufficiency. However, Tanzania has an irrigation potential of 851,310 ha out of which between 150,000 - 170,000 ha are presently being exploited for producing both cash crops such as tea, coffee, sugar cane and food crops, mainly rice and vegetables. The levels of production of food crops especially rice are very low 2.50 tons per hectare. The low yields could be attributed to among other things to poor water management/control, late field preparations and transplanting of rice seedlings.

Farm demonstrations in rice during the Pilot Phase under three types of irrigation (gravity in Mkindo Wet Rice Project, bonding field in Kilombero and Morogoro districts and water harvesting in Bahi/Chipanga IFAD Project where the use of shallow wells were used for early raising of rice seedlings gave significant yield results with farmers doubling yields per hectare.

Diversification

Another important component within the SPFS, Pilot Phase is the diversification of the food security at household levels, involving small stocks mainly local chicken and goat improvement. The main purpose of the diversification is to improve the incomes of the small scale farmers especially women through increased production and sales of meat, milk, eggs and skins. This would enable farmers to store their maize and rice for a much longer time to wait for the producer prices to improve. Also paramount to this, is to improve the health of women and children through increase intake of animal protein.

Under the Pilot Phase, 115 small stock demonstration farmers and 27 village extension workers were training on improved livestock management, 16,497 chicken were vaccinated against the prevalent Newcastle disease 170 improved cockerels and 60 improved breeds of bucks were distributed to the demonstration farmer group members. Similarly, the construction of 146 improved houses for goats and chicken was demonstrated. All these interventions have resulted into increase survival rates of local chicken and increased meat and egg production. Farmers have been impressed by the good results and are willing to contribute money for the purchase of vaccines and drugs for treating their animals.

Constraints Analysis

Using a national consultant, a guide to constraints analysis to increasing food production and sustainable adoption of available proven technologies by men and women farmers and active participation of the target farmer groups, the following important constraints were identified:

i. Lack of working capital or credit
ii. Inadequate farm power
iii. Lack of or late supply of production inputs
iv. Inefficient market outlets and low producer prices to farmers
v. High post harvest losses (30-35%)
vi. Lack of funds for the expansion and exploitation of the available irrigation potential and
vii. Inadequate funding for other essential support services such as extension and research

With consistently higher crop yields of the farm demonstration compared to previous and national average yields of maize and rice, the experience and enthusiasm that the SP Pilot Phase has developed among participating farmers, local government & NGO leaders, agricultural technicians and experts, managers and decision makers, the SP in Tanzania has gained adequate path-finding experiences and should be ready for the gradual Expansion Phase at the planned completion date of the Pilot Phase in June 1998. However, the expansion phase must address adequately the identified constraints.

23. Recommendations for Improving the SPFS in Tanzania

During the last three years, the Pilot Phase of the SPFS in Tanzania has progressed very well beyond reasonable expectations. As a result of limited but carefully administered resources seven recognized factors contributed significantly to this high level successful pilot phase:

- a high sense of ownership on the part of the government and the local people in the people area;

- a participatory approach to problem analysis, decision on solutions to production problems and action to implement the plan,

- the organization of farmers participatory groups of the SPFS (a learning, saving, coordinated action group);

- the facilitating support of extension, research, and private input supply, credit and marketing organs in the locality;

- the efficacy of the locally available packaged set of technologies for demonstration in water management, intensification and diversification in farming; and

- the dedication of those involved in the operation of the Pilot Phase at the local and national levels contributed significantly to the high level of achievement of the Pilot Phase.

- A good Pilot Phase Plan of action which was followed closely during its implementation.

Therefore, the challenge of the future is not only improving the SPFS in Tanzania but consolidating its gains and expanding the application of the experiences of the Pilot Phase to a gradually larger number of farmers and regions in the country. To make this possible, the following recommendations are being made:

1. Consistent with the National Special Programme plan, and since the Pilot Phase has achieved its objectives, the Government should adopt the policy of moving from the Pilot Phase which ends in June 1998 to the Expansion Phase to officially begin in July 1998. Furthermore, other regions expressed readiness to participate and be covered by the SPFP/FS because of what they observed in Morogoro and Dodoma regions where the Pilot Phase has been implemented.

2. Due to resource constraints and management capacity limitation, adopt a two phased Expansion Programme of the SPFS in Tanzania, where Phase I should be for 5 years and Phase II for 10 years.

3. The ultimate aim of the SPFS Expansion Phase is to graduate from the chronic food deficit history in Tanzania to sustained food production that would more than meet the national food requirements to achieve food for all Tanzanians. To achieve this aim, the SPFS Expansion Phase should use the tested methodology of the Pilot Phase and with policy support achieve the following contributory outputs:

- Policy and practical solutions to the constraints identified during the Pilot Phase
- Steady and sustained food and agriculture production growth every year in SPFS covered regions
- Improved environment for policy and programme adjustments and development
- Enhanced human and institutional capacities development through participatory training and
- Extension and the formation/strengthening of public and private saving & credit, input supply,
- Marketing and farmers local institutions
- Contribute towards sustainable agriculture by integrating into the recommendations for farmers integrated pest management (IPM), integrated plant nutrition management (IPNM) and other environmentally sound practices and technologies
- Focusing on achieving the goals of the SPFP/FS, create and strengthen partnerships of the public and the private sectors, of national and international donors, investors and technical assistance stakeholders

4. Adopt a policy of consolidating coherently existing resource inputs on food and agricultural production, processing and distribution/marketing, rural finance, including, water management and control in support of the Expansion Phase of the SPFP/FS in Tanzania

5. Supplement national and local resources (technical and managerial human resources and financial resources) with technical assistance through South-South Cooperation (SSC)and Technical Cooperation among Developing Countries (TCDC) within the framework of FAO's partnership programme.

III. TECHNICAL ASSISTANCE PROPOSALS IN THE FRAMEWORK OF SOUTH- SOUTH COOPERATION

31. Objectives and Strategic Options

The widely recognized success of the SPFP/FS in the piloting of water management and control, crop intensification and farming diversification (which mobilized the farmers and demonstrated doubling of maize and rice production and significantly increasing the production and availability of vegetables, poultry and small farm animals) should be extended to a significantly larger number of farmers, farmers organizations and in more regions of the country.

Within the framework of the Expansion Phase of the SPFP/FS, during the 5 years Phase I, the Special Programme is to be extended to 8 regions and the state of Zanzibar (two original and seven new regions including Zanzibar). There are three common problems in all the 8 regions and Zanzibar: a) financial, b) expertise and technical manpower and c) infra-structure and services. All these three problems are being addressed in the Framework Plan for the Expansion Phase.

The South-South Cooperation specifically addresses the second problem. While it is recognized that Tanzania has one of the longer history on agricultural manpower development and training both domestically and abroad and one of the countries in Africa with a large number of highly trained agriculturists, it was concluded that successful implementation of Phase I of the Expansion Phase could be significantly enhanced with a well planned and administered SSC programme. With FAO and Tanzania's initiative, Egypt was focused to be a suitable cooperating country. It has a much longer history of experience with food production and a larger critical mass of agriculture experts and field technicians.

The objectives of SSC in Phase I of the Expansion Phase are:

a) to supplement the expertise and experience of Tanzania on crop intensification, diversification, water control and management and constraints analysis with experts in these fields from Egypt

b) to augment and beef up the capacity and experience of Tanzania at the field level with technicians in on farm water management and control, crop intensification and farming diversification including acquaculture, honey production, local food processing, etc. with experienced agricultural technicians from Egypt

Three strategic options of undertaking the SSC were considered: a) one was to have several experts as trainers without agricultural technicians, b) the other was a few experts and a limited number of technicians who would have training functions at the national and regional levels and c) the third was to have four experts as national technical advisors for each of the four components of the SPFP/FS and the maximum number of technicians who would work in the field with Tanzanian technicians in selected sites in the 8 regions and the state of Zanzibar.

