

Benefits of Pre-emptive Management of Cassava Mosaic Disease (CMD) Project to participating States, contingent on State counterpart funds

Nigeria has made great gains in food security by increasing output of cassava and other food crops. The Presidential Initiative for Cassava Promotion recognises and supports the trend to commercialize the crop for industrial use, import substitution, as well as export in various forms to Sahelian countries, Mali, Bukina Faso, Niger, and Chad, as well as to Europe and South Africa.

The project intends to encourage farmers who are commercially inclined to take advantage of the market opportunities in and around the state to generate income and alleviate poverty. It does not aim to displace ongoing cassava growers.

We plan a growth in economic empowerment through commercialized production systems. These will find market in several industries in Nigeria and abroad. For example, a market of 200,000 tonnes of high quality cassava flour/year exists in the flour industry because of the law that came into force January 2005. This requires bakeries to include 10% of cassava flour in the production of bread and confectionery.

As a member of the CMD project, the State will accrue the following benefits:

A. Production for Commercialization

Action plan

1. The most suitable cassava varieties are to be selected for the State through:
 - 18 demonstration farms [6 in each senatorial district]
 - 120 on-farm trials with farmers [40 in each senatorial district]
2. The new selected varieties will be multiplied in the three senatorial districts.

Area (ha)	Year			
	1	2	3	4
In each senatorial district	3	30	200	1000
State-wide	9	90	600	3000
Multiplication of stem across the state by contract growers	30	100	1000	10000

3. Mechanization is an essential part of progress.

Most cassava farms now are not practicing science-based competitive methods and so do not get the maximum benefits from the production process. This project will provide farmers with training in competitive commercial cassava cultivation including mechanized methods of farming. On 18 October 2004, the project trained 45 farm managers from the south-south and southeast zones and Ondo State where the project is already operating, in commercial production methods.

The project would provide two power tillers, each 13 Hp, for the Integrated Cassava Resource Center (ICRC), and train staff in their use. As soon as farmers become accustomed to the idea of using this equipment, dealers will be ready to supply more. This equipment is appropriate for farmers with under 5 ha of cassava who would be clustered around the bigger farmers who cultivate larger areas using tractors. Only these large farmers will directly help to secure large quantities of cassava and be on contract to the industrial plants in the State.

B. Capacity building and infrastructure

The ICRC will be provided in States that have paid up their counterpart funds. The functions of the ICRC are to provide education and train farmers, processors, and potential investors in production, processing, market and investment decision making, to provide input and output market linkages, and facilitate the transfer of research results to farmers. It will also facilitate information sharing among farmers, processors, and investors.

The ICRC is, therefore a technology development, adaptation, demonstration, and dissemination center. The training of trainers for the various production and post-harvest technologies developed by the International Institute of Tropical Agriculture (IITA) and other relevant international, regional, and local institutions and organization will also be done at the ICRC. The intention is to bring both sophisticated and not so sophisticated cassava production and processing technology as close to the grassroots as possible.

Each State participating in this project is expected to provide at least 5 ha for the ICRC. About 1.5 ha of this area will contain three principal buildings; a multiproduct cassava processing factory, a training and resource office with documentation center, and a farm equipment shed. Other infrastructure will include a water borehole and an electricity powerhouse. An artist's impression, a ground floor plan, and a list of facilities to equip for one Center, with estimated cost items, are attached.

We recommend that the ICRC should run on a commercial basis for sustainability. The services of the Center will include training activities, sale of improved cassava varieties and various processed products, Internet service, provision of processing services and power tiller hire services to small farmers. The State is therefore expected to set up a small committee (3–5 persons) to which the staff of the Center will report. In the first two years of the Center, the IITA will provide direct technical backstopping. Subsequently, the Center can run on a self-sustaining basis with additional support expected from the State government.

C. Processing and postharvest equipment

1. The project will train Master Bakers in the State on the inclusion of high quality cassava flour (HQCF) in their products.

2. The project will also provide 25–50 Microprocessing Units (MPUs) after a Needs Assessment Analysis. Selected entrepreneurs and the community will provide land and buildings, and sign a memorandum of understanding with IITA. The Needs Assessment survey will be conducted by IITA through CMD project staff.

3. Postharvest equipment for the Resource Center, and as necessary for Microprocessing Units.

- Rotary dryers 400 kg/day
- Hammer mills
- Sifters
- Sealing machines
- Flash dryers 2 t/day
- Pelletizers 2.5 t/day
- Generators
- Graters/chippers 2 t/h
- Screw presses
- Hydraulic presses
- Fryers

4. Training of fabricators

The CMD project will provide training for equipment fabricators in the State to enable them to produce and service the postharvest equipment. The project has launched the national association of cassava equipment fabricators and will develop the State chapter as soon as the State joins.

