LAKE CHAD RESEARCH INSTITUTE
MAIDUGURI

Project W

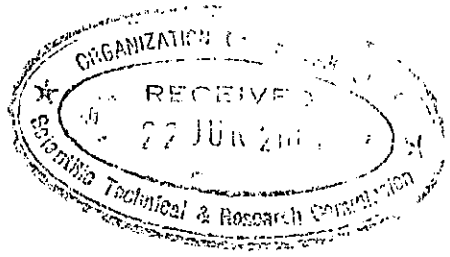
FEDERAL MINISTRY OF AGRICULTURE

All correspondence to the Director.
P. M. B. 1293
TELEPHONE: (076) 231188.
TELEGRAMS: LACRI
TELEX:.....

CROPS. ..... DIVISION

REF. NO: LCRI/R.34/III/

DATE: 20th June, 2001



The SAFGRAD Liaison Unit,
C/O The Executive Secretary,
Organization of African Unity,
Scientific, Technical and Research Commission,
P. M. B. 2359,
Lagos.

SUBMISSION OF PROJECTS PROPOSALS

I am directed to write and forward to you the enclosed copies of two proposals on Pearl Millet Production for Small Scale Food Processors and Guna Melon Production and Processing for your consideration for funding.

I look forward to your favourable considerations.

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Yours Sincerely,

3998

M. U. OMEJE
Asst. Chief Res. Officer.
for: Director.

Mr Igbokwe
File + Bill plse

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OME/fc 4/06/2001

1. BACK GROUND

1.1 TITLE OF PROPOSAL: GUNA MELON PRODUCTION AND PROCESSING.

1.2 BACKGROUND INFORMATION

The Lake Chad Research Institute (LCRI) was established by the Research Institute's Establishment Act) Order 1975.

The Institute has the national mandate for the genetic improvement of Wheat, Millet and Barley and investigation on the problems of production of all agricultural food crops grown in the broad ecological zone of North East Nigeria with emphases in the farming systems.

I. NAME: LAKE CHAD RESEARCH INSTITUTE

II. LOCATION: GAMBORU ROAD

III. ADDRESS: P. M. B. 1293, MAIDUGURI

IV. CURRENT OCCUPATION: RESEARCH

ORGANIZATION SUBMITTING PROPOSAL:

LAKE CHAD RESEARCH INSTITUTE, MAIDUGURI.

Project Goals And Objectives

The productivity of guna melon is lowered by high cost of labour during harvesting, puncturing the fruits to make for early decay of the pulp, extracting the seed from the pulp and dehusking. The labour demand during the harvesting and these processes of primary processing deters many farmers from cultivating the crop and those who engage in the production limit their areas to what their family labour can cope with. The result is that producers hardly meet the demand of the oil mills located at Nguru, Kano and the southern part of the country.

The project is designed to increase the production to meet the demand of the oil mills and reduce the drudgery in the primary processing of guna melon which discourages most farmers from embracing guna production business.

Justification

The guna crop fits well into the cereal based cropping system of North East Nigeria and does not detract from the yield of the cereals. It extends the growing season far beyond the cereal harvest as it is planted towards the end of the rains (Sept.) and harvested in February. To a greater degree than the cowpeas, guna crop can survive under residual moisture for many months continuing to grow and fruit virtually up to the arrival of the next rainy season. Throughout this period it provides effective soil cover and hence a degree of protection against wind erosion which is prevalent in the semi arid ecology/zone where the crop thrives.

Although the main commercial product from guna is a high quality cooking oil, every part of the plant (vines and leaves) and the by product of oil extraction (guna cake) have value as food for humans and animals. Nothing is wasted in guna.

One of the major attractions of guna represents an intensification of the cropping systems resulting in greater output per year and per unit area. Besides, guna melon is produced off season when there is little or no other farm work making it possible for the farmers to be busy for a greater part of the year, that is, extending the farming cycle with the attendant added income.

Although the high labour demand in guna production comes at a slack period, it is desirable to reduce the labour requirement by introducing mechanical devices to aid in puncturing the fruit, extracting the seed from the pulp (depulping) and dehusking.

Reduction in drudgery involved in primary processing of guna will no doubt attract many more farmers into guna production business which will generate more income and improve the livelihood of the poor farmers.

Project Components

Many farmers do not embrace guna melon production business inspite of the fact that demand by the oil mills is high and the cultivation coincides with the slack period of the farming cycle.

The first phase of the project will be the creation of an awareness among the farmers of the benefits derivable from the guna production business, while the second phase will be intensification of guna production, design and fabrication of prototype machines for the primary processing (puncturing the fruit, depulping and dehusking) which will lead to drastic reduction in labour requirement in guna production.

Creation of Guna Production Awareness

Lake Chad Research Institute in collaboration with the Borno State Agricultural Development Programme (BOSADP) will establish Management Training Plots (MTPs) in ten village within Jere, Konduga and Metropolitan Local Councils. The village extension agents of the BOSADP will form the link between the Institute and the farmers in the villages.

These Management Training Plots will serve as demonstration plots where all the agronomic practices and benefits derivable from guna production will be taught. This will be achieved by organizing Farmers' Field Days at the MTPs in all the villages.

The second phase of the project will entail guna seed production, design, fabrication and production of machines/devices for primary processing of guna melon.

Guna Seed production will be embarked upon by Lake Chad Research Institute in partnership with the fifty-member Guna Co-operative Association based in Maiduguri.

