



**New Partnership for
Africa's Development (NEPAD)
Comprehensive Africa Agriculture
Development Programme (CAADP)**



**Food and Agriculture Organization
of the United Nations
Investment Centre Division**

GOVERNMENT OF THE FEDERAL REPUBLIC OF NIGERIA

SUPPORT TO NEPAD–CAADP IMPLEMENTATION

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Volume IV of IV

BANKABLE INVESTMENT PROJECT PROFILE

Cassava Production, Processing and Marketing Project

February 2006

NIGERIA: Support to NEPAD–CAADP Implementation

Volume I: National Medium–Term Investment Programme (NMTIP)

Bankable Investment Project Profiles (BIPPs)

Volume II: Rural Access and Mobility Project (RAMP)

Volume III: National Programme for Food Security (NPFS)

Volume IV: Cassava Production, Processing and Marketing Project

NEPAD–CAADP BANKABLE INVESTMENT PROJECT PROFILE

Country: Nigeria

Sector of Activities: Agriculture

Proposed Project Name: **Cassava Production, Processing and Marketing Project**

Project Location: National

Duration of Project: 5 years

Estimated Cost: Foreign Exchange US\$26.7 million
Local Cost..... US\$83.3 million
Total US\$111.0 million

Suggested Financing:

<i>Source</i>	<i>US\$ million</i>	<i>% of total</i>
<i>Government</i>	33.3	30
<i>Financing institution(s)</i>	11.1	10
<i>Beneficiaries</i>	55.5	50
<i>Private Sector</i>	11.1	10
<i>Total</i>	111.0	100

NIGERIA:
NEPAD–CAADP Bankable Investment Project Profile
“Cassava Production, Processing and Marketing Project”

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Currency Equivalents

(June 2005)

Local Currency	=	Naira (₦)
US\$1.00	=	₦132.50
₦1,000	=	US\$7.60

Abbreviations

ADB	African Development Bank
ADP	Agricultural Development Programme
ADPEC	Agricultural Development Project Executive Committee
ALGON	Association of Local Government of Nigeria
CAADP	Comprehensive Africa Agriculture Development Programme
CBO	Community Based Organisation
CIAT	International Centre for Tropical Agriculture
CMD	Cassava Mosaic Virus Disease
CMP	Cassava Multiplication Programme
CPPMP	Cassava Production, Processing and Marketing Project
CTCRI	Central Tuber Crops Research Institute
DAIMINA	Developing Agricultural Input Marketing in Nigeria
DAS	Department of Agricultural Sciences
DFRRI	Directorate of Food, Roads and Rural Infrastructure
FADPEC	Federal Agricultural Project Executive Committee
FAO	Food and Agriculture Organization of the United Nations
FCT	Federal Capital Territory
FDA	Federal Department of Agriculture
FDRD	Federal Department of Rural Development
FGN	Federal Government of Nigeria
FMARD	Federal Ministry of Agriculture and Rural Development
GDP	Gross Domestic Product
IFAD	International Fund for Agricultural Development
IITA	International Institute for Tropical Agriculture
LGA	Local Government Area
LGC	Local Government Council
MIS	Management Information System
M&E	Monitoring and Evaluation
NAFDAC	National Agency for Food and Drug Administration and Control
NACRDB	Nigerian Agricultural, Cooperative and Rural Development Bank
NCPPMC	National Cassava Production, Processing and Marketing Coordinator
NCPPMTC	National Cassava Production, Processing and Marketing Technical Committee
NDDC	Niger Delta Development Commission
NCPPMD	National Cassava Production, Processing and Marketing Desk
NEEDS	National Economic Empowerment and Development Strategy
NEPAD	New Partnership for Africa’s Development
NGO	Non–Governmental Organisation
NMTIP	National Medium Term Investment Programme
NRCRI	National Root Crops Research Institute
NSS	National Seed Service
PCU	Projects Coordinating Unit

PCMVDP	Pre-emptive Cassava Mosaic Virus Disease Project
PRSD	Policy, Research and Statistic Department
PS	Permanent Secretary
REFILS	Research-Extension-Farmer-Input Linkages System
RTEP	Root and Tuber Expansion Programme
TMS	Tropical Manioc Selection
SCPPMTC	State Cassava Production, Processing and Marketing Technical Committee
SMANR	State Ministry of Agriculture and Natural Resources
USAID	United States Agency for International Development
VEA	Visiting Extension Agent
WIA	Women in Agriculture

I. BACKGROUND

A. Project origin

I.1. The Cassava Production, Processing and Marketing Project (CPPMP) were identified as one of the three priority projects following the preparation of the draft National Medium–Term Investment Programme (NMTIP) for Nigeria in support of NEPAD’s Comprehensive Africa Agriculture Development Programme (CAADP). The project directly relates to Priority Areas 2 (Improvement of rural infrastructure and trade–related capacities for improved market access) and 3 (Promotion of agro–processing) of the NMTIP and consequently supports CAADP Pillars 2 (Improvement of rural infrastructure and trade–related capacities for improved market access), 3 (Enhancement of food supply and reduction of hunger) and 4 (Development of agricultural research, technological dissemination and adoption).

B. General Information

I.2. Although Nigeria’s economy relies heavily on the petroleum sector, which generates three quarters of government revenues and more than 90 percent of foreign exchange earnings, agriculture continues to play an important role. The agricultural sector contributes almost 35 percent to the GDP (2003), employs nearly 70 percent of the total labour force and provides a livelihood for the great majority of the rural population. Poverty is widespread and nearly 70 percent of the total population, estimated at 127 million, of which over 60 percent are rural (2004), is believed to live below the national poverty line. The majority of the poor live in rural areas. The average annual per capita income is estimated at US\$320 (2003).

I.3. Nigeria’s agriculture is characterised by smallholder farming. Some 90 percent of the total agricultural output is generated by households, which on average cultivate about two hectares of land. Most of the 46 million ha of land available for arable crops cultivation are suitable for a variety of crop production activities. The major food crops produced, by size of harvested area, are sorghum, millet, pulses, maize and cassava. Cash crops consist mainly of oil palm ground nuts, cotton, cocoa and rubber. In addition, a wide variety of fruits and vegetables such as tomatoes, solanum, telferia, sweet pepper and hot pepper are grown.

I.4. Cassava (*Manihot esculenta*) is a perennial woody shrub of the Euphorbiaceae family. It is grown principally for its tuberous roots but its leaves are also eaten in some parts of Africa and are used as animal feed in parts of Asia. The roots are 25–35 percent starch and the leaves contain significant amounts of protein and other nutrients. Cassava is a hardy crop, tolerant to extreme ecological conditions and even thrives on impoverished soils. It is well suited to the prevailing farming systems across the country. A total of 3.5 million hectares of land were devoted to cassava cultivation in year 2000. With an average yield of 10.6 tonnes per hectare some 36.74 million tonnes of roots were produced. More than 90 percent of this production is destined for human consumption. Opportunities for commercial development remain largely unexploited, in contrast to the other major cassava growing regions in Asia and South America.

I.5. Cassava is a major staple food in virtually all parts of the country. It is a key food security and income generating crop and Nigeria is the world’s largest producer of cassava. Cassava is eaten as fufu, gari, lafun, and akpu by more than 80 percent of the rural populace and is a relatively cheap source of carbohydrate in fresh and processed food preparations for both rural and urban communities. It has become a cash crop and generates income for the majority of rural households. Cassava products

are used in the industry for starch making, livestock feed, ethanol production, adhesive for the pharmaceutical industries and flour for the confectionery industries, among other uses.

