

AGRICULTURAL DEVELOPMENT AND POLICY
IN BENUE STATE, NIGERIA

by

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Current exchange rate

₦1.00 = \$1.52 U.S. dollar

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PREFACE

Nigerian National Agricultural policy objectives aim to:

- a) increase production of food and fiber
- b) increase and stabilize rural incomes from farming activities
- c) improve rural living standards through investment in agriculture and infrastructure.

In order to achieve these national objectives, national agricultural programs are designed at the federal level and implemented at the state level. Achievement of programs at the state level will, therefore, depend mainly on institutions and policy framework within which the programs are to be implemented.

The purpose of this Report is to:

- i) review the agricultural development in Nigeria and in Benue State
- ii) evaluate the performance of four major federal agricultural programs under implementation in Benue State
- iii) identify obstacles or weaknesses of each program
- iv) suggest or make recommendations necessary for improvement
- v) identify potential new areas for the development of a suitable (tree crops) program for the benefit of small farmers.

To tackle the exercise, I have divided the Report into six chapters supported by a total of 29 tables. Chapters 1 and 2 are descriptive. They provide insights into the Nigeria agriculture today and discuss potential that exists for crop and livestock development in Benue State in particular. Chapter 3 traces the evolution of agricultural programs for Benue State today and gives details of the State's 2nd Five-year Development Program in the 4th National Development Plan of 1981-85. Chapter 4 evaluates four major agricultural programs so selected to reflect the nature of the organizational

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structure of the MOA. The programs evaluated include i) credit services to small farmers, ii) fertilizer program, iii) land development program and iv) manpower development and training. Problems facing each program are discussed and suggestions made for improvement. It should be pointed out here that most of the ideas on problems and recommendations are mine. Others are gleaned from literature and monitoring reports of the Government Ministries. All in all, the responsibility of all recommendations and suggestions are those of the writer. Chapter 5 focusses attention on the Ayangba Agricultural Development Project (AADP). AADP is an Integrated Rural Development program based in Ayangba in Benue State. Its rapid success has been attributed to lack of institutional, technical, financial or other problems due to semi-autonomy it enjoyed from the main civil service. Chapter 6 concludes the Report by identifying small holder citrus production and oil palm rehabilitation as two potential new areas for program development in view of technical and economic factors in their favor.

A general conclusion of the Report of the evaluation of the four programs is that although suggested improvements if adopted will improve these services to the farmers, such improvements will be in the short-run only. A long-term solution rests with the replication of Ayangba type project in other parts of Benue State.