The production target is 100 metric tonnes of guna seeds using the fifty farmers in the Guna Co-operative Association as out-growers. Each member will be provided with inputs to cultivate four hectares of guna melon which on an average of 500kg/ha will give two metric tonnes of guna seed per farmer.

Successful implementation of this project will bring down the shortfall in supply to the oil mills at Nguru, Kano and the southern part of the country which are currently operating below the installed capacities owing to lack of raw materials.

Puncturing the fruits, removal of seeds from the pulp and husk are very tedious operations in guna production that deter many farmers from the business. Machines/devices which will facilitate these operations will be designed, fabricated and produced. Removal of this constraint in primary processing of guna will lead to a great boost in guna melon production and extra income to the farmers.

WORK PLAN FOR THE YEAR 2001

S/NO	ACTIVITIES	CALENDAR	EXPECTED OUTPUT
1.	Establishing link Between the Institute and ADP	May	M.O.U signed by the institute and ADP.
2.	Selection of 10 villages for M.T.P	June - July	M.T.P in 10 villages selected.
3.	Planting of guna in the 10 villages.	Last week of August to first week of September	M.T.P Established in 10 villages.
4.	Organization of farmer's field day.	December	Farmers show guna fruits and uses explained.
5.	Harvesting of M.T.P	January - February	Guna fruits harvested.

FUNDING AND BUDGET ESTIMATE FOR THE YEAR 2001

S/NO	ACTIVITIES	RESPONSIBILITY	EXPECTED OUT PUT	BUDGET	
				NARI's (LCRI)	SAFGRAD
1.	Establishing link between the institute and ADP.	Lake Chad Research Institute Team and ADP Team.	M.O.U. signed by the Institute and ADP.	₦1,000.00	₦2,000.00
2.	Selection of 10 villages for M.T.P	Lake Chad Research Institute Team and ADP Team	M. T. P in 10 villages selected.	₦ 32,500.00	₦65,000.00
3.	Planting of guna in 10 selected villages.	Lake Chad Research Institute Team and ADP Farmers.	M.T.P established in 10 villages.	₦ 275,000.00	₦550,000.00
4.	Monitoring and supervision of project.	Lake Chad Research Institute Team and ADP Team.	Project monitored.	₦ 75,000.00	₦150,000.00
5.	Organization of farmers field day.	Lake Chad Research Institute Team and ADP Team	Farmers shown guna fruits and uses explained.	₦5,000.00	₦150,000.00
6.	Harvesting of M.T.P.	Farmers	Guna fruits harvested.	₦150,000.00	₦300,000.00
7.	Depulping and dehusking.	Farmers.	Seeds removed from the pulp and husk.	₦250,000.00	₦500,000.00
8.	Contingency			₦60,850.00	₦121,700.00
	TOTAL			**₦919,350.00**	**₦1,838,700.00**

WORK PLAN FOR THE YEAR 2002

S/NO	ACTIVITIES	CALENDAR	EXPECTED OUT PUT
1.	Designing of prototype machines	January - February	Prototype machines designed.
2.	Fabrication of puncturing machine fabrication of dehusking machine.	March May	Puncturing Machines fabricated. Dehusking machine fabricated.
3.	Fabrication of depulping machine.	April	Phototype machines tested.
4.	Testing of the prototype machines	May	Dehusking machines fabricated.
5.	Production of Machines.	June	Machines produced.
6.	Production of guna seeds by 50-member Guna Co-operative Association.	Last week of August to first week of September.	100 metric tonnes of guna seeds produced.
7.	Demonstration and Sales of machines.	December	Uses of machines demonstrated and machines sold.

FUNDING AND BUDGET ESTIMATE FOR THE YEAR 2002

S/NO	ACTIVITIES	RESPONSIBILITY	EXPECTED OUT PUT	BUDGET	
				SAFGRAD	NARI's (LCRI)
1.	Designing of three prototype machines.	Lake Chad Research Institute, Ramat Polytechnic and University of Maiduguri.	Prototype machines designed.	₦15,000.00	₦ 7,500.00
2.	Fabrication of three (puncturing, depulping and dehusking) machines.	Lake Chad Research Institute, Ramat Polytechnic and University of Maiduguri.	Three machines fabricated.	₦600,000.00	₦300,000.00
3.	Production of guna seeds by 50-member-guna co-operative association (out-growers)	Farmers.	100 metric tonnes of guna seeds produced.	₦ 800,000.00	₦400,000.00
4.	Production of machines (5 type/each machies).	Lake Chad Research Institute, Ramat Polytechnic and University of Maiduguri.	Machines produced.	₦450,000.00	₦225,000.00
5.	Depulping and dehusking.	Farmers	Guna by- product (vines leaves, pulps and husks).	10,000.00	5,000.00
6.	Contingency			187,500.00	93,750.00
	TOTAL		=	**2,062,500.00**	**1,031,250.00**
				=	**₦3,093,750.00**

ESTIMATES OF RETURN AND BENEFITS DUE TO INVESTMENT.

1. Total cost of production = ₦3,093,750.00
2. Revenue from 100 metric tonnes of guna seed produced at 34,000/t = ₦3,400,000.00
3. Revenue from the by - products = ₦100,000.00.

Total revenue = ₦3,500,000.00

Net return = ₦406,250.00

TEAM

M. U. OMEJE	SOIL SCIENTIST
D. A. ANOGIE	AGRICULTURAL ECONOMIST
Z. G. S. TURAKI	PATHOLOGIST
A. T. S. BIBINU	AGRONOMIST
A. MUSTAPHA	BREEDER.

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