Cassava Integrated Project for Food Security and Poverty Alleviation in the OIC Member States of Sub-Saharan Africa

Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRTCIC)

Organization of the Islamic Conference

Project Proposal

Project Title:	**Cassava Integrated Project for Food Security & Poverty Alleviation in the OIC Member States of sub-Saharan Africa**		
Primary Objective:	Enhancing Food Security and Income Potential of Small/Medium Scale Farmers.		
Beneficiaries:	Small/Medium Farmers in the OIC Member States in Sub-Saharan Africa.		
Budget Estimate:	**US$95,000**		
Starting Date:	***January 2008***	**Duration:**	**14 Months**

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A. Background and Justification

Sub-Saharan Africa is the only region in the world where food security and poverty situation have been worsening through time. Most of the economies are primarily based on agriculture. Yet, the food production in the region has failed to keep pace with the population growth rates over the past three decades. According to the estimates of the International Fund for Agricultural Development (IFAD), 80% of the food insecure population in Africa lives in the rural areas and more than 90% of them are involved in agricultural activities in marginal lands.

Therefore, addressing the problems of the rural population and agricultural productivity in Sub-Saharan Africa should be the primary concern of any initiative for poverty alleviating programme in the region since improvements in agricultural productivity lead directly to increases in food production and improved nutrition for the poor.

In a recent report, "Food Security and Poverty Alleviation Initiative in the OIC Member States of sub-Saharan Africa: A Preamble to Cassava Integrated Project", of SESRTCIC in July 2007, background to an initiative for a food security project and alleviating poverty has been provided. The initiative aims at increasing the productivity of Cassava and the potential of Cassava post-harvest processing in some OIC member countries in Sub-Saharan Africa and that could be used as a model in other member countries in the region. It is in this context that a Cassava Integrated Pilot Project has been proposed here.

B. Project Description

Scope and Size of the Pilot Project

It is proposed that project should cover a maximum of 200 hectares of cultivable land with 100 to 150 farmers. The selection of the project site and its justification has been provided in the report. It has been suggested that the project can be implemented in its initial phase in one of the following member states:

Senegal, Guinea , Guinea-Bissau, Burkina Fasso and Gambia (West Africa);

Sudan (East Africa);

Mozambique (South Africa).

Main Components of the Project

There are three important dimensions of the proposed project:

- The project will support assistance in procuring the new high yielding cassava cultivators, after consultation with International Institute of Tropical Agriculture (IITA), for the project farmers. In several countries of the region, the use of new high yielding cassava cultivators have resulted in significant improvement in per hectare yield of cassava.
- The project will also assist farmers in post-harvesting processing of the cassava roots. It is being proposed to supply portable mechanized graters to the project farmers. After the successful implementation of the pilot project/projects, a more comprehensive set of processing equipment can be supplied to a group of farmers.
- Setting up of Farmer Field Schools is also proposed. The services of professional agronomists, having experience with cassava cultivation and post-harvest processing, will be engaged. A time schedule of interactions of project farmers and teachers will be prepared. Farmers are expected to learn more effective cultural practices of cassava cultivation to ensure significant gains in per hectare yield of the crop. They will also be trained to improve post harvest processing with the help of mechanized graters. This will assist farmers in producing better quality cassava products with higher efficiency. This, in turn, will increase the shelf life of cassava to ensure food security and will also provide opportunity to earn income.

C. Expected Accomplishments and Indicators of Achievements

Expected Accomplishments	Indicators of Achievement
Improvement of the food security of the small/medium scale farmers in the member states of sub-Saharan Africa.	An average improvement in the yield of Cassava from 5 Mt/Hectare to a minimum of 20 Mt/Hectare.
Increasing the potential of income from the cassava post-harvest products.	Increasing the overall efficiency of post-harvest processing and an increase in net margin of profits by 50%.
Dissemination of information and technology to the farmers.	Better employment of cultural practices and application of improved technology. .