Considering the nature and requirements of Phase I of the Expansion Phase, the third option was agreed. In choosing this option, the phasing of the assignment of the experts and the technicians was also agreed as follows: a) the four expert posts would be for a period of three years, b) the actual number of technicians to be assigned will depend upon a detailed need assessment of the selected sites, c) the first batch of technicians for a three year assignment would be for the high priority fields that require longer presence of SSC technicians while d) the last batch who will be for only one year would be in fields that could be fully satisfied within a shorter period of time.

32. General Assistance

To make this SSC work successfully and effectively the role of Tanzania as the host country, Egypt as the cooperating country and FAO as the sponsoring organization were clarified.

It is the responsibility of Tanzania to determine the specific needs of experts and technicians, approve proposed experts and technicians, provide counterparts to work with the experts and field technicians, pay to each expert and field technicians monthly subsidies equivalent to US$300 per month, cover local and regional travel expenses, provides adequate accommodation including utilities and to monitor and report on performance.

Egypt as Cooperating Country has the responsibility to provide four experts and roughly 100 field technicians for periods of one to three years as agreed by the parties concerned; retains the experts and field technicians, if they are civil servants in Egypt for the duration of their assignment in Tanzania; continue to pay salary, social insurance and other allowances to which the experts and field technicians have the right in Egypt and to meet the travel costs within Egypt.

FAO ensures screening of candidates and provides technical supervision and monitoring; pays a monthly subsistence allowance equivalent to US$700 to each expert and US$300 to each field technician; provides a one-time installation grant of US$300 to each expert and field technician; provides a return air-ticket for international travel but these SSC experts and field technicians do not become staff members of FAO.

This SSC technical assistance would be located in Dar Es Salaam (for the four expert posts), and in 8 of the 21 regions in the mainland and in the state of Zanzibar. The criteria in selecting the sites in each region and the list of the selected regions is found in Annex 3.

33. Assistance on water control and management and soil fertility and plant nutrition

About one-third of Tanzania is arid or semi-arid, with rainfall below 800 mm, while another third is occupied by highland areas with precipitation in excess of 1,000 mm. However a long dry spell (June to October) results in low river flows, causing seasonal scarcity. Recently, scarcity and conflict among users has been exacerbated by a few years of less than average rainfall, coupled with the expansion of irrigation and the increase in demand for hydropower and water for urban uses. On the other hand, the soils of Tanzania differs greatly (41 soil units were identified (De Pauw 1984).

Control and water management has two scales. One is the large scale dealing mainly with the main infrastructure of the system and large schemes. The second is the small scale dealing with the small schemes or the farm level (on-farm water management).

Fertilization to satisfy the nutrient needs of any crop is essential to attain potential yield. Soil fertility status is a basic data to give the fertilizer recommendations. Soil type and its characteristics in addition to agricultural practice such as green manuring,appliction of organic matter and irrigation method are playing a great role in the selection of fertilizers as well as the rate and method of application. Time of fertilizer application is mainly dependent on type of crop cultivated.

The technical assistance proposals will be mainly in the area of small-scales schemes (on-farm water management) and how to integrate it within the existing large-scale schemes as well as in soil fertility and plant nutrition.

The Water Control and Management expert in collaboration with the national counterpart will train and supervise the field technicians and their counterparts on the following responsibilities:

1. Through participatory approaches involving all the water users, extension workers and other stake holders undertake a comprehensive situation analysis of the irrigation project with a view of identifying the problems, - technical, sociological and work out practical solutions.

2. In collaboration with farmers establish a mechanism for scheduling the delivery of irrigation water to satisfy crop water requirement.

3. Advise on maintenance of the existing irrigation and drainage systems on the farm level. Increase the water use efficiency on the farm level.

4. Assisting farmers to improve the farm irrigation layout for optimum irrigation practices.

5. Working with the irrigation groups, water user associations, or irrigation cooperatives where they exist.

6. Help in the establishment of irrigation groups, water user associations, or irrigation cooperatives in the irrigation schemes where it is not found.

7. Train farmers, extension staff , and technicians on the execution and implementation of the on-farm water management activities.

8. Increase the public awareness regarding the scarcity of water and the importance of the on-farm water management to increase crop production and the sustainability of natural resources.

9. Advising and cooperating in highlighting the importance of the integration between soil(type and properties), irrigation and other agricultural practices maximum sustainable crop production.

10. In collaboration with farmers, carry out participatory demonstrations.

11. Proposing certain fertilizer recommendations for different crops based on soil type, soil properties and soil fertility status.

12. Conduct on-farm trials to verify the proposed fertilizer recommendations.

13. Train farmers, extension staff and technicians on the proper use of fertilizers (when and how to deal with the application of the recommended fertilizers).

14. Increase the public awareness about the important role of fertilizers in increasing crop yield as a part of the integrated agricultural practices.

34. Assistance on crops intensification

Tanzania has 39.5 million ha. of arable land under rainfed conditions and also has sufficient land resources to sustain a much higher level of crop production than what exists at present. According to the recent estimates, Tanzania has 3.0 million hectares suitable for maize at low level of input another 6.0 million hectares suitable at intermediate levels and 6.5 million ha. at high levels, compared with approximately 2.0 million hectares presently cultivated yielding about 2.5 million tonnes. Average yield level is between 0.6-1.5 tonnes/ha while the potential yields are between 4.0-8.0 tonnes per hectare.

With regard to rice production there are 6 major rice producing regions in the country which are suitable for paddy cultivation at the average of producing 387,000 tons per year. Production levels for rice is still very low despite the fact that suitable area under irrigation is between 100,000 ha. to 170,000 hectare (about 26,000 ha are under modern irrigation system). Currently yield levels range between 1.5-2.0 tonnes per hectare while the potential yield is 6.0-8.0 tonnes per hectare.

There is minimal use of improved farming technologies such as high yielding seed varieties fertilizers and other recommended cultural practices by majority of farmers. As a result of these low yields and frequent food deficits, government food importations and food aid have been an important factor in guaranteeing food security in Tanzania. The food demand outlook is high and likely to increase due to high population growth, 2.8% per year and increasing urbanization. The population which is currently estimated 30.0 million people is expected to reach 39.0 million people by the year 2000. The total demand for the maior

strategic grains - maize and rice as expected to increase by more than three and a half times by the year 2025.

Therefore the focus of technical assistance on crop intensification would be on increasing the production of the major food crops which have market demand without degrading the land and natural environment. This would include maize, rice, sorghum and vegetables. There shall be one expert on intensification who will be stationed in Dar es Salaam. The expert will provide technical leadership, train and will technically supervise the work of the field technicians and train counterparts on crop intensification in the 8 Expansion Phase I regions and the state of Zanzibar. The terms of reference of the expert and field technicians of this component of the SPFP/FS is found in Annex 5.

35. Assistance on diversification

A major objective of the diversification component is to promote income generation activities in support of food security. In order to achieve this objective, the diversification component will concentrate on short cycle livestock species such as improved local chicken, goats, sheep, diarying Pigs, rabbits, beekeeping, aquaculture and local food processing depending on the obtaining environment.

a. Poultry High mortality rates of local chicken due to Newcastle disease and to some extent internal parasites, inadequate nutrition, poor housing and predation is an important problem to many households in the rural areas. The survival rates and increased production of eggs table meat would be achieved through vaccination against vaccination against Newcastle Disease and farmer training on improved poultry management and demonstrations of improved shelters. Similarly other interventions such as cross breeding using improved cockerels (Rhode Island Red) are likely to have significant impact on production and productivity.

b. Goats and rabbits Small ruminants such as goats and rabbits which could be easily owned by many rural women and resource poor farmers are a cheap source of animal protein. Similarly dairy goats could also supply milk for the improvement of the nutritional standards of the rural children and women. However, majority lack knowledge and skills for improved goats and rabbit management. Within the framework of the SPFS Expansion Phase, the target groups will be equipped with the improved management skills which will include, disease control, vaccination, improvement of nutrition and construction of improved shelters and processing of good quality participatory training and demonstrations.

c. Aquaculture Within the selected areas, for expansion phase, there is a big potential for aquaculture activities through the exploitation of experiences from previous projects such as Aquaculture for Local Communities ALCOM in Morogoro and Mbeya regions. Fish could easily be another big source of protein for rural farm families and increased income through sale of surplus fish.