John Idoko

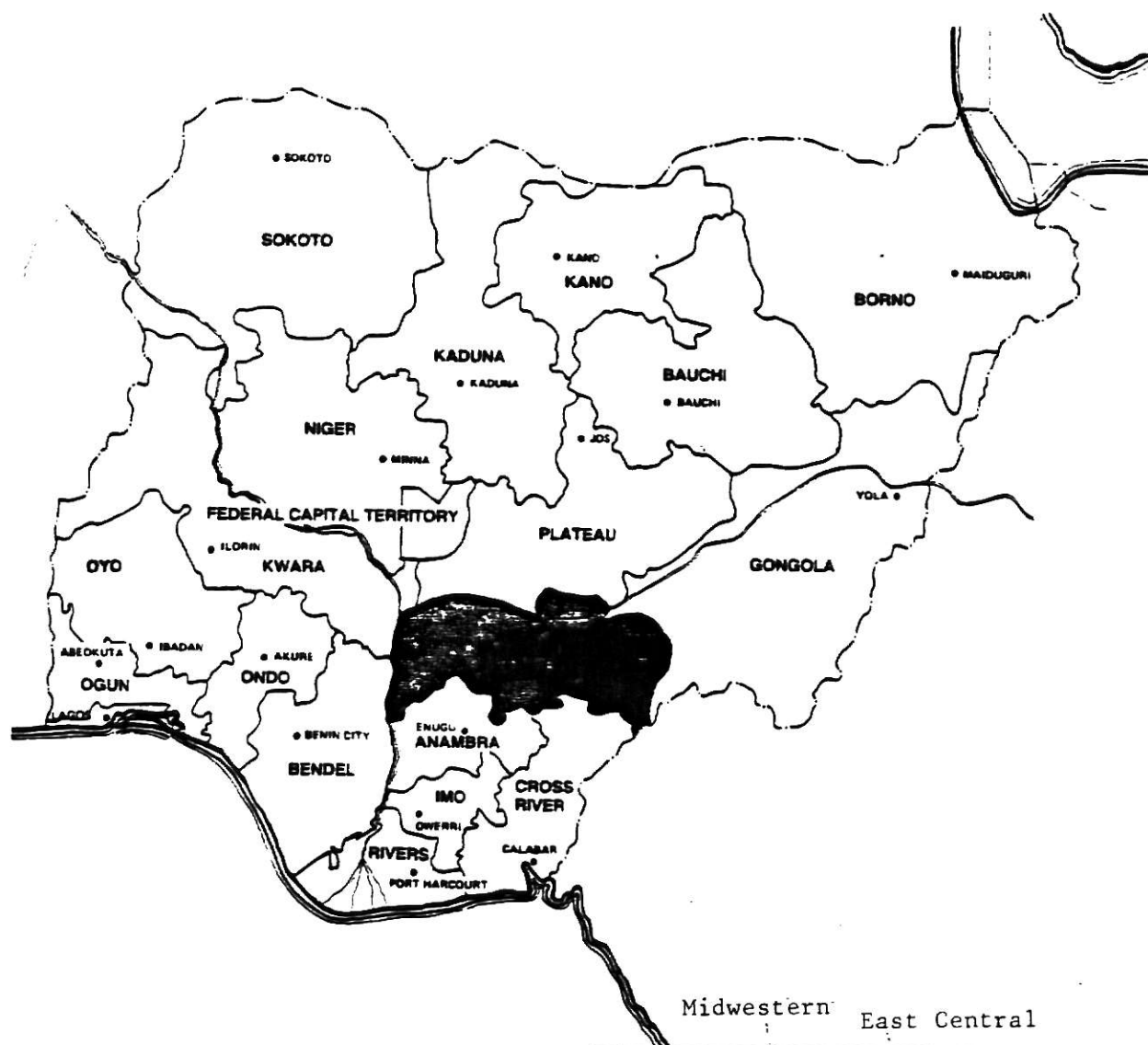
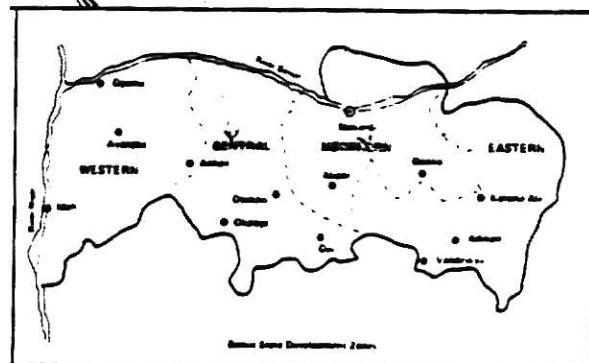


Figure 1.
BENUE STATE, NIGERIA
Location map



CHAPTER 1. BACKGROUND TO AGRICULTURAL DEVELOPMENT IN
NIGERIA WITH SPECIAL ATTENTION TO BENUE STATE.

1. NIGERIA

With the creation of seven more new states in 1976, the Federal Republic of Nigeria is composed of 19 states and covers an area of 924,000 Km.^{2 1} The 1980 population based on the 1963 census was about 80 million, an average density of 85 persons per square mile. The Gross National Product, estimated at ₦17.1 billion² in 1978-79, experienced an average growth rate of 8.5 per annum during the period 1974-79. During the 4th National Development Plan Period of 1980-85, GDP, estimated at ₦30 billion,¹ is expected to grow at a compound rate of 8.3% per annum.

The economic growth in Nigeria over the last decade (1970-80) can be roughly divided into two phases: January 1970 (end of Civil War) to about 1974 (end of drought in the northern states) can be regarded as a period of rehabilitation and recovery as the economy quickly responded to postponed investment and production; the second phase 1975-80 was characterized by a resumption of growth as a result of increased public sector activities and was inevitably accompanied by inflation and supply shortages. Nigeria's economic development during this decade was dominated by the oil sector which from the middle of the decade accounted for 41% of GDP, 93% export earnings and about 80% of government revenues.³ The oil sector witnessed some setbacks during the decade. In 1975-76, 1978-79 and 1981-82, for example, production and

¹Federal Ministry of National Planning; Guidelines for the Fourth National Development Plan, 1981-85.