The project aims to assist farmers in enhancing the cassava yield by using improved cassava cultivators and also, to increase their efficiency in processing cassava roots by shifting from manual grating to mechanized grating. With a minimum 20 Metric ton of cassava roots per hectare achievable with high yielding variety, farmers can extract around 5 Metric tons of "gari" from it. With mechanized grating it is expected that they can attain net profit margins of $46 per ton compared to $2.5 per ton with local varieties and manual grating (see Nweke 2003). This would mean a net gain of $43.5 per ton and $217 per hectare. Assuming that the project will cover an area of 200 hectares, it would mean a total net benefit of $43,400 at the end of the first year of project. The project area will also be able to provide cassava cultivators, with a multiple of ten, for the next season. That is after the first year of the project, cultivators for 2000 hectares of land for the next season will be available. These cultivators can be distributed to the new project sites and/or other villages around the project area. In order to secure the benefits of these additional cultivators at the end of the first year of project, arrangements for their collection and distribution to other villages must be made. Furthermore, the post-harvest equipment will be available for the future crops.

D. Activities

1. Conducting a pre-project survey of the proposed project sites.

This activity will involve collecting benchmark agriculture data from the potential proposed project sites. The survey will document the number of small/medium farmers in the project villages who may get the assistance from the project. Data on farm activities, farm land and overall poverty situation will also be collected. The survey should be conducted in several villages and, after an initial processing of benchmark data, decision on the final site/sites of the pilot project will be taken. It is important that farmers of the project area should be taken into confidence about the details of the project. For the successful implementation of the project, active and responsible conduct of the farmers has to be insured. This can be achieved through formation of an association/co-operative of project farmers.

2. Procurement of Cassava Cultivators.

This is the core activity of the project in which high yielding varieties of cassava will be provided to the project farmers. IITA has developed high yielding varieties of Cassava. It is being recommended that through consultation with the agency type of cultivators suitable for the project farms should be procured from IITA and arrangements for its transportation to the project area should be made.

3. Establishing the Farmer Field Schools in the Project Areas.

A team of professional agronomists, with experience of cassava cultivation and its post harvest operations, will be hired. The team will visit the farmers of the project area and prepare a time-table for the interactions with the farmers. Farmers will learn the modern cultural practices related to the cultivation of cassava and its post-harvest processing.

4: Support for the post-harvest equipment.

The project will support the farmers in the procurement of portable cassava graters. These graters together with high yielding cassava varieties can improve the income potential of the project farmers significantly. Other equipment support can also be included upon the recommendation of the farmers and the extension service.

5. Evaluation of the projects outcomes

A survey will be conducted to evaluate the impact of the project. Data on actual area under cultivation and production will be collected from the project farmers, after the implementation of the project. The results of this survey will help in assessing the impact of the project on the concerned population and will assist in further generalizing of the project to other locations.

E. Budget & Time Line[1]

The budget presented in this section relates to the activities mentioned above. For activities 1, 3 and 5, the primary cost would be travel and honorarium to the team members and staff. For activity 2 and 4, cultivators and equipment are going to be procured from IITA or other relevant organizations in the region. These will also involve the shipment cost of the material and equipment to the project site/sites.

Activity 1: Timeline: t0 to t3 months; Conducting a pre-project survey.

Estimated Budget: 10,000 US$.

Activity 2: Procurement of Cassava Cultivators. The estimated cost of cultivators for one hectare is around $50. It is expected that one project will cover 200 hectares of land.

Estimated Budget: 10,000 US$.

Activity 3: Timeline t03+12 months.

This will involve one senior agronomist with two assistants for the formation of Farmer Field Schools. It is recommended that a contract for ten visits to the project areas is agreed upon with the team. The team is expected to offer the training program for not only the farmers involved in the project but also the others in the same area. Expected honorarium and travel cost is around $1500/visit.

Estimated Budget: 15,000US$.

Activity 4: Procurement of post harvest equipment.

The cost of cassava graters varies between $400 to $800 (See Appendix for more details). Anticipated number of farm households is around 100[1]. (See Appendix for more details).

Estimated Budget: 50,000 US$.