In order to realize these benefits, farmers will be trained on improved fish farming which will include:

i. Proper fish pond construction and management

ii. Stocking with good fingerlings

iii. Feeds and feeding regimes

iv. Fish harvesting

v. Processing and storage

d. Agri-based cottage processing industries As a means of creating additional sources of income for rural farmers in the selected regions within the SPFS Expansion Phase I, technical assistance will be made available on agro-based cottage processing industries. The cottage industries will put an added value to the raw materials which are currently being produced under the on-going projects the 8 regions. Specifically, farmers in these areas will be equipped with skills and knowledge for processing dairy products such as cheese, and butter to absorb the surplus milk being produced by small scale farmers in regions such as Iringa, Mbeya, Dodoma etc.

Similarly, farmers will be equipped with skills and knowledge on improved bee keeping, honey processing quality control, packing and marketing strategies.

36. Assistance on development and management of support services organizations/ institutions

During the pilot phase of the SPFS, it was learnt that farmers faced a number of problems which are associated with the support services organizations/institutions which included the following:

- Lack of financial Institutions which provide credit to farmers
- Weak agencies delivering the agricultural inputs to the farmers
- Trading agencies which purchase the producer from the farmers
- Lack of an institution to deliver marketing extension services

Financial Institutions

These institutions do not have a favourable policy to lend money to the small scale farmers. Farmers are charged high interest rates and they are bound to have collaterals to cushion the borrowed money in case of defaulting. This policy is not in favour of the small scale farmers because they cannot afford to pay high interest rates on borrowed money and they have no collaterals. Also individual self-financing through savings is not possible.

The solution to this problem could be sought through the creation of farmers' associations and cooperatives with the aim of pooling together the savings for the purpose of financing the agricultural activities in the SPFS areas.

Agencies Trading in Agricultural Inputs

Formerly, all the agricultural inputs destined to the farmers used to pass through the hands of the state controlled organs, which included the cooperatives. After the demise of the state-run cooperatives partly due to insolvency hence their inability to compete in the liberalized environment the agro-inputs were handled by the stockists. There are private traders who supply the inputs in the villages after having purchased them either from the external markets or from the state-run Agricultural Input Trust Fund (AGITF).

The problem with this new supply system is the delay to supply the needed inputs at the right time. The experience in the pilot areas of the SPFS has shown that late arrival of the inputs cause the farmers not to apply them at the right time and the results are negative to production.

Trading Agencies purchasing surplus food crops from the farmers

Under the liberalized economy, the purchasing of the surplus food crops from the farmers is done by the private traders. This is unlike in the past when surplus of food crops were being bought by the state controlled organs, i.e. Cooperatives, the National Milling Corporation and the National Distributors Ltd. In the new system, prices are determined by the free market forces of supply and demand, whereas in the past prices were being determined by the government.

The problem with the system of supply and demand determining the producer price is that the farmers have been receiving lower producer prices per unit of output than the cost of production per unit of output. This should not be a problem by itself but there were cases which caused this problem. These included the following:-

i. Lack of storage facilities at household levels to store the surplus crops so that they could be sold after the harvesting period was over and the prices were up.

ii. The farmers being the food surplus producing units placed at long distances from the markets therefore being placed at the mercy of the unscrupulous private traders who can afford to transport food crops at long distances.

Training in marketing extension services

Demand oriented agricultural food production needs the provision of the Marketing Extension Services on different issues, which include the following:-

i. Price information
ii. Quality Control
iii. Standardization and grading
iv. Packaging
v. Product promotion/advertising
vi. Weights and Measures etc.

These issues had never been addressed in the era of the state-controlled marketing system therefore the farmers are naive on these issues. Due to the fact that the policy of trade liberalization has been disadvantageous to the food surplus producers placed at long distances

from the markets and the routes to the markets but has favoured those close to the markets and the routes to the markets, the introduction of these values will lead the traders to look for qualitative products wherever they are produced.

a. Agri-business Cooperatives/Farmer Associations Experience gained from the Savings and Credit Associations formed during the Pilot Phase of the SPFS show that there is a big potential for these associations to address most of the production constraints such as unavailability of input supplies, credit, marketing of their produce if they are properly organized and consolidated. However, most of these associations lack adequate skills and knowledge on business planning, financial/credit management, procurement of agricultural inputs and marketing strategies.

Within the framework of the SPFS - Expansion Phase I, technical assistance with regard to the formation of viable agri-business Cooperatives/Farmers Association would be made available under the South-South Cooperation.

b. Co-op activities Saving: Increase the public awareness between farmers about saving benefits and advise them to the methodologies to be followed within the farmers groups and cooperatives.

Finance: To find financial resources from Banks, Donors, projects and bind it with agricultural inputs and marketing.
Agricultural inputs: To find ways to facilitate the availability of needed agricultural inputs including certified seeds, fertilizers etc. either in cash or in kind.

Marketing:Orienting farmers to market their products with good prices through cooperatives and farmers groups.

Storages:Assist farmers to establish their own storages either on house or on Community level to avoid and decrease losses in crops and increase opportunities of getting better prices.

Mechanization:Assist farmers to improve and introduce small scale farm machinery suitable for their environmental conditions. Also develop and improve their traditional ones.

IV. MODALITIES OF IMPLEMENTATION, BUDGET AND SCHEDULE OF TECHNICAL COOPERATING COUNTRY ASSISTANCE

The Target

By the end of three years (starting with the deployment of the first expert and field technician), the maximum implementation target of this SSC between Egypt and Tanzania would consists of:

- 4 experts for 3 years or 12 person/year
- 40 field technicians for 3 years or 120 person/year

- 40 field technicians for 2 years or 80 person/year
- 20 field technicians for 1 year or 20 person/year

Steps and Schedule of Implementation

To implement successfully and efficiently this SSC technical assistance programme, including operationally meeting a high percentage of the above target, the following steps and activities should be faithfully understood and followed:

1. Based on the SSC Formulation Mission Report; prepare and sign the Agreement (Action: FAO for preparation, GOT and GOE for review and signature) - before end of October 1998

2. Based on the SSC Formulation report and the SPFP/FS Phase I Expansion Framework Plan, make detailed site selection in the 8 regions and the State of Zanzibar, make general SPFP/FS plan for each site and determine the field technician needs of each site and region (field of assistance: intensification, diversification and water control and management and number of field technicians needed)

Action: (GOT and SPFP/FS staff) - before the end of December 1998 for the 4 experts and a maximum of 40 field technicians).

3. Consolidate the list of needed Experts and Field Technicians under the SSC programme, at least the 4 Experts and a maximum of 40 field technicians for the first year of operation. This should be transmitted to the GOE in a form of a request.

Action: (GOT and SP staff and FAOR) - before the end of December 1998

4. Based on the SSC Mission Report, conduct preliminary recruitment and identification of qualified and interested experts and field technicians at least for the first year plan and target. (Action: GOE)- start soon after agreement is signed or earlier.

5. Based on the list of needs from the GOT, (#3 above), make actual recruitment of 4 Experts and a maximum of 40 field technicians according to agreed terms of reference, have them fill up required forms and sent to the GOT & FAO for technical clearance. This process will have to be repeated for the second and third year: (Action: GOE) - before end of January 1999.