I.6. Cassava production, processing and export is a major plank in the poverty alleviation and food security programme of the Government of the Federal Republic of Nigeria (FGN). Ongoing programmes are aimed at increasing production and productivity, related economic activities as well as foreign exchange earnings. Government has, overtime, put in place several cassava development projects such as the Cassava Multiplication Project (CMP), Root and Tuber Expansion Programme (RTEP), the Pre-emptive Cassava Mosaic Virus Disease – Ugandan Strain (CMD – Ugandan Strain) Project and the Presidential Initiative on Cassava Production, Processing and Export. The Niger Delta Development Commission’s (NDDC) Cassava Development Project is the latest in such efforts. Government has also set up a vibrant trade promotional committee to ensure that necessary internal and external markets are secured for the anticipated increased quantum of cassava products.

I.7. The main institutions and organizations that have a stake in the cassava sub-sector include federal, state and local governments, the National Agricultural Research System (NARS) represented by the National Root Crops Research Institute (NRCRI)–Umudike–Abia State, the International Institute for Tropical Agriculture (IITA), the countrywide Agricultural Development Programmes (ADPs) as well as the Ministries of Agriculture and Natural Resources (MANRs) in all the participating states and FCT, the International Fund for Agricultural Development (IFAD) and the United States Agency for International Development (USAID).

I.8. IITA is a foremost international institute involved in cassava genetic improvement in Africa and has its Headquarters in Nigeria. IITA in collaboration with NRCRI, developed many improved resistant cultivars currently in use in the country. It has developed about 43 new cultivars resistant to the CMD – Ugandan Strain and is promoting their multiplication. These are presently being tried out and multiplied in different locations across the country. IITA is presently coordinating the implementation of the ongoing CMD – Ugandan Strain Project.

II. PROJECT AREA

II.1. The project area covers all ecological zones in Nigeria, which range from the mangrove swamps and tropical rainforest in the south to open woodlands, savannah and semi-arid plains as one moves northwards. The climate is characterised by relatively high temperatures throughout the year. It is arid in the north, becoming increasingly humid in the south. Except for the coastal zone, where it rains all year round, rainfall is seasonal with distinct wet and dry seasons.

II.2. Thirty states and the Federal Capital Territory (FCT) would be involved in the project. Cassava is grown as a major staple in 25 states of Abia, Akwa-Ibom, Anambra, Bayelsa, Benue, Cross River, Delta, Ebonyi, Ekiti, Enugu, Kaduna, Kogi, Kwara, Edo, Imo, Lagos, Nasarawa, Niger, Ogun, Ondo, Osun, Oyo, Plateau, Rivers, Taraba, and FCT. It is also grown in relatively significant quantities in Kebbi, Zamfara, Kano, Jigawa and Adamawa states in rainfall regimes of 600–2,400 mm.

II.3. Nigeria’s annual production of cassava tubers stood at 6.8 million tonnes in 1982. Its annual production rose from 12.4 million metric tonnes in 1986 to 36.75 million tonnes in 2000, thus making Nigeria the world’s largest producer. A number of positive research and developmental activities contributed to this success. These include: (i) collaborative efforts of the NARS and IITA in genetic improvement which has resulted in the production of disease-resistant, high-yielding cultivars; (ii) large-scale multiplication and distribution of improved planting materials facilitated by the

IFAD-assisted Cassava Multiplication Programme (CMP); (iii) introduction of improved husbandry practices; and (iv) effective extension delivery system, among others. At the same time, however, increases in production primarily resulted from expansion of the area harvested, as the average yield remained almost constant between 10 and 11 tonnes/ha over the past 20 years. Annex 4 shows the production trend from 1986 to 2000 and estimates for 2001–2003.

II.4. Previously, cassava cultivation was concentrated in the southern rain forest belt. Its rapid spread to other parts of the country came as a result of the following:

- Adaptation to poor soils in which many crops fail;
- Its ease of propagation by stem cuttings;
- Its resistance to drought, except at planting time and resistance to locust damage, making it a good reserve crop. In the lower Sahel ecologies of Northern Nigeria, it is known as a famine crop;
- Its relatively high yields, despite of harsh conditions;
- Cassava can produce more carbohydrates per hectare than any other food staple;
- It can be planted at anytime of the year, provided there is enough moisture for stem cuttings to take root;
- Cassava roots can be harvested as needed all year round. They can be left in the ground and harvested from six to forty months from planting, depending on the cultivar.

II.5. High-yielding Tropical Manioc Selection (TMS) cassava varieties have increased farm yields by up to 40 percent without fertilizer. These varieties are resistant to cassava mealy-bug, green spider mite and cassava mosaic disease, previously prevalent in Nigeria. They have helped increase farm incomes and reduce rural and urban poverty. IITA is presently multiplying 43 new cultivars resistant to the CMD – Uganda Strain whose yields can average 30 tonnes/ha per annum under farmer’s condition.

II.6. Commercial production and processing of cassava products for urban markets, industries and export is driven by high-yielding cassava cultivars, increasing urban demand for food, availability of improved rural roads for the transport of cassava to urban market centres and government policies that encourage the substitution of cassava products for wheat and rice products (flour). There is a policy directive for the use of composite flour which would incorporate 10 percent of cassava flour in the bakery and confectionery industry.

II.7. Despite the rapid growth in cassava cultivation in Nigeria, the sub-sector continues to face a number of constraints, namely:

II.8. ***Production Constraints:***

- Inadequate use of improved varieties of planting materials;
- Impure planting materials made up of mixed varieties, which may not be suitable for the different requirements;
- Poor farm management and husbandry practices especially inappropriate plant population and very limited fertilizer use;

- High pressure on land leading to cultivation of cassava on depleted soils;
- Lack of credit for cassava farmers;
- High cost of labour for all production processes;
- Inadequate support for research, extension and capacity building; and
- High cost of agro-inputs.

II.9. **Processing and Packaging Constraints.** Despite Nigeria’s rating as the world’s largest cassava producer, the diversification of cassava products, processing and utilization is presently constrained by the following:

- Lack of steady supply of tubers throughout the year for the existing processing plants;
- High transportation cost of tubers from the production areas to processing centres;
- Bulkiness and high perishability of the crop;
- Inadequate processing equipment;
- Low returns from small-scale processing of cassava;
- Lack of credit for processors; and
- Poor processing, drying and storage capacity.

II.10. **Marketing Constraints:**

- The high seasonal fluctuations for cassava products, uneven product quality and variations in cassava supply;
- Absence of a national market information system;
- Poor linkage between producers, processors, traders and consumers; and
- High cost of locally produced cassava flour compared with imported wheat and maize flour.

II.11. **Export Constraints:**

- Absence of a national commercial cassava processing industry and culture to support a vibrant export trade;
- Absence of bulk handling and marketing infrastructure;
- Unavailability of value-added cassava products in sufficient quantities with a uniform quality;
- Uncompetitive cassava price and quality;
- Irregular product supply;
- Low international prices for primary cassava products such as chips and pellets;
- Lack of established national grades and standard specifications for most cassava products; and
- Unorganized marketing and distribution channels.

III. PROJECT RATIONALE

III.1. The proposal to allocate resources to the development of the cassava sub-sector recognises: (i) the importance of cassava for national and household food security; (ii) the large untapped domestic market for cassava as raw material in the industrial sector; (iii) the scope for income generation through diversification and expansion of cassava development into new growth markets for ethanol, starch, livestock feed and household flour as substitutes for various imported items; (iv) the potential of cassava as a major foreign exchange earner; and (v) the opportunities for commercial development, which remain largely unexploited. The proposal further recognises that cassava can be grown under a wide range of ecological conditions, including uncertain rainfall and drought and that it is well suited to the prevailing farming systems across the country. In raw or processed form, cassava generates cash income for millions of families whose livelihoods are linked to the crop.