² -do-

³Nigeria: Central Agricultural Projects, Report No. 1370a, UNI, World Bank.

actual revenue declined due to decline in demand for oil.

The Agricultural Sector in the Economy

The performance in the agricultural sector during the decade was not encouraging. The average growth rate in this sector for 1971-75 was as in Table 1.

Table 1. Annual Agricultural Growth Rate (1971-75)⁴

Year	Annual Agricultural Growth Rate
1971	5.2%
1972	-7.3%
1973	-1.9%
1974	6.7%
1975	4.5%
Average during period	1.3%

The negative annual growth rates for 1972 and 1973 were due to severe drought conditions in the northern states which reduced output of major food crops in the north (millet, sorghum, groundnuts) to about 50% of usual yield.

About 80% of employment in Nigeria is in the agricultural sector. It is, therefore, a matter for concern that this sector's growth has increasingly been faced with problems of low technology resulting in substantial decline in productivity from existing farms and of rural-urban migration of rural labor force thus leaving the aged and the incapable people on the farms. It is no wonder, therefore, that agriculture's share in GDP has declined sharply

⁴Nigeria: Central Agricultural Projects, Report No. 1370a, UNI, World Bank.

from 49% in 1970 to 28% in 1975. No doubt the importance of crude oil in sharply increasing GDP is also a contributory factor.

Table 2. Share of Agriculture in GDP⁵

Year	GDP (₦ million)	Agriculture (₦ million)	%
1970	5,281	2,576	49
1971	6,651	3,034	46
1972	7,188	3,093	43
1973	8,453	3,123	37
1974	13,947	3,531	25
1975	15,170	4,176	28
1979	20,581	4,528	22

Note: GDP at Factor Prices.

Food Situation:

Food production over the last two decades had lagged behind population growth. While food output increased about 30% higher than the average 1961-65 level so had the population increased some 40% in the same period.⁶ And with a per capita income increase of about 50% during the two decades, it is expected that consumption demand would outstrip output. The sharp increases in food imports and prices during this period provide support for the expectation.

The long-term trend for export crop production appeared more disappointing. Despite incentives for large investment in export crops (eg. the

⁵Economic Report and Federal Office of Statistics, Lagos.

⁶Nigeria: Central Agricultural Projects, Report No. 1370a, UNI, World Bank.

Table 3. Nigeria's Agriculture in Imports⁷

Year	Total (₦ million)	Food (₦ million)	% of Food of Total Imports
1970	756	58	8
1971	1,079	88	10
1972	990	95	10
1973	1,225	126	10
1974	1,737	154	9
1975	3,734	295	8

The % of food imports of total imports have remained stable (averaging 8-10% during the 1970's).

reorganization of Marketing Boards into Commodity Boards in 1976-77 cash crops such as groundnuts decreased by about 85%; oil palm 20-30%; and cocoa 50% so that in terms of Nigeria's total exports, agricultural commodities have become insignificant. They are only significant when oil exports are excluded (see Table 4).

Livestock:

Livestock production in Nigeria was and still is characterized by settled and seasonal pastoralism. Emphasis has been on general health and hygiene of domestic cattle and the possibility of producing disease-resistant cross breeds from crossing international breeds with the locals. The major research is at Vom, established in 1924. In Benue State the Livestock Investigation and Breeding Centre is at Raav.

⁷Nigeria: Central Agricultural Projects, Report No. 1370a, UNI, World Bank.