6. Technical clearance of Egypt's nominated experts (for a maximum of 4 posts) and field technicians (for a maximum of 40 posts) (Action: GOT and FAO) - before end of February 1999

7. Notification of technically cleared experts and field technicians (Action: FAO to GOE) and preparation and issuance of appointments and travel authorization for technically cleared Experts and Field Technicians (Action: FAO) - before end of March 1999

8. Preparation of provision for accommodation, transport and
monthly allowance for the four Egyptian Experts and a maximum of 40 Egyptian Field Technicians (for the first year of operation - to be repeated for the second and third years).

(Action: GOT at the National and Regional Agricultural Officers) (Action: GOT & GOZ and Regional Agricultural Officers) - before end of March 1999

9. Swahili language training and cross-cultural orientation of Egyptian Experts and Field Technicians in Egypt prior to their departure for Tanzania. This may involve one Swahili language teacher/trainer and one rural sociologist teacher from Tanzania who could go to Egypt under a TCDC arrangement (Action: GOE, GOT, UNDP for TCDC funding)

10. Travel of Egyptian Experts and Field Technicians from Cairo to Dar es Salaam. (Action: FAO - issuance of tickets, GOE send off arrangements, GOT welcome of Experts and Field Technicians. Egyptian Embassy in Dar es Salaam assists the GOT in welcoming and settling the Experts and Technicians.

11. Induction and Assignment Training of Experts and Technicians in Tanzania - half of the time at the national level and the other half at the region of assignment. The general content of the training programme would include: agricultural situation and development policies, the SPFP/FS in Tanzania, its Expansion Phase I and the role of the SSC experts and field technicians, working conditions and relationships of experts and technicians and their counterparts, to answer questions of the Egyptian Experts and Field Technicians (Action: GOT - MAC/SPFP/FS staff and FAOR)

12. Deployment and assignment of the Field Technicians with their counterparts and regular supervisory support to their work in the sites of their assignment. (Action: MAC and SPFS staff. Egyptian Embassy staff may assist in this process)

13. Monitoring and reporting of the work of the SSC Experts and Field Technicians (Action: MAC and SPFS staff. Egypt Embassy staff may assist in this process

14. Annual Assessment and tripartite review of the SSC programme. This occasion should also make the general plan for the following years (Action: FAO, GOE & GOT - SPFS staff makes the preparation)

Financing the SSC Programme

As a three-party programme of technical cooperation, the SSC programme in Tanzania have three sources of funding to enable and support the work of SSC experts and field technicians at a reasonable cost and incentive; Tanzania as the host country, Egypt as the cooperating country and FAO as the supporting international organization. Specifically, the contributions of each of the three parties are as follows:

Egypt - the Cooperating Country

a) Payment of salary and other benefits of Experts and Field Technicians which they normally receive if they were working in Egypt

b) Cost for recruitment and orientation training

c) Purchase of small equipment and tools of work

FAO - the supporting international organization

a) International travel of experts and field technicians

b) Installation allowance of $300 per person

d) Subsistence allowances: $700 per month for experts and $300 per month for field technicians

Tanzania - the host country

a) Payment of monthly subsidies of equivalent to US$300 per SSC expert and technician from Egypt assigned to the country

b) Provision, in kind, of adequate accommodation including utilities and administrative support at rates similar to national experts and field technicians

c) Cost of travel of the SSC experts and field technicians within Tanzania on official business at national rates

The estimated budget for this SSC programme in Tanzania for three years are in Annex 6. Note that at this stage, provision of housing is in kind. As a principle, the cost of housing in this SSC programme would be similar to the cost to the government of equal rank of experts and field technicians. Other costs outside these standard requirements such as annual leave travel and cost of training is to be negotiated as these costs become clear during SSC Programme implementation.

Monitoring, Assessments and Reports

This innovative approach to technical cooperation in the field of food production for food security should be monitored reliably, annually assessed and planned and should be well reported.

At the outset, monitoring indicators should be determined and a monitoring and information system should be properly designed and installed. Staff of the SP should be designated to attend to this important task and should be part of the task of the Constraints Analysis Consultant and Expert.

As stated in the preceding section, this programme should have an annual tripartite assessment workshop. Part of the work of this workshop is to plan the work of the following years which should reflect the lessons learned during the year under review. This should be regarded as a tripartite meeting towards the end of the operational year and the beginning of the succeeding operational year.

Under this SSC, there shall be three kinds of reports: a) six monthly report of each expert and field technicians, b) technical field reports as appropriate and c) annual report on the SSC.

These reports could be used as part of the annual report in the implementation of Phase I of the Expansion Phase of the SPFP/FS in Tanzania.

ANNEX I

Mission's Agenda

THE FAO/EGYPT SOUTH - SOUTH COOPERATION MISSION TO THE UNITED REPUBLIC OF TANZANIA (10 - 23 MAY, 1998)

Sunday 10 May, 1998
9.00 a.m: Arrived in Dar es Salaam
2.00 p.m: First Mission meeting at the New Africa Hotel attended by Team members

Monday 11 May, 1998
8.00a.m: Courtesy Call on FAO Representative
9.00 a.m: Meeting with Mr. S. Muro CALD/Team Leader SPFS and the National Special Programme Team at Ministry of Agriculture headquarters Kilimo II
11.00a.m: Courtesy call on the Permanent Secretary Ministry of Agriculture and Cooperative Kilimo I
12.00a.m: Courtesy Call on Minister for Agriculture and Cooperatives Kilimo I
1.00p.m: Met Ministry of Agriculture and Cooperative Heads of Department and their Assistants at Kilimo I
2.00p.m: Met Officials at the Directorate of Fisheries, Ministry of Natural Resources and Tourism

Tuesday 12 May, 1998

9.00 a.m: Ministry of Agriculture and Cooperative Heads of Department and their Assistants at Kilimo I for further clarification of issues.
10.30a.m: Met Deputy Principal Secretary (Regional Administration) Prime Minister's Office
12.00a.m: Met Chairman Civil Service Reform Commission
2.00p.m: Met Ag. Commissioner for Planning and Marketing Ministry of Agriculture and Cooperatives
3.00p.m: Met Director of Agriculture and Natural Resources in the Planning Commission

Wednesday 13 May, 1998
8.00 a.m: Met UNDP resident representative to Tanzania
10.00 a.m: Met WFP Deputy Representative
11.00 a.m: Met World Bank Representative
1.00 p.m: Met JICA Representative
2.00 p.m: Met Italian Ambassador to Tanzania
3.00 p.m: Met The Netherlands Ambassador to Tanzania

Thursday 14 May, 1998
8.00 p.m: Depart on a Field Visit to Tanga Region
3.00 p.m: Met the Regional Administrative Secretary with His Team

Friday 15 May, 1998
10.00 a.m: Met Director, National Soil Research at Mlingano - Tanga
11.00 a.m: Depart for Kilimanjaro
3.00 p.m: Met Kilimanjaro Agricultural Development Project staff and JICA Experts
4.00 p.m: Visited Lower Moshi Irrigation Project

Saturday 16 May, 1998
9.00 a.m: Depart for Arusha
1.00 p.m: Meeting with Regional Planning Officer and His Team of Advisors to the Regional Administrative Secretary
4.00 p.m: Met with Official at the Centre for Agricultural Mechanization and Rural technology (CAMARTEC)at Tengeru

ANNEX III

SPECIAL PROGRAMME FOR FOOD SECURITY (SPFS)

FRAMEWORK PLAN FOR THE EXPANSION PHASE OF THE SPFS IN TANZANIA

(1999 to 2014)

UNITED REPUBLIC OF TANZANIA

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, September 1998

TABLE OF CONTENTS

FRAMEWORK PLAN FOR THE EXPANSION PHASE OF THE SPFP/FS IN TANZANIA (1999 to 2014)

I. INTRODUCTION

Three years of the Pilot Phase (1995-1998) of the Special Programme on Food Production for Food Security (SPFP/FS), (where consistently participating maize and rice farmers double their yields using locally available know-how and technology) convinced the Ministry of Agriculture and Cooperatives that the experiences and lessons learned should be systematically spread to a significantly larger number of farming families and sites in the country. Farmers and politicians from other regions of the country are said to be demanding that the SPFP/FS be extended to them. The state of Zanzibar has an elaborate proposal to have the SPFP/FS extended to the islands. The Pilot Phase experience has given hope and direction for the country to reverse the chronic food deficit situation into a status of food sufficiency and surplus.