III.2. In order to address the main constraints presented above, the project should focus on the following most pertinent issues:

- **Production:** Past increases in production resulted largely from expansion of the harvested area rather than from increases in productivity, as average yields for the last 20 years remained almost constant at a level between 10 and 11 tonnes/ha. Cultivation is often characterised by poor husbandry practices, the use of impure planting materials and the absence of fertilizer application. Supporting services, including access to credit and extension advice, are inadequate.
- **Processing and Packaging:** Cassava processing is constrained by a lack of steady supply of tubers throughout the year, high transport cost to processing centres, inadequate processing equipment and low returns from small-scale processing.
- **Marketing** suffers from high seasonal price fluctuation for cassava products, uneven product quality, the absence of a national market information system, the lack of established grades and standard specifications for most cassava products, as well as poor linkages between producers, processors, traders and consumers.

III.3. The project would fit within the framework of CAADP in the areas of improvement of rural infrastructure and trade-related capacities for improved market access, enhancement of food supply and reduction of hunger, as well as development of agricultural research, technological dissemination and adoption. As described in Annex 5, there is already an ongoing national cassava production, processing and export project as a Presidential Initiative. However, funding is very limited as the Federal Government is currently the only financier. Linking the CPPMP with the several cassava projects currently ongoing would be crucial in order to ensure synergies, avoid duplications and ensure that the potential of the sub-sector is fully exploited.

IV. PROJECT OBJECTIVES

IV.1. The *overall development objectives* of the project would be to reduce poverty, generate employment and improve the standard of living of the rural population, as well as to diversify the economy and reduce dependence on oil revenues.

IV.2. Related *primary project objectives* would be to:

- substantially increase cassava production through the use of improved planting materials and husbandry practices with a view to meeting local food needs and the requirements for industrial raw materials and exports in order to enhance food security and national income;
- add value through appropriate processing and packaging in order to earn foreign exchange from exports; and
- produce accurate statistics on cassava production and processing for future planning.

IV.3. Related *secondary objectives* would be to:

- produce sufficient quantities of the selected improved high-yielding and disease-resistant cultivars for distribution to farmers;
- make farm input delivery more effective through empowering the private sector to take over purchase and distribution;
- promote proper handling, grading and drying of cassava for further processing at integrated mills; and
- create marketing channels and establish necessary linkages to industries domestically and internationally and build the domestic productive capacity to efficiently, profitably and sustainably satisfy the new demand for cassava products with high quality.

V. PROJECT DESCRIPTION

V.1. Aiming at a substantial increase in the production of cassava, the proposed project would be implemented in all cassava growing states with focus on expansion of areas planted, increase in yields, improvement of the supply chain and a diversified approach to processing and marketing. The demand-driven project would be closely linked to ongoing projects in support of the cassava sub-sector embarked upon by government, most prominently, the Presidential Initiative on Cassava Production, Processing and Export. The main target group would be the small farmers who presently account for over 95 percent of total production. The private sector would be encouraged to invest in the establishment of processing and packing facilities as well as marketing. The project, to be implemented over a period of five years, would comprise the following components:

Component 1: Production Support

V.2. Under this component, the intention would be to plant an additional one million hectares of cassava with selected high-yielding CMD resistant varieties.

Sub-component 1.1 – Area Expansion and Productivity Enhancement

V.3. Productivity increases would mainly be achieved through the use of improved varieties. The varieties to be rapidly multiplied would meet farmers’ preferences as well as ecological specifications. The project would aim at an incremental planting of 200,000 ha per year for five years with high yielding disease resistant varieties.

V.4. Adoption of the standard plant population of 10,000 stands per hectare as well as ensuring that necessary inputs, including planting materials and fertilizer are available as and when due, would be pursued. Seasonal credit would be disbursed through development banks and selected commercial banks as well as financial institutions with good track records of lending to agriculture.

V.5. To achieve the level of expansion envisaged the following activities would be vigorously pursued: (i) farmer mobilization and mechanization of land preparation; (ii) new and proven technologies on husbandry practices as well as soil management would be introduced; (iii) use of organic and inorganic fertilizers would be promoted; and (iv) integrated soil fertility management techniques and complimentary practices suitable to specific agro-ecological and economic conditions would be promoted.

V.6. The increase in productivity and total output would require constant training of farmers to enhance their knowledge, attitude, skill and behaviour. Sensitization and creation of awareness through extension guides, manuals, farm radio and television documentaries, jingles, farmers’ training, provision of market information, mobile cinema shows, workshops, internet connectivity and websites would be promoted. Effective extension delivery and strengthening of the Research-Extension Farmer-Linkages System (REFILS) would be emphasized. Recruitment of extension agents from Local Government Areas (LGAs) where the project is being implemented and training and re-training of extension agents would form part of the project.

V.7. Extension agents would be motivated through provision of local travel allowances. Organization of field days, interactive tours and meetings for farmers and farmers’ groups would be promoted. Efforts would be intensified to improve farmers’ access to production inputs in order to optimise farmers’ investments. The project would liaise with, and adopt the project strategy of the USAID assisted Developing Agricultural Input Marketing in Nigeria (DAIMINA) project, to make agricultural input marketing more efficient and effective.

V.8. Small farmers would be encouraged to form groups. These groups would be strengthened with each group numbering not more than twenty-five farmers. Emphasis would be placed on women group farmers in each of the senatorial districts. The groups would be registered and requested to open accounts with financial institutions or banks in the community. Seasonal credits which would be an integral part of this project would be accessed through the groups. The mandatory registration of these groups would be a precondition to qualify for credit. Participating farmers could access additional credit from Nigerian Agricultural Cooperative and Rural Development Bank (NACRDB), community banks and other financial institutions, which favour group lending when necessary. The executives of these farmers groups would form an apex organization, which would also be expected to open an account. The accounts would be used to keep the proceeds of the loan recovered from the farmers for onward transmission to the financial institutions lending to farmers. The project is expected to benefit about 1.2 million farm families over the project period.

V.9. Under this sub-component, provision would be made for: (i) the procurement of 90 vehicles and 220 motorcycles for state level extension; (ii) the granting of financial support for research and

development (NRCRI, National Seed Service (NSS) and RTEP); and (iii) conducting agricultural land use survey and several studies related to the cassava sub-sector.

V.10. The NRCRI would be funded to continue with germplasm collection, genetic improvement and breeding for higher yield and greater starch content, in collaboration with IITA. Exchange programmes among NRCRI Umudike, IITA Ibadan, and International Centre for Tropical Agriculture (CIAT) in Colombia and the Central Tuber Crops Research Institute (CTCRI) in India would be supported. Both the NSS and RTEP would be funded to play their roles in coordinating the planting material production and distribution.

V.11. A detailed assessment of the cassava industry in Nigeria with particular attention to the ongoing Presidential Initiative on Cassava Production, Processing and Export would be undertaken. This assessment would include a review of other cassava projects such as the RTEP, the Pre-Emptive CMD-Ugandan Strain project and the Niger Delta Development Commission sponsored project. The conduct of an agricultural land use survey would be necessary to establish benchmarks on which proper planning and assessment of project impact would be based.

Sub-Component 1.2 – Multiplication of Planting Material

V.12. Uninterrupted supply of improved planting materials is a key to the success of this project as well as other ongoing ones. For one hectare of cassava, 60 bundles of cassava are needed to plant 10,000 stands (10,000 cuttings per 60 bundles). One ha of cassava nursery yields 400 bundles. This implies that to plant the incremental 200,000 ha of cassava some 12 million bundles would be required per year. This would require some 30,000 ha of planting material nurseries across the participating 30 states and FCT.

V.13. The ADPs would be supported to establish planting material nurseries of 10 ha (1 per ADP for 31 ADPs). These nurseries in addition to serving as centres for varietal trials would serve as collection centres for preferred cultivars in each particular locality. They would also serve as demonstration centres for outgrowers and entrepreneurs involved in planting material production and dissemination. Outgrowers would be selected in such a way that one outgrower could serve 50 participating farmers.

V.14. On average it will cost about ₦65,000/ha to establish one outgrower nursery. Selected outgrowers and farmers groups would be facilitated to run planting material nurseries as enterprises. This could be done in combination with root production or as sole business. Multiplication materials would be procured from the nearest nucleus multiplication centres which the ADPs would establish at the ADP nurseries. Both IITA and NRCRI would be involved actively in this activity.