D. Marketing information: linkage of producers to markets

The CMD project has already begun the cassava marketing information system (MIS). This is a network of 27 principal markets across Nigeria to help all stakeholders in the cassava economy of Nigeria to take advantage of information about where to sell and how to set their cassava prices.

The MIS will provide addresses and requests of sellers and buyers of cassava products. It will also assist in finding contracts for cassava with specifications of type of product, quantity, and quality, price offered, and location.

The State, when it has joined the project, will receive computers, a vehicle, motorcycles, and extension materials, as benefits that foundation States are presently enjoying.

E. Monitoring, evaluation and capacity building

IITA will monitor the activities of CMD in the State in partnership with designated officers. These may be desk officers of any of the relevant Ministries and ADP staff with whom CMD staff will be in close field collaboration. Some may come from large NGOs in the State to serve on the monitoring team. A multibased State team should be constituted, rather than one drawn from a single Ministry.

Funding and payment

Initial funds to execute the project was US\$17.1 million in 2002–2003. Participating States will pay 40% of this amount. The contribution from each State over 4 years is US\$600,000.00 or its current Naira equivalent. At the inception of the project, this was ₦76.2 million. It is expected that this amount can be shared between the State and the local government area councils. The Federal Government of Nigeria will provide 15%, NDDC 20%, Donor agencies 5%, NNPC and its joint venture partners 20%. Payment of the State fund has to be made to enable the project to be implemented according to proposed plans.

Cost line items contingent from fund paid by State

Building an integrated cassava resource center

s/n	Description	qty	Unit
A.	Water supply:borehole> 200ft deep		
	Small scale borehole/tank tower,/pump/electrification	1	l/s
	Distribution pipes 1" pressure	10	no
	Distribution pipes 1/2" pressure	10	no
	4" pressure pipe-industrial waste	20	no
	2 storage tanks-plastic, 2000 liters	2	no
	Plumbing accessories-bends/tees/etc.	1	l/s
	Labour -pumping to factory	1	l/s
B.	Factory building structure		
	Structural truss-pillars/roofing 18m x 10m, 150mm diam poles		
	150mm x 5mm thick pole-industrial thick pipes +red oxide protection		
	0.45mm x 6m x 1m alluminum sheet		
	Provide studs, plate base, Z-beam purlin + installation	1	no
1	Foundation structures to DPC		
	Digging foundation trenches 0.55 x 56m	30.8	m sq
	Foundation blinding 1:3:6 mix (.05 x 55.56)	1.54	m cu
	Filling fdn with sands and hardcore/levels and rammed	180	l/s
	Concrete slab at DPC level 10m x 18m x 150mm	144	m cu
	Fdn concrete 750mm sq to recive pipes	10	no
	225mm hollow blocks DPC/window level	1300	no
	150mm hollow block, partition wet/dry area	450	no
	Cement to lay blocks	60	no
	Labor cost (contractor to supply)*, 25%	1	l/s
2	Toilet/bath/gen house (5800 x 3000)+cloth room		
	150mm hollow block wall x 10 blks high	700	no
	7 doors/5 windows	12	no
	Rendering with rich mortar 1:6 (15m x 25mm x 3m)	2.6	m cu
	Roofing: rafter/purlin/zinc, etc.	2	l/s
	Wall tiles	15	cartons
	WCs and accessories	2	no
	Plumbing materials (tap, valve, bends, etc.)	1	l/s
	2 washhand basins and accessories	2	no
	Painting to IITA standards -2 wall sides	212	m sq
	Electrification -wire, sockets, lamps, etc.	6	room
	Labor cost (contractor to supply), say 25%	1	l/s

Cost line items contingent from fund paid by State (contd.)

s/n	Description	qty	Unit
3	Waste disposer chamber		
	Digging septic tank/soakaway (10 x 5 x 3.5m + 5 x 5 x 3m)	250	m cu
	Concrete slab 3.5m deep, 1:2:4 mix	7.5	m cu
	9" vibrated hollow block	650	no
	Cement for laying	10	no
	Plastering	15	m cu
	Iron rod 10mm dia. for beam/slab cover, etc.	25	length
	Cover slab and beams/formwork/nails, etc.	9.5	m cu
4	General		
	Main entrance door -roller iron door with 15 gauge	2	l/s
	Processing structures - washing bay, settling, drainage at wet areas	1	
	Burglary iron to windows	15	
	Storage shelves-wooden	1	set
	General painting of the walls	245	sq m
	Unforeseen expenses/general cleaning/signpost, etc.	1	l/s
C	Layout of cassava resource and technology Center		
	Training hall, office and shop		
	Layout, fencing, car park, and access roads within the center		
	Power house and farm equipment shed		
	Purchase of generator		
D	Equipping the factory		
	Grater/chipper	2	
	Double screw press	3	
	Fryers	3	
	Rotary dryer	1	
	Flash dryer	1	
	Dry miller	1	
	Sieve	2	
	Sealers	2	
	Grater	1	
	Packaging material		
	Pelletizer + Mixer	1	
	Cabinet dryer (120 trays)	1	
	Adhesive reactor	1	
	Weighing scale	1	