For these reasons, the Government of Tanzania has decided to proceed to the Expansion Phase of the SPFP/FS in accordance with the plan contained in the National Special Programme document of 1995.

This Framework Plan was formulated by the South-South Cooperation (SSC) Mission which visited the country from 10 to 23 May 1998. The Mission was composed of Dr. Tito E. Contado, Mission Leader, FAO; Dr. Ahmed Taher, Representative from Egypt; Eng. Samir Shehata, Representative from Egypt, Mr. A.A. Mbwele, Government of Tanzania; Mr. John Mangodo, Government of Tanzania; Mr. Andy Juruwagulu, Government of Tanzania and Mr. A. N. Mero, Field Programme Manager of the SPFP/FS in Tanzania (Annex 1 & 2, Mission Agenda and People Met).

Based on an analytical review of the agricultural and food security policies of Tanzania and of the experiences of the Pilot Phase of the SPFP/FS during the last three years, the Framework Plan consists of a vision for a food secure country, a strategy for the expansion phase, a general programme of work of Expansion Phase I and a recommended action for the implementation of this framework plan of the Expansion Phase of the SPFP/FS in Tanzania.

II. NATIONAL POLICIES AND PROGRAMMES BEING ADDRESSED BY THE SPFP/FS

Since independence, Tanzania, whose economy is agriculturally based and whose agricultural development potential is considered to be high, has formulated and introduced many policies and programmes aimed at contributing to sustainable agricultural development and food sufficiency and food security for all. Some of these policies and programmes are reviewed below to underscore the fact that the Expansion Phase of the SPFP/FS is not just another idea but that it is a decisive instrument that addresses the concerns of these policies.

The National Land Policy - The overall aim of the National Land Policy is to promote and

ecological balance of the environment. If implemented in SPFP/FS areas, this would help address the land use problems of food crops farmers.

The National Environment Policy - Implementation of the Expansion Phase of the SPFP/FS should be consistent with this Environment Policy whose objectives are as follows:

- to ensure sustainability, security and equitable use of resources for meeting the basic needs of the present and future generations without degrading the environment or risking health or safety;
- to prevent and control degradation of land, water, vegetation, and air which constitute our life support systems;
- to conserve and enhance the natural and man-made heritage, including biological diversity of the unique ecosystems of Tanzania;
- to improve the condition and productivity of degraded areas including rural and urban settlements in order that all Tanzanians may live in safe, healthful, productive and aesthetically pleasing surroundings;
- to raise public awareness and understanding of the essential linkages between environment and development, and to promote individual and community participation in environmental action;
- to promote international cooperation on the environment agenda, and expand our participation and contribution to relevant bilateral, sub-regional, regional, and global organizations and programmes, including implementation of Treaties.

The Agricultural and Livestock Policy - The 1997 National Agricultural and Livestock Policy has been a result of a thorough review of the previous policies dating back to 1983. The macroeconomic environment during the 1980's necessitated a major review of these policies to reflect current direction of economic realities. The main objectives of the National Agricultural and Livestock Policy are promotion of food security for the nation, improvement of nutritional status of the population and national income through increasing the output, quality and availability of food, improving income and standard of living in rural areas and increasing foreign exchange earnings from increased export of crops and livestock products. To a large extent, the SPFP/FS could be considered as one of the major instruments of the GOT to implement this policy and to achieve its objectives.

The Cooperatives Development Policy - The Cooperative Development Policy is one of the instruments of the Ministry of Agriculture and Cooperatives to mobilize the large number of men and women farmers for their individual and collective benefits. Cooperatives, which may consist of several participatory farmers' groups, are a participatory mechanism for agricultural, economic and social development. Hence, the participatory and partnership approaches of the SPFP/FS in Tanzania are concrete action fields of this policy. In fact the PFGs could be positioned as a pre-cooperative and training and practice ground for successful agricultural cooperatives.

The Structural Adjustment Policy of Tanzania has not changed since its implications for the SP were analyzed during the Exploratory Mission in November 1994 (page 3 of the Exploratory Mission Report). The four major thrusts of this structural adjustment which are important to the conception and strategy of the SPFP/FS include:

- withdrawing government from the marketing of agricultural inputs, including fertilizers, agrochemicals and veterinary inputs;
- eliminating the subsidy of fertilizers
- an open trade policy with its eastern and southern neighbouring countries

This structural adjustment policy specifically implies that the SPFP/FS involves partnership with the private sector, including the promotion of the private sector to adequately meet the service needs of the farmers. This also implies that at the local level the PFGs, Savings and Credit Associations as well as local cooperatives should be promoted by the SPFS.

The Tanzania Comprehensive Food Security Programme of 1992 - As an important national policy framework for the SPFP/FS, the Comprehensive Food Security Programme (CFSP) is well presented in the document: *The National Special Programme: Maximum Production with Optimum Inputs* (page 19). The CFSP is an interdisciplinary and multisectoral programme. It is intended to be used as a cohesive and congruous guide or blueprint for government planners and donors alike to ensure that the goals of food security are achieved quickly, efficiently and sustainably. For this reason, the CFSP Technical Advisory Committee (TAC) became the SPFP/FS National Steering Committee and Policy Advisory Council. During the Expansion Phase, such relationship and arrangement with the CFSP should continue and even be strengthened.

III. THE NATIONAL SPECIAL PROGRAMME ON FOOD PRODUCTION FOR FOOD SECURITY: 1995 to 1998 Experience in Perspective

Mandate and Direction

Upon the request to the FAO Director-General of the Minister of Agriculture and Cooperatives in early October 1994, a Joint FAO/GOT Exploration Mission for the Special Programme on Food Production for Food Security was held in November 1994. On the basis of the **Exploratory Mission Report**, two fundamental documents were formulated by Tanzania Officials with the assistance of FAO. The two documents which were approved by both the GOT and FAO include:

- **The Tanzania National Special Programme: Maximum Production with Optimum Inputs**

- **The SPFP/FS Pilot Phase Plan of Operation (a project document)**

The National Special Programme has been conceived and is being implemented within the overall framework of Tanzania National Comprehensive Food Security Programme of 1992 which the Government has adopted as a planning tool and blue print for all food security, food production and food management related initiative/interventions in Tanzania.

As an intervention to stem the chronic food deficit problem, the Special Programme in Tanzania has two documents which were designed to give directives on the implementation of the National Special Programme as a whole and of the Pilot Phase. They were designed to

main focus of the National SPFP/FS has been the participatory approach to farm demonstration and adoption of locally available improved production technologies for rice, maize, diversification and water control and management.

The Set-up

The SPFP/FS is a nationally owned and nationally executed programme with the assistance and support of FAO and other multi-lateral and bilateral partners for sustainable agricultural development and food security in Tanzania.

The Minister of Agriculture and Cooperatives is the highest responsible Government Official of the country's Special Programme on Food Production for Food Security (SPFP/FS). At the national level, the SPFP/FS has a National Policy and Advisory Council (NPAC) and Steering Committee (SC) to provide guidance and policy advice to SP implementation. There is a National Special Programme Team, headed by the Commissioner for Agriculture and Livestock Development - to manage the programme under the guidance of the NPAC and SC.