V.15. The newly selected CMD – Ugandan strain resistant varieties whose average yields are over 30 tonnes/ha would be propagated for distribution. IITA has already selected 43 new varieties of cassava resistant to the CMD in addition to the other common pests of cassava in Nigeria. The production and distribution of these planting materials is key to the success of this project. To produce sufficient planting materials, this project would decentralize as much as possible the establishment of cassava nurseries to ensure availability of high quality planting materials for distribution to the farmers at all times. In the initial period of the project the TMS and NS series of proven qualities would be multiplied and distributed.

V.16. IITA, NSS and RTEP would play active roles in the propagation of planting materials. Mass production and distribution of high-yielding CMD resistant cassava varieties would be followed

simultaneously with sensitization of farmers and creation of awareness for the adoption of appropriate technologies, husbandry practices, soil management and correct fertilizer use. Production modules would be prepared in consultation with farmers for use by participants.

V.17. Farmers would be encouraged to establish Management Training Plots (MTPs). The management and maintenance of MTPs would be carried out by farmers under the guidance and supervision of the ADP crop facilitators, managers and extension agents. The ADPs, farmers and crop facilitators would jointly evaluate the performance and yield of the MTPs. Various varieties selected and released by the research institutes for specific attributes would be tried on farmers’ fields in collaboration with farmers. At the end of the harvesting period, the selection would be jointly made with the active participation of the farmers.

V.18. Machinery prototypes for harvesting of cassava, for example the cassava lifters would be jointly demonstrated by the farmers, relevant research institutions and the ADPs. Farmers’ comments would influence necessary corrections and final selection of harvesting machinery. Given the high share of female labour in cassava production, there is an urgent need for appropriate gender sensitive machines and equipment for the harvesting of cassava. Harvesting has been found to constitute a substantial percentage of the total cost of production and is given as the reason why some farmers prefer to sell their crops on the field un-harvested.

Component 2: Cassava Processing and Marketing

V.19. Instability in production volumes which results in cyclical production gluts and price fluctuations affects cassava factory capacity utilization negatively. Currently, about 70 percent of total production is processed into gari, akpu and lafun, mostly in the rural areas of the South and Middle Belt regions. This project would adopt a diversified approach to processing. Processing units promoted would range from small-scale gari and flour processing plants and feed mills of two tonnes per day, up to large-scale pelleting and chipping plants, starch processing and ethanol factories. This would take care of all categories of cassava products for both local consumption and export.

V.20. Locally produced processing equipment and machinery, developed by research institutes, engineers and Nigerian equipment manufacturers would be promoted. Quality cassava-based products for local and export demand would be produced in integrated mills ranging from 2 tonnes/day capacity to large ones. Products processed in the smaller mills could be bulked, re-processed and packaged by bigger mills.

V.21. Cassava graters, sifters, watering press, gari fryers, cassava chippers, batch dryers, pelleting machines and cassava starch mills are now produced in Nigeria. These are used to produce cassava flour, chips, gari, industrial gums and pellets. Products such as cassava chips, pellets, fresh tubers and cassava gum have considerable export potentials.

V.22. There are integrated mills with through-puts of up to 40 tonnes of tuber per hour and above. One such factory is the mobile factory unit based on a single 20 ft container that will use washed and unpeeled cassava tubers as raw materials. These tubers would be processed to cassava flour for both domestic and export use. Dried cassava flour would be packed in standard 20 ft containers for export. One such factory would process 320 tonnes/day of one 8-hour shift or 640 tonnes for two shifts of 8 hours each which is standards for machines of this capacity. The cost of one such factory is put at US\$250,000 or ₦32m. It would require some 5,333 ha of improved planting and an average yield of 30 tonnes/ha/annum to feed this mill for a year on two shifts/day. Experience has shown that for a factory of this capacity, availability of raw materials could be a major constraint. Feeding a mill of this

capacity would require an efficient collection, warehousing and transportation system. It would require a well-organized and scheduled planting arrangement. Outgrowers and suppliers to a factory of this magnitude should be near enough to ensure acceptable transport costs and to reduce spoilage of harvested tubers meant for processing. Preferably, outgrowers supplying this factory with tubers should be within 25 km radius.

V.23. To ensure good quality processed products, an effective supply chain system must be in place. The system must ensure a functional tuber collection and payment arrangement. Collection trucks with cranes and weighing equipment would go round to collect raw materials and payment for tubers should be made at the point of collection. This would be an incentive to prospective outgrowers. This is without prejudice to medium to large-scale producers who will prefer to transport their tubers to the factory on their own arrangements or process their own production.

V.24. The project would make provision for the establishment of one collection centre for each of the LGCs expected to participate in the project and for 31 State collection centres. Funding would also be provided for the purchase of on-farm processing infrastructure and for the establishment of integrated mills. The marketing of cassava products would be supported through collection and dissemination of market information and the sourcing of local and international markets.

Component 3: Project Coordination and Management

V.25. This component would establish a three-tier coordination system with liaison/coordination at federal level and in the participating states and LGCs. The project would provide financial assistance to federal agencies, the 31 ADPs, (30 states and FCT), NGOs and CBOs involved. At federal level it would support the National Cassava Production, Processing and Marketing Project Desk (NCPMPD), which would be a desk at the Federal Department of Agriculture (FDA) in FMARD and which would be responsible for overall project coordination. The Desk would support the State Cassava Production, Processing and Marketing Project Desks (SCPPMPDs) housed at the ADPs. At local government level, the project would support the local government desks which would be for mobilization, registration and group formation at the grass root level.

V.26. A Monitoring and Evaluation (M&E) System would be developed, which would include a timely Management Information System (MIS). Technical assistance would be provided for design and pilot testing of an improved MIS. Additional funding would be provided to cover pilot development of MISs for selected ADPs, preparation of manuals and software and training of relevant staff (financial control and M&E staff). Funds would also be provided for project facilitation and training. Eligibility criteria for State and ADP participation would have to be agreed upon at appraisal, which should include a financial commitment by the States prior to participation in the project.

V.27. The NCPMPD would receive support (vehicles, computers, funding of operating costs and training) to undertake performance monitoring of participating SCPPMDs at the ADPs. Funds would also be provided for local contract hire of an experienced Agricultural Economist to assist the M&E staff of the NCPMPD.

V.28. Programme evaluation would focus on problem-oriented investigations, diagnostic studies and impact evaluation, using participatory techniques and rapid informal survey methods. Technical assistance would be provided to help develop appropriate survey designs to meet the evaluation needs. Evaluation units in each SCPPMD in the ADPs would have qualified and experienced Agricultural Economists as head and a team of enumerators. The team would be equipped with vehicles (pick-up trucks and motorcycles) as well as computers to undertake necessary surveys. The main activities would centre on conduct of rapid small scale topical studies for each year.

VI. INDICATIVE COSTS

VI.1. The total estimated base cost of the project amount to US\$111 million or ₦14.66 billion over the five year period. A significant part of the project cost would be borne by participating farmers, farmers’ groups, medium and large–scale farmers who would access funds for purchase of cassava cuttings, fertilizers and tractor hiring services. This would amount to ₦7.33bn or almost 50 percent of total project cost. The Federal Government would extend its usual 25 percent assistance on inputs to farmers which will amount to ₦2.43bn or about 16 percent of total project cost. Including counterpart contribution by Federal, State and Local Governments of six, five and three percent respectively, and total government contribution would be about 30 percent of total cost. It is envisaged that the private sector and donors share the remaining 20 percent of project cost equally.

