

WORKING PAPER No. 05

**AGRICULTURAL DEVELOPMENT
AND FOOD SECURITY IN
SUB-SAHARAN AFRICA (SSA)**

Building a Case for more Public Support

The Case of Nigeria

A Paper Prepared for the

**Policy Assistance Unit of the
FAO Subregional Office for
East and Southern Africa**

by

Dickson A. Okolo

Roma, 2006

TABLE OF CONTENTS

ACKNOWLEDGEMENT	vii
FOREWORD	viii
SUMMARY	ix
Description of the problem.....	ix
Food supply and demand.....	ix
Food import and foreign exchange cost	ix
Obstacles and opportunities	x
Trend of support to agriculture.....	x
Impact of food import	x
Recommended proposal for intervention	x
<i>Food and cash crops production</i>	xi
<i>Strategies for arable crops production</i>	xii
<i>Strategies for tree crops production</i>	xii
<i>Strategies for horticultural crops production</i>	xii
Fertilizer use.....	xii
Agricultural mechanization	xii
Fadama development.....	xiii
Crop processing.....	xiii
Crop product storage	xiii
Market support	xiii
Food crop programme coordination	xiii
Strategies for Livestock Production	xiv
Strategies for fisheries production.....	xiv
Returns on Investment.....	xv
CHAPTER 1: INTRODUCTION AND BACKGROUND	1
1.1 Description of the problem.....	1
1.2 Terms of reference.	2
1.3 Methodology	3
CHAPTER 2: NIGERIA’S FOOD SECURITY SITUATION	4
2.1 Food supply and demand.....	4
2.2 Meeting domestic food requirement	7
2.3 Nigeria’s food import value	8
2.4 Foreign exchange costs of commercial food import	9
2.5 Regional food production and transfer.....	9
2.6 Food security situation	10
2.7 The vulnerable and food insecure	12
CHAPTER 3: EVOLUTION AND TREND OF SUPPORT TO AGRICULTURE	14
3.1 Overview of importance of agriculture	14
3.2 Challenges and opportunities for agricultural development	15
3.2.1 <i>Natural resources</i>	15
3.2.2 <i>Macroeconomic and agriculture sector policies</i>	16
3.2.3 <i>External factors’ influence</i>	17
3.3 Evolution and trend of public support.....	17
3.4 Development plans and budgetary allocations.....	18
3.4.1 <i>Institutional Strengthening</i>	19
3.4.2 <i>Protection against food import</i>	22
3.4.3 <i>Policy environment for private sector investment</i>	22

3.5	Support to agriculture and other sectors.....	23
3.6	Some explanations for the level of support given to agriculture.....	24
CHAPTER 4: ASSESSMENT OF THE IMPACT OF FOOD IMPORT		25
4.1	Impact on vulnerable groups	25
4.2	Impact on increased domestic food supply	26
4.3	Impact on domestic producer and consumer prices	26
4.4	Impact on farmer's productivity.....	26
4.5	Macroeconomic policy impact	27
4.6	Positive impact of commercial food imports	27
CHAPTER 5: PROPOSALS FOR MAJOR AGRICULTURAL SUPPORT		29
5.1	Food and cash crops	29
5.1.1	<i>Strategies for arable crops production</i>	29
5.1.2	<i>Strategies for tree crops production</i>	30
5.1.3	<i>Strategies for horticultural crops production</i>	31
5.1.4	<i>Fertilizer use</i>	32
5.1.5	<i>Agricultural mechanization</i>	32
5.1.6	<i>Fadama development</i>	32
5.1.7	<i>Crop processing</i>	33
5.1.8	<i>Crop product storage</i>	33
5.1.9	<i>Market support</i>	33
5.1.10	<i>Food and cash crop programme organization and implementation</i>	34
5.2	Livestock production.....	34
5.2.1	<i>Strategies for livestock production</i>	34
5.2.2	<i>Livestock programme organization and implementation</i>	35
5.3	Fisheries production	35
5.3.1	<i>Strategies for fisheries production</i>	36
5.3.2	<i>Fisheries programme organization and implementation</i>	36
5.4	Programme cost and financing.....	37
5.4.1	<i>Programme cost</i>	37
5.4.2	<i>Programme finance</i>	37
5.5	Returns on investment.....	37
6.1	Food and agriculture situation.....	39
6.2	Challenges and opportunities	39
6.3	Recommended proposal for intervention	39
6.3.1	<i>Food and cash crops</i>	40
6.3.2	<i>Livestock</i>	40
6.3.3	<i>Fisheries</i>	40
6.4	Programme cost.....	41
6.5	Programme finance	41
6.6	Returns on investment.....	41
REFERENCES		42

LIST OF TABLES

Table 1: Crops to be produced; Geographical and acreage targets	xi
Table 2.1: Output of major agricultural crops (million mt.) 1997- 2000.....	5
Table 2.2: Index of per capita food production for african countries, 2000	6
Table 2.3: Comparison of food supply and demand with short-falls and imports (million mt) 1994-2001.....	8
Table 2.4: food import bill compared to national budget and total import bill 1990-2001	9
Table 3.1: Nigeria's unemployment rates by classification, 1990-2000.....	14
Table 3.2: Budgetary allocation to agriculture, 1990 - 2002	199
Table 3.3a: Foreign private investment in nigeria by type of activity.1990-1999 (N billion)	233
Table 3.4: .comparison of budgetary allocation by sector, 1990-2002 (N' BILLION)	244

LIST OF ACRONYMS

ADP	Agricultural Development Programme
ARTP	Agricultural and Rural Transformation Programme
ASC	Agro Service Centre
ATTC	Aquaculture Technology Transfer Centre
CBN	Central Bank Of Nigeria
CBPP	Contagious Bovine Pleuro- Pneumonia
DFRRI	Directorate of Foods Road and Rural Infrastructure
DOC	Day Old Chicks
ECOWAS	Economic Community of West African States
FAO	Food and Agriculture Organization
FCPTTS	Food Crops Production Technology Transfer Station
FDA	Federal Department of Agriculture
FDF	Federal Department of Fisheries
FLD	Federal Livestock Department
FMARD	Federal Ministry of Agriculture and Rural Development
FOS	Federal Office of Statistics
GDP	Gross Domestic Product
LBW	Low Body Weight
NACRDB	Nigeria Agricultural Cooperative and Rural Development Bank
NAFDAC	National Agency for Food and Drug Administration and Control
NAFPP	National Accelerated Industrial Crops Production Programme.
NCAM	National Centre for Agricultural Mechanization
NCD	New Castle Disease
NSS	National Seed Service
OFN	Operation Feed the Nation
ONBC	Open Nucleus Breeding Centre
RAIDS	Rural Agro and Industrial Development Scheme
RBDA	River Basin Development Authority
THU	Tractor Hiring Unit
TOR	Terms Of Reference.

ACKNOWLEDGEMENT

Many people have contributed towards improving the content and structure of this report. Although the fundamental contribution remains that of the author and is dully acknowledged, the FAO Policy Assistance Division would also like to acknowledge the considerable effort made by its officers at the Policy Assistance Unit in Harare in bringing this case study to the level it is now. In this regard, the contributions of Messrs Weldeghaber Kidane, Senior Policy Officer and Study Team Leader, and Philippe Dardel, Policy Officer is especially recognized.

The Policy Assistance Division also would like to acknowledge the efficient support provided by its Office Assistants as well as to those who have provided written comments on the case study.

FOREWORD

It has been the case that most African Governments have been taxing farmers and subsidizing urban consumers, while at the same time doing very little in terms of policy and investment to favour the rural sector. The ratio of investment to GDP in most Sub-Saharan Africa (SSA) has been well below the ratios attained in Latin America and Asia. Similarly, Africa's private sector investment in agriculture has been curtailed by a combination of financial capacity, and lack of security, financial services and regulatory framework.

However, Africa needs to investment more and encourage increased private sector investment - both domestic and external - to ensure agriculture based economic growth and sustain it. This notion seems to have been understood by African Governments when the Heads of State and Governments have, in approving the New Economic Partnership for Africa's Development (NEPAD) Comprehensive Africa Agriculture Development Programme (CAADP) at their Summit in Maputo in 2003, committed themselves to increase resource allocation to agriculture to 10 percent of the national budget by 2008. In this context, the Policy Assistance Unit (SAFP) of the FAO Subregional Office for East and Southern Africa, in collaboration with the Agriculture Policy Support Service (TCAS) of the FAO Policy Assistance Division (TCA) embarked in 2004 on a study to analyze the status of food security and agricultural development.

Implementing the Maputo commitment of budgetary increase is however likely to be difficult in view of resource constraints of counties against daunting challenges, especially in the public service sectors. One of the main objectives of the study was therefore to provide objective rationale why agriculture should be supported in the African context.

The study had four components: (a) preparation of 10 country studies representing Central, East, West and Southern Africa, (b) preparation of a background document that looks into the conceptual issues and development paradigms and the prioritization of agriculture, review of relevant lessons from developed and developing countries who have successfully eliminated food insecurity, (c) organization of high-level workshop to discuss the findings of the study and (d) preparation of a report based on the above as well as extensive desk based research by Senior FAO Officers. The paper represents one of 10 case studies.

SUMMARY

Description of the problem

Nigeria has a huge agricultural resource endowment and yet the population is facing hunger and poverty. Seventy percent of the population live on less than N100 per day (US\$0.7 per day), and youth unemployment is close to 90 percent. The poverty stricken smallholder farmers constitute 80 percent of all farm holdings in the country, and are further impoverished by the aftermath of the annual commercial food import practice. The paradox of Nigeria's food situation also lies in the fact that the nation which is the sixth world highest producer of crude oil and earns upwards of US\$ 15 billion annually cannot adequately feed her population.

There is however a ray of hope that Nigeria's agriculture can be supported to fully achieve its major role of providing food and nutrition, raw materials, employment, and foreign exchange. Agriculture's contribution to the national GDP of 41.5 percent is the highest among all the sectors. The nation's output of food per capita based on 1989-91 which is 119 is also among the highest in Africa. About 70 percent of Nigerians live in the rural area, and 90 percent of these are engaged in agriculture. What all these imply is that agriculture is a key sector that stands to affect majority of Nigerians positively only, if well organized and supported.

Food supply and demand

Over the last decade, Nigeria's domestic food production has consistently lagged behind national food demand. The increasing pattern of the annual shortfalls is a dangerous pointer to the fact that the nation may be on the threshold of food insecurity. Within the country there are regional differences in food supply which can be explained by the area of land available to the regions. The North has 79.1 percent of the cultivable land in Nigeria and accounts for the largest share of domestic food production. Next is the West which has 12.4 percent of the available land and comes a second far off after the North in national food production. The East accounts for only 8.5 percent of the available land and therefore contributes the least in terms of national food production. There are regular "internal transfers" of food from the North to the South in order to meet some of the shortages in food demand in the South.

Generally, many Nigerians are not meeting up with their nutritional requirements. The average intake of 9gms of protein per day as against the recommended rate of 65gm is grossly inadequate. It is not a surprise that the vulnerable ones are either dying or suffering diverse debilitating illnesses that affect their efficiency at work. Behind the problem of mal- and under-nutrition lies poverty.

Food import and foreign exchange cost

The growing food import over the years give rise to escalating foreign exchange expenditures which could have been invested in other more useful areas of the economy. The food import bill rose from N 3.474 billion in 1990 to N195.814 billion in 2001; and this trend has not yet changed. The worsening pattern raises a fundamental question about how much longer the nation can keep up with the practice of food import. Apart from the drain which food import constitutes to Nigeria's foreign exchange reserve, there is the weakening of the economy that arises from problems of imported inflation.

Obstacles and opportunities

Many challenges are on the way to the realization of the goal of the agricultural sector. There are the challenges caused by natural resources such as soil, water and climate, and those caused by faulty microeconomic and agricultural policies. The solution to the nation's agricultural problems therefore lies in being able to get the natural resources and the microeconomic and agriculture policies to function effectively together.

There are opportunities for developing the sector. The main approach will be to redouble efforts towards propelling agriculture into a sustainable development path where national and household food security is guaranteed. Since SAP was introduced in 1986, the emphasis in the sector has been to promote private sector operations. This project implementation approach has not quite worked out well for many smallholders as a result of inadequate policies that create problems for the farmers. If the private sector operation is to succeed in agriculture, deserving policy environment that favours the smallholder farmers should be put in place. In this regard they must actually be made the centre piece of the nation's agriculture.

Trend of support to agriculture

The nature of support given to agriculture in Nigeria has varied over the years. Before independence, the assistance to the sector was generally aimed at developing the export crops required by the overseas industries. After independence when the national development plans were prepared, agricultural support took a much more formal form, and thus presented a more serious impression of what government intended doing for the sector. However what most of the efforts later turned out to be as can be inferred from the allocations made in the various National Development Plans and annual budgets, leave much to be desired. When compared to many sectors like mining, manufacturing, education, and health, agriculture virtually received the least periodic allocations that were often inadequate to put the sector on sustainable grounds. This accounts to a large extent for the poor performance of many institutional reforms and strengthening which were over the years undertaken in the sector.

Impact of food import

Nigeria is neck-deep into food import. The latter might be a reasonable short term measure for addressing shortfalls in food supply. However this practice can no longer be justified in Nigeria where it appears to have become the strategy for regularly dealing with annual food shortages. The harmful consequences of long term food import are many. It confers a false sense of food security and creates a vicious circle of depending on it. It diminishes the income of farmers and serves as a disincentive for local production. The poverty stricken farm households as well as other vulnerable people suffer from mal-and under-nutrition which lead to negative consequences for agriculture and other sectors. At the national level, food import depletes the foreign exchange reserve and threatens the balance of payment position. It appears that politicians in authority who should organize long term planning for the agricultural sector prefer other short term measures, especially when such also serve personal rent interest.

Recommended proposal for intervention

An Agricultural Support Programme has been packaged in this study with a view to achieving growth in the agricultural sector as well as attaining national and household food security. The main components of the programme are Food and Cash Crops, Livestock, and Fisheries

Development. These have been put together because of their relative ease of implementation within an umbrella FMARD. The respective components are briefly discussed hereunder.

Food and cash crops production

Nigeria has a great potential in food and cash crops to expand output, increase productivity, become a net food exporter and enhance food security. The crops to be produced and their targets under the programme are as follows.

Table 1: Crops to be produced; Geographical and acreage targets

Arable crops	Annual target	Coverage	Target for 4yrs
Food Crops			
Maize	400 ha/state	20 states	32,000 ha
Rice	500 ha/state	36 states	72,000 ha
Sorghum	300 ha/state	15 states	18,000 ha
Millet	300 ha/state	20 states	24,000 ha
Soybean	300 ha/state	15 states	18,000 ha
Groundnut	400 ha/state	15 states	24,000 ha
Cowpea	200 ha/state	15 states	12,000 ha
Tree Crops			
Oil palm	300 ha/state	21 states	25,200 ha
Cocoa	250 ha/state	13 states	13,000 ha
Rubber	200 ha/state	12 states	9,600 ha
Cashew	200 ha/state	20 states	16,000 ha
Coconut	150 ha/state	16 states	9,600 ha
Gum Arabic	150 ha/state	12 states	7,200 ha
Horticultural crops			
Banana/plantain	400 ha		1,600 ha
Pineapple	25 ha		100 ha
Citrus	500 ha		2,000 ha
Tomato	20 ha		80 ha
Pepper	20 ha		80 ha
Onions	20 ha		80 ha
Telferia	25 ha		100 ha

Strategies for arable crops production

The main strategy for the implementation of the arable crop component will be to encourage the production of improved seeds for planting by the arable crop farmers. In this regard, foundation and breeder seeds will be raised, seed certification and quality control will be emphasized. Extension support will be provided to facilitate the adoption of improved practices. Also training will be emphasized for both the farmers and agricultural extension officers to improve their knowledge and skill. Micro credit support will be provided for farmers to enable them undertake field operations without encumbrances.