At the regional and district levels, there are SP Local Teams representing the regional/district officers, research, extension, cooperatives, marketing, input suppliers, NGOs and technical staff of externally funded projects operating in the locality.

An important aspect of the SPFP/FS set-up in Tanzania is the provision by FAO of a well selected, full time and fully paid national specialist designated as the Field Management Officer. He works closely with the National, Regional, and District SP Teams and the National Component Experts/leaders in crop intensification, water control and management, farming diversification and constraints analysis.

The organizational structure of the SPFP/FS Set-up in Tanzania is found in Annex 7 and Annex 8 of the **Pilot Phase Plan of Operation.** Because this Set-up has worked very well for the Pilot Phase, it is recommended for the Expansion Phase, with some modifications to take into account the enlarged scope of the SPFP/FS and the experiences during the Pilot Phase.

Processes and Approaches

An important issue for the Pilot Phase with important implications for the Expansion Phase is the **Processes and Approaches** that led to farmers' successful farm demonstrations and other achievements under this SPFP/FS.

Formulating the NSPFP/FS Document and the Pilot Phase Plan of Action: With the guidance of FAO, particularly of the Exploratory Mission Leader, these two documents were very well prepared by the GOT team, therefore they understood and closely identified with the two fundamental documents. Because it closely followed the guidelines on formulation of SPFS Programmes, the draft documents were readily approved by FAO for implementation. Another important element in this process is that the GOT officials who were assigned to work with the Exploratory Mission were the same people who undertook the formulation job,

Organizing for the implementation of the Pilot Phase: This was facilitated by the clear organizational structure in the Pilot Phase Plan of Action (Project Document), Annex 7 & 8, and the fact that Mr. Muro was designated as the National Coordinator of the SPFP/FS and Mr. Mero was designated as the Field Management Officer. With meetings in Dar es Salaam and in Dodoma and Morogoro regions, the machinery for implementing the Pilot Phase of the SPFP/FS was in place within approximately two months.

Ideological Training to achieve ownership and commitment. A series of training and seminars at the National, Regional and pilot site levels were conducted to create a common understanding of the SPFP/FS, and achieve a sense of ownership and commitment at all levels. Many questions of clarification and criticisms (such as why another food security programme when there is the CFSP? why another pilot project? Why farm demonstrations when this has been done before? What is new of the SPFS? What is the level of funding?, etc.) were discussed and answered.

Participatory Planning of the activities at the site level. Vertical and horizontal participatory planning of the SPFP activities were conducted at the regional and pilot site levels. During the vertical participatory planning, the participants include local government officials, technical people in research, extension, irrigation, etc. and representatives of the private and NGO sector for marketing, input supply, credit and farmers representatives. At the pilot site level, the participants of the horizontal participatory problem identification and activity planning are the members of the PFGs with the extension agent as the facilitator.

Training and workshops at the Pilot sites. This included training of farmer on the functions, formation and management of the PFGs, studying the common problems of increasing food production, selecting appropriate and available know-how and technologies to increase maize and rice production, etc., training on how to put up and learn from farm demonstrations and how to manage the farm to make money.

Formation of the Participatory Farmers' Groups (PFGs). A Guide on Participatory Group Formation is found as Annex 9 of the **Pilot Phase Plan of Action**. Following four principles and four steps in group formation, some 72 PFGs were formed and registered with the Ministry of Home Affairs. There were around 1,026 active members of which 688 were men and 338 women. The functions of the PFGs were participatory problem identification, planning, group learning, participatory action in farm demonstrations, group savings and credit and group resolution of input supply and marketing issues.

Farm Demonstrations: The processes that led to the farm demonstrations included: a) formation of the participatory farmers' groups (PFGs) and b) PFG conduct of training meetings:

- to discuss the problems of increasing maize or rice production
- discussing with the extension agents and subject matter specialists (researchers) of available technical solution to the farming problems,
- deciding on an integrated package of practices and technologies for demonstration, (prepared by the extension in the form of a checklist)
- studying how to conduct farm demonstrations (starting in 1997 using the farm demonstration protocol produced by FAO)

Bahi, Dodoma were 5.04 tons/ha compared to the benchmark yield of 2.19 tons/ha and 5.57 tons/ha from 2.59 tons/ha in Kilombero, Morogoro. Detailed information on production improvements may be found in the annual reports of the Pilot Phase.

About 86 percent of maize farm demonstrators and 100 percent of rice farm demonstrators repeated/adopted what had been demonstrated in the previous year. Based on the results of the farm demonstrations, the calculated economic return to farmers is reasonable when maize is sold at harvest time but this return is practically doubled when maize or rice are sold a few months after harvest, when the price is much higher.

3. Diversification

The main objective of the diversification component within the framework of the SPFS in Tanzania is to improve the incomes of small scale farmers and women through increased production and sale of meat, milk, eggs and skins. Also paramount to this, is to improve their health through increased intake of animal protein.

Chicken and goat raising improvement demonstrations involved 115 participating farmers and 27 village level extension workers of which 16,497 chickens were vaccinated against the prevalent Newcastle disease; 60 goats of improved breed were distributed for demonstration on improved management and about 146 improved poultry and goals houses are being demonstrated. Furthermore, aquaculture at the Mkindo wet rice culture farms is being introduced where 16 extension staff have been trained and 46 or more participatory group members have been given training on fish farming.

With active participation of the participatory farmer group members, all these interventions have resulted in increased survival rates of the local chicken and increased meat and egg production. Both the participatory group members and non-participatory group members have perceived the interventions as profitable and are willing to contribute money for the purchase of vaccines and drugs for treating their animals.

4. Water Control and Management

Some 80 percent of the country receives less than 1000 mm of seasonal but unreliable rainfall which is the main threat to food security and self sufficiency. However, Tanzania has an irrigation potential of 851,310 ha out of which between 150,000 - 200,000 ha are presently being exploited for the production of both cash crops, such as tea, coffee, sugar cane and food crops, such as rice and vegetables.

The under-utilization of the available irrigation potential could be attributed to various constraints such as inadequate leveling, poor drainage and lack of funds to open more land under irrigation.

During the pilot phase, the SPFS covered Bahi and Chipanga Water harvesting project area, Mkindo Wet Rice Project and Kilombero district which produces rice under rainfed rice production ecosystem. Limiting factors to increased rice production such as floods, poor drainage and water logging were identified and also several technological packages for rice production have been demonstrated with promising yield results.

5. Constraints Analysis

In late 1997 and early 1998, the SPFP/FS hired Mr. J.T.J. Mngodo as the national constraint analysis consultant. His draft report dated April 1998 represents an important outcome of the Pilot Phase with useful information and implications for the Expansion Phase.

Ten constraints, with policy and technical implications, have been identified during the Pilot Phase and are as follows:

(a) Lack of Production Credit - Participatory farmers in the Special Programme areas are faced with the problem of lack of adequate resources for purchase of agricultural inputs. Similarly marketing of produce is hampered by lack of working capital.

The SPFS in collaboration with the farmers have partly tackled this problem by initiating and establishing participatory groups which number about 72 with a total membership of 1,026 (688 men and 338 women). The Gross savings have exceeded the Tsh. 2,000,000 mark which the PFG/SCA members have deposited in their Bank accounts. The process of improving savings is still continuing. Through group guarantees, members have been able to obtain their production inputs which have led to significant increases in maize and rice yields. For the expansion phase, this modality should be used but should be boosted by a more adequate rural credit policy and system.