VI.2. It would be agreed at negotiation that NACRDB and other participating banks would open special windows for farmers participating in this project. The creation of special windows would be a condition for project effectiveness. States and Local Governments would be expected to make down–payments (of amounts to be agreed upon) to qualify for participation. NACRDB and other banks would need to be fully involved during appraisal to ensure that seasonal credits for purchase of fertilizers, planting materials and tractor hiring services are made priority areas of lending. Federal Government’s 25 percent subsidy on inputs such as fertilizer, planting materials and tractor hiring services could be deposited at NACRDB and other participating banks as an incentive to make them give seasonal credit to farmers. The project would link participating farmers to the various existing credit facilities, which would be crucial for successful project implementation. Tables 1 and 2 below summarize the estimated project cost by local and total cost and by project year. Details are presented in Annex 3.

Component	₦ million			US\$ million			% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total	
1. Production Support	9,729.9	816.2	10,546.1	73.7	6.2	79.9	72
2. Processing and Marketing	1,115.0	2,085.0	3,200.0	8.4	15.8	24.2	22
3. Project Coordination and Management	292.0	620.5	912.5	2.2	4.7	6.9	6
Total Baseline Costs	11,136.9	3,521.7	14,658.6	84.3	26.7	111.0	100

Component	Year 1	Year 2	Year 3	Year 4	Year 5	Total
1. Production Support	17.6	20.8	20.8	10.4	10.4	79.9
2. Processing and Marketing	3.6	7.5	7.3	2.9	2.9	24.2
3. Project Coordination and Management	2.00	1.5	1.5	1.0	1.0	6.9
Total Baseline Costs (US\$ million)	23.2	29.7	29.6	14.3	14.3	111.0

VII. PROPOSED SOURCES OF FUNDING

VII.1. As explained above, the sources of funding would comprise Federal, State and Local Governments (about 30 percent), beneficiaries (about 50 percent), private sector and donors (about 10 percent each). The anticipated donor agencies would be the International Fund for Agricultural Development (IFAD) and the African Development Bank (ADB), as these agencies have a strong interest in supporting agricultural development projects in Nigeria.

Funding Sources	₦ million	US\$ million	% Total
Federal, State and Local Government	4,397.6	33.3	30
Donors	1465.9	11.1	10
Beneficiaries	7,329.3	55.5	50
Private Sector	1,465.9	11.1	10
Total Baseline Costs	14,658.7	111.0	100

VIII. PROJECT BENEFITS

VIII.1. The main benefits that would be expected to result from the project are summarised below:

VIII.2. **Production.** At full development and based on most favourable conditions, estimated annual production resulting from the CPPMP could reach up to 30 million tonnes of tubers per hectare per annum, corresponding to about 7.5 million tonnes of cassava products (e.g. chips, pellets, starch, gari, lafun). This would generate a revenue of about ₦100bn (about US\$760m) annually for the economy.

VIII.3. It is assumed that about 50 percent of the farm households in each circle¹. It is expected that participating farmers would adopt the new technologies on 60 to 75 percent of the farm area. In addition, it is expected that a number of non-target farmers would also adopt the new technologies.

VIII.4. **Income and food security.** The CPPMP would increase incomes for about 1.2 million farm households across the country. In addition, the project would create a substantial number of jobs in production, processing and marketing. Through processing, adequate value would be added to cassava products which would go to the market. This would contribute to food security and improve livelihood of the rural people.

VIII.5. **Commodity chain.** The project would build a competitive cassava commodity chain by strengthening the linkages between producers and processors, promoting a diversified approach to processing and supporting improved marketing. Farmers would have improved access to credit and other inputs that are critical for increased production. Through the Research–Extension–Farmer–Input Linkages System (REFILS) and M&E, which would be strengthened under this project, the ADPs would help farmers adopt improved technologies and better access market outlets.

VIII.6. **Institutions.** The participating federal institutions, the ADPs, NGOs and CBOs would be strengthened in their capacity to monitor the performance of the sub-sector. The MISs and Monitoring and Evaluation (M&E) systems at both federal and State ADP levels would be improved. The project would play a key role in the harmonization of the various ongoing and planned initiatives in the sub-sector.

¹ Extension areas are divided into zones, blocks and circles. Each circle is under a Village Extension Agent (VEA).

IX. IMPLEMENTATION ARRANGEMENTS

IX.1. Implementation of the project would be through existing Federal, State and Local Government institutions, with the ADPs playing a pivotal role. CBOs, NGOs and farmer organisations would be fully involved at all stages of planning and implementation.

IX.2. **Executing Agency.** The FMARD would have the overall responsibility for the execution of the project, through its NCPPMPD (see Component 3). The State Ministries of Agriculture, through the ADPs, and the Local Governments, through their Agricultural Sections, would play pivotal roles in implementing this project. A special desk (SCPPMPD – see Component 3) would be established in the ADPs of participating states. This desk would be responsible for the administrative and financial functions of the project at state level. The Local Government Agricultural Sections would be made to play a critical role in organizing the activities at the ward levels. Implementation activities would be decentralized and demand-driven.

IX.3. **National Cassava Production, Processing and Marketing Steering Committee.** At the federal level, there would be a National Cassava Production, Processing and Marketing Steering Committee (NCPMSC) which would oversee the project, chaired by the Honourable Minister of Agriculture and Rural Development. The NCPMSC would comprise:

1. The Honourable Minister of Agriculture and Rural Development	Chairman
2. Permanent Secretary FMARD	Vice Chairman
3. The Honourable Minister of Women Affairs	Member
4. The Honourable Minister of Commerce	Member
5. Director General of NAFDAC	Member
6. Director General of Standard Organization of Nigeria	Member
7. Controller General of Customs	Member
8. Commissioners for Agriculture from participating geo-political zones	Members
9. Adviser to the President on Food Security	Member
10. Director of Planning Research & Statistics	Member
11. Director of Agricultural Sciences	Member
12. Chairman Nigerian Cassava Growers Association	Member
13. Programme Manager RTEP	Member
14. Senate Committee Chairman on Agriculture	Member
15. House Committee Chairman on Agriculture	Member
16. Director, Project Coordinating Unit (PCU), FMARD	Member
17. Director of Agriculture, FMARD	Secretary

IX.4. The NCPMSC would be responsible for project oversight, approval of fund disbursements and approval of work plans and budgets.

IX.5. **National Cassava Production, Processing and Marketing Desk (NCPMD).** At the federal level, the FDA, through the National Cassava Production, Processing and Marketing Coordinator (NCPMC), would coordinate project activities at the National Cassava Production, Processing and Marketing Desk (NCPMD). Recruitment of the NCPMC and other key staff would be on a competitive basis and under terms and conditions satisfactory to government and the donors involved, in order to ensure that highly qualified staff with relevant experience would be recruited. A National Cassava Production, Processing and Marketing Technical Committee (NCPMTC), which would be chaired by the Permanent Secretary FMARD, would provide technical input and coordination with other relevant projects. It would review work plans and budgets for the approval of the Steering Committee. It would also scrutinize progress reports. The NCPMTC would meet three times a year to review implementation progress, as well as review and approve work plans and budgets. The

NCPPMD would serve as the secretariat for the Technical Committee. The approval of the annual work plans of this project would be obtained from the Development Partners assisting the project.

IX.6. The composition of the technical committee would include officials from FMARD (FDA, DAS and PRSD), Customs, NAFDAC, and Ministry of Commerce – Standard Organization Nigeria, Cassava Growers Association, Ministry of Women Affairs, IITA and National Root Crops Research Institute.