Activity 5: Timeline t10+14 months

Conducting a survey to evaluate the performance and achievements of the project.

Estimated Budget: 10,000 US$.

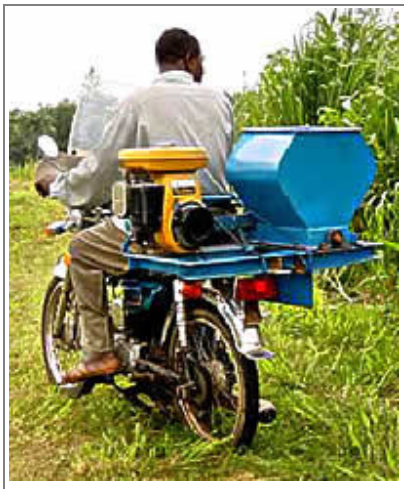
Total estimated budget of US$ 95,000.

[1] This cost can be reduced if the graters can be shared by the farmers. How many farmers can share one grater would depend on the capacity of the grater.

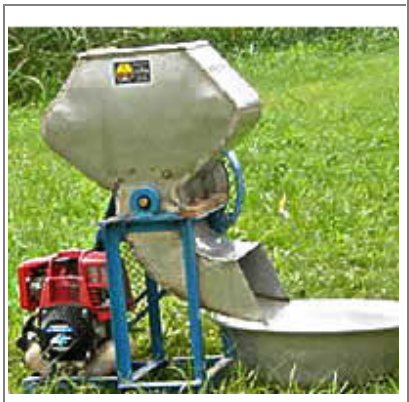
Appendix

Mechanized Graters

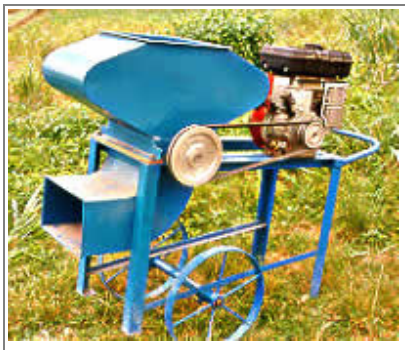
Portable Grater

Power Drive	3.0 to 5.0 hp engine (petrol or diesel)	
Capacity	Up to 1.0 t/hr	
Fuel Consumption	1 liter/hr	
Advantages	Simple design, easy to manage and portable. Increased Cassava/rasper contact. Fineness of grating adjustable to suit requirements. Uniform pulp size.	
Price/Model	US$800	

IITA Mini-Grater

Power Drive	1.0 to 1.5 hp petrol engine	
Capacity	Up to 250 kg/hr Cassava	
Fuel Consumption	0.25 liter/hr	
Advantages	Simple design, easy to manage and portable. Increased cassava/rasper contact. Fineness of grating adjustable to suit requirements. Uniform pulp size.	
Model/Price	US$450	

IITA MK1 Powered Grater

Output	Grating: up to 1.0 t/hr	
Power drive	3.5 hp petrol engine	
Fuel Consumption	1.2 liter/hr	
Advantage	Oval-shaped hopper reduces spillage, and increases cassava/rasper contact. High capacity, minimum power requirement. Uniform size of pulp. Fineness of grating adjustable to suit requirements. Easy collection of grated pulp. Lightweight for mobility.	
Model/Price	US$450–650	

IITA MK2 Powered Grater

Output	1 t/hr	
Power drive	3.5 hp petrol engine	
Fuel Consumption	1.2 liter/hr	
Advantage	New design of feeding tray to increase capacity. By lowering the engine, the noise level is lower for the operator. The hinges of the feeding tray allow easy and quick access for inspection and cleaning. The additional buffer storage at the left can store clean tubers.	
Disadvantage	The optimum shape of the feeding tray is difficult to copy, the distribution of particles is wide as the grating duration is very short.	
Model/Price	(US$400) petrol engine and (US$250) for steel work	

Contact	IITA, Ibadan, PMB 5320, Oyo road, Ibadan, Nigeria
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