(b) Inputs Supplying inefficient - Although in some Special Programme areas there are some input suppliers, most of their business is not meeting effectively the demand for different production inputs of small scale farmers. Lack of working capital limits the stockists from providing effective and efficient service. Lack of quality control on inputs has also been observed. These problems can also be associated with poor handling, storage and management of inputs in the whole distribution network.

(c) Post Harvest Loss - Post harvest losses in Tanzania are said to be in the region of up to 35 per cent. Attempts have been made in the Programme areas to address this problem through training of the farmers and the extension staff and linkage between the producers and stockist for provision of inputs. However, most chemicals applied by farmers to control storage pests have not been as effective as anticipated. The availability of reliable source of genuine chemicals is an important constraint. The Ministry of Agriculture and Cooperative was the only major source for most of the food storage chemicals such as the widely used Actellic super dust. Since the liberalization of importation of various agricultural chemicals, including food storage chemicals, an effective mechanism for monitoring the types and quality of the storage chemicals which are dangerous to human health has not been established.

Similarly, lack of improved storage facilities at the household level is another factor that contributes significantly towards post harvest losses while farmers waiting for producer prices to improve. There is need to determine the most appropriate storage methodology at household level.

(d) Inefficient Market Channels and Low Producer Prices - The Government of Tanzania has liberalized food crop marketing with two major objectives, (i) to improve food grain marketing efficiency (ii) to ensure that producers of maize and rice get fair prices as

Partnership in Funding and Implementation of the Expansion Phase

The targets and objectives of the Expansion Phase of the SPFP/FS cannot be addressed adequately and forcefully by one single party - not even by the Ministry of Agriculture and Cooperatives alone. Given the large coverage of the Expansion Phase, the diverse situation and needs of different categories of farmers, the new structure of the national economy and the large resources required to implement fully the Expansion Phase of the SPFP/FS, the partnership element of the strategy is essential. The case in point is the partnership between the public, private and NGO sectors. Partnership among developing countries in the form of South-South Cooperation (SSC) and Technical Cooperation among Developing Countries (TCDC) are part of this strategic element. Furthermore, within the public sector, partnership between the local and national governments in funding and implementation of the Expansion Phase of the SPFP/FS is highly desirable.

An example of public-private cooperation would be in the creation or expansion of regional agricultural marketing centres or joint ventures and private agribusiness undertaking seed and other input production and distribution. Provision by NGOs of a system of micro-credit to SPFP farmers is another example.

The SSC is the partnership among the host country, the cooperating country and the sponsoring international agency. As an illustration, an SSC is being arranged for the SPFS in Tanzania (the host country), where as many as four experts and 100 field technicians would be provided by Egypt (the cooperating country) under the sponsorship of FAO. This partnership on technical assistance for three years amounts to around US$ 3,826,000 contributed as follows: Egypt ($ 1,869,600), FAO ($ 1,086,400) and Tanzania ($ 870,000).

TCDC is a technical assistance programme between a developing country receiving technical assistance (TARC) and a developing country giving technical assistance (TAGC) sponsored by an international or bilateral organization. Under the FAO sponsored TCDC, the TAGC provides the salary of its expert(s) while the TARC provides the living costs of the expert(s) and FAO provides the round trip ticket and TCDC daily allowance.

An illustration of central government and local government partnership in agricultural extension is in China, where the cost of the agricultural extension service is shared between the national, provincial and country on a 20%, 30% and 50% sharing formula.

Maximizing Utilization and Management of Existing Local, National and Externally Provided Resources for Food and Agricultural Production

To reach the targets and achieve the objectives of the Expansion Phase of the SPFP/FS, a large amount of resources is required. However, based on the experience of the Pilot Phase, there is an ideal and a practical approach to handling the resource needs of the SPFP/FS. The practical approach is to start with what is available locally, nationally and on existing relevant externally funded projects. The SSC Mission in May 1998 found that there are about 53 externally funded projects in Tanzania (including the NAEP II) and about 38 of these cover one or more of the 8 regions selected for Phase I. (See attached Annex 3: Major

Hence, while working for larger investment resources, particularly for infra-structure investments and private investments in agri-business, an important element of this strategy is to recognize that there are significant existing resources for the food sector which could be reoriented, supplemented and brought into the mainstream programme of the country on food production and income generation for food security for all. Focused on the objective of the Expansion Phase of the SPFP/FS, existing project resources in the sector could even improve their respective impact. For example, the effectiveness and impact of the WB funded irrigation project could be significantly improved by focusing an aspect of the Agricultural Extension Project II to irrigated rice zones using the farmers field schools to teach farmers on farm water management, IPM and integrated plant nutrients management. During the Pilot Phase, the IFAD funded water harvesting project became more useful when it was supplemented by the SPFP/FS.

Matching or supplementing existing resources with new or additional external resources is made logically possible under this element of the strategy. For example, without recognizing and utilizing existing resources of around US$ 0.87 million, it would not be possible to bring in SSC resources of about US$ 1.9 million from Egypt, the Cooperating Country and US$ 1.1 from FAO.

Given this important element of the four-prong strategy, the Expansion Phase of the SPFP/FS in Tanzania could start immediately at the end of the Pilot Phase in December 1998.

V. PROGRAMME OF WORK OF EXPANSION PHASE I

Objectives

The main objective of Phase I is to generate steady and sustainable food and agriculture production growth to food sufficiency and surplus levels in the regions covered without compromising the sustainability of the natural environment.

Scope and Targets of the Phase I Programme

Phase I shall be for **five years** and would cover the following **eight regions:** Dodoma, Iringa, Mbeya, Morogoro, Mtwara, Rukwa, Rurvuma and Tanga. The state of Zanzibar shall also be covered during Phase I.

The Targets: During Phase I, the target is to increase the productivity of farming in the eight regions to the level achieved during the Pilot Phase. For maize, the target is to raise the national average from 0.6-1.5 tons/ha to 1.2-3.0 tons/ha. For rice, the target is to raise the national average from 1.5-2.5 tons/ha to no lower than 3.0-4.5 tons/ha in SPFP covered areas. For other commodities grown under the diversification component of the SP, the target is to at least double production during the five-year Phase I period.

Increasing the productivity of farming during Phase I would be targeted to 1.6 million farm families (44% of the farm families of the country) in 37 districts (31% of all districts in the country) of the eight regions under Expansion Phase I.

- The **Intensification Component** would include the production of maize, rice and where suitable millet and sorghum. The target is to cover as much as 40% of the 15.5 million hectares of suitable land for these crops.

- The **Water Control and Management Component** would put emphasis on small scale systems or the command area of large irrigation projects and on farm water management principally for rice and vegetables. Supplementary irrigation using tube wells, foot pumps, etc. would be promoted wherever appropriate. The target is to cover as much as 40% of the 350,000 hectares of irrigable land for rice.

- The **Diversification Component** would differ in different locations in the 8 regions and Zanzibar but would generally include small farm animal production, i.e. chicken, rabbit, goats and sheep, small scale dairying, aquaculture wherever suitable, vegetable and fruit production, honey production and local food processing.

- The **Constraint Analysis Component** would use the information/data which would be systematically collected and assessed through the Monitoring and Evaluation System (MES) of the SPFP/FS. Each Region and Zanzibar shall have a functional MES.

- In addition to the above, the scope of the work will also entail promotion and strengthening of **support services** in all the 37 districts of the eight regions. Specifically, this would include savings and credit services, input supply service, district and regional marketing services, as well as transport and processing services.

Strategic Approaches

To implement the Expansion Phase, **six strategic approaches** have to be followed:

1. **The Region as the Operational unit** of the national SPFP/FS Expansion Phase implementation. It is sufficiently large to allow economy of scale in operational terms and small enough to reduce bureaucratic red tape and close enough to the farming population. Operationally and politically, this is a strategic way of decentralizing the activities of the SPFP/FS.