IX.7. ***State Cassava Production, Processing and Marketing Steering Committee.*** At the state level, there would be a State Cassava Production, Processing and Marketing Steering Committee (SCPPMSC). The Executive Governor would be the Chairman of SCPPMSC with the Commissioner for Agriculture as the Vice-Chairman. Other members include:

1. Permanent Secretary, SMANR	Member
2. Honourable Commissioner for Women Affairs	Member
3. Honourable Commissioner for Local Government	Member
4. Chairman State House Committee on Agriculture	Member
5. Director of Agriculture (State)	Member
6. Director of PRSD (State)	Member
7. Programme Manager ADP	Member
8. State Chairman of Nigerian Cassava Growers Association	Member
9. State ALGON Chairman	Member
10. State Project Coordinator	Secretary
11. FDA Field Officer	Member
12. House Committee on Agriculture	Member

IX.8. ***State Cassava Production, Processing and Marketing Technical Committee.*** At the state level a Cassava Production, Processing and Marketing Technical Committee (SCPPMTC) would provide technical back up to the cassava desk (SCPPMPD). The desk would coordinate implementation of activities and would be staffed with a State Cassava Production, Processing and Marketing Coordinator (SCPPMC), qualified Agronomist, Economist and other relevant professionals. The technical committee would be chaired by the Permanent Secretary of the State Ministry of Agriculture and would oversee implementation activities at the state level. The committee would meet every term to review implementation progress, review plans and budgets. The SCPPMC would prepare quarterly reports for the State Technical Committee for review and transmission to the NCPPMTC. State annual work plans and budgets would be subject to approval by both National Government and donor agency/agencies. The cassava desk would provide the Secretariat to the SCPPMTC.

IX.9. The membership of the SCPPMTC would comprise:

1. The Permanent Secretary, SMANR	Chairman
2. Director of Agriculture, SMANR	Member
3. Director, PRSD	Member
4. ADP Programme Manager	Member
5. FDA Field Officer in the State	Member
6. SCPPMC	Secretary
7. State Chairman of Cassava Growers Association	Member
8. Head of Women in Agriculture (WIA) in SMANR and Head of WIA in ADP	Member
9. Chairman of Cassava Growers Association	Member

IX.10. There would be a Cassava Development Committee at the LGA level and a Cassava Desk to take the project to the grassroots with the following members:

1. Chairman LGA	Chairman
2. Head of Department of Agriculture	Secretary
3. Supervisory Councillor Agriculture	Member
4. LGA Chairman of Cassava Growers Association	Member
5. LGA Head of Women in Agriculture (WIA)	Member
6. Representative of Community Association	Member
7. Block Extension Agent	Member

IX.11. The functions of these committees would include farmer sensitization and mobilization as well as registration of participating farmers. In addition, the committees would organize farmers’ groups and assist them sourcing seasonal credit.

IX.12. The FDA and the NCPPMD would have overall responsibility for monitoring and evaluation. They would work in close collaboration with the State cassava desks at the ADPs. They would monitor progress against agreed performance indicators. In addition, provision would be made for independent monitors. The monitoring reports would feature the status of project implementation, problems that have arisen and propose corrective measures if required. Other areas such as procurement, disbursement, commitment levels and data on crop yields would also be covered.

IX.13. In the third year of project life, the donor agency/agencies and FGN would jointly prepare a mid-term review. This would assess implementation progress, compliance with the covenants, performance of participating State and Local Governments as well as the impact on the beneficiaries and the economy.

IX.14. Six months before project termination, FDA and NCPPMD, in collaboration with independent monitors, would prepare an Implementation Completion Report (ICR). This would provide the basis for an ICR to be prepared by the donor agency/agencies at the end of the project.

X. TECHNICAL ASSISTANCE REQUIREMENTS

X.1. Short-term Technical Assistance (TA) would be required to carry out appropriate designs for the MIS and necessary studies. Some short-term experts would also be required to provide training inputs for adaptive research, extension, marketing and processing activities. The bulk of the TA requirements would be for supporting activities in agro-processing and marketing. The actual person-month requirements would be worked out during appraisal.

X.2. TA would also be required for conducting agricultural land use survey and several studies related to the cassava sub-sector. In addition, TA would be needed to assist in appropriate capacity building for the staff of the cassava desks.

XI. ISSUES AND PROPOSED ACTIONS

XI.1. *Sources of funding.* Although FGN would have the financial capacity to implement a project of the size of the CPPMP without assistance from outside, Development Partners already active in the sub-sector would be approached for co-funding. State and Local Governments would have to contribute to the project. Experience shows that almost all the Local Governments and most

States regard allocation to the sub-sector as FGN’s sole responsibility. Contributions from State and Local Governments should be made a condition for their participation in the project. It is hoped that the recent external debt relief being granted to the Nigerian Government will free funds for allocation to projects such as this aimed at poverty reduction.

XI.2. **Stakeholder involvement.** Farmers must be intimately involved in the appraisal of this project and must be involved in determining the modules for project implementation, if the project is to be demand-driven, farmer-oriented and farmer-owned. A bottom up approach is yet to be adopted in the formulation of this project.

XI.3. **Community contribution.** Farmers’ contributions would be crucial for the success of the project. Seasonal credits must be available for the purchase of necessary farm inputs. Lack of funds for timely purchasing of inputs such as fertilizer results in farmers’ inability to increase productivity and thereby farm income. Credit for processing equipment must be available ahead of harvest. In that regard, NACRDB, Community Banks as well as commercial banks and other financial institutions would play a crucial role in the project which needs to be further defined at appraisal.

XI.4. **Collaboration and coordination.** There are a number of cassava productions, processing and marketing projects currently going on in the country. It would be crucial to establish appropriate linkages between CPPMP and these projects to ensure the necessary synergies, avoid duplication and to ensure appropriate resource allocation. This project would involve several organizations from government, the donor community, NGOs and beneficiaries. The need for coordination and collaboration among various actors in the sector would be imperative for the success of the project.

XI.5. **Agricultural census and baseline studies.** An agricultural census would be required to provide the necessary statistics required for project planning and impact assessment. This would need to be complemented by specific baseline surveys.

XI.6. **Complexity of the project.** The project would be rather complex, covering 30 states and FCT, which may result in management and coordination problems. However, institutions to implement the project in the states already exist. They would nevertheless require substantial strengthening and capacity building. The project’s apparent complexity would be reduced as it would be implemented in a decentralized way. The project would be private sector-led and activities would be demand-driven. Investment decisions would be made by farmers and processors. The level of investment would depend on what participants will decide to handle and on their capacity to repay the loans required for their production activities.

XI.7. **Rapid multiplication of planting materials.** This would be the key to success of this project and should be treated as such if the project is to succeed. Efforts must be made to make adequate financial provision for this activity and in good time.

XI.8. **Markets.** Processing and marketing would be a major focus of this project in order to create the appropriate incentive for increased production and productivity. Although there is a strong domestic demand for cassava products there is a need to provide market information and market infrastructure. This is necessary to avoid glut in certain areas and scarcity in others as is often the case in Nigeria. For export purposes there is a need for comprehensive market information to benefit from existing opportunities. Trade agreements could greatly enhance the success of the project.

XI.9. **Location and function of the National Varietal Committee.** There is a need to domicile a functional National Varietal Release Committee for improved planting materials in FMARD. This would ensure prompt release of improved agricultural planting materials.

XII. POSSIBLE RISKS

XII.1. A number of risks could limit the level of success of this project if remedies are not found for them, the main ones are:

XII.2. **Lack of counterpart funding.** The potential risk of lack of counterpart funding from State and Local Governments, which would jeopardize project implementation, would be minimized by making their contribution a precondition for project start-up. The necessary instruments to ensure that obligations are met would be put in place, e.g. the payment of an agreed percentage contribution into the project account could be a criterion for participation, as is the case in similar projects.

XII.3. **Lack of planting material.** Planting materials will be the key not only to the success of this project but to the success of several other cassava projects. The potential risk of insufficient production of improved planting materials to meet the demands of the project has to be taken seriously. Therefore, the project would give highest priority to funding of the planting materials nurseries for rapid multiplication of selected cultivars. In addition, selected outgrowers would be assisted to multiply planting materials.

XII.4. **Lack of credit.** The importance of farmers’ access to adequate financial resources has been mentioned above. In that regard, the project would have to establish linkages with development and selected commercial banks as well as other financial institutions with good track records of lending to agriculture.