Strategies for tree crops production

Effort will be made to support the production of improved seeds/seedlings for distribution to farmers. The farmer will engage in new planting as well as rehabilitations/replanting of old palms and cocoa trees. Reasonable micro credit support will be made to cover the tree crop farmers' need for land development and equipment which are usually relatively high. Credit for agrochemicals is provided particularly for those tree crops that are susceptible to pests and diseases. The proposal makes provision for extension support and for training for farmers and Agricultural Extension Officers.

Strategies for horticultural crops production

The production of improved seed materials to be distributed to farmers will be supported. Extension service support will be provided to aid the adoption process for improved farming methods. Campaign and Publicity will be stepped up for the component. Farmers and Extension Officers will receive training under the programme that will make them more knowledgeable and skillful in their work. Micro credit support will also be provided for farmers in the programme.

Fertilizer use

Fertilizer supply and use are still inadequate. Effort will be made to ensure timely supply and to promote greater use of fertilizer. Fertilizer subsidy will be supported. The subsidy which will be 25 percent in the first year will drop every year until it gets down to 10 percent in the fourth year. By the end of fourth year enough sensitization on the use of fertilizer would have been made, and the subsidy would be ready for 100 percent withdrawal. The subsidy will be borne by the Federal, State and Local Governments. Farmers and Extension Officers will receive training on inorganic and organic fertilizer use.

Agricultural mechanization

This component will emphasize the use of farm power machinery, especially the smaller horsepower. It is expected that they will make considerable impact in establishing more land for cultivation. Tractors will be produced and deployed to the agricultural zones. They will be released to reliable private sector organizations/commodity association to operate tractor hiring units (THU). The tractors will be subsidized to the tune of 25 percent of the actual cost. Apart from tractors, efforts will also be made to facilitate the purchase of work bull, and animal drawn implements by farmers especially in the North.

Fadama development

Fadama development will be encouraged especially in the area of construction of access roads, promotion of institutional organization of the fadama users and support for research. Agricultural extension services and training will be provided. Micro credit assistance will be made available to fadama users.

Crop processing

Under the programme assistance in crop processing has been restricted to the procurement of equipment for demonstration, especially in two food crops (rice and millet) and one tree crop (oil palm). Farmers and processors will be encouraged through RAIDS and NCAM to adopt appropriate processing technology options that are available. They will also be informed of other existing credit facilities available for processing under the CBN-supported micro credit schemes and the facilities at NACRDB.

Crop product storage

On- farm storage structures such as metal bins and improved sun drying platforms will be provided in the states as demonstration equipment and materials. They will serve not only as models but also for training in the storage systems. Effort will also be made to facilitate the completion of at least 4 silos already under construction so that they can contribute towards the stockholding capacity of the national grain reserve.

Market support

Market support will be provided through the activities of the commodity associations. Farmers and investors will be encouraged to go into export trade with the provision of support facilities for sanitary and phytosanitary services in order to improve the grades of their products. The government will be expected to show more concern in protecting the farmers by discouraging imports through raising tariffs especially for commodities where farmers have reasonable comparative advantage. They also will be expected to show more commitment in enforcing bans on commodities and their substitutes that have been formally approved.

Food crop programme coordination

The ADP will play a central role in coordinating the food crops programme implementation. It will be responsible for organizing extension support, publicity, training and field demonstration. Relevant research institutes will be involved in raising seeds/seedlets/suckers/budded stumps to be taken up by farmers. They will be assisted by tested private sector agencies especially in the case of tree crops where large quantities of seedlings will be required. As the seeds and seedlings are sold, the institutes and private agencies will be expected to recover their costs and pay back the credit facility granted to them for their operation.

ADP will be involved in fertilizer distribution in the states. This is important to ensure that the farmers get the benefit of the subsidy built into the programme. Agricultural mechanization will also be coordinated by the ADP. They will supervise the THUs and ensure that they pay in the proceeds from their operations. All the micro credit support will be coordinated by NACRDB in collaboration with ADP.

Strategies for Livestock Production

Nigeria has the largest livestock population in West Africa and yet the protein needs of the people are not being met. Therefore the objective of this livestock component will be to encourage more effective production and create disease free environment for them to survive and do well. This will make more meat to become available and accessible. The main strategies for this programme will be as follows:

Creation of improved stock breed: This will be handled by the Open Nucleus Breeding Centers (ONBC) some of which will be rehabilitated under the programme. The breeding programme will cover sheep, goat, cattle, pigs, ruminants and poultry.

Control of major animal diseases: The main disease control measures to be taken will be against PPR in sheep and goat, Contagions Bovine Pleuro- Pneumonia (CBPP), New Castle Disease (NCD) in poultry and Swine Fever in pigs.

Establishment of grazing reserve: Under the programme effort will be made to settle pastoralists in grazing reserve in order to integrate them into the rural communities. This will help to restore relations between livestock and crop farmers, and in addition will create a good environment for rural development.

Support for direct production: Besides the general support to be given towards direct production of various livestock, this programme will specifically encourage the production of grass cutter. The grass cutter has become a popular local meat animal with high protein and low cholesterol content. It is under threat of extinction in the wild, and its support under this programme will help in conserving the forest biodiversity by reducing bush burning and hunting practice.

Livestock Programme Coordination: The livestock component will be coordinated by the ADPs. Relevant specialized support may be given by the State Livestock Departments. The ADP in liaison with the Livestock Departments will be responsible for organizing extension support, and training. Disease control will be handled by veterinary officials in the ADP and the state ministry. The breeding stock support that will involve rehabilitation of ONBCs will be handled by the Federal Livestock Department. Major support for the raising of grasscutter families to be distributed to farmers will be undertaken by private sector agencies and appropriate research institute. Micro credit support will be coordinated by NACRDB in collaboration with the ADP.

Strategies for fisheries production

A major set back to fish farming and aquaculture development in Nigeria is the acute shortage of high quality fish fingerlings of culturable local species. It is estimated that while the total fingerlings supply from all sources is 27.3 million, the average annual demand is 297.5 million. Under this programme major efforts will be made to substantially improve the situation. The main strategies are as follows:

Fingerlings Production: This will involve the restocking of dams, reservoirs, lakes and lagoons with high quality fast growing fingerlings. Some abandoned heavy pond construction equipment will be rehabilitation because of their usefulness.

Promotion of Aquaculture: Seed and commercial fish farms abandoned by the Federal Government will be rehabilitated and put up for privatization.

Institutional Strengthening of Aquaculture: Some of the fish farming and aquaculture demonstration centers will be converted into Technology Transfer Centres aquaculture development. They will be provided with adequate facilities to make them functional.

Fisheries Programme Coordination: Like other components, the fisheries programme will be coordinated by the ADP. Technical support will be provided from time to time by the State Department of Fisheries. Extension services support and publicity will be handled by the ADP. The stocking of water bodies with fingerlings will be handled by the Federal Department of Fisheries (FDF). They will also be responsible for the procurement of the special delivery vans for fingerlings. FDF will also supervise the rehabilitation of heavy equipment for pond construction. They will in addition rehabilitate the abandoned Federal Government fish farms and prepare them for privatization. The TTCs will be established and run by FDF. Training will be organized by the ADP in collaboration with TTCs.

Programme Cost: This intervention programme is estimated to cost N20.966 billion. The investment cost component is N12.047 billion (or 57.4 percent) and the credit component is N8.919 billion (or 42.6 percent). The relatively high credit component is an assurance that the programme is built on cost recovery. It is particularly meant to empower the farmers and agencies participating in the programme to play their role successfully.

Programme Finance: The programme will run on a cost sharing arrangement involving an External Donor Agency, the Federal Governments, State Governments and Local Governments. The ratios will be as follows:

External Donor Agency-	40%
Federal Government-	30%
State Governments-	20%
Local Governments-	10%

It is proposed that the contributions to the various governments will be deducted at source to facilitate funding compliance.

Returns on Investment

The Agricultural Support Programme will significantly increase domestic output of crops, livestock and fish product in the next 4 years. The gains from the programme will bring about a decrease in the national food shortages and hence cut down food import. Foreign exchange will thus be conserved; smallholder farmers will become more active again in local food production and earn better farm income. In the end, the nation and households will enjoy better food security.

CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 Description of the problem

Nigeria is facing the twin problem of hunger and poverty despite its natural position as a green area with huge resource endowment. It manifests most of the characteristics of Sub-Saharan Africa which has about the largest absolute increase of 72 million people in the last decade. About 70 percent of Nigerians live on less than N100 / day (US\$ 0.7/day), while youth unemployment is close to 90 percent (EZE,2003).

The country has a large informal sector in which a substantial number of the unemployed take up employment (CBN, 2000a). The poverty syndrome is a bit difficult to understand with Nigeria being the sixth world highest producer of crude oil and earning upwards of US\$ 15 billion annually (CBN, 2000b). Regrettably in 2002 alone, 80 percent of the earning was spent on maintaining the government, leaving only 20 percent for economic development. This partly explains the nature of budgetary problems facing the nation. The question then is, what intervention option besides the oil sector, does the nation have for sustainable growth?

Nigeria's labour force in agriculture is 60 percent. Incidentally too, 70 percent of the population reside in the rural areas out of which 90 percent are engaged in agriculture (LIMAN, 1979). This invariably leaves agriculture as a key sector capable of affecting majority of Nigerians in diverse ways. The persistence of hunger and poverty must therefore be to a large extent, the failure of the agricultural sector to fully impact positively on the people.

The sector, in 2000, contributed 41.5 percent to the GDP, realized N16.3 billion from export of agricultural produce and produced 99.64 metric tonnes of different staples (CBN, 2000c and FOS, 1999). Relative to other African countries, Nigeria maintains a high rate of food production with a food output index of 157.4 based on 1989-91 (FAO, 2001). Its index of food output per capita of 199.0 in 2000, even though fairly marginal, was one of the highest for Africa. Of the 54 African countries in the continent, only 24 representing less than 50 percent maintained or slightly improved food production with Nigeria being the 9th on the list. Despite these prospects, Nigeria's agricultural performance in recent times remains inadequate. Behind the inadequacy of the sector lies the foremost problem of low productivity. It is a reflection that the past strategies and programmes for development of agriculture have not all led to a dramatic turn around.

There is a major problem of food insecurity in Nigeria. This is demonstrated by the widening food gap. The gap in food demand and supply is met mainly from commercial food imports. There are equally internal food transfers from major producing areas to minor producing regions to bridge this gap. (OKORIE, 2001). Food aid from external sources is not common probably because of the low occurrence of natural disasters and emergencies.

One of the most fundamental agricultural objectives is food security (TANGERMANN, 2000). In Nigeria the food problem has become a household, political and economic issue. Various programmes and policies have been initiated to address the issue since 1962 when the first National Development Plan was prepared. There have been four of such Plans (1962 – 68; 1970 – 74; 1975 – 80 and 1981 – 85) in addition to different Rolling Plans. The respective programmes of the plan periods include National Accelerated Food Production Programmes (NAFPP) in 1972, River Basin Development Authority (RBDA) in 1974, Agricultural

Development Project (ADP) in 1976, Operation Feed the Nation (OFN) in 1976, Green Revolution (GR) in 1980, Directorate of Food, Roads and Rural Infrastructure (DFRRI) in 1986, National Accelerated Industrial Crops Production Programme (NAICPP) in 1995 and Agricultural and Rural Transformation Programme (ARTP) in 2000. None of these can be described as wholly successful. Apart from several technical factors, the key issues responsible for the poor outcome of many government support programmes are the frequent cases of misapplication of funds, under investment in the sector and multiple political considerations in otherwise technical agricultural issues.

Nigeria is an agrarian country with 80 percent of its land mass in the rural areas (FMARD, 2000). Since agriculture and rural development are central to the nation's socio – economic development, it follows that any policy which aims at transforming the rural sector is likely to favourably impact on agriculture. Meanwhile government under investment in the rural areas has been amounting to indirect taxing of farmers and rural dwellers who actually deserve government support, while the relatively well to do urban consumers are being subsidized. Nigeria needs to improve rural agriculture in order also to stem the exodus of young people to the urban centers in search of jobs that attract relatively better wage than is offered in the rural areas.

Small-scale farmers constitute 80 percent of all farm holdings in the country. They thus form an important foundation on which to rest Nigeria's agriculture. The current emphasis on private sector activities as the strategy for achieving agricultural development is in line with the world-wide approach. However it poses some problems for Nigeria's poverty stricken small-scale farmers who appear to have more difficulty now in securing production assistance. Nigeria's agriculture needs to be supported. Without major support aimed at raising production of desirable food materials and increasing income to eradicate poverty, existing mal- and under-nutrition problems will escalate. Among the problems caused by the latter are fatigue and reduced work capacity; both in turn affect agricultural output and productivity.

Abundant potentials exist for the future development of the nation's agriculture. Of the 98.3 million hectares of land available, 74 million hectares (75.3 percent) have been found to be suitable for arables, and out of this, 34 million hectares are estimated to be under cultivation (ARIBISALA, 1984). This represents one-third of the total land area or 48 percent of cultivable land. Given the above existing opportunity for canceling Nigeria's shortfall in food production, the key questions that arises is what needs to be done to make Nigeria meet its national food requirements on sustainable basis.

1.2 Terms of reference.

The Terms of Reference (TOR) for the study include the following:

- (i) Description of the food security and agriculture issues in Nigeria,
- (ii) Analysis of the agricultural production and food security situation of the country over the last 10-15 years, highlighting the pattern of meeting domestic food requirement from domestic production, food aid and commercial imports; constraint analysis on the scope of increasing agricultural production and productivity of food crops in the country for example, climate, alternate crops grown other than food crops, HIV aids debilitating the population to be profitability employed in agriculture, etc.;

- (iii) Analysis of the evolution and trends of the support provided to the development of the food and agriculture sector in the country, having national and household food security in perspective;
- (iv) Assessment of the impact of food import/ aid dependence on the nation's food security and agricultural development
- (v) Evaluation of the policy and investment support needed in order to propel the nation's agricultural sector on sustainable development path and ensure national and household food security and economic development; and
- (vi) Provision of a summary of the major conclusions from the analysis carried and a proposal of feasible recommendations to take the country out from food insecurity and food aid dependence to food security with healthy food and agricultural sector.

1.3 Methodology

This study on agricultural support is based on Nigeria's problems and need. It is an analytical report on the situations of food and agricultural sector, the support provided to it, and its implication on the nation's food security. The study is based primarily on data collected from secondary sources. These include CBN, FOS, FAO, FMARD, and materials from public institutions and private research agencies.

The TOR provided the main focus for the study. This was complemented with the information from October 13, 2003 Concept Paper on "Assessment of Food Imports and Aid against Support for Agricultural Development, Evidence from Country Case Studies". The latter gave a detailed guideline on the structure of the study report using two main analytical frameworks shown in Fig 1 and Table 1. Food security was made a central issue in the report as intended.

Inferences were drawn from the secondary data collected by using simple statistical tools such as averages, percentages, totals, index numbers, and per capita estimates. Projections of food supply and demand were carried out by respectively assuming the averages for a given period. The averages for a given period appear more realistic than just simply adopting the rates for particular years which may turn out to be over estimation or under estimation.

CHAPTER 2: NIGERIA'S FOOD SECURITY SITUATION

2.1 Food supply and demand

Food is whatever is consumed which provides energy and nourishes the body for a healthy living. It has two dimensions in relation to its goal of meeting the needs of man, and these are food supply and demand. Food supply is the quantity of food made available to consumers at a given period and price while food demand is the quantity that consumers are willing and able to buy within a period at a given price (NWAJIUBA, 2000).

Nigeria's food supply has for many years fallen short of demand. Between 1994 and 2001 for which fairly consistent data are available, Nigeria's domestic food production moved from 86.70 million metric tonnes (in 1994) to 89.25 million in 1995 and to 93.35 million and 95.64 million metric tonnes in 1996 and 1997 respectively before attaining 98.74 million metric tonnes in 1998. It later moved to 100.41 million metric tonnes in 1999, 102.12 million metric tonnes in 2000 and 103.86 million metric tonnes in 2001 (FOS, Abstracts of Statistics, Various Issues).

Food demand which was consistently above the production level moved from 87.23 million metric tonnes in 1994 to 89.55 million metric tonnes in 1995 and to 96.26 million and 99.07 million metric tonnes respectively in 1996 and 1997 before reaching 101.87 million metric tonnes in 1998. It also later moved to 104.6 million metric tonnes, 107.46 million metric tonnes and 110.37 million metric tonnes respectively. It is important to note that the country's food supplies during the period under review were met from two main sources, namely domestic production and food import. Although the annual domestic food productions constituted a large share of the food supplies, they were consistently inadequate to fully meet national food demand.

Meanwhile, the major staple crops produced in Nigeria are cassava, yam, maize, millet, rice, beans, groundnut, plantain, cocoyam, and sorghum. Their levels of production from 1994 to 2000 are shown in Table 2.1. The data from the table shows that cassava and yam were the most produced staples. The table also shows the output of some industrial tree crops such as oil palm, cocoa and rubber. Most of the crops recorded annual increases in output, but the aggregates were inadequate to meet the annual demand.

Table 2.1: Output of major agricultural crops (million mt.) 1997- 2000.

CROP	1994	1995	1996	1997	1998	1999	2000
Cassava	31.00	31.40	32.95	33.51	34.09	35.98	36.75
Yam	23.15	22.81	23.92	24.71	25.10	26.00	26.42
Maize	6.90	6.93	6.21	6.28	6.43	6.51	6.49
Millet	4.75	5.56	5.58	5.99	6.32	6.42	9.74
Rice	2.42	3.20	3.12	3.23	3.48	3.52	3.84
Beans	1.54	1.75	1.84	1.95	2.05	2.10	2.26
Groundnut	1.45	1.57	2.07	2.10	2.22	2.30	2.39
Plantain	1.66	1.63	1.68	1.75	1.80	1.84	1.99
Cocoyam	1.12	1.18	1.29	1.38	1.45	1.49	1.59
Sorghum	6.19	6.99	7.51	7.95	8.40	8.50	8.82
Palm oil	0.83	0.68	0.77	0.78	0.79	0.82	0.86
Cocoa	0.32	0.20	0.32	0.32	0.34	0.16	0.17
Rubber	0.23	0.25	0.24	0.25	0.25	0.26	0.27

Source: CBN, Statistical Bulletin. Vol. 11. No. 2, 2000

When compared to other countries in Africa, Nigeria has one of the highest per capita food output (FAO, 2001). Table 2.1a shows the index of per capita food production for all the African countries in 2000, compared to 1989 – 91. The table shows that only 24 countries in the continent maintained or improved food production. In this regard, Nigeria with per capita output of 119 was the 9th in the whole of Africa.

Table 2.2: Index of per capita food production for african countries, 2000
(1989 – 91 base year 100).

Country	Per/Capita Production	Country	Per/Capita Production	Country	Per/Capita Production
Algeria	104.4	Ethiopia	109.8	Niger	89.7
Angola	108.3	Gabon	88.6	Nigeria	105.2
Benin	118.9	Gambia	99.6	Reunion	105.2
Botswana	77.7	Ghana	133.5	Rwanda	97.6
Burkina Faso	98.6	Guinea	119.8	Sao Tome/ Principe	138.2
Burundi	77.5	Guinea. Bissau	110.6	Senegal	105.4
Cameroon	99.8	Kenya	82.7	Seychelles	119.7
Cape Verde	106.2	Lesotho	105.6	Sierra Leone	73.7
C .African Republic	112.8	Liberia	82.5	Somalia	85.1
Chad	100.1	Libya	132.2	S. Africa	93.5
Congo Demo Rep	61.9	Malawi	134.4	Swaziland	72.1
Congo Rep	95.0	Mali	86.6	Tanzania	75.2
C. D'Ivoire	112.6	Mauritania	82.6	Togo	100
Djibouti	71.0	Mauritius	96.4	Tunisia	115
Egypt	130.5	Morocco	82.3	Uganda	97
Equatorial Guinea		Mozambique	90.1	Zambia	80.9
Eritrea	100.2	Namibia	90.8	Zimbabwe	94.4

Source: FAO, Production Year Book Vol. 55 – 2001.

In the mean time, the policy makers are expected to be concerned about how far the nutritional needs of the people are being met following the current shortages in domestic food production and the attendant recourse to food import as the only alternative source of food supply.

Nutrition is an essential part of food supply which determines the health status of the population. It is the process of providing and receiving food necessary for health and growth (ATINMO, 1983). Therefore, adequate nutrition is an important means of preventing frequent disease attacks and achieving the maintenance of good health and high labour productivity which is desirable for successful farm and non-farm work. Available evidence from surveys has shown that the nutritional needs of many Nigerians, particularly the vulnerable group such as the poor, children, lactating mothers, and the elderly are not being fully met (ENWONWU, 1980). The diet of many Nigerians fall short of the minimum per capita daily calorie and protein in -take recommended by FAO for maintaining the human body which is 2,500 kg cal / day and 65gm/day respectively (FAO, 1995). In Nigeria, an average person receives about 9gms of protein per day (OLULEYE AND OSUNFUYYI, 1991). Protein Energy Malnutrition (PEM) deficit is the most important health problem in Nigeria causing growth failure in children and loss of weight in adults (ANENNE, 2002). There is interaction between PEM and other infections such as measles, diarrhea, whooping cough, tuberculosis, malaria, etc. Other common nutritional diseases in Nigeria include iron deficiency .anemia

and vitamin A deficiency. Iron deficiency anemia affects physical capacity, and in severe cases leads to death as well as increasing susceptibility to infections. It is prevalent among infants in the country because rapid growth imposes large iron needs. It equally affects women of child bearing age. Severe anemia in pregnancy caused by iron deficiency is associated with increased maternal deaths, increased risk of premature delivery and a higher incidence of low birth weight in infants.

In adults, it causes fatigue and reduced work capacity. Vitamin A deficiency lowers resistance to infection thereby contributing to morbidity and mortality. Obesity is equally a form of malnutrition which results from over – nutrition (ATINMO, 1983). This is becoming prevalent in Nigeria and is accompanied by diseases such as hypertension, diabetes mellitus and degenerative cardiovascular disease.

The causes of mal- and under –nutrition in Nigeria are inter-related with biological, economic and socio-cultural factors. However, the primary causes are inadequate in-take of foods rich in essential nutrient, impaired absorption or utilization of nutrients which may be due to infection. Poverty is often at the root of malnutrition, and many Nigerians are experiencing poverty. In Nigeria, well over 67 million (or 66 percent of the population 1991) are living below the poverty line (FOS, 1999). Poverty affects the ability of the people to meet basic nutritional needs. It also affects to a reasonable extent, the ability of farmers to produce more food.

As long as the ugly situation of malnutrition, under-nutrition and poverty persists in Nigeria, the problems of inadequate nutrition will always exist. The solution therefore lies more in expanding domestic food production than in looking outside to other nations to provide the short-fall. Incidentally, the population has been growing faster than food production for a long time. It expanded at an average annual rate of 2.71 percent in the last 10 years, while food production grew at the average rate of 1.7 percent over the same period (CBN, Statistical Bulletin. Various Issues).

From our food production and food demand data of 2001, a 2003 base year food statistics of 107.42 million metric tonnes and 116.43 million metric tonnes could be obtained respectively for domestic food production and food demand. This gives a food deficit of 9.01 million metric tonnes for 2003. If these same rates of growth in food production and demand in the last decade continue for the next ten years, the food deficit will increase by more than two and half times (24.98 million metric tonnes) as shown in Table 2.1b. However, agricultural growth rate has improved in the last two years to an average of 4.0 percent while the food demand is now 3.2 percent (CBN, Statistical Bulletin 2001 and 2002). Unfortunately these new rates of growth are still not enough to completely clear the national food deficit which will leave an outstanding amount of 0.53 million metric tonnes in the next 10 years.

2.2 Meeting domestic food requirement

Between 1994 and 2001 up to 2003, Nigeria's domestic food production consistently fell short of the food demand. During this period, food demand was met mainly through domestic production and less through imports as shown in Table 2.2. Within the country, food aid has not been a common strategy for meeting annual short falls in food production for the main reason that the nation is lucky not to be exposed to national emergencies and natural disasters of the magnitude that would compel it to rely on food relief. Although food import relative to domestic production appears to be limited, over the years the quantity involved has been

growing. Between 1994 and 2001, for which data are available, food shortages rose from 0.30 million to 6.51 million metric tonnes representing over 2000 percent increase. In 2003 the estimated short fall is 9.01 million metric tonnes. Over the same period (1994 – 2001), food import figures have grown in excess of the shortages. What this implies is that Nigeria has a growing reliance on import as a means of solving her food shortage problem. Based on our previous projection in sub section 2.1 of the magnitude of the food shortage problem, an annual growth rate of 6 percent in food production will be required to bridge the gap in the next 4 years (2007). This however assumes that the food demand will not grow beyond its present rate.

Table 2.3: Comparison of food supply and demand with short-falls and imports (million mt) 1994-2001

Description\Yr	1994	1995	1996	1997	1998	1999	2001	2001
Production	86.70	89.25	93.35	95.64	98.74	100.41	102.12	103.86
Food demand	87.23	89.55	96.26	99.03	101.87	101.87	107.46	110.37
Deficit fall/surplus	(0.53)	(0.30)	(2.91)	(3.43)	(3.13)	(4.22)	(5.34)	(6.51)

Source: FOS, Review of the Nigeria Economy, Various Issues

2.3 Nigeria's food import value

This study has so far shown that Nigeria's food import has been on the increase for quite sometime. In the same way, the food import bill has assumed an upward trend.

Table 2.3 shows that the food import bill rose from N3.47 billion in 1990 to N195.81 billion in 2001, recording the highest incremental leap from N16.77 billion in 1994 to N88.35 billion in 1995. This jump may have been due to the severe drought effect of 1994.

The percentage value of food import relative to Nigeria's total import value of goods and services also assumed an upward trend. Between 1990 and 2001, the percentage increase in import value moved from 7.6 to 22.3. The highest percentage increase of 22.3 recorded in 2001 explains that the food import is still on an upward trend.

Nigeria's annual food import values sometimes tell so much about the country's budgetary planning and economic health. Between 1990 and 2001, the percentage of food import bill relative to total budget rose from 8.7 to 55.6 as shown in Table 2.3. It is a surprise that the food import bill was more than half of the national budget in 1995. Given this situation, it is doubtful that the nation's economy will be able to withstand the trend of the food import bill for a long time.

Table 2.4: Food import bill compared to national budget and total import bill 1990-2001
(N billion)

Year	Total Budget (Nb)	Nigeria's Total Import Bill (Nb)	Food Import Bill (Nb)	% of Food Import Bill to Total Import Bill	% of Food Import Bill to Total Budget
1990	39.764	45.717	3.474	7.6	8.7
1991	38.665	87.020	7.785	8.9	20.1
1992	52.035	145.911	11.738	8.0	22.5
1993	112.100	166.100	13.952	8.4	12.4
1994	110.200	162.788	16.767	10.3	15.2
1995	153.495	755.127	88.349	11.7	55.6
1996	337.217	562.626	75.954	13.5	22.5
1997	428.215	845.716	100.640	11.9	23.5
1998	487.113	837.418	102.165	12.2	21.0
1999	947.690	862.525	103.489	12.0	10.9
2000	701.058	591.325	120.054	20.3	17.1
2001	1,018.025	877.300	195.814	22.3	19.2

Source: (1) CBN, Statistical Bulletin and Annual Report (Various Issues)
(2) CBN Annual Report and statement of Account, 2000.

2.4 Foreign exchange costs of commercial food import

In the last decade, Nigeria was a net importer of food. Its increasing food import bill over the years raises fundamental question about how longer the nation can sustain food import as a strategy for meeting the shortfall in domestic food production. Food import involves foreign exchange transactions. Exchange rate has impact on the financial system and therefore on external investment. As a consumption activity, it depletes the foreign exchange resource. And since it does not encourage domestic production, it lacks real capacity for building foreign exchange reserve. Through regular engagement in food import, Nigeria unsuspectingly may have been acquiring imported inflation which is likely to be contributing in weakening the Naira. Different nations have their own exchange rate and inflation problems that are transferred as cost to importers. Food import like other import commodities attract internal transport and storage costs. In this way, they help to make imported foods sometimes costlier than they would normally have been. Nigeria has a great potential to eliminate food imports, become a net food exporter, generate foreign exchange, enhance agricultural production and improve the well being of majority of the poor masses.

2.5 Regional food production and transfer

Nigeria has the potentials of being self sufficient in food production. It is endowed with expansive arable land, good climatic conditions, adequate water supply, and virile labour that can perform if motivated. In Nigeria it has become imperative that states and geographical regions should strive to develop their agricultural sector so as to be self sufficient in the production of commodities consumed by their people. Of the cultivable land area in Nigeria, the North (comprising North East, North West and North Central Zone) has the largest land area of 79.1 percent, the West (covering South West Zone) has 12.4 percent while the East (covering South East) has the least land area of 8.5 percent (OKORIE, 2002).

A sizeable proportion of farmers in the North cultivate 1 to 20 ha of farmland for food production (FOS, 1999a). This gives the region leverage for greater food production. In the North, about 12 percent of farmers have between 10-12 ha each of farmland. In the South (comprising East and West), 90 percent of farmers have less than 5 ha each, and only 0.2 percent have more than 20 ha each of farmland.

Ecological conditions in the various areas favour specific crops more than others. The crops grown in the North include yam, potatoes, tomato, pepper, cowpea, onion, wheat, sorghum, millet etc. The North lacks well distributed rainfall, but with dams and irrigation, they produce all through the year. Ecological conditions in the south are conducive for a diversity of tropical crops. The crops grown in this area include root crops, legumes, fruit and plantation crops, cereals and vegetables. A breakdown of food production by geographical areas in the country suggest that the bulk is mainly from the North. Available data on the production of some crops show that the contribution of the East is comparatively marginal, implying the area's relative dependence on other geographical areas for food (FOS,1999a). The main reason for this is the availability of more expansive cultivable land in the North. Large scale crop production is difficult without sufficient land. The North has a land area/person of 1.17 ha. As against the North, the East has a smaller land area and higher population density. The East alone comprises 21.8 percent of total population of Nigeria. The mean land area/person is only 0.31 ha. (FOS 1999a). It must be recognized that there is a limit to what a given unit of land can support, irrespective of technological innovations.

Available statistics of some local staples like cowpea, onions, oil palm, pepper, tomato, and cassava can be used to demonstrate the relative contribution of different geographical zones in domestic food production. In 1998, the North produced 94.23 percent of total cowpea production in the country, the West produced 3.29 percent and the East, 2.4 percent (FOS, 1999a). In the case of onions, available data in 1992 /1993 showed that the North led with 97 percent production while the South (South-East and South-West) produced only 3 percent (FOS,1999a). For oil palm which is a southern tree crop, the East accounted for 68.77 percent production in 1995, followed by the West which produced 27.20 percent and the North which accounted for only 4.03 percent. Tomato and pepper consumed in the country are mainly produced by the North while the bulk of cassava is grown in the South.

An observation of food market in the South shows that lorry loads of food from the North arrive the South daily. Many southern-based food merchants travel daily to the North, as it were, to effect "internal food transfer" to the South. In this regard, it can be said that the northern areas are the food basket of Nigeria.

2.6 Food security situation

Food security is access by all people at all times to sufficient food for an active and healthy life (NWAJIUBA, 2000). Within the framework of this definition, food security requires fulfilling certain conditions related to the supply, demand and household-level utilization of food. Everyone should at all times, have food in adequate quantity and quality. For Nigeria to be food secure, residents must have food year-round and in every part of the country. The quantity of food available must not only be adequate on the aggregate but there must also be per-capita adequacy at all times. Access in this respect must not be only by own production (subsistence) but also from the market with consumers having adequate purchasing power to constitute effective demand. Household food security situation in Nigeria shows the extent which the household has access to adequate nutritional food. Examining the main components

of food security in Nigeria will reveal the food security situation prevalent in the nation's household. The components under consideration include availability, stability, access and utilization.

Food Availability: The statistics of domestic food production since 1990 may give the impression of growth, yet the demand by household on food resources of the country has not been met.

Stability of Food Supply: There has not been much improvement in the processing and storage of food products in Nigeria. This has resulted in substantial on-farm and off-farm post-harvest food losses estimated at 20-40 percent of most harvested products.

(NWAJIUBA, 2000). This is likely to lead to a fall in food consumption in the country except where food import fills the gap. Food wastage is basically caused by poor-harvesting techniques, poor-harvest handling, lack of adequate storage facilities, poor packaging and transportation problem. The percentage of the food product that is annually lost is quite high and is a pointer to the fact that the objective of stability of food supply has not been achieved in Nigeria.

Access to Food: Access to adequate food constitutes the most serious problem for most Nigerian households. Although one is sometimes led to think that food supply is abundant, access by households to desired food has remained a pressing problem in recent years (Federal Republic of Nigeria, 1997). High inflation rate, food price instability and relatively low wages of income earners have made the average Nigerian liable to food insecurity. Nominal income is on the increase but the real household income is fast declining thereby reducing the effective purchasing power of households. This ultimately makes food inaccessible to the households leaving them insecure (NNANYELUGO, 1990).

Food utilization: The food in-take and the nutritional well being of Nigerian households have been adversely affected by unequal distribution of food supplies and poor access to food and nutrition. These conditions are caused by high inflation, low purchasing power of the average Nigerian consumer, rising poverty and economic inequalities. The poverty level and poor access to food and nutrition have placed children and pregnant woman at a great risk (Federal Republic of Nigeria 1997). There is acute level of Protein Energy Malnutrition (PEM) and a significant level of micro-nutrient deficiencies like iron. About 38-48 percent of Nigerian children under 5 years of age are stunted (that is experience some form of growth failure) while 36 percent of them are wasted (that is inability to gain weight in relation to height) (NNANYELUGO, 1987).

In the same way, 21.5 percent of Nigerian children are underweight (that is inability to gain weight in relation to age). About 60.8 percent of Nigerians are malnourished (lacking in calorie and /or one or more essential food nutrient) (NNANYELUGO, 1987).

Available evidence earlier discussed in subsection 2.6 shows that a sizeable proportion of farmers in the northern part of the country cultivate greater hectareage of farm land (1-20 ha) for food production than is the case in the southern part (FOS, 1999). The above statistics shows that the North is relatively more food secure than the South; the corollary being that the South is more food insecure than the North. Given the tight cultivable land, the population pressure on available land and social environment where young people are deserting the farm, a future without internal food transfers from the North to the South (especially South East) for now, is difficult to contemplate.

Although the exact condition of food insecurity in Nigeria is subject to debate, most public opinion is that the situation is quite pronounced. It is generally believed that the problem must have been worsened by the overall dependence on petroleum which in year 2000 was responsible for 98 percent of Nigeria's total export earnings (CBN, 2002). Given the nation's agricultural resources and potentials, recovery in the sector is still feasible, if and when the right attitude is adopted. And if that is the case, Nigeria's food insecurity may for now only be regarded as transitory.

2.7 The vulnerable and food insecure

The vulnerable and food insecure groups are the poor, smallholder farmers, children, pregnant women, lactating mothers and the elderly.

The Poor: Poverty affects both the ability of the people to meet basic food needs and the farmers' ability to invest. Households or individuals who are unable to meet their food and nutritional requirements because of inadequate income are said to be food poor and are therefore food insecure.

Smallholder Farmers: Farmers with small holdings belong to the vulnerable and food insecure group (where the land holding is the main household asset and source of livelihood). The incidence of food security is closely linked to the average size of landholdings. Where the pressure of the population is heavy and the size of holdings is small, food poverty tends to be high. This is because as was pointed out earlier, there is a limit to what a given unit of land can support, irrespective of technological innovation.

Children: Children are at risk biologically to malnutrition and undernutrition. A well – nourished child is less susceptible to morbidity and mortality than a malnourished child and is far ahead on mental and physical development (NNANYELUGO, 1996).

Pregnant Woman: Deficiency in in-take of extra energy and protein nutrients exposes pregnant women to malnutrition, and the likely result is the undernourishment of their babies. This may lead to low body weight (LBW) of their babies.

Lactating Mothers: Inadequate energy and protein in-take may lead to the lactating mother having low mean maternal weight during lactation, and the infant, a low gain in weight in the first three months.

Elderly: This group is also vulnerable to food insecurity. Many of them have fragile health conditions that are quite demanding and needing adequate nutrition. Elderly ones stay more at the rural areas where sometimes they may not even be properly taken good care of because their children are staying in the big cities. This condition wears them out fast. The elderly ones often require adequate nutrition to keep them strong.

Any measure for achieving food security in Nigeria, first and foremost, must be concerned with producing more food to cancel the annual food deficit between domestic supply and demand in a way that makes food available and accessible to everyone. In this regard governments, over the years, have pursued various programmes ostensibly aimed at achieving agricultural development, but the existing annual shortfalls point to the fact that much success have not been attained in this direction. The yearly practice of importing food may make food available but not necessarily accessible to everyone especially the vulnerable group. This may

Building a case for more Public Support

be due to the high level of poverty which the food import practice helps to impose particularly on those whose means of livelihood depend on food production. A paradigm shift is required in the nation's practice of dealing with shortfalls in food supply. Without an attitude of farm work and production in the country, food security will be difficult to achieve.

CHAPTER 3: EVOLUTION AND TREND OF SUPPORT TO AGRICULTURE

3.1 Overview of importance of agriculture

The agricultural sector is one of the most important sectors of Nigeria's economy. It holds a lot of potentials for future economic development of the nation, having played dominant role too in the remote past. In the last decade, its impact may not have been so prominent because of the dominating effect of the oil sector which annually contributed no less than 96 percent of the nation's total export earnings (CBN, Annual Report and Statement of Accounts, Various Issues). In 2000, agriculture's contribution of 41.5 percent to GDP remains the highest compared to other sectors of the economy. Distributive trade and the oil sectors came a far second and third places with GDP contributions of 11.6 and 10.4 percent respectively. Agriculture's GDP maintained a steady growth from 1990 to 2000, recording an average contribution of 38.46 percent.

The agricultural sector has been providing the main source of food and nutrition to the nation whose average population growth of 2.71 percent between 1990 and 2000 is well above the growth of domestic food production which averaged 1.7 percent for the same period (CBN, Annual Report and Statement of Account, Various issues). The sector also supplied essential raw materials to industries as is shown by the growth in production of industrial crops from 11.36 million to 15.23 million metric tonnes between 1990 and 2000. Between the same period, agricultural exports significantly added to the foreign exchange earnings. The export revenue increased from N2.85 billion in 1990 to N19.97 billion in 2000 (CBN, 2001).

Agriculture provides employment for 70 percent Nigerians who reside in the rural areas and predominantly engage in agricultural production (EZEANI, 1995). Indeed a recent study on Nigeria's unemployment rates by classification covering 1990-2000 shows that the average unemployment rate in the urban areas (4.88 percent) is higher than that in the rural areas (2.71 percent). The result of this study shown in Table 3.1 reflects the extent agriculture helps to solve Nigeria's unemployment problem which among the youths is close to 90 percent.

Table 3.1: Nigeria's unemployment rates by classification, 1990-2000.

YEAR	URBAN (%)	RURAL (%)	NATIONAL (%)
1990	5.9	3.0	3.5
1991	4.9	2.7	3.1
1992	4.6	3.2	3.4
1993	3.8	2.5	2.7
1994	3.2	1.7	2.0
1995	3.9	1.6	1.8
1996	3.9	2.8	3.4
1997	8.5	3.7	4.5
1998	NA	NA	NA
1999	4.2	2.8	3.0
2000	5.9	3.1	3.6
	4.88	2.71	3.1

Source :(1) CBN, Nigeria: Major Economic Financial and Banking Indicators, April 1998.
(2) CBN, Annual Reports, 2002

3.2 Challenges and opportunities for agricultural development

Agriculture has not been able to fully perform its expected role in Nigeria which includes supplying raw materials to the industrial sector, providing employment, generating foreign exchange and ensuring food security as well as economic growth of the nation. Many obstacles on the way to the realization of the goal of agriculture in Nigeria involve natural resources (such as soil, water, and climatic factors), micro economic and agriculture sector policies and external factors such as global trading environment and development assistance. These are variously discussed below:

3.2.1 Natural resources

Soil: Soil type determines the crops to be successfully grown in an area. The major soil factors that affect agricultural production in Nigeria are soil pH, texture and structure. In the case of pH, while some crops like cashew and tea prefer acidic soils with low pH levels others like maize require less acidic soil with high pH for optimum growth. The quantity of soil nutrients vary with the pH of the soil too. This is particularly so when one considers the cation exchange capacity of the soil. In Nigeria most producers, particularly farm-households do not conduct investigation into the soil types of their holdings before taking enterprise decisions. Sometimes they have rules of thumb on what crop to plant in certain areas which may not always be right.

Soil texture also affects crop production in Nigeria. Texture measures the relative proportions in which sand, silt and clay particles exist in a given soil sample. This particularly affects the type of crop to be planted, nutrient availability, water retention capacity and aeration of the soil. Erosion and leaching are highly dependent on the nature of soil texture. In the Eastern parts of Nigeria with high rate of soil erosion and leaching soil texture is usually impaired, and yield is often adversely affected.

Structure of the soil describes the arrangement of soil particles into various aggregate sizes and shapes. The way in which sand, silt and clay particles are arranged can influence agricultural production operations. In lowland areas of the country, mechanized field operations by heavy equipment are regulated because of adverse effect they can have on soil structure.

WATER: Water resource is important for sustainable agricultural production in the country. Inadequate water provision causes stress in plants as food translocation process cannot be effectively carried out. Photosynthetic action also cannot be carried out in the absence of water. Rainfall has been the main source of water for agricultural production in Nigeria. With irregularities in rainfall distribution in parts of the country, especially the North where drought occurs sometimes, there has arisen the need for the development of alternative sources of water resource for farm operations. This has led to the tapping of ground water and many surface water like streams and rivers. Nigeria's annual surface water estimated at 193×10^9 cubic meters is many times smaller than the volume of ground water (AYIMODU, 1981). This no doubt, portrays the enormous potential of irrigation for increased food production in Nigeria. Currently, the scope of irrigation practice is grossly limited in the country, and effort should be re-doubled under the existing World Bank- supported fadama projects to involve more farmers from both the North and South, in the practice.

CLIMATE: Climatic factors such as rainfall, temperature, relative humidity, wind, and sunlight influence agricultural production in the country. Rainfall problems and prospects

which were briefly discussed under water above have been given more prominence here. When well distributed in sufficient amount, rainfall can have various influences on plants. It is one of the external factors affecting germination of seeds. Different types of vegetation (e.g. rainforest, savannah) are influenced by rainfall. The implication is that forest products and grasslands will continue to be sustained through rainfall. Both of these have various economic effects. For example, farm structures are built with forest products while many livestock rely on grasslands for food. Abundant soil nutrients are dissolved by rainwater. Rainfall in its extreme is not good for agricultural activities. Soil nutrients are washed away (erosion) or washed down (leaching) where they become unavailable to plants.

Relative humidity, which measures the amount of moisture in the atmosphere, is another climatic factor that affects agricultural production in Nigeria. Low relative humidity causes heat stress on crops which when prolonged can reduce productivity of crops. On the other hand, low relative humidity encourages the growth of grains and grasses. It accounts for the importance of cereal grains as a major component of Nigeria's staple food. High relative humidity reduces evapo-transpiration and improves the amount of rainfall. What all these imply is that each level of relative humidity could be explored to achieve some desirable agricultural production results. Wind is important for dispersal of seeds and fruits and serves as an important agent of pollination. On another dimension, it contributes in the transmission of crop diseases by distributing air-borne fungi spores. Windstorm also causes lodging in crops. Temperature influences agricultural production. Temperatures in Nigeria are reported to be sufficiently high throughout the year to permit two or three harvests of arable crops (OGUNTOYINBO, 1981). It is necessary for photosynthesis and germination of seeds.

3.2.2 Macroeconomic and agriculture sector policies

Agriculture, anywhere, may be influenced through the adoption, manipulation and fine-tuning of macroeconomic policies. In Nigeria where so much aspirations and hope for the agricultural sector are far from being realized, pertinent questions have been asked on how to get appropriate macroeconomic and agriculture sector policies to function well. For more than a decade, Nigeria has adopted food import almost as a policy for addressing the nation's food problem. After such a long time of holding on to this practice, it should be dawning on everyone that this policy does not have the solution to Nigeria's food shortage problem. Rather than solve the problem, food import has fuelled inflation, discouraged local farm production, created poverty among many farm households and helped to cause food insecurity. These situations call for national development planners to seek out alternative measures of addressing Nigeria's food problem.

In the mean time the balance of payment position for the country which has continued to be threatened following the annual increases in food import and the dwindling value of the exchange rate suggests that the economy may not be able to sustain this practice for too long. Other economic indices of growth like interest rate promote growth only too slowly. For instance, it had been contemplated that the current 3-5 percent interest on commercial bank savings would dissuade investors from leaving their money idle in the banks. But then to what extent would the majority of farm households and other people who have no savings in the bank and who must borrow in order to invest be able to afford the 19-21 percent interest rate charged by banks on borrowed capital? Many alternative credit agencies in agriculture have not also done too well in the last decade. With the new mobilization of NACRDB by the Federal Government for greater challenges, it is hoped that this credit institution will be more responsive to the demand of genuine farm- households for investible funds.

Following the Federal Government adoption of privatization policy as a way of promoting efficient business operations in the country, the government has become circumspect in granting subsidies. This has become a problem especially for agriculture which cannot compete with the oil industry, trade and manufacture sectors for allocation of resources. Agriculture still requires to be subsidized particularly the capital intensive aspects like machinery and equipment, fertilizer, etc. Labour is expensive and credit support for major farming operations deserve to be encouraged. The policy of banning the importation of certain agricultural commodities that have local substitutes is a good one that should encourage local production. However, its implementation leaves much to be desired. One of the worst examples of this problem is palm oil which for sometime was banned while its import substitute called tarlow was being allowed into the country. Enforcement of approved bans will portray the government as being seriously committed towards encouraging local production. All in all, government's macroeconomic and agriculture sector policies need total commitment and political will to implement successfully.

3.2.3 External factors' influence

External factors have their influences on the nation's agricultural development. Though a sovereign state, Nigeria is linked to the global world and Regional West African Community which have interests that may or may not necessarily synchronize with the interests of the nation. As a member state of ECOWAS, Nigeria had for long joined other member states in implementing a regional plan that involved the opening up of national borders to facilitate passage and trade by nationals of member states. This regional plan may have brought different consequences on Nigeria's food situation. In the first place, it is likely that population pressure arising from uncontrolled influx of nationals of other member states could push up domestic prices of different agricultural commodities.

A high domestic price may be able to encourage local food production, or it could cause more food import which appears more to be the case in Nigeria. Population pressure could stretch the insufficient infrastructure in the rural areas bringing about possible negative consequences on food production. The second major consequence is that the influx of other agricultural commodities could depress domestic prices and hence reduce farm household income, leaving many of the farmers impoverished.

Development assistance from international groups has different intended and unintended influences on agriculture in the country. Some of them have been quite successful and able to achieve their goals of raising food production in absolute terms and providing rural infrastructural facilities that aid food production process. Others that either may not have been properly focused or that ran into implementation difficulties may have ended up without achieving their goal. In addition, such ones may have gulped huge funds in foreign exchange that could have been otherwise utilized to improve domestic food production. Political situations in some countries sometimes affect the fortunes of agriculture in other countries. For example the political problems in Cote D'Ivoire have brought about a reduction in cocoa production and export in the troubled nation. This has turned to the advantage of Nigeria's cocoa export market.

3.3 Evolution and trend of public support

Evolution of Public Support: Over the centuries, our forefathers developed systems of agricultural production which supported viable social, cultural, economic and political

institutions in different ecological zones that now constitute Nigeria. When the British left in 1960, they left behind an undisturbed system of agricultural production that was based on smallholdings cultivated with intensive human labour. A number of salient features characterized the agricultural sector of the pre-independence Nigeria:

- (i) High level of agricultural production was achieved through the mobilization of small scale farmers using the cutlass and hoe;
- (ii) The development of basic infrastructure such as the roads and railways was essentially geared to the development of crops required for export;
- (iii) Food was abundant, and the effective demand was initially satisfied without resort to the food importation;
- (iv) The foundations for agricultural research and extension were laid.

The above was the situation until the government started to intervene in Nigeria's agriculture through Development Plans and regular annual budgetary provisions.

3.4 Development plans and budgetary allocations

Four successive Development Plans were made first in 1962-68, second in 1970-74, third in 1975-80 and fourth in 1981-85. The Development Plans each of which covered a period of about 5 years were followed by Rolling Plans that cover only 3 years. Government investment in agriculture was N0.15 billion in the first plan out of which N0.10 billion was spent. In the second Plan N0.33 billion was budgeted but actual expenditure came to only N0.21 billion (CBN, National Development Plan 1992). By the third Plan a budget of N3.09 billion was made and N 2.10 billion spent. In the case of the fourth Plan for which only information on the budget allocation is available, the financial position was N8.82 billion.

An analysis of the agricultural sector budgets of the Development Plans has been done to show to what extent they helped to support agriculture. The first Plan allocated 11.6 percent of the budget to agriculture but only 9.8 percent of the actual expenditure (which was below approved budget) went to the sector. The second Plan gave 9.9 percent, but the actual expenditure of 17.7 percent was by far less than the initial budget allocation. The same experience was the case with the third Plan where the 7.1 percent actual release was also by far less than the 7.2 percent budget approval. The actual expenditure figure for the fourth Plan is not available, but the pattern could have been the same as the others. These poor Development Plan budgetary allocations and releases remain the characteristic feature of most annual budgets for the sector today. A comparison of the budget allocation for agriculture in the various Development Plans by proportion with the annual budgets shown in Table 3.3 was carried out.

Although the budgetary period for the Development Plans (1962 -85) is not the same for the annual budgetary period being compared (1990 – 2000), the analysis will help to indicate the pattern of allocating funds to the sector both in the past and present. The result shows that the annual budgets even provided far less proportionate allocations to agriculture than the Development Plans. This is a reflection of inadequate consideration of the problems of the sector by the budget planners even in the present times.

Table 3.2: Budgetary allocation to agriculture, 1990 - 2002

YEAR	TOTAL BUDGET (N BILLION)	ALLOCATION TO AGRIC (N BILLION)	% OF AGRIC TO TOTAL
1990	39.76	1.96	4.95
1991	38.66	0.67	1.74
1992	52.03	0.92	1.78
1993	112.10	2.83	2.53
1994	110.20	3.71	3.37
1995	153.49	6.92	4.51
1996	337.21	5.71	1.69
1997	428.21	8.66	2.02
1998	487.11	9.04	1.86
1999	947.69	12.15	1.28
2000	701.05	13.60	1.94
2001	1,018.02	64.94	6.38
2002	1,018.15	44.80	4.40

Sources: CBN Statistical Bulletin and Annual Report (Various Issues)

3.4.1 Institutional Strengthening

Various institutional reforms have taken place in the agricultural sector since government's direct intervention early in the sixties. The first noticeable of all the interventions was during the second Plan (1970-74) when the National Accelerated Food Production Programme (NAFPP) and the River Basin Development Authorities (RBDA) were started. The NAFPP was Federal Government main strategy for food crop production in the early and mid seventies. It adopted the approach of integrated research and extension that was extended from the original 4 Nos pilot states to all the states, and had tremendous potential then for modernization of Nigeria's agriculture. Also established during this period is Food Crops Production Technology Transfer Station (FCPTTS) in three locations namely Dan Hassan in Kano state, Ubiaja in Edo State and Ugwuoba in Enugu state. They were involved in adaptive researches that had the main goal of applying general research results of scientists to different local environments of production.

The RBDAs also came up within that plan period as a concept for ecological and regional planning for agricultural production and development. They aim at utilizing the rich soils and environments of river basins for increased agricultural production and integrated rural development. This philosophy of applied ecology is basically sound, but needed expertise in the area of agronomy, irrigation engineering, hydrology, soil / water conservation, drainage and watershed management, farm management, etc. At the time of taking off initially, there was a shortage in the world of experts in the area of River Basin Development in the tropics which was why the programme started with pilot schemes. Unfortunately, Nigeria did not train adequate personnel in these areas before extending it to all the states. This created initial problems of evolving and development of suitable programmes that could make major contributions to agricultural development. Its current situation is exacerbated by lack of adequate funds to implement and supervise more capital intensive projects associated with River Basin Schemes. The third Development Plan witnessed the implementation of more impressive institutionalized programmes that tended to focus attention on more specific areas of agricultural development for greater in - depth attention. These included:

- (i) Operation Feed the Nation (OFN)
- (ii) Rural Integrated Agricultural Development Programme (ADP)

- (iii) Green Revolution Programme (GR)
- (iv) Agro Service Centre Programme (ASC)
- (v) National Seed Service (NSS)
- (vi) National and State Food Production Companies.

The Operation Feed the Nation (OFN) started in 1976 was essentially aimed at mobilizing every Nigerian to see the need to engage in agricultural production. As a sensitization programme, it achieved its goal of attracting massive interest and involvement of Nigerians in agriculture. Its major short-coming was in not focusing on farmers whose means of livelihood were in agriculture, and who could be relied upon to continue on a sustainable basis.

Another programme that came up after the OFN was the Integrated Agricultural Development programme (ADP). As a focus of development, the ADPs were a powerful tool in the modernization of the agriculture of rural communities. The successes achieved in Funtua, Gusau and Gombe projects, and later in Lafia and Ayangba projects led to the establishment of full blown state-wide ADPS. Up to date, it has continued to provide extension, technical support and training for the large farm-household population in all the states. Its activities are currently being held down by lack of funds.

The Green Revolution (GR) was another institutionalized support for agriculture towards the end of the third Plan. Its main strategy was in providing inputs at subsidized rates to numerous small scale farmers. It encouraged farmers to belong to co-operative organization so as to enjoy the economies of large scale involvement in agriculture. The short-coming of the GR is that it was so much a political programme that did not provide for continuity. Most of the farmers who received credit, agro-chemicals and machinery/equipment under the programme saw them as their share of the national cake and refused to pay back.

One of the most outstanding achievements of the third Plan period concerning input supply and distribution was the development and implementation of the Agro Service Centre programme (ASC) in the entire country. The absence of an input delivery system capable of ensuring the availability of inputs to the farmer at a convenient, easily accessible location, at the right time, in the right form and at a price acceptable to him, has been a major constraint to rapid agricultural development in Nigeria. The ASC was therefore a basic unit that was to be a source of all inputs, e.g. seeds, fertilizer, pesticides, herbicides, tractor/equipment hire, credit, extension advice and technical know-how, processing, storage and produce marketing. The presence of the centre everywhere was expected to reduce drudgery and uncertainties associated in looking for agricultural inputs. These programmes failed due to lack of fund, and because emphasis on ASC development was more on creating super-structures that were expensive, and less on functionality. The Federal Government's first intervention in improved seed development which was during the third Plan period is worthy of note. It would not make too much sense if other agricultural inputs were provided while desirable improved seeds would be lacking. The National Seed Service (NSS) has since its establishment remained at the centre in harmonizing the release of new seed varieties by the various research organizations. It has also encouraged research to produce higher yielding, more disease resistant and tolerant seed varieties with cooking and other qualities acceptable to the consumer.

Intervention in the third Plan also saw the establishment of National and State Food Production Companies. Those notable were for grains and root crops. It would appear that the ideas for the establishment of these government farms were borrowed from the experiences of

the success history in the implementation of government supported farm settlement schemes. However the farm settlements and similar schemes were privately owned despite government's engaging interest in them. Different reports reveal that government agencies have not always been successful in commercial food production enterprises (LIMAN, 1979). The major reason is that many of such agencies are unable to function as commercial concerns, and their overheads are often too high as to make them unable to compete with other producers in the primary sector. Also there are limited expertise and experience in large scale commercial production in governments, and the systems of government financing and provision of supplies do not fit into commercial enterprises.

Interventions in the fourth Plan were essentially aimed at consolidating the gains made in the earlier Plans, especially the third. During the fourth Plan, progress in the agricultural sector and indeed many sectors was slow. In fact the agricultural sector was particularly vulnerable to the recession of that period which led to massive food import with available scarce foreign exchange resource. The floating of the naira, as far as the agricultural sector was concerned, was aimed at stimulating local food production by making import expensive. However, this has not happened in the dimension expected.

Government support during the period was slim due to lack of funds. There were different projects supported by external agencies but many of them had implementation difficulties because of the inability of government to provide essential counterpart funds. In 1996, the National Accelerated Industrial Crops Production Programme (NAICPP) was set up by the government. Its main component involved the establishment of targets for different arable and tree crops field planting. The programme did not have any major provision for inputs procurement, and had no plans for storage, processing, and distribution of produce. It also failed to make appreciable impact on its field plantings because of lack of funds. The latest government's institutional support on ground is the Agricultural and Rural Transformation Programme (ARTP). Established in 2000, the programme is predicated on the assumption that the imperatives for agricultural transformation are closely tied to the development of the rural communities. Its main focus is to achieve agriculture- friendly policies, virile extension delivery system capable of responding to farmers' needs, problem solving and adaptable technologies that make the Nigerian farmer competitive in an increasingly globalised and liberalized world economy, as well as achieve ready access to farm input and market outlets / physical infrastructures. After 3-4 years of being in place, the ARTP is yet to fully attain its ambitious target of 10 percent growth in agricultural production. The programme like many others is bedeviled by lack of funds.

Creating food market is important in providing added utilities to the food value. It also enhances the farmer's income. For this purpose the government over the years set up different Commodities Boards for cotton, groundnut, cocoa, oil palm, rubber, root crops and later grains. Their common mandate was to ensure that all surpluses were bought off at attractive guaranteed prices in order to maintain the farmer's enthusiasm to produce. In addition, the mandate had the objective of helping to reduce wastage and even out supplies over time. However, the programmes of the boards were not very satisfactory. Before they were finally scrapped, it was thought that their role could be re-defined more precisely so that they do not spread themselves too thinly over activities which could best be handled by other organizations. In the mean time, a new policy of commodity associations has been approved (CBN, 2002). It is very easy to imagine that these are another commodity boards. However, the commodity associations will function together with the Presidential Committees established on commodity line basis, to initiate projects that would boost agricultural

production. The emphasis this time is that their projects will be handled as private sector activities.

The new policy on agricultural development actually assigns promotional and supportive role to the government, leaving implementation to the private sector (CBN, 2002). The implication of the above is that government must first be able to publicize its programmes and get farmers to become interested in participating as private sector operators. In the past 2-3 years when the government's budgets on agriculture have gone more into recurrent expenditure, and less in capital projects, many special projects of the government including the one above to be carried out by different Presidential Committees have not received adequate financial attention.

3.4.2 Protection against food import

Over the years, the government has been taking different measures to protect local farmers from the adverse consequences of importation of food. One of the ways of achieving this is by the imposition of tariffs. High duties when placed on some imported food make them expensive so that they can assume parity prices with those produced and sold locally. High duties help to remove the attraction in importing them. In some cases where local food production is under severe threat, outright bans have been placed against certain imported foods. Nigeria recently suspended some aspects of the ECOWAS regional agreement that almost allowed unrestricted food import into the country by citizens of member states in order to stabilize food production. The major problem against achieving total protection is not only due to inadequate policies, but sometimes in the activities of smugglers who are encouraged by the actions of corrupt government officials at the borders and ports. Also some privileged and well placed Nigerians with vested interests help to influence policies on food import to be amended in their favour with the result that the goal of protecting local producers becomes so difficult to realize.

3.4.3 Policy environment for private sector investment

The current effort towards agricultural business promotion in Nigeria is in the encouragement of private sector operations. With smallholders being responsible for 90 percent of the domestic food production, the agricultural policy environment should be that which favours them. Unfortunately, many private smallholder farmers today still grapple with the basic problems of inadequate agricultural credit input and supply as a result of unfavorable policy environment. For example, it is sometimes so difficult under the prevailing private sector business promotions to appreciate the fact that agricultural subsidy is still needed to support activities in the sector. Many credit institutions targeted to supply credit to private smallholder farmers have often ended up either discriminating against the sector or favouring the large scale farmers. In the past, some of them (like the commercial banks) preferred to pay penalties for not loaning out funds than service the sector. A comparison of foreign private investments in agriculture and selected sectors will help to show how different investors from outside the country respond to the business climate of Nigeria. The result of the comparison of the agricultural sector with mining/quarrying, and manufacturing/ processing in Table 3.3 shows that mining/ quarrying received the highest private sector foreign investment between 1990-1999, followed by manufacturing/ processing. Agricultural sector was the least in terms of the amount of external investment made in Nigeria by private investors. This and similar problems pose a lot of challenges for the policy makers to come up with more and better ideas on how to encourage external as well as local private investors towards assisting in developing agriculture in the country

Table 3.3a: Foreign private investment in Nigeria by type of activity.1990-1999 (N billion)

Year	Mining Quarrying Total	Manufacturing/ Processing Total	Agriculture/ Forestry/ Fishing Total
1990	1.09	6.33	0.33
1991	0.81	8.69	0.38
1992	6.41	9.74	0.38
1993	27.68	12.88	1.20
1994	26.80	14.05	1.21
1995	56.74	27.66	1.21
1996	56.79	29.81	1.21
1997	59.22	31.29	1.21
1998	59.97	34.50	1.21
1999	58.85	36.28	1.21

Source: CBN, Statistical Bulletin Vol. 11. No. 2, 2000 p197.

3.5 Support to agriculture and other sectors

Nigeria's agriculture needs a good financial support to create a significant level of activity that will bring about appreciable growth in the sector. The financial support provided to agriculture by the government between 1990 and 2002 was compared with those provided to education and health sectors. The choice of education and health for comparison with agriculture is based on their relevance with agriculture in ensuring the survival, good health and mental build-up of man. Table 3.4– shows the allocations to the various sectors compared to the total budgets between 1990 and 2002. In terms of the amount allocated over the period, agriculture got between N 0.67and N64.94billion, education was allocated N1.55 - N109.45 billion, and health received N0.65 - N63.17billion. There may not have been any consistent pattern of increase in financial allocation to the various sectors over the period. In terms of proportionate allocation relative to total budget, agriculture received between 1.28-6.38 percent, education got 3.33-10.75 percent and health was allocated 1.36-6.20 percent. The analysis shows that education received more financial support from the government than agriculture and health over the period. However, it is important not to forget that man needs to eat well and be alive before he can settle down to improve himself educationally.

Table 3.4: .comparison of budgetary allocation by sector, 1990-2002 (N' BILLION)

Year	Total Budget N billion	Allocation to Agric N billion	% Agric to Total	Allocation to Education N billion	% Educati on to Total	Allocation to Health N billion	% Health to Total
1990	39.76	1.96	4.95	2.29	5.77	0.65	1.66
1991	38.66	0.67	1.74	1.55	4.02	0.75	1.96
1992	52.03	0.92	1.78	2.06	3.96	1.02	1.97
1993	112.10	2.83	2.53	7.99	7.14	2.68	2.39
1994	110.20	3.71	3.37	10.28	9.33	3.02	2.75
1995	153.49	6.92	4.51	12.72	8.29	5.06	3.30
1996	337.21	5.71	1.69	14.88	4.41	4.85	1.44
1997	428.21	8.66	2.02	16.79	3.92	5.80	1.36
1998	487.11	9.04	1.86	24.61	5.05	13.64	2.80
1999	947.69	12.15	1.28	31.56	3.33	16.80	1.71
2000	701.05	13.60	1.94	49.56	7.07	20.44	2.92
2001	1,018.02	64.94	6.38	59.74	5.87	44.65	4.39
2002	1,018.15	44.80	4.40	109.45	10.75	63.17	6.20

Sources: CBN Annual Report (Various Issues.)

3.6 Some explanations for the level of support given to agriculture

The review on the institutional strengthening provided to agriculture by the government over the years does not leave anyone in doubt that much is still expected from the sector so that it can play its full role. So also does the analysis carried out on the financial allocation to selected sectors confirm that agriculture has not received any concessions in terms of national budget approvals. Many reasons abound for this relatively low level of support, and at the bottom line is lack of funds. Government projects usually compete for limited public funds, but this should not be enough reason not to give a primary sector like agriculture some priority in budgetary allocations. Another reason for agriculture's poor funding is that key operators of the government are urban dwellers who, not only want infrastructure provided for them in the cities, but are sometimes unappreciative of the role improved rural infrastructure can play in the transformation of agriculture.

Politicians, like some investors, prefer to put government funds into investments with short pay back period, and for many of them agriculture is not one of such projects that amortize within a short time. The level of support to agriculture is sometimes affected by the high rate of corruption in the nation. Allocated funds are many times diverted by politicians or government officials supervising the projects. When this happens, the actual financial support that gets to a project becomes too little to make any appreciable impact on it.

CHAPTER 4: ASSESSMENT OF THE IMPACT OF FOOD IMPORT

4.1 Impact on vulnerable groups

Nigeria is neck-deep into food import as a way of meeting short-falls in domestic food supply. In many countries this may be a temporary measure for addressing short falls and for meeting the demand for good nutrition, especially of the vulnerable ones. The latter include the following:

- (i) The poor
- (ii) Farm households
- (iii) Children
- (iv) Pregnant women
- (v) Lactating mothers
- (vi) Elderly ones

The main impact of food import on the vulnerable group arises because of poverty, and the nutritional problem that inadequate food can cause. Inadequate feeding takes the form of mal- and under-nutrition. Most food forms with high nutrient values are often expensive. Consequently, they are, most times, not accessible to the poor and other vulnerable ones. Although food import eventually provide more fibre for the body, there is not much to guarantee that they are all of higher nutritive values than their local substitutes. The extent that is known of imported food's advantage over those produced locally is in terms of the relatively higher processing quality that makes the imported ones come out cleaner. This does not necessarily confer any superior nutrient qualities on them, except in a few processed cases where the products are fortified. A major issue against the food manufacturing and processing companies is the recent discovery that some of them do not strictly adhere to the nutrient compositions they advertise on the labels of their product. Some of them also do not keep abreast of emerging research findings on various nutritional problems and requirements for the food sector. Reports abound on import of expired products into the country. Imported foods are also part of the expired products that find their way into the country. NAFDAC may have been working hard to reverse this trend, but until their efforts become fool- proof, many expired and sub-standard foods will continue to find their way into the country where they are likely to be causing more nutritional and health problems than any one could have imagined.

Another disadvantage of food import arises from its impact on the taste of Nigerians. Heightened taste for foreign (imported) food or distaste for some local equivalents, even when nutritionally better is becoming the vogue. A few instances will be discussed. First is the growing interest shown towards imported rice which is often long-grained and stone-free, as against poorly processed local rice. The shortcoming of many imported rice products is their level of polishing which removes so much of the bran covering the grain thereby exposing consumers to the nutritional deficiency disease called beri-beri. A similar case is that of imported fruits and fruit drink in which Nigeria spent US\$ 100 million out of a total import value of US\$ 877.3 million in 2001. Experts in nutrition relate the relative increase of obesity in the country to urban dwellers consumption of high luxury food like fruit drinks, sugar, beverages and the like (ATINMO, 1983).

4.2 Impact on increased domestic food supply

Food import in Nigeria has been addressing the shortfall in food production over the years by adding to the domestic food supply. Between 1994 and 2001 food imports grew in excess of annual shortfalls. It has earlier been observed that food import is a short term (or temporary) measure for achieving food supply. Therefore it can only confer a false sense of food security when adopted on long term. It will be an economic miscalculation if, relying on this false premise, the nation continues to allow its food production to dwindle in absolute or relative term.

Food import has been distorting or changing household food consumption patterns and demand structure. As earlier pointed out, one way through which this has been achieved is by the heightening of the taste for foreign (imported) foods. Some of the imported foods include foreign rice, poultry products, and fruits like apple. Closely linked with this distortion is the growing dislike for some local foods. Yam (*Dioscorea spp*) and (*Colocasia spp*) which are among the badly affected local foods today have some of their varieties in restricted geographical spread within the country (OKEKE, 1998) while many others are probably already extinct. For example, the bitter yam (*Dioscorea dumentorum*) is no longer as ubiquitous as they used to be in local markets.

4.3 Impact on domestic producer and consumer prices

Market forces largely dictate primary agricultural activities. One major adverse effect of food import is that it dislodges the effective operation of market forces at the farmer's on-going level of primary production. This has serious consequences for farm households that had earlier made projections for their farm operations and likely income. With most of Nigeria's food import always in excess of what is required to balance supply with demand, food market annually get saturated. This results in low average domestic producer prices, leading to favourable consumer price and sovereignty. When producer price turns against the farmer, the latter is compelled to find alternative methods of attaining desirable market prices or lowering his cost. In this regard it also has to be mentioned that inefficient production practices that characterize the operations of most farmers have their toll on farm households whenever food is imported. Most local food items are unfortunately products of inefficient farm practices whose prices do not compete with those from food import. Changing decisions mid-way is not easy at all for the farmer. New and alternative practices involve tough choices and production decisions that cover labour and material re-allocations as well as training. In order to solve the problem of food import, some farmers have had to get to the other extreme to look for alternative investments outside the farm sector, a situation that worsens Nigerian's food security situation.

4.4 Impact on farmer's productivity

A depressed producer price which can be caused by food import invariably gives rise to low farm income. However food import, as has been pointed out earlier, can put pressure on farmers to devise alternative methods for achieving greater efficiency in their farm operations. This is perhaps the only condition for those who remain in the farm sector to achieve higher productivity and profitability, given the inevitable situation of price war that accompanies food import.

Generally, the reduction of farm income resulting from food import engenders negative spiral effects on the socio-economic, health and educational conditions of the farmer and his

household. It leads to poverty which is associated with hunger, reducing resistance to disease and depressing educational achievements. Many farmers in Nigeria's traditional societies who relish in cultural and social activities during slack period, now find the latter an almost impossible past time to indulge in due to unrewarding agricultural business. For most farm-households, behind the problem of long term food import lies poverty. Indeed, it has been estimated that, across the developing world, a total of 1.2 billion people live in poverty- as defined by the international poverty line of average daily consumption equivalent to US\$ 1 per day per capita (FAO, 2001). What this means for Nigeria with multiple poor farm-households, low consumption per day per capita of less than US\$ 1 in 2000, and whose food import the same year was 12 percent of total imports, is that it would have been a surprise not to belong to this group of world poorest people. Nigeria needs to reverse the food import practice, substituting it with serious self-help efforts on domestic food production, if sustainable agricultural development is to be witnessed.

4.5 Macroeconomic policy impact

Nigeria's commercial food import is quite demanding on the economy in so many ways. The food import bill which rose from N3.47 billion in 1990 to N195.81 billion at the end of the decade is quite colossal. This represents an astronomical growth rate of more than 5,000 percent over the period as against the average population growth rate of 2.71 percent for the same period. This statistics demonstrates Nigeria's increasing reliance on food import as a way of addressing the shortages in food demand. Nigeria's food import bills represent substantial proportions of the yearly national budgets that could otherwise be reasonably invested to turn around the agricultural sector. The yearly denial of the sector of such substantial funds has grossly limited the scope of agricultural programmes, and thus restricted the sector from fully playing its expected role.

Nigeria depletes scarce foreign exchange resources in order to import food most of which have local substitutes. This has negative effect on the balance of payment, and the nation's ability to prosecute more pressing economic projects. The naira exchange rate has continued on a downward slide since it was floated. One of the main purposes of floating the exchange rate has been to encourage local investments and discourage export. Food import which is a consumption rather than production activity is obviously not in line with the above stated goal of the Structural Adjustment Programmed (SAP) initiated since 1986.

Nigeria's excessive food import bills have been worsened by the declining level of the exchange rate. This invariably fuels local inflation. There also seems to be a direct relationship between the nation's food import and the level of inflation. From early 90's, not only did the inflation rate progressively increase with food import, but the highest inflation rate ever of 72.8 percent recorded in 1995 occurred the same year that the country had the greatest quantum leap in food import bill of N88.3 billion. That huge food import bill of 1995 was likely to have been caused by the drought which occurred the precious year.

4.6 Positive impact of commercial food imports

Of course it will be wrong to assume that food import has no positive aspects. Like has earlier been pointed out, when food import is a short term measure aimed at addressing acute shortages in food demand, there may be no better alternative ways to deal with the problem than through import. In Nigeria's situation where national emergencies and natural disasters are not common, commercial food import is preferred to food aid. Food import to some

extent lends itself to careful planning and execution which ensures that food arrives on time. Limited political consideration is given to who the food exporter is. The main concern is often about ensuring that the imported food is delivered efficiently. The distribution of imported food is not a major problem and does not waste much time even though it may entail additional transportation and storage costs. It is rather responsive to market forces. What anyone gets is determined by one's effective demand. The food importers live by the trade, but then they may have disengaged several local producers through their operations.

So far, most of the advantages of commercial food import discussed above are relative, indicating preference for it as against food aid which sometimes puts a nation in a beggarly position. Food import stands to be rejected whenever it is made a permanent way for addressing food shortage problems in Nigeria. The political class who should organize long term planning for agricultural production prefers short term measures especially when such also serve personal rent interest. Another main reason why commercial food import should be discouraged is that it does not bring about any positive impact on Nigeria's balance of payment. If anything, it ends up worsening it.

CHAPTER 5: PROPOSALS FOR MAJOR AGRICULTURAL SUPPORT

5.1 Food and cash crops

A great potential exists in food and cash crops to expand output, increase productivity, become a net food exporter and enhance food security. The strategy for food and cash crops production will place resources on major areas that will encourage rapid growth and development. The crops to be selected must be those that have potentials for helping to attain national food security and which can raise farm income. They must also be those that are in high local demand and which have prospects for export market. The following crops are thus proposed for production:

- **Arable Crops:** Maize, rice, sorghum, millet, soybean, groundnut, cowpea
- **Tree Crops:** Oil palm, cocoa, rubber, cashew, coconut, gum arabic
- **Horticultural Crops:** Banana/ plantain, pineapple, citrus, tomato, pepper, onion, Telferia

5.1.1 Strategies for arable crops production

The main strategy will be to encourage the production of improved seeds for planting by arable crop farmers. In this regard, foundation and breeder seeds will be raised. Seed certification/quality control will be emphasized. Extension support will be provided to facilitate the process of adopting improved practices. Both the farmers and agricultural technical staff will be given relevant training to improve their knowledge and skill. Farmers will be given micro - credit to enable them undertake field operations without encumbrances. The targets for the various food crops are given as follows:

Maize- Direct intervention will annually cover 400ha each in 20 states. A total of 8,000ha will be achieved annually and 32,000ha in 4 years. With the intensification of extension services, it is hoped that the adoption rate of improved practices will be 15% in the second year, 20% in the third year and 30% in the fourth year. Maize production will grow from 6.28 million metric tons to 11.27million metric tonnes.

Rice – Direct intervention in rice will annually cover 500ha each in 36 states. About 18,000 ha of improved rice will be directly achieved annually and 72,000 ha in 4 years. Extension services will be intensified, and this will improve adoption rate. The adoption rate will hopefully move from 15% in second year to 20% in third year and to 30% in the fourth year. Rice production will grow from 3.23 million metric tonnes. to 5.7 million metric tons.

Sorghum – It is proposed that direct intervention will annually cover 300 ha each in 15 states. This amounts to 4,500ha annually and 18,000ha in 4 years. Extension support will be provided which will raise the adoption rate for improved sorghum production. The adoption rate will hopefully move from 15% in year 2 to 20% in year 3 and to 25% in year 4. Output is expected to rise from 7.90 million metric tonnes to 13.16 million metric tons.

Millet – Production activities will annually cover 300 ha each in 15 states. This will give 4,500ha annually and 18,000ha in 4 years. There will be intensification of extension activities, which in turn will raise adoption rate from 15% in year 2 to 20% in year 3 and 25% in year 4. Output will grow from 6 million metric tonnes to 10.76 million amount.

Soybean – Effort will be geared towards planting 300 ha each in 15 states. This will achieve 4,500ha annually and 18,000ha in four years. Extension activities will be intensified to raise output from 0.33 million metric tonnes to 0.55 million metric tonnes. This output level assumes the adoption rate of between 15% in year 2 and 25% by year 4.

Groundnut – Improved seeds will be planted to annually cover 400ha each in 15 states. This will cover 6,000ha annually and 24,000ha in 4 years. Output, which has declined lately, will increase from 2.10 million metric tonnes to 4.73 million metric tonnes. The adoption rate will grow from 15% in year 2 to 25% in year 4.

Cowpea – Direct intervention in cowpea production will annually involve the establishment of 200 ha each in 15 states. This covers 3,000ha annually and 12,000ha in 4 years. Extension activities will be intensified, and this will help to raise adoption rate from 15% in year 2 to 25% in year 4. Output will rise from 0.8 million metric tonnes to 1.38 million tonnes.

5.1.2 Strategies for tree crops production

Tree crops have enormous prospects for enhancing economic growth in Nigeria. The climate is equally good with average annual rainfall figure of a little over 1000 mm in the last 5 years. They have prospects for export market and for earning scarce foreign exchange. The main strategy will be to support the production of improved seeds/ seedlings for planting by tree crop farmers. Fund is a major set back in tree crop production. Consequently this proposal has made provision for assisting some tree crop farmers in land preparation activities. The effort will cover those engaging in new planting and those who intend to rehabilitate or replant old farms. Provision has also been made to facilitate the procurement of agrochemicals and selected equipment through credit incentives. There is additional micro credit to assist in the provision of labour. Extension support is provided for. So also has training of farmers and agricultural technical staff been provided for the targets for. The various tree crop production activities are presented below:

Oil Palm – Direct intervention will involve the annual establishment of 300 ha each in 21 states. A total of 6, 300 ha will be achieved annually which will give 25,200ha in 4 years. About 3.78 million seedlings will be required for the planting programme in 4 years. With increased extension services, output will grow from 0.78 million metric tonnes to 1.18 million metric tonnes. The output assumes the adoption rate of improved practices of between 10% in year 2 and 20% in year 4..

Cocoa – Effort will be made to annually plant 250 ha each in 13 states. A total of 3,250 ha will be achieved annually and 13,000ha in 4 years. About 14.30 million seedlings will be needed to achieve this planting target over 4 years. It has been estimated that 50 percent of the operations will be for new planting while the balance will involve rehabilitation. It is expected that with the intensification of extension, adoption rate will increase from 10% in year 2 to 15% in year 3 and to 20% in year 4. Output will grow incrementally from 0.325 million metric tonnes to million metric tonnes.

Rubber- Direct intervention will ensure the annual establishment of 200ha each in 12 states. A total of 2400ha will be achieved annually. This will bring the achievement in 4 years to 9,600ha. About 4.32 million budded seedlings will be needed over 4 years to fully attain the project target. It is estimated that 60 percent of the efforts will be in establishing new field while 40 percent will be on rehabilitation. Adoption rate will hopefully grow from 10% in

year 2 to 15% in year 3 and to 20% in year 4. Output will, in turn, rise from 0.250 million metric tonnes to 0.38 million metric tonnes.

Cashew –Under the programme 200ha of cashew each will be annually established in 20 states, this will give an annual production of 4,000ha or 16,000ha in 4 years. About 1.76 million seedlings will be required to establish the total field plantings in 4 years. The planting activities will emphasize new field establishments. Adoption of improved practices will increase from 10% in year 2 to 20% in year 4. Estimated output will, in turn grow from 30,000metric tonnes to 45,540 metric tons.

Coconut- An estimated 150ha will be annually established in each state. A total of 16 states will participate in the programme. A total of 2,400ha will be annually planted up. This will give 9,000ha in 4 years. About 2.16 million seedlings will be required to fully attain the target in 4 year. Adoption rate of improved practices will increase from 10% in year 2 to 20% in year 4. Output will rise from 154,000 metric tonnes to 233,772metric tonnes.

Gum Arabic- This is a new area to intervene. The crop has a lot of export potentials, and its production will thus be supported. About 150ha each will be annually planted in 12 states to cover 1,800ha. This will give 7,200ha in 4 years. Over a period of 4years about 2.52 million seedlings will be raised. Two 1 – hectare seed garden will be established in every participating state. It is hoped that extension services support will raise the adoption rate of improved practices from 10% in year 2 to 15 % in year 3 and 20% in year 4.

5.1.3 Strategies for horticultural crops production

Horticultural crops are important for their nutrients provision especially vitamins and minerals. Intensive production of some of the crops will help to minimize the foreign exchange resource being wasted in importation of such items like fruit drinks. The main strategy will be to support the production of improved seeds that will be made available to the farmers at cost. Extension services will be provided which will aid adoption process for improved farming methods. Farmers and Agricultural Technical Staff will receive training aimed at improving their knowledge and skill. A micro credit support has been built into the programme to assist the farmers to acquire some inputs for their field operations.

Banana / Plantain: Under the programme, effort will be made to plant 400ha of banana / plantain annually. This will give 1,600ha in 4years. A total of 0.44 million suckers will be required annually to plant up the field. In the next 4 years 1.78 million suckers will be needed. It is estimated that with the stepping up of extension services, the adoption rate for improved practices will rise from 15% in year 2 to 20 % in year 3 and to 25% in year 4.

Pineapple: About 25ha will be established annually. This will give 100ha in 4 years. A total of 0.40 million suckers will be required in 4 years to reach the target under the programme. Intensification of extension will raise adoption rate for improved practices from 15% in year 2 to 20% in year 3 and to 25% in year 4.

Citrus – The target to be achieved annually is 500ha, this will require 0.1 million budded seedlings annually. Over 4 year period, the seedlings requirement will be 0.4 million.

Vegetables: These will include tomato (20ha annually) and telferia (25 ha annually). Efforts will be made to raise 2000kg of tomato seeds, 2000kg of pepper seeds, 2,000kg of onion seeds and 4000kg of telferia seeds. The essence is to make these improved seeds available to farmers at cost. Farmers will be encouraged to participate in the programme not only because of the availability of the improved seeds but also because of the presence of micro credit built into the programme.

5.1.4 Fertilizer use

Fertilizer supply in Nigeria is still inadequate. This accounts to some extent for its low usage. Under this project, private suppliers will be encouraged to embark on early importation of supplies through prompt and effective liaison with them. Another factor limiting usage of fertilizer is the relatively high cost. Many farmers still find it difficult purchasing a 50kg bag of NPK fertilizer at N2,000 or more. Therefore effort will be made to encourage usage through provision of fertilizer subsidy. In the first year the subsidy will be 25 percent, then 20 percent in second year, 15 percent in third year and 10 percent in the fourth year. The fertilizer subsidy will be collectively borne by the Federal, State and Local Governments. Training programme will be organized for farmers on fertilizer use and soil management. This is important to teach them how best to apply the fertilizer, and how to minimize the consequences of prolonged use on a particular soil. The use of organic fertilizer will be promoted through workshops and publications.

5.1.5 Agricultural mechanization

The demand for tractor use is high but they are not available in sufficient number. Therefore effort will be made to further promote farm power machinery use by providing 6 nos. tractors for each state. The tractors will be deployed on agricultural zone basis (i.e. about 2 Nos. tractors per zone). The emphasis will be on the use of smaller horsepower farm tractors. It is proposed that they be given out to reliable private sector organization / commodity associations to operate Tractor Hiring Units (THU). The cost of the tractor will be subsidized at 25 percent by the government. A down- payment of 25 percent of the cost of the tractor will be made by prospective buyers before they will be released NACRDB will receive all the payments and supervise the use of the tractors. They will be assisted by the Engineering Department of ADP. The tractor will make considerable impact in clearing more cultivable areas. Given that a tractor here can realistically cultivate 250ha within one farming season, it is expected that 111Nos tractors will cultivate 27,750 ha. Some of them may eventually work for two cropping periods in one year implying more coverage. The tractors will also be available for transportation, especially in the rural areas. Tractor rehabilitation will be undertaken under the project, and this will be supervised by Federal Department of Agriculture.

Besides procurement of tractors, effort will be made to facilitate purchase of work bull, animal drawn implements, medication and feed by farmers who make use of animal traction. These are mainly those in the core north (14 Nos. states) and few pilot states in the South (6 Nos. states).

5.1.6 Fadama development

There is a wide range of needs in the area of development of fadama. However, more detailed study of these needs require to be done so as to know the various areas that are at present being addressed by other agencies. In the short run, effect will be made in consultation with

the fadama beneficiaries and relevant local groups to provide basic infrastructure like fadama access roads, promote institutional organization of fadama users, support research and extension into fadama agriculture and provide micro credit to farmers especially for dry season farming.

5.1.7 Crop processing

There is a wide variety of processing activities that can be undertaken for different food crops but due to difficulties in coordination under this programme these will not be taken up to any great extent. However there are other projects that can deal with them. Effort will be made to provide restricted support for processing rice and millet (in food crop) and oil palm (in tree crop). The procurement of rice destoner, millet thresher and palm oil mill are for demonstration purposes.

Effort will also be made to encourage farmers and investors looking forward for support in crop processing to approach NACRDB for inquiries on their on-lending scheme. On the other hand they could be advised to apply for CBN-supported micro credit facilities. Meanwhile, RAIDS and NCAM will advise farmers on the technical options for processing that are available.

5.1.8 Crop product storage

Agriculture records some worst losses through poor storage. This problem will be addressed by providing models of on-farm storage facilities within the ADPs. In this regard, one set each of on-farm storage structures will be established. They will serve not only as models but for training in storage systems.

Effort will also be made to construct 2 Nos. 1-tonne metal bin for each ADP. Improved sun drying platform will be constructed for each ADP for their training and extension programmes. In addition, each will get a model mechanical dryer to facilitate extension and training in storage. Micro credit will be made available for individuals or groups to develop on-farm storage structures. In addition to the on –farm storage development efforts, this proposal recommends the completion of at least 4 silos that are still under construction. The silos when completed will make significant impact in maintaining national grains reserve. Incremental growth of stockholding will eventually move from 50,000metric tonnes to 85,250metric tonnes at an estimated expansion rate of 15 percent in year 2, 20 percent in year 3 and 25 percent in year 4.

5.1.9 Market support

Market support will be provided through the programmes of the commodity associations recently approved by the Federal Government. Farmers and investors will be encouraged to go into export trade through the provision of support facilities for sanitary and phyto- sanitary services in order to improve the grades of their products. In addition, they will be encouraged to develop skill in collecting local and export market information required for commodity trade decisions. Export credit will be granted.

Meanwhile the Federal Government needs to specially support export commodity trade in which local farmers and investors have comparative advantage. What the nation needs is an export – led activity that engenders more interest in local production. The government has to show more concern in the protection of the local farmers by discouraging imports through

raising of tariffs. High tariffs should be placed more in those areas where the taste for foreign commodities is on the increase. Government should also be more committed in enforcing bans on commodities that have been approved.

5.1.10 Food and cash crop programme organization and implementation

The ADP has a central role to play in coordinating the food and cash crop programme implementation. It will be responsible for organizing extension support, publicity, training and field demonstration. Relevant research institutes will be involved in raising seeds / seedlings / suckers/budded stumps to be taken up by the farmers. Where seedlings are required for planting, especially in the case of tree crops, the mandate research institutes will share the responsibility for raising them with tested private sector agencies.

The ADP will assist in the distribution of fertilizers. Every effort should be made not to politicize the distribution. Preference will be given to project farmers to ensure that they get enough fertilizer to realize the benefits of improved production operations. The fertilizer carries a subsidy of 25 percent in first year, 20 percent in second year, 15 percent in third year and 10 percent in fourth year. The idea of a decreasing yearly subsidy is to gradually remove the subsidy over time so that farmers will get used to paying for their inputs.

Agricultural mechanization will also be coordinated in the states by the ADPS who will be involved along with NACRDB in identifying private sector organization/commodity associations to implement THU within the agricultural zones. The tractors equally carry a subsidy of 25 percent. The proposals for fadama development will be coordinated in the states by the ADPS.

All micro credits will be coordinated by NACRDB in collaboration with the ADPS. The involvement of ADP is necessary to ensure that the farmers are properly identified and have opportunity of later benefiting from the extension and training support to be provided under the programme.

5.2 Livestock production

Nigeria has the largest livestock population in West Africa comprising 13.9 million cattle, 22.1 million sheep, 34.5 million goats, 114 million poultry, 3.5 million pigs and 1.7 million domesticated rabbit (FMARD, 2000a). The objective of this livestock project will therefore be to encourage the raising of more livestock and the creation of disease – free environment for their survival. It is also intended that the production of grass cutter which is a popular local ruminant meat will be encouraged. The grass cutter is now in high local demand because of its high protein content and low cholesterol (FAYENUWO, ET.AL. 1998).The major aspects of the livestock project include improvement in stock breeds, control of livestock diseases, development of grazing reserves, and support for grass cutter production.

5.2.1 Strategies for livestock production

Creation of improved Stock Breeds: A breeding programme that will make real impact on the small scale producer will be supported. This will be handled through the Open Nucleus Breeding Centres (ONBC). Eight centers will be selected (5 Nos from the north and 3 Nos. from the south). The breeding programme will cover sheep, goat, cattle, pig, ruminants and poultry. Access to improved stock of day old chick (DOC) is a major constraint to poultry

production. There will be a major investment in the production of day old chicks by the private sector. Hatcheries exist in many places like Jos, Kaduna, Delta, Edo and Lagos.

Control of Major Animal Diseases: The animal disease control programme will cut across monogastrics, poultry and ruminants. Quarantine services play important role in national disease control, monitoring of movement of animals in and out of the country. Support will be provided for rehabilitation and equipment of international control posts. Four posts will be taken up (2 Nos. each in the North and South).

Establishment of Grazing Reserve: The settlement of pastoralists in grazing reserves will help to integrate them into the rural community, reduce pastoralist/farmer clashes and restore relation between livestock and crop farmers. This will create a good atmosphere for rural development. Eight grazing reserves will be developed. The average size of each will be 10,000ha. A communal reserve is recommended which has prospect to settle more pastoralists at a time.

Support for Direct Production: Besides the support to be given towards the production of livestock in general, this component will also emphasize the production of grass cutters. These are local meat animals that have become popular delicacies in parts of the country. Their main advantage over other meat animals is their low cholesterol level. Grass cutter farming will lead to the conservation of forest bio-diversity in that hunting and bush burning in search of grass cutter will minimize. The project will be a pilot one in 8 Nos. states each in the north and south.

5.2.2 Livestock programme organization and implementation

The programme will be coordinated by the ADP, but relevant technical assistance can be drawn from the State Livestock Departments. The ADP in liaison with the Livestock Department will be responsible for organizing extension support and training. Disease control will be handled by veterinary officials in the ADP and ministry. The breeding stock support which involves rehabilitation of ONBCs will be handled by the Federal Livestock Department. Major support for the raising of grass cutter families to be purchased by the livestock farmers will be undertaken by private sector agencies and / or appropriate Livestock Research Institute. As usual micro credit has been provided. This will be disbursed by NACRDB. The latter will work with the ADPs to ensure that farmers are properly identified and that they benefit from the extension and training programmes that will be organized by the ADP.

5.3 Fisheries production

A major set back to fish farming and aquaculture development in Nigeria is the acute shortage of high quality fish fingerlings of culturable and local species. While the total fingerlings supply from all sources is estimated at 27.3 million, the average annual demand is 277.5 million, giving a deficit of 250 million. Therefore, fisheries development will be promoted. Special Government Departments involved in different aspects of fisheries development programmes will be rehabilitated. Those departments that are still involved in direct production will be encouraged to privatize. Private sector operations will be generally promoted. Major aspects of the programme support will be as follows: Stocking of dams reservoirs and lakes with fingerlings, promotion of aquaculture, aquaculture institutional strengthening and manpower development. Micro credit will be made available to support

development of fish farms, hatcheries and feed mills. The beneficiaries will be private farmers.

5.3.1 Strategies for fisheries production

Fingerlings Production: A major effort will be made to help re-stock dams, reservoirs, lakes and lagoons with high quality, fast growing fingerlings. This is based on abundant evidence of the depletion of fisheries resources from many inland water bodies. Some abandoned heavy pond construction equipment will be rehabilitated. These are presently at fisheries zonal offices. The rehabilitation of the equipment is necessary because of the services they can render.

Promotion of Aquaculture: Some seed and commercial fish farms abandoned over the years by the Federal Government will be rehabilitated. After the rehabilitation exercise, they will however be put up for privatization.

Institutional Strengthening of Aquaculture: Effort will be made to convert some of the fish farming and aquaculture demonstration centers into Aquaculture Technology Transfer Centres (ATTC). The centers will be provided with basic infrastructure for massive fingerlings production. The facilities will include in-door and out door hatchery complex, grow-out ponds, fry and fingerlings rearing ponds, brood stock ponds, laboratory and office complexes, classrooms and feed store. Hostel facilities will equally be provided at each center. Two new ATTC will be established, one each in the North and South. The ATTC will also participate in adaptive research.

Manpower Development: Training will involve fish farmers, and extension workers. The aim of conducting training is to create the necessary awareness and expertise in fish farming among the rural community. The ATTCs will be involved in training.

5.3.2 Fisheries programme organization and implementation

Like other programmes, the fisheries programme of activities will be coordinated by the ADP in the state. Relevant technical assistance will be drawn from the State Department of Fisheries. The ADP in liaison with the Fisheries Department will be responsible for organizing extension support and publicity of the programme. The stocking of water bodies with fingerlings will be handled by the Federal Department of Fisheries. They will also handle the procurement of special vans for carrying fingerlings. Government and private hatcheries will be responsible for providing fingerlings under the project.

Rehabilitation of heavy equipment for pond construction will be supervised by the Federal Department of Fisheries (FDF). This department will also be responsible for supervising the rehabilitation of fish farms owned by the government. The fish farms will later be put up for sales. The FDF will also undertake the establishment of the ATTCs. Training of fish farmers and ADP staff will be coordinated by the ADPs and the ATTCs. Micro credit will be supervised by NACRDB with the active collaboration of ADP. Fish extension services will be provided by the ADP.

5.4 Programme cost and financing

5.4.1 Programme cost

This Agricultural Support Programme designed to achieve food security in the next 4 years is estimated to cost N20.966 billion as shown in Table 5.4. The total cost has two components namely, an investment cost component estimated at N12.047 billion (57.4percent) and a credit component estimated at N8.919 billion (42.6 percent).The high credit component is a reflection that the programme is essentially a cost recovery one.

The investment component involves the provision of funds for the development of infrastructural facilities that directly support different agricultural activities. The credit component shown in Table 5.4a involves 2 categories of investors; the first is some relevant Research Institutes and private agencies that are expected to provide improved inputs such as seeds / seedlings for farmers. The institutes and private agencies are expected to give out the seeds/ seedlings to the farmers and investors at cost, and to subsequently recover their costs and refund their loan. The second category of credit beneficiaries is the farmers. Under this programme, they have been empowered to procure basic inputs and carry out their field operations. This programme does not support activities that do not have some form of direct relationship with production. The emphasis placed on provision of credit is thus to ensure that once provision of credit is underway, nothing will stop the farmers from attaining the targets set under the programme.

5.4.2 Programme finance

Agriculture is in the concurrent list of Nigeria's constitution. What this implies is that the three tiers of Government namely Federal, States and Local Governments should be involved in supporting major agricultural development programmes like this one. In view of the current budgetary problems facing the nation, it is proposed that an external donor agency will participate along with the three tiers of government to provide the needed budgetary support under this programme. The programme financing plan envisaged is thus a cost sharing one in the ratio presented below:

External Donor Agency	-	40%
Federal Governments	-	30%
State Governments	-	20%
Local Governments	-	10%
		<hr/>
		100%

It is important to note that the farmers and other key stakeholders (Research Institutes/ Private investors) will make significant contribution under this programme by bearing 42.6 percent of the cost through refunds to be made on various forms of credit support provided to them.

5.5 Returns on investment

The proposal on Agricultural Support Programme for Nigeria presented in this study will have a wide network effect after 4 years of implementation. Domestic output will significantly rise as were shown in the various annexure on crop production. Similar increases in production will be applicable for livestock and fisheries. The increases will be due to the direct activities of the farmer participants in the programme, as well as others who

will enlist as from year 2 as a result of the intensive publicity and extension services that are components of the main programme.

It will be expected that following the significant increases in production, the short fall in national food demand will drop. This will equally lead to a drop in commercial food import. Nigeria's foreign exchange earnings will thus not only be conserved, but will become available for investment in key areas that will bring about sustainable growth. One of the greatest strengths of the programme is that it will substantially improve the national and household food security.

CHAPTER 6: MAJOR FINDINGS AND PROGRAMME PROPOSAL.

6.1 Food and agriculture situation

Agriculture holds a lot of potentials for the future economic development of Nigeria. Its contribution to GDP is quite significant. It provides food for the population, raw materials for the industry, employment for the citizens and foreign exchange for major development programmes. Nigeria's output of food per capita is one of the highest in Africa, and yet the nation is unable to adequately feed the population. There is a widening gap in the annual food shortages, which is filled through commercial food import. This results in substantial drain of the scarce foreign exchange resource. The poverty level is low, and this affects the ability of many to meet basic nutritional needs for a healthy life. Many nutritional problems arise due to inadequate food intake; some of these lead to outright death while others result in different debilitating effects including inability to function efficiently in farm work.

The labour force in agriculture is quite high. The sector engages many Nigerians who live in the rural areas. This explains why agriculture is the key sector that can positively affect majority of Nigerians, if well organized and supported.

6.2 Challenges and opportunities

Many obstacles are on the way to the realization of the goal of agriculture. These include problems associated with natural resources such as soil, water and climate. Others arise from faulty microeconomic and agricultural policies; the main issue therefore is how to get the different natural resources and microeconomic/agriculture policies to function well. This has been the main task facing the government's various intervention efforts in agriculture over the years. All the past plans and annual budgets for agriculture were poorly funded. Consequently, many of the institutional reforms and strengthening adopted for the sector were thus in most cases unable to fully achieve their goal.

Opportunities exist for developing the sector. Agricultural development efforts have to be redoubled to propel the sector into a sustainable development path where national and household food security is guaranteed. Since the introduction of SAP in 1986, the emphasis on agricultural sector has been in promoting private sector operations. Unfortunately many smallholder farmers have not been finding things easy under this arrangement because of certain policies that fail to provide support for the new arrangement. If the private sector operation is to succeed, deserving policy environment that favours the smallholder farmers should be encouraged. In this regard, the smallholders who dominate the agricultural sector should be protected foremost against the adverse effect of food import. This should be more in the area of discouraging food import and encouraging local production. They should also be guaranteed some micro credit assistance, extension service support and adequate training which are necessary for successful farm operation. Major support for the public service agricultural set up should be towards the areas that directly assist the farmers.

6.3 Recommended proposal for intervention

In consideration of the essential factors required for achieving increased agricultural production and food security, a comprehensive National Agricultural Support Programme has been proposed. The main components are Food and Cash Crops, Livestock and Fisheries

Development. These have been packaged together because of their relative ease of implementation within FMARD. The highlights of each component are as follows:

6.3.1 Food and cash crops

This component includes food, tree and horticultural crops. The food crops to be promoted are maize, rice, sorghum, millet, soybean, groundnut and cowpea. Promotion of tree crops will involve oil palm, cocoa, rubber, cashew, coconut and gum arabic. The horticultural crops to be planted will include fruits namely banana, plantain, pineapple and citrus, as well as vegetables like tomato, pepper, onions and Telferia.

The main strategy for encouraging production in the crop sub sector will be to support the raising of improved planting materials for distribution to farmers. Extension services will be intensified and training provided for both farmers and agricultural technical staff. Micro credit support has been built into the programme. Tree crop farmers whose land development costs are usually higher will get additional credit support to cover land preparation activities. Some extra credit support has been proposed for those tree crops that are susceptible to pest/disease infestation. Fertilizer use will be promoted under the programme through the provision of subsidy which will gradually be withdrawn over the years. Early supply of fertilizer will be pursued. Farmers will be encouraged to mechanize their field operations. Provision has been made to procure and deploy tractors to all the agricultural zones. The tractors which will be given out to private sector organizations (such as commodity associations) will be for hire.

Fadama operations will be supported through the provision of basic infrastructure like access roads, and promotion of institutional organizations of fadama users. Extension services, training and micro credit will be provided for them under the programme. Crop processing and storage will be encouraged through the provision of equipment that will be used mainly for demonstration. Market support will be made available through commodity associations. Export trade will be promoted by developing the services in that area. Credit support will be provided to individual investors to organize their export trade. However the government will be expected under the programme to show more concern in protecting local farmers and investors by discouraging imports through raising of tariffs and enforcing bans on commodities that have potentials to be successfully grown here.

6.3.2 Livestock

The livestock component involves intervention in the production of sheep, goat, cattle, pig, poultry and grass cutter (cane rat). Grass cutter production is relatively new, but its support under this programme is justified because of the ruminants' nutritional and economic importance as well as acceptability as meat animal. Breeding programmes will be supported to ensure that farmers get access to improved stock of livestock. Major livestock diseases among monogastrics, poultry and ruminants will be controlled. In this regard, provision has been made also for the rehabilitation of some international disease control posts.

Grazing reserves will be established to help settle pastoralists and minimize the conflict between them and crop farmers. Livestock extension services and training will be supported. Micro credit will be provided for farmers.

6.3.3 Fisheries

Fisheries component will involve the promotion of private sector fish farming activities. Those government departments involved in direct production will be encouraged to privatize.

The main strategy for promotion of the sub sector will involve the restocking of dams, reservoirs, lakes and lagoons with high quality, fast growing fingerlings. Some seed and commercial fish farms abandoned by the government will be rehabilitated and put up for privatization.

Institutional strengthening of aquaculture will be carried out. A major aspect of this will involve the establishment of Aquaculture Technology Transfer Centre (ATTC). Fisheries extension services and training will be promoted. Under the programme micro credit will be provided to the fish farmers.

6.4 Programme cost

The Agricultural Support Programme will cost N20.966 billion. This will involve an investment cost component of N12.047 billion (57.4 %) and a credit cost component of N8.919 billion (42.6%). The purpose of intensification of credit is to provide enough improved seed materials through research institutes/private sector agencies and to empower the smallholder private farmers to successfully undertake their farming operations. The Programme emphasizes cost recovery.

6.5 Programme finance

The programme will be supported by the Federal, States and Local Governments as well as an External Donor Agency. A cost sharing arrangement has been proposed as follows.

External Donor Agency-	40%
Federal Government	- 30%
State Governments	- 20%
Local Government	- 10%.

6.6 Returns on investment

The Agricultural Support Programme will significantly increase domestic output of crops, livestock and fish products in the next 4years. This in turn will help to decrease national shortages and hence drastically cut down the need for food import. Foreign exchange resource will thus be conserved, smallholder farmers' income will increase, and both the nation and households will enjoy reasonable food security.

REFERENCES

- Aribisala, T.** (1984), “Towards African Revolution” *Punch Vol 1 (1481)*, Monday 25 June pp 3 – 101.
- Antimo, T.** (1983), *Food Problems and Nutrition Situation in Nigeria; In Nutrition and Food Policy For Nigeria*. NIPSS, Jos.
- Ayimodu, M.S.** (1981), “The Design and Implementation of Small Scale Irrigation Scheme in Nigeria; Problems and Prospects” Paper Presented at 1st National Workshop on Rural Infrastructure, Ibadan.
- CBN.** (2000). *Annual Report and Statement of Account*, Dec.
- CBN.** (2000b), *Statistical Bulletin*; Vol. 11 No2 p.89
- CBN.** (2000c), *Statistical Bulletin*; Vol. 11 No2
- CBN.** (2000d), *Statistical Bulletin*; Vol. 11 No2 pp 116 – 117
- CBN.** (2001), *Monetary Policy Circular*; No. 35.
- CBN.** (2002), *Annual Report and Statement of Account*; Dec.
- CBN.** (2002 a), *Annual Report and Statement of Account*, December p 53
- Enwonwu, C.O.** (1980), *Nutrition Requirements and Nutritional Status of Nigerians*. Nigeria Journal of Nitr. Sc, 1: 98.
- Eze J.C.** (2003), “Key Issues Affecting Nigeria’s Development” Paper Presented at Workshop Private Company Chief Executives, Awka. 4 – 5 Oct
- FAO.** (1999), *The State of Food Insecurity In the World*. Rome
- FAO.** (2001), *Production Year Book*. Vol. 1.55
- Fayenuwo J. O, M. Akande, J. A. Oluokun & F. I. Ogundola** (1998), *Grass cutter Domestication and Multiplication*. Farmers’ Guide. Oct.
- FOS.** (1999a), *Abstracts of Statistics*, Federal Office of Statistics, Abuja.
- FOS.** (1999), *Review of The Nigeria Economy*, 42 – 44.
- Liman, A.** (1979), “ Overview of the Crops Sector” *In the Crop Sub sector in the Fourth National Development Plan (1981 – 85)*. Proceedings of Workshop Organised by FDA, 29 – 30 Aug.
- FMARD,** (2000), *Nigeria: Agricultural and Rural Transformation Programme, From Vision to Action*. Abuja, Sept.
- FMARD,** (2000a), *Nigeria: Agricultural and Rural Transformation Programme. From Vision to Action*. Abuja Sept. p 117
- Nnanyelugo, D.O.** (1987), *Reappraisal of Nutritional Indices and Measurement of Children In Anambra State*, Oxford Press.
- Nnanyelugo, D.O.** (1990), *The Nutrition Status of Nigerian Households*, Proceedings of Nutrition Society 37, Vol. 11.4
- Nnanyelugo, D.O.** (1996), *The Nutrition Status of Children – A Comprehensive Treatise*, CSS Bookshop Ltd.
- Nwajiuba, C.** (2000), “Food Insecurity: An Overview”, Paper Presented at the Dept of Agric Econs, FUTU, Owerri
- Oguntoyimbo, J.S.** (1981), “Irrigation and Land Reclamation Projects in Nigeria” *Agricultural Journal* 7(1): 53 – 69
- Okeke, S.E.** (1998), *The Misconceptions of Dioscorea cayenensis*. Nig. J. Bot, Vol. 14: 101 – 114.
- Oluleye, O.B and E.O. Osunfuyi.** (1991), “Improving Productivity in the Livestock Sector in Nigeria” *In Increasing Productivity in Nigeria: Proceedings of The First National Conference on Productivity*. Macmillan Nigeria. Lagos, p. 548
- Tangermann, S.** (2000), *Food Insecurity, The WTO and Trade Liberalization in Agriculture; Introduction*. In *Quarterly Journal of International Agriculture* Vol. 39 (4): pp 339 – 342.

POLICY ASSISTANCE WORKING PAPERS

0/1 E	FAO Subregional Office for Southern and East Africa	Food security and agricultural development in sub-Saharan Africa - Building a case for more public support <i>Background document</i>
0/1 F	Bureau Sous-régional de la FAO pour l'Afrique de l'Est et Australe	Sécurité alimentaire et développement agricole en Afrique sub-Saharienne - Dossier pour l'accroissement des soutiens publics <i>Document de Cadrage</i>
0/2	FAO Subregional Office for Southern and East Africa	Food security and agricultural development in sub-Saharan Africa - Building a case for more public support <i>The Case of Ethiopia</i>
0/3	FAO Subregional Office for Southern and East Africa	Food security and agricultural development in sub-Saharan Africa - Building a case for more public support <i>The Case of Kenya</i>
0/4	FAO Subregional Office for Southern and East Africa	Food security and agricultural development in sub-Saharan Africa - Building a case for more public support <i>The Case of Malawi</i>
0/5	FAO Subregional Office for Southern and East Africa	Food security and agricultural development in sub-Saharan Africa - Building a case for more public support <i>The Case of Nigeria</i>
0/6	FAO Subregional Office for Southern and East Africa	Food security and agricultural development in sub-Saharan Africa - Building a case for more public support <i>The Case of Tanzania</i>
0/7	FAO Subregional Office for Southern and East Africa	Food security and agricultural development in sub-Saharan Africa - Building a case for more public support <i>The Case of Zambia</i>