Table 4. Nigeria: Quantity and Values of Major Exports.¹

Commodity	Quantity in (000) tons						Value in ₦ million					
	1970	1971	1972	1973	1974	1975	1970	1971	1972	1973	1974	1975
Groundnuts	291	136	106	199	30	---	43.4	24.2	19.1	45.5	6.8	---
Groundnut Oil	90	43	40	111	24	---	23.2	12.8	10.9	23.6	11.4	0.2
Cocoa Beans	196	221	228	211	180	215	133.0	143.2	101.1	112.4	159.0	180.6
Cocoa Butter	9	8	10	11	11	9	13.2	8.2	10.1	15.0	21.0	20.4
Palm Kernels	185	242	212	137	186	170	21.8	26.0	15.7	18.9	43.7	18.2
Palm Kernel Oil	33	26	34	40	39	20	8.4	6.2	5.5	7.7	21.6	5.0
Rubber	59	51	41	49	61	54	17.6	12.4	7.4	19.4	33.2	15.2
Raw Cotton	28	22	1	8	---	---	13.2	11.0	0.6	4.7	---	---
Cotton Seed	97	---	62	9	11	---	4.2	6.2	2.7	0.7	0.9	---
Timber & Plywood (cu/m)	240	223	232	370	305	105	8.0	7.0	8.1	14.3	14.0	4.6
Petroleum Crude	51697	71699	85860	94302	96437	80018	509.8	953.0	1176.2	1893.5	5365.7	4421.5

¹ Economic Report and Federal Office of Statistics, Lagos.

Fisheries:

Interest in developing local Nigeria fish resources dates back to 1945-48. Attention has been given to brackish-water fish culture, canoe and motorboat fishing, etc. The first fish farm, Panyang Fish Farm (Plateau State) was established in 1951. Expansion in fishing industry has been rapid following the setting up of the Federal Department of Fisheries in Lagos.

2. BENUE STATE

Location and Size:

As a result of creation of additional states in 1976, Benue State was created by a merger of the eastern part of the then Kwara and the southern part of the then Plateau States. It covers an area of about 46,000 km² with an estimated population of 3.32 million (1978). For administrative purposes the state is divided up into 23 Local Government Areas (LGAs), but for development purposes, the state is divided into four zones as follows:

Table 5. Development Zones in Benue State.

Zone	LGA	Estimated Population (million)	Estimated No. of Farming Households (000)
1. Western	Ankpa, Bassa; Dekina, Idah Ofu, Omalla	0.88	101.6
2. Midwestern	Ado, Apa, Oju, Okpokwu, Otukpo	0.73	89.9
3. East-Central	Ambighir, Gboko, Guma, Gwer, Makurdi, Nagi	0.80	81.2
4. Eastern	Barakuv, Katsina-Ala Konshisha, Ukum Usongo, Vandeikya	0.91	112.2
State Total		3.32	384.9

Source: Ministry of Economic Planning, Makurdi.

Population:

Benue State is basically a rural state with 2.94 of its 3.3 million (89%) living in the rural areas.⁸ Only 11 centers have urban population of over 10,000 persons.

The states' rural population density of 64 persons per km² falls below the national average of 85 persons. The farming population forms about 81% of the states' entire population, see Table 6.

Ethnic Composition:

Benue State is made up of three major tribal groups--viz Tiv including Etulo (1.71 million), Igala including Bassa Nkomo and Bassa Nge (.88 million) and Idoma including Igede (.73 million).

The State's Economy:

The economy of Benue State is dependent, to a large extent, on agricultural production mainly by small-scale farmers. The state has been dubbed "Food Granary" of Nigeria due to the fact that it not only feeds its population but also feeds other states' especially Anambora, Imo and Cross River. The main farm products--yams, groundnuts, rice, guinea corn, palm oil and palm kernel oil, sheep and goats, etc.--provide the main sources of farm income to most farm families. There are, however, exceptions to the general rule. Field surveys recently conducted among 15 sampled villages in the Western Zone in 1980 indicated that 67% of household income was non-farm while 21% of income was from crop sales as tabulated on the following page.

Socio-economic differences exist among the various farm communities partly due to interaction of such communities with natural ecology and partly due to

⁸ Data from Ministry of Economic Planning (Alhandasar Consultants).

Table 6. Estimated Population and Numbers of Rural and Farming Population by LGA in Benue State.