XII.5. **Institutional weaknesses.** Overlap of institutional functions, limited capacities and poor coordination are potential risks that would lead to poor project implementation. The project would therefore focus on capacity building for stakeholders at all levels and on streamlining of organizational and institutional arrangements for project delivery.

XII.6. **Depletion of soils.** Cassava is a heavy feeder and depletes soil nutrients considerably. In order to mitigate the risk of soil degradation, the project would promote farming systems research that would develop cassava-based cropping systems where fertility enhancing crops such as legumes and nitrogen-fixing crops are planted in conjunction with cassava, either as inter-crop or rotation. In addition, liming would be introduced in the acid soils of the south.

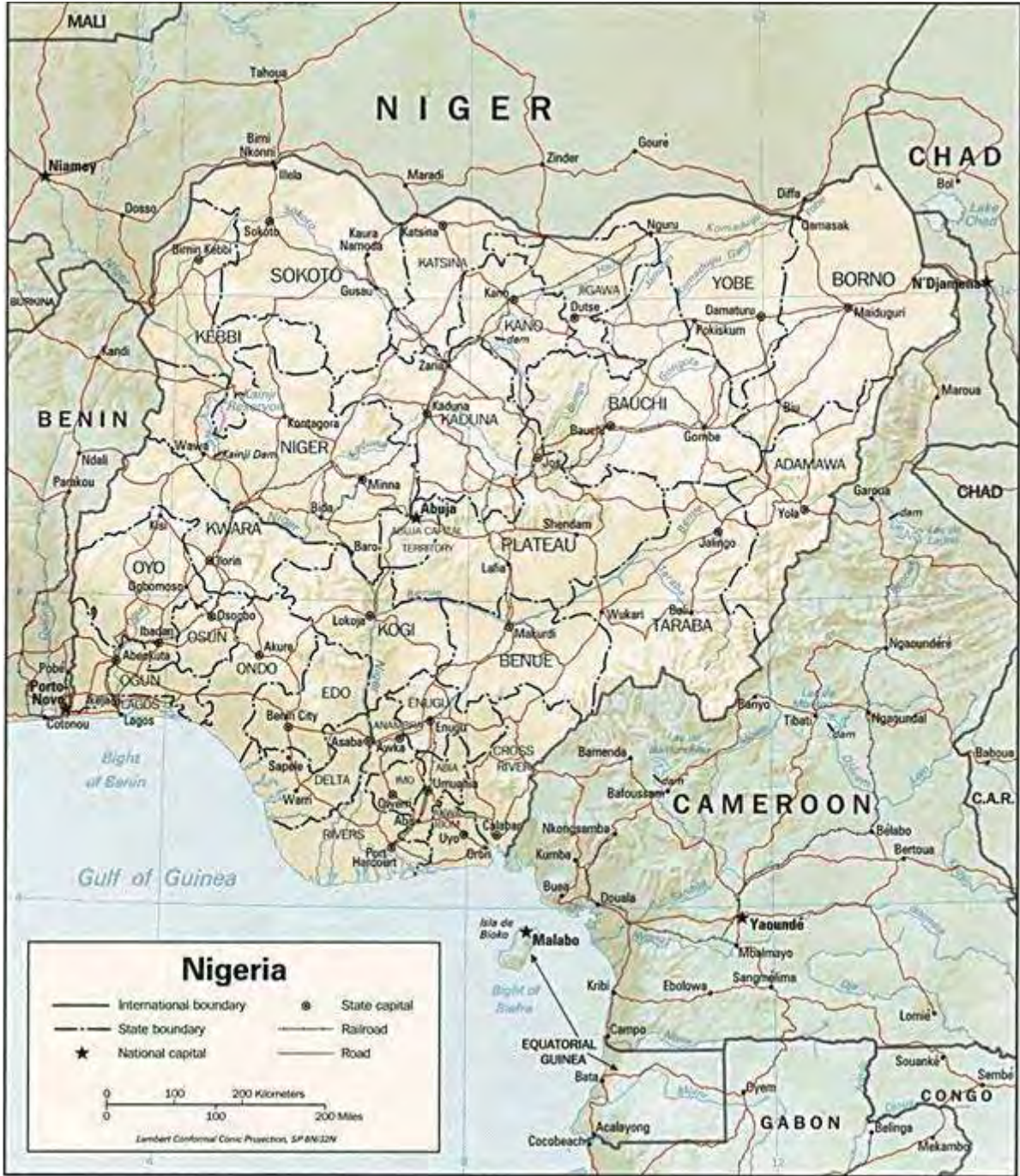
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Annex 1: List of References

1. **FGN, FDA.** 2005a. *Root and Tuber Expansion Programme. Status Report.* Abuja.
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Annex 2: Map of Map of Nigeria



Annex 3: Project Cost Estimates

Component/Sub-component/Activity	₦ million
1. Production Support	
Rapid multiplication of selected CMD resistant cultivars	
30 States ADP and FCT @ ₦2m/State ADP/year for 5 years: (10 ha/site for 31 sites = 310 ha)	310.00
8 bags fertilizer per ha for 310 ha at ₦2,500/bag (8 x 310 x 2,500)	6.20
Sub-total	316.20
Selected farmers to raise 29,690 ha nurseries/multiplication outfits	
₦65,000/ha (recoverable loan funds)	1,929.85
Procurement of inputs (*)	
12 million bundles of cassava cuttings at ₦250/bundle (60 x 200,000 ha)	3,000.00
Farmers' fertilizer requirement at 6 bags per ha (6 x ₦2,500/ha x 200,000 ha)	3,000.00
Tractor hiring services	1,800.00
Sub-total	7,800.00
Extension	
Farmer training, production of extension guides, manuals, radio and TV programmes, jingles, farmers field days and interactive tours for 31 ADPs	120.00
Strengthening of REFILS, support to MTPs and extension delivery services (30 states & FCT) lump sum	72.00
Mobilization of cassava farmers in liaison with the Cooperative Department of the FMNAR in 30 States & FCT	36.00
Support to Federal, State and Local Government cassava extension agents and 32 4WD pick-ups	146.00
Sub-total	374.00
Research and Development	
National Root Crops Research Institute for continental target research on improved planting materials	70.00
Dept. of Agriculture, IITA and National Seed Service	56.00
Sub-total	126.00
Total Component 1.	10,546.05
2. Processing and Marketing	
Supply Chain System	
One centre per Local Government at ₦1.5m for 600 LGAs	900.00
State collection centres (31 centres x ₦1.5m per centre)	155.00
Operation lump sum	60.00
Sub-total	1,115.00
Processing	
On-farm processing infrastructure	940.00
Integrated mills	1,000.00
Sub-total	1,940.00
Marketing	
Market information	25.00
Market studies	105.00
Sundry expenses	15.00
Sub-total	145.00
Total Component 2.	3,200.00

NEPAD – Comprehensive Africa Agriculture Development Programme
Nigeria: Investment Project Profile “Cassava Production, Processing and Marketing Project”

Component/Sub-component/Activity	₦ million
3. Project Coordination and Management	
Management	
Support and operational expenses for the NCPPMD and the 31 SCPPMDs at ₦2m per year for 5 years	320.00
Procurement of 26 4WD Vehicles for project implementation during the life at ₦4m each	104.00
Sub-total	424.00
Monitoring and Evaluation	
One M&E Unit per ADP (one Economist with 5 enumerators; 1 vehicle and 5 motorcycles per unit; total 31 vehicles and 155 motorcycles)	140.40
Cassava land use study	98.10
Other studies	50.00
Sub-total	288.50
Technical Assistance and Training (farmers training, local and overseas staff training)	
	200.00
Total Component 3.	912.5
Total Project Cost	14,658.55
(*) Farmers would be provided with seasonal credit to purchase planting materials, fertilizer and tractor hiring services.	