Cost line items contingent from fund paid by State (contd.)

s/n	Description	qty	Unit
E	Farm operations		
	Cassava cultivation	3	ha
F	Special trainings		
	Instant <i>fufu</i> production	3	
	Starch and starch derivatives	3	
	Adhesive	3	
	Ethanol	3	
	High quality cassava flour	3	
	Commercial farm operation	3	
	Machine fabrication and maintenance	3	
G	Equiping information resource office		
	V-sat	1	
	Annual subscription for internet		
	Computers and UPS	8	
	Furnishing		
	Stocking of library		
	Printer/scanner	3	
	LCD projector	1	
	Public address system	2	
	Video camera	1	
	Cable TV acquisition	1	
	TV subscription		
	Television set	2	
	Video/DVD player	2	
H	Technical support seconded from IITA to Center		
	Manager	1	
	Postharvest	1	
	Farm operations	1	
	Annual inflation @ 1.5%		
	IITA overhead @ 24%		

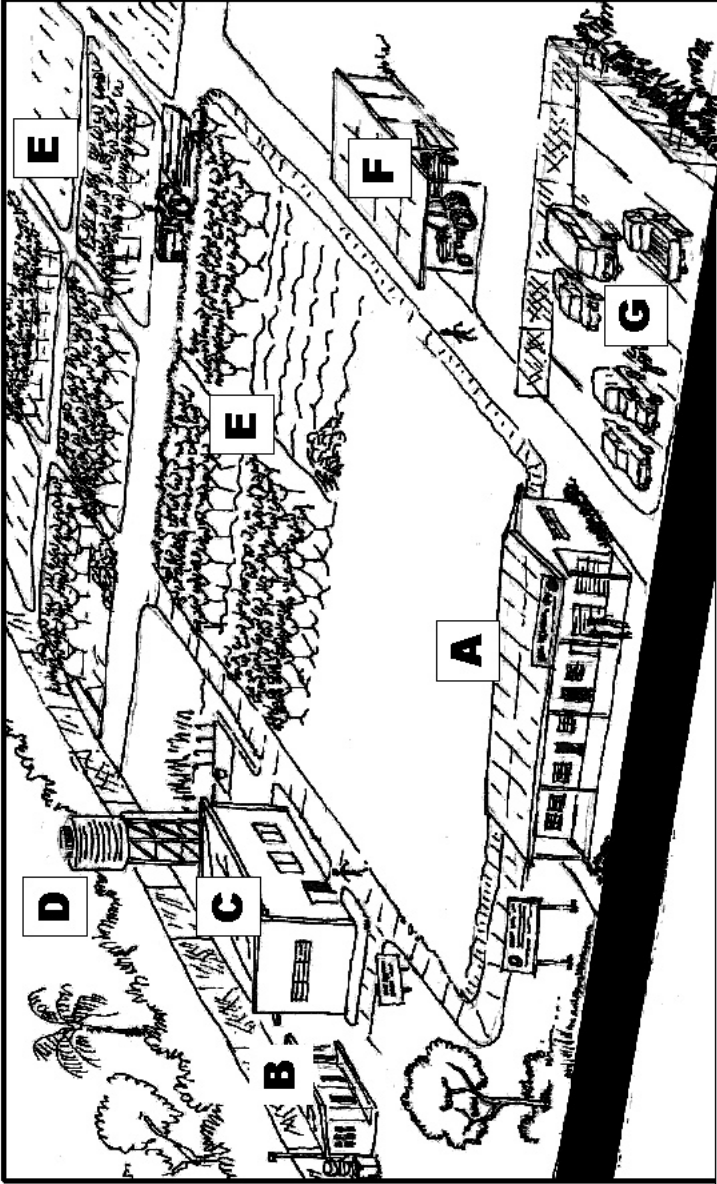
Cross cutting costs contingent from funds paid by FGN and NDDC