2. **Participatory Planning and Preparation** of the SPFP/FS activities at the locality, district and regional levels of farmers and stakeholders to develop the sense of identification with the SP, ownership and commitment and to achieve relevance.

3. **Participatory Implementation** of the SPFP/FS activities to open opportunities to exercise responsibilities and gain benefits from being an active participant in the SP processes and the implementation of intensification, diversification and water control and management. Participatory implementation is not limited to being involved in SP activities but also in financing and investing on SP projects and activities.

4. **Two-step Process of Technology Transfer** - technologies requiring external inputs would have to be demonstrated first before large scale adoption. This is also known as a radiation effect strategy where successful and profitable demonstrations radiate or spread

inputs or technology in the locality in the right quality, quantity and time. Furthermore, the economy should provide at least a fair incentive (favorable prices, convenient market, etc.) and the facilitating means to adopt the new technology (i.e. credit, transport). It should be the responsibility of the SP management to stimulate the formulation of policies and the creation of conditions for the second step to successfully happen.

5. **Partnership in the implementation of SPFP/FS activities** - With the Ministry of Agriculture and Cooperatives at the centre, implementation of the SPFP/FS will have to be carried out in a web of partnerships: a) central and local governments, b) public and private sectors, c) bilateral and multi-lateral donors, d) national and foreign private investment firms. Interested bilateral partners for the Expansion Phase of the SP are: Egypt, Italy, Japan and the Netherlands. Interested multi-lateral partners include FAO, the World Bank, IFAD, UNDP and World Food Programme. Private business firms interested in joint ventures are from Italy and Egypt.

6. **Strengthen public and private support services in all 8 regions** - This would entail realistic policies on support services, incentives to the private sector to actively provide services and arrangements for joint ventures.

7. **Contests and Awards** - to enliven the participants and stakeholders of the SPFP/FS and "publicize" outstanding achievements of the SP in Tanzania, contexts and awards schemes must be promoted. There should be contests between villages within districts as well as contests of districts within regions. There should also be a contest and awards programme between participating regions. Awarding of winners could be made every 16 October to coincide with the World Food Day Celebration. In some sites, WFD Field Days could be organized where exhibits, products and skills contests could be held and awards given at the end.

Major Activities

To implement and achieve the objectives, targets and programme goals of the Expansion Phase I of the SPFP/FS of Tanzania, the following major activities would have to be acted on efficiently:

1. **Forming the National SPFS Council, regional and district SP Teams and appointing the: a) National Coordinator or Director, b) Regional Managers, component leaders and staff_and c) FAO funded Senior Field Management Officer.** This could be undertaken no later than December 1998.

2. **Five-year and Annual Programme Planning.** This should include **Projects Revisions/reorientation** for existing projects within the framework of the Expansion Phase I of the SPFP/FS, such as the NAEP II; and **Project Formulation** for new projects for the Expansion Phase I and Expansion Phase II. Under this major activity, the draft **Project Profiles** for the Expansion Phase, drafted towards the end of the Pilot Phase should be formulated into full pledged Project Proposals.

This activity should start as early as September 1998, particularly : a) the five-year planning, b) first year annual programme planning, and c) reformulation or revision of

project proposals from the draft Project Profiles. It is also under this activity that planning for the assignment of SSC technicians and experts should be undertaken.

3. **Organizing for action in each region and SP sites.** Based on the Pilot Phase experience, this activity would consist of sensitization seminars at the regional and district level, appointment of SP teams members and technical staff, selection of SP action sites, organizing local planning committees (including representatives of service agencies, private traders, NGOs), training of staff who will be involved in the implementation of the Expansion Phase, enlisting participants and participatory farmers group (PFGs) formation, and in some sites formation of farmers field schools (FFS). It is under this activity that designing and organizing the Monitoring and Evaluation System at the regional and national levels are undertaken.

4. **Implementation of the action programme of Expansion Phase I.** Based on the five-year plan and the annual programme of work, implement the participatory action plan of **intensification, water management and control, diversification and constraints analysis.** Implementation of the planned intensification, diversification and water control and management components should lead to achieving the food production goals of the SPFP/FS Phase I. Under this major activity the Strategic Approaches above are followed. For example the South-South Cooperation with Egypt and reorientation of NAEP II would be implemented under the Partnership and Consolidation/Maximization strategic approaches. Furthermore, monitoring, evaluation, constraints analysis, feeding of information to policy and management and planning for the forthcoming year and Phase II are part of this major activity.

5. **Annual Assessment Reviews and Programme of Work Planning.** It is necessary that the Expansion Phase I operation be reviewed annually. Partly on the basis of the review results, the annual programme of work for the succeeding year has to be planned.

Structure and Modalities of Operation

The implementation structure of the Pilot Phase (shown in Annex 7 & 8 of the Pilot Phase Plan of Action) would be a good model for the Expansion Phase with relevant modifications to take into account the Pilot Phase experience, difference in the objectives and scope of the Expansion Phase.

Hence, the basic structure of the Expansion Phase should include the following:

- The Minister of Agriculture - the highest responsible Official of the Government of Tanzania for the SPFP/FS
- The Multi-sectoral Policy Coordinating Council and Steering Committee
- The National Director of the SPFP/FS - the Permanent Secretary of the Ministry of Agriculture and Cooperative with one assistant, preferably the Agriculture Commissioner
- The National SP Team working under the National Director of the SPFP/FS. The FAO paid Senior Field Management Officer works with this team at the national level
- Nine Regional SP Teams (one for each participating Region, including Zanzibar)
- District SP Teams (one for each participating District of the Regions and Zanzibar)

It should be noted that as in the Pilot Phase, there is appropriate provision for the participation of the local government, relevant agencies, private sector, externally funded projects, NGOs, FAO and other international partners in the SP teams and working committees.

An important aspect of the modalities of operation in the Expansion Phase is the concept of the Region as the operational unit of the National Special Programme. Hence the role of the national structure and functionaries are policy support, resource mobilization support and interregional coordination.

Resource Support

The resource requirements of the Expansion Phase are substantial. Hence, there are two strategic approaches to meet the resource requirements of the Expansion Phase. One is Partnership and the other is Consolidating and Maximizing the effectiveness in the use of existing local, national and externally funded resources for food and agriculture.

Under the Partnership strategy, the source of support would be with: a) the central government, b) local government and c) partner NGOs, private firms, bilateral and multi-lateral sources.

The central and local governments would have to increase or reallocate higher budget to the SPFP/FS in order for its partners to be attracted to contribute or invest into the resource requirements of the SPFP/FS. An example of this during the Pilot Phase was the partnership between Tanzania and FAO, Tanzania, Indonesia and FAO through TCDC experts programme, and with the NGO/Private sector with New Holland project on farm power. For the Expansion Phase I, an appropriate example is the partnership between Tanzania, Egypt and FAO through the South-South Cooperation scheme for the SPFS. Other forms of partnership would be on new bilateral technical assistance projects as well as joint ventures with the private sector particularly in marketing (including storage and transportation) and agro-business areas.

Under Consolidation and Maximizing effectiveness of existing resources for food and agriculture, a good example during the Pilot Phase was the IFAD water harvesting project where efficiency of the irrigation system was increased and farmers production and income also increased when it became part of the SPFS Pilot Phase in Dodoma.

For the Expansion Phase I, there are as many as 38 big and small externally funded projects within the food and agriculture sector which the Ministry of Agriculture and Cooperative and the donors could reorient to increase their effectiveness and impact on food and agriculture for food security in the regions where these are operating. For example, there are two large projects with World Bank funding; i.e. the River Basin Management and Smallholder Irrigation Improvement Programme in Mbeya, Iringa, Morogoro and Tanga regions and the National Agricultural Extension Project Phase II.

Given the experience in the Pilot Phase of the SPFP/FS, the effectiveness of both