Annex 4: Cassava Production Figures

Year	Area (’000 ha)	Yield (tonne/ha)	Output (’000 tonnes)
1986	1,095	11.3	12,388
1987	1,288	10.8	13,876
1988	1,347	11.5	15,540
1989	1,271	12.7	17,404
1990	1,472	12.9	19,043
1991	2,551	10.2	26,004
1992	2,755	10.6	29,184
1993	2,844	10.6	30,178
1994	2,927	10.6	31,005
1995	2,944	10.7	31,404
1996	2,546	10.7	32,950
1997	3,186	10.7	34,092
1998	3,216	10.6	34,092
1999	3,362	10.7	35,980
2000	3,466	10.6	36,750
2001	3,514	10.8	37,949
2002	3,683	10.7	39,410
2003	3,948	10.6	41,853

Source: CBN FMA&RD. Current estimated production is about 36.75 million in 2000
 Figures from 2001–2003 are projections

Annex 5: Previous and Ongoing Projects and Programmes in Support of Cassava Production, Post Harvest Technologies and Marketing

The Cassava Multiplication Project (CMP)

The World Bank/IFAD supported CMP started in 1987. In 1991, with only 25 percent of the loan funds utilized, the CMP was redesigned by the World Bank. The slow disbursement was mainly due to a number of administrative problems and late and insufficient counterpart funding. In the redesign, the scope of CMP activities was broadened, to include (i) greater emphasis on testing and demonstration of processing equipment; (ii) involvement of the newly formed ADP women-in-agriculture (WIA) units in the promotion of improved utilization and processing; (iii) demonstrations of the yam minisett technique; and (iv) collection and testing of local yam, cocoyam and sweet potato varieties. The main objective was to multiply and promote improved varieties to about 350,000 farmers and to increase productivity and incomes. On the technical side, this objective was by and large, achieved, and with six varieties incorporated to varying degrees into the farmers’ cropping systems. Some 60,000 ha were planted with improved cassava varieties.

A number of lessons were learnt during the implementation of the CMP, which were subsequently incorporated in the design of the Root and Tuber Expansion Programme (RTEP).

There was evidence that adoption of improved cassava varieties was negatively affected and productivity of improved varieties declined because of:

- available varieties were not sufficiently suited to farmers’ constraints and preferences in intercropping and processing;
- there were inefficiencies and structural defects in breeding, seed multiplication and extension;
- there was declining soil fertility.

Consequently, there is a need to:

- assist breeders to generate varieties that respond better to conditions of low fertility and intercropping;
- ensure, through farming systems and adaptive research, that cassava varieties are properly integrated in other crops, especially legumes.
- improve the management of physical, human and financial resources involved in order to respond to the needs of intended beneficiaries; and
- ensure support for the development and diffusion of soil fertility technologies.

The Root and Tuber Expansion Programme (RTEP)

The IFAD supported RTEP became loan-effective in August 2001 and is expected to close in 2008. The total project cost is estimated to be US\$35.88m. The IFAD loan of US\$23m represents about 65 percent of total project costs. The FGN and participating states are expected to contribute around 19 percent and 16 percent respectively to project costs and beneficiary groups less than 0.1 percent.

The overall objective of RTEP is to achieve a sustainable increase in production of roots and tubers and their end products in order to improve the incomes and food security of some 560 000 smallholder farm households.

RTEP is made up of four components namely:

- Development of improved roots and tuber production technologies;
- Multiplication and distribution of improved planting materials;
- Diversification of processing options and products; and
- Programme Management and Evaluation.

The project is implemented by the RTEP Desks in the ADPs of the participating 25 states (Abia, Akwa-Ibom, Anambra, Bayelsa, Benue, Cross-River, Delta, Ebonyi, Edo, Ekiti, Enugu, Kaduna, Kogi, Kwara, Imo, Lagos, Ogun, Ondo, Osun, Oyo, Plateau, Nasarawa, Niger, Rivers, Taraba) and the Federal Capital Territory (FCT).

RTEP has been supplying cassava cutting materials under the Presidential Initiative on Cassava Production, Processing and Export. RTEP, through its State Agricultural Market Expansion Group (SAMEG), has trained bakers across the various states in the use of composite flour for bread making. Some of the bakers have started commercial production of composite bread. RTEP has recently supplied 632 cassava bundles (about 8.2 tons) of improved cassava planting materials to the Republic of Senegal as part of Nigeria’s contribution to the framework of cassava programme of Senegal. It is actively involved in the Pre-emptive CMD project. A Zambian fact finding team has recently visited Nigeria to have a first hand knowledge of Nigeria’s cassava production processing and export sub-sector and RTEP played the host.

Pre-emptive Cassava Mosaic Virus Disease – Ugandan Strain (CMD) Project

The project is being implemented over four years (2003–2006) at a total cost of US\$16.5m. The funding agencies are the benefiting states of the South-East, South-South and South-West Zones, the Federal Government, the Niger Delta Development Commission, major oil companies and USAID. The latter made an initial contribution of US\$300,000. It subsequently pledged US\$11m. The project area covers the six states of the South-South Zone as well as Abia and Imo States in the South-East and Ondo State in the South-West Zones. The beneficiaries are the resource poor farmers.

So far 43 new high-yielding varieties, resistant to CMD-Ugandan Strain, have been identified and are being tried out in the ADPs of the states involved. In total, 21 varieties have been selected and are being multiplied at the ADP nursery sites (seven each for industrial uses, human consumption and livestock feed production respectively). Among these selections, 10 of the varieties are currently being rapidly multiplied for distribution.

Presidential Initiative – Cassava Production, Processing and Export (CPPE)

This project is to be implemented from 2003 to 2006. The total project cost is ₦65.256bn (corresponding to about US\$494m) and an additional US\$10.2m for processing equipment. The CPPE is one of the President Olusegun Obasanjo’s initiatives in agriculture. It will target emerging domestic and export markets in the areas of food, industrial starch, livestock feeds, ethanol, flour and adhesives, among others.

The main objective of this project is to produce sufficient quantities of cassava products capable of meeting local food and industrial needs of the country and generate export earnings from cassava products. The project area covers all the major and minor cassava producing states of the nation.

The project document was prepared in 2002 after a rapid appraisal survey, and stakeholder consultations including the grass root level. It was designed to be private sector-driven and is expected to increase per capita income, act as incentive for rural and industrial development and create two million new jobs in the production, processing, marketing and export sectors of the economy.

The target groups are small, medium and large-scale farmers as well as processors and traders. The components include production, processing/packaging as well as marketing. Project implementation started in 2003 with preparation of project document and securing the necessary Federal Executive Council approvals. Field implementation activities started in 2004 with a Federal Capital allocation of ₦100m in 2004 capital budget. This was only a fraction of the ₦5.4bn approved by the Federal Executive Council to jump start the project. Because of delayed project start-up and significantly lower than planned budgetary allocation from the Federal Capital Budget, it is obvious that the targets set cannot be achieved by 2006. The project document is more of a project concept document. No detailed financial or economic analyses have been made and detailed sub-project profiles are yet to be prepared. Project implementation has so far involved production and distribution of improved planting materials and sourcing of markets for cassava products.

Funding has been a major constraint to this project. The allocation for 2005 remained at the very low level for 2004 (₦100m), with the result that little progress was made. There is a need to carry out a detailed appraisal of this ambitious project. The major problem of this project will be the sheer quantity of planting materials needed to achieve the target. Some 12,500 ha of land would be needed to produce enough planting materials to cultivate about 5 million ha of land needed to produce up to 50 million tonnes of tubers.

The Niger Delta Development Commission (NDDC)

NDDC is funding the Cassava Development Project in the nine oil producing states of Abia, Imo, Akwa-Ibom, Rivers, Bayelsa, Edo, Delta, Ondo and Cross River. The first phase of the project would be implemented in three pilot states and would be subsequently extended to all the other states. The project has been launched in Akwa-Ibom State. The pilot phase will involve two additional states and subsequently, the remaining six oil producing states. It is expected to keep the youth of the Niger-Delta gainfully employed.