s/n	Description	qty	Unit
A	Participation in selecting high yielding varieties that could significantly raise the yield of farmers of the State thereby increasing income and food security		
	Multilocational trials	1	
	Onfarm trials	110	
	Demonstration trials	18	
	Multiplication trials	20	
	Soil sample analysis		
	Fertilizer trials		
B	Facilitation State ADPs		
	Vehicle	1	
	Motor cycles	2	
	State officer	1	
	Extension materials		
C	Market information service		
	State enumerator	1	
	Broadcasts	52	weeks
	Commodity price analysis		
	Export potentials		
	Commodity geo-spatial surveys		
D	Agroenterprise development		
	Power tillers	2	
	Community sensitization		
	Equipment fabrication and maintenance training/workshop		
	Establishment of seed enterprises of cassava stems for sale to Nigeria cassava growers, investors and AU countries under the forthcoming NEPAD cassava initiative		
	Cluster formations around the existing cassava-based industries		

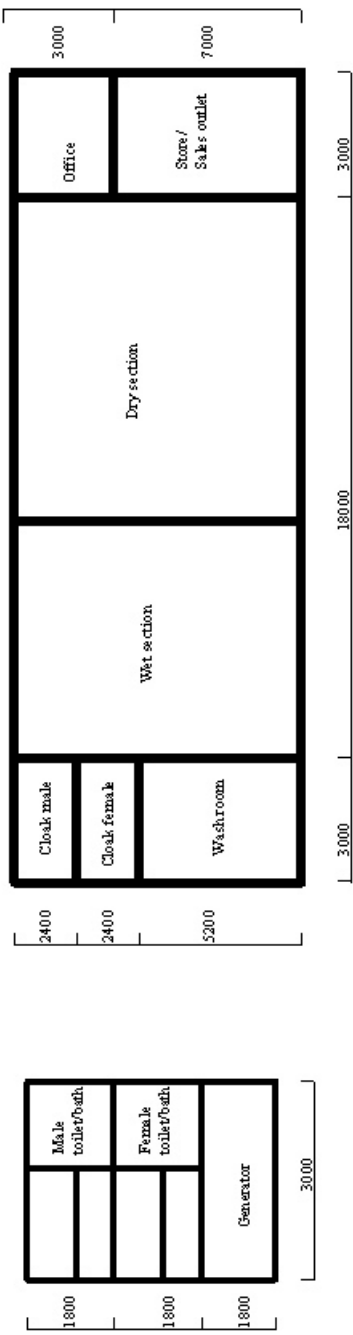
Cross cutting costs contingent from funds paid by FGN and NDDC

s/n	Description
E	<p>Postharvest</p> <p>Zonal postharvest utilization workshops</p> <p>Cassava quality analysis</p>
F	<p>Surveys and trainings</p> <p>CMD survey</p> <p>CBB survey</p> <p>Baseline survey</p> <p>Monitoring tours</p> <p>Impact monitoring, evaluation and training</p> <p>Needs assessment</p> <p>Industrial baseline survey</p>
G	<p>Publicity</p> <p>National TV</p> <p>Print media</p> <p>Radio stations</p> <p>Bulletins</p> <p>Publications</p> <p>Posters</p>
H	<p>Workshop, conferences and meetings</p> <p>Monthly coordination meeting</p> <p>Advisory committee meeting</p> <p>Stakeholders meetings</p> <p>Commercial farming training</p> <p>Cassava associated conferences and workshop</p> <p>Handing-over ceremony</p> <p>State CMD launching facilitation</p>
I	<p>Policy and advocacy</p> <p>Formation of Cassava Equipment Fabrication Association of Nigeria</p> <p>Facilitation of Cassava Growers Association of Nigeria</p> <p>Formation of Cassava Processors Association of Nigeria</p> <p>Policy papers and meetings</p> <p>Advisory backup from IITA and partners</p>
J	<p>Zonal offices</p> <p>SS zone @ Onne</p> <p>SE zone @ Umudike</p> <p>Operational vehicles</p> <p>Computers</p> <p>Buildings and factories</p>
K	<p>Others</p> <p>Generate jobs from the processing centers, utilization enterprises, bakeries, seed industries, processing industries and related fabricators, etc.</p> <p>Diversify sources of income for the State chiefly from crop agriculture through the export to other States in the country.</p> <p>Improve the nutritional status of the State from the use of carotene-rich cassava varieties that will enhance the food of the common man.</p> <p>Note: State contributions are less than one-sixth of the total budget of the project over four years.</p>

Integrated Cassava Resource Center



A-Training hall, Office and shops **B**-Power house **C**- Multi Product Processing Factory
D-Water tank **E**-Farm **F**-Equipment shade **G**-Car park



Cassava multi-product plant: Floor plan