Zone	LGA	Total Population	Rural Population	% of Population	Farming Population	%
Western	Ankpa	237,100	211,650	89	192,600	81
	Bana	67,850	67,850	100	61,750	91
	Dekina	177,050	143,750	81	130,800	74
	Idah	199,100	156,050	78	142,000	71
	Ofu	76,700	76,700	100	69,800	91
	Omala	120,300	120,300	100	109,450	91
Mid-Western	Ado	96,500	96,500	100	87,830	
	Apa	147,550	147,550	100	134,250	91
	Oju	198,800	198,800	100	180,900	91
	Okpokwu	165,300	165,300	100	150,420	91
	Otukpo	117,550	78,550	67	71,500	67
	Ambighir	139,250	139,250	100	126,700	91
East-Central	Aboku	725,700	686,700	95	624,900	86
	Guma/Makuradi	265,100	141,200	53	128,500	48
	Gwer	117,150	117,150	100	106,600	91
	Nagi	85,000	85,000	100	77,350	91
	Barakuv	146,000	133,750	92	121,700	83
	Katsina-Ala	117,200	100,150	85	91,150	78
Eastern	Konshisha	70,250	70,250	100	63,900	91
	Ukum	197,600	185,300	93	168,600	85
	Ushongo	155,550	155,550	100	141,550	91
	Vandeikya	221,350	211,150	95	192,150	87
Total State		3,307,100	2,939,000	89	2,674,400	81

Source: Ministry of Economic Planning (Dar Alhandasah Consultants), Makurdi.

Mean Household Cash Income = ₦960.00
 Village median of village means = ₦697.00

<u>Income sources</u>	<u>%</u>
Crop Sales	20.5
Non-farm sources	67.6
Other farm sales	5.6
Wages earned	1.6
Miscellaneous	<u>4.7</u>
Total	100.0

Source: AADP Planning and Evaluation Department, Income and Expenditure Survey, 1980.

cultural habits. These factors affect labor supply on the farms and the farm size. In the Tiv communities of Benue State (reference Northern and Eastern Zones) where womenfolk participate fully in farm operations, farm sizes tend to be larger (4.5 ha) than in, say, Igala communities (Western Zone) where most women engage in trade activities other than farming.

At the moment, about 35%⁹ of the state's good agricultural land is under cultivation using the traditional shifting cultivation and crop fallow. To maintain this system will appear devastating and costly and may likely encourage encroachment on the forestry land (4% of state land). Although cropping patterns vary from zone to zone, the main food and cash crops are grown throughout the four zones. For example, the six major crops in the state were cultivated in 1980 as shown in Table 7.¹⁰

RURAL INFRASTRUCTURE

Generally speaking, Benue State which was formerly part of the southern fringe of the former Northern Region was relatively neglected during the Regional Administration based in Kaduna. Thus at the creation of the State in 1976, there was little or nothing to own in the areas of road networks,

⁹ AADP/LRD: Land Use Through Satellite Imagery.

¹⁰ AADP State Agricultural Survey, 1981.

Table 7. The Size of Cultivation of Major Crops, Benue State, 1980-81.

Zone	Yam	Cassava	Maize	Guinea Corn	Rice	All Crops
Western	13.9	22.7	46.6	12.0	15.7	21.8
Central	24.5	26.6	14.6	28.3	24.9	18.3
Northern	16.8	19.0	17.7	25.2	29.8	23.7
Eastern	44.8	31.7	21.1	34.5	34.6	36.2
State	100.0	100.0	100.0	100.0	100.0	100.0

NB: % breakdown was based on a cropped area of 1.05 million hectares.

Source: Ministry of Agriculture, Makurdi.

electricity supply, telecommunications, health and educational institutions. For instance, in 1976 only two towns--Makurdi and Otukpo--had electricity supply from the national grid. This number has now been increased to seven by 1981. Ankpa, Idah, Gboko, Yandev and Katsina-Ala have now been linked to the national grid. The State Electricity Corporation has been established to deal with rural electrification program since 1976.

Telecommunication has remained in its poor state. Only Makurdi, the state capitol, has a telephone system connected to the National System Health Care Services and has remained inadequate. Although most local governments have at least one General Hospital and a host of clinics, lack of drugs and trained/dedicated staff has hampered the usefulness of these health institutions. Hence, incidence of endemic diseases and infant mortality remains high.

Formal education has been the 'liberation symbol' of the people of this area in the then Northern Regional Administration. Assisted by the establishment of Voluntary Agency Schools (Catholics, Methodists, Qua Iboe Missionaries, etc.) the people were able to forge ahead in education of its youth. With the

introduction of Universal Primary Education (UPE) in 1976 coupled with the creation of the state in the same year, some 754,000 pupils were enrolled by 1978-79 year.¹¹

State Roads:

Roads are the most important means of transportation. The state road network is, however, constrained by four main important rivers: Niger to the west; Benue to the north and northwest; Katsina-Ala to the east and Anambra to the southeast. Two of the three main bridges across these rivers in the 3rd National Development Plan 1975-80 have been completed at Makurdi and Katsina-Ala. The third bridge linking the Western Zone to the Iron and Steel Complex at Ajaokuta is expected to be completed before the end of the Fourth National Development Plan period in 1985. The road network is now relatively developed. For instance, there are over 400 km of paved state roads and over 900 of paved federal roads in addition to 1700 km of gravel/earth roads under state and federal maintenance. See Table 8 for details of road network.

National and State Agricultural Objectives and Policies:

There are three national agricultural objectives¹² viz:

- a. To increase agricultural production especially of food crops to ensure national self-reliance.
- b. To increase and stabilize rural incomes from farming activities for all farmers in order to ensure the long-term future of the agricultural sector.
- c. To improve rural living standards, particularly through investment in agriculture, infrastructure and through creation of increased income and employment opportunities to redress the process of urban migration.

¹¹Ministry of Education, Makurdi.

¹²Fourth National Development Plan 1981-85, Federal Ministry of National Planning, Lagos.

Table 8. Details of Existing Road Network in Benue State.

	Western Zone	Mid-Western Zone	East Central	Eastern Zone	Total State
<u>1. Paved Roads</u>					
State	145	95	45	115	395
Federal	270	145	370	180	925
	415	235	415	295	1,360
<u>2. Gravel/Earth Roads</u>					
Federal	150	---	---	---	150
State	115	---	20	---	135
L. G.	670	65	80	100	915
	935*	65	100	100	1,200

*AADP reconstructed.

Source: Ministry of Works, Makurdi.

In attempting to achieve the national objectives the following policies have been adopted:

- i. Reorganization of marketing boards into commodity boards and the establishment of guaranteed minimum prices (GMPs) for each commodity.
- ii. Establishment of eleven River Basin Development Authorities to undertake large scale direct production through irrigated or rainfed agriculture.
- iii. Incentives for the establishment of private agro-processing plants including import relaxation for agricultural plants and equipment and increased public sector alterations.
- iv. Provision of subsidized inputs such as fertilizer, seeds and chemicals.

The states do not have separate agricultural objectives and policies but operate within the general framework of the Federal objectives and policies. In adopting a policy to meet objectives, states are free to modify policies in

the light of their (states') own peculiarities. For instance, while provision of subsidized fertilizers will be relevant to farm states such as Benue, Kwara, Oyo, etc. River State--which is dependent on fishing--will be interested in provision of subsidized fishing inputs such as fishing gear and boats. In Benue State, emphasis has been on the objective of increased agricultural production through small-scale farming as this forms the pivot for rural income stabilization and improvement of living standards. In order to achieve this objective, the state has embarked on distribution of federally subsidized inputs such as fertilizers, chemicals and seeds, distribution of agricultural loans to farmers, provision of subsidized tractor hire to farmers, establishment of Agro Service Centers and land development (land clearing) schemes for farmers. The performance of some of these programs--fertilizer, credit services, land development service, manpower development and training--are discussed in detail in Chapter 4.

Ayangba Agricultural Development Project AADP)

A more recent development in the Government's strides toward meeting national policy objectives is the establishment of an Integrated Rural Development program based in Ayangba in Benue State in October 1977. The project was cosponsored by the State and Federal Government and International Bank for Reconstruction and Development (IBRD).

The purpose of the project is to improve rural standard of living through increased income from improved agriculture and to provide employment opportunities for the young who could otherwise heighten the magnitude of rural-urban migration. The project area covers 13,500 Km² and caters to 150,000 farm families in the western portion of the state designated as Western Zone in Fig. I. Detailed information about AADP is provided in Chapter 5.

CHAPTER 2. CROP AND LIVESTOCK DEVELOPMENT POTENTIALS

Crops:

In general Benue State soils have low organic matter, are leached and moderately acidic. The cation exchange capacity is low with the result that overall fertilizer response is low. This factor supports the rationale for farmers adopting the traditional farming system of shifting cultivation since continuous cropping systems cannot be supported by such soil characteristics. On the average, precipitation varies from 1200 mm in the north to about 1500 mm in the south with mean rainy season temperature of 27°C (80°F) and a relative humidity of 85-95%. It is no surprise, therefore, that a range of both food and tree crops are or can be grown by small holders in the state. The main food crops presently grown include yams, cassava, rice, maize, guinea corn and millet while potential for growing citrus and oil palm are discussed in Chapter 6. Mixed cropping is widely practiced but for the purpose of acreage analysis (in sole crop equivalents), Table 9 shows the hecterage currently under cultivation as well as the average state yields (tons/ha). AADP (Western Zone) figures have been made a separate column since its 1980 yield surveys indicate a higher yield average than the state survey.

The potential for crop development in Benue State would appear to depend on two factors, namely technical factors and marketing prospects. With the exception of Beniseed, all the crops listed in Table 9 are expected to respond favorably to improved technology. Beniseed does not respond to fertilizer application and as such, has continued to decline in production as no one seems to have an answer to its development problems.

As for the marketing prospects, it is evident when comparing the "Farm Gate producer prices" with the "Government established prices" in Table 10 that favorable prices exist for most domestically produced crops in the State

Table 9. Crop Hectarages and Yields in Benue State.

Crop	'000 ha	% of Cultivated Area	Yields--	Yields--Other
			AADP Zone	Parts of State
			(tons/ha)	(tons/ha)
Yam	161.5	15.4	9.5	8.0
Cassava	142.6	13.6	7.4	7.0
Rice	120.3	11.5	---	1.3
Maize	96.0	9.1	1.3	0.8
Guinea corn	93.4	8.9	---	0.7
Groundnuts	64.8	6.2	1.4	0.7
Millet	55.5	5.3	1.0	0.8
Beniseed	17.2	1.6	---	---
Cowpeas	24.5	24.5	---	0.4
Soybean	14.8	1.4	---	0.9
Others	259.4	24.7	---	---
Total	1,050.0	100.0	---	---

Source: Ministry of Economic Planning and AADP Yield Surveys.

and in Nigeria. This favorable price relationship exists because of Government restriction on all major crops. In general, prices of various crops fluctuate from season to season with generally lower trends for all crops between August and October and higher trends between April and June. As shown in Table 10, marketing margins are high and price variations at various points in the marketing chain are significant. This, of course, indicates lack of adequate marketing information, marketing inefficiencies, and poor intervillage mobility of both crops and consumers due to lack of roads and communication systems.

Table 10. Comparative Retail Prices for Imported Versus Domestically Produced Major Food Crops in Benue State.

Detail	(N)								
	Maize	Rice Paddy	Guinea Corn	Millet	Yams	Cassava Flour	Soya Beans	Groundnuts	Cowpeas
Retail Price	305	1,230	400	450	388	600	780	638	790
Retail Marketing Costs	30	123	40	45	38	50	78	64	79
Wholesale Price	275	1,107	360	405	350	550	702	574	711
Wholesale Cost	---	---	---	---	---	30	---	---	---
Raw Equivalent	---	686	---	---	---	140	---	---	---
Processing Cost	---	---	---	---	---	30	---	---	---
Primary Marketing	25	25	25	25	35	50	35	35	35
Storage Losses	25	62	33	38	64	---	67	54	67
Farm Gate Producer Price	225	561	302	342	251	60	600	485	609
Govt. Established Price for Imports	164	169	162	183	141	34	248	451	341
World Price 1981 (C.I.F. Lagos)	129	150	116	NA	NA	NA	231	436	NA

Source: Ministries of Economic Planning, (AADP Consultants).

Assumption: i. Paddy equivalent = 62%
 ii. Quality discount = .1
 iii. Losses = 5% of harvest
 iv. Gari equivalent = 27%

It is noteworthy from Table 10 that the farm gate producer prices for all domestic crops, except groundnuts, are significantly higher than the retail economic value of imported crops for these in Benue. This means that the world prices for these crops are generally lower than local producer prices.

The farm gate producer prices for each crop appears high enough to encourage increased production of those crops. However, the Grain Marketing Board, which is responsible for buying off farmers' produce, usually established guaranteed minimum prices that ultimately are much lower than the farm gate producer prices on most of the grain produced. This development tended to render the Grain Board redundant as farmers will want to sell their products at the best price they can get. However, those farmers who contracted to sell their production to the Grain Board will be sacrificing higher potential income through this sales contracting practice. Farmers engage in contracting to reduce their income risk.

Livestock:

The livestock industry in Benue State can be classified into three main categories, viz:

- cattle
- small stock (sheep and goats)
- poultry (eg. chickens).

Some 250,000¹³ head of cattle made up mainly of White Fulani, Red Bororo, Ndama Gudhali and Muturu are found in the state. Most cattle are owned by Cattle Fulani who could be migrant, semi-settled or settled Fulani. Most cattle graze under a free range system as there is no pasture management or fodder conservation of any sort. As a result, most of the cattle suffer from inadequate nutrition and, consequently, fail to yield full production potential

¹³ Ministry of Animal and Forestry Resources, Veterinary Department, Makurdi-- see Table 11 on livestock numbers.

Table 11. Benue State, Nigeria Livestock Numbers (1980).

LGA	Cattle	Sheep	Goats	Chickens
Anlysa	4,500	11,250	28,470	91,840
Bassa	3,500	3,704	9,374	30,240
Dekina	500	6,188	15,661	50,520
Gwer	14,850	3,537	4,374	19,720
Gboko	1,743	3,562	10,733	---
Idah	1,500	12,560	31,786	102,536
K/Ala	56,391	3,912	7,185	31,529
Kwande	108,476	24,344	156,198	159,242
Makurdi	42,700	1,000	2,295	14,128
Otukpo	8,231	9,568	2,831	11,276
Oju	9,000	6,349	10,508	26,122
Okpokwu	1,243	2,703	15,713	18,279
Vandeikya	2,662	12,930	50,322	181,113
Total	225,296	101,607	395,460	839,217

Source: MAFR Annual Report, 1981.

Table 12. Benue State: Slaughter Figures

	1976/77	1977/78	1978/79	1979/80
Cattle	11,103	12,433	15,245	19,708
Sheep	3,132	2,469	4,405	3,157
Goats	5,988	10,179	48,277	18,178

Source: MAFR Annual Report, 1981.

for meat, milk and reproduction. Milk yields for cattle in Benue State were 0.77 kg per day per lactating cow in 1975 and an annual production of 35 kg of weaned calf per cow.

Marketing of cattle is mainly in the southern states of Oyo, Lagos, Rivers and Imo where the animals are sold for meat. A sizeable number is also sold for slaughter in the main towns of Benue State eg. Makurdi, Gboko, Idah, Ankpa, etc. where prices would be as high as ₦500-600. Table 12 shows slaughter figures for some towns in Benue State.

Small Stock:

Sheep and goats (500,000 in all) are composed mainly of West African sheep breeds such as Onda and Yankassa and West African Dwarf goat breeds. Sheep and goats are mostly owned by the local farmers all over the state. Management for these small ruminants is generally poor. Flocks forage freely with the result that frequent clashes occur between owners of these animals and crop growing farmers.

Production potential for sheep and goats is very high compared to the cattle. Potential offtake, for example, ranges from 100%-150% of the breeding flock annually.

Sheep and goats are traded locally. Price varies in sympathy with the demand and supply situation. During festivals, for example, prices tend to rise astronomically. A goat sold for ₦35 during normal periods may sell for about ₦120 at the time of festivities thus reflecting the social importance attached to the slaughter of these animals at times of festivities.

Poultry:

A wide range of chicken types are found in the state. This includes a variety of local birds, commercial meat and egg production hybrids and some purebred (imported) birds such as Rhode Island Red and Light Sussex.

Production and management systems vary but modern techniques seem to be more easily adaptable by the local farmers than such techniques for other animals such as cattle, sheep and goats. Production systems include free range, litter and battery cage systems. The method of production adopted by a farmer depends upon his or her financial resources as well as the scope of poultry keeping intended. The litter system, for example, is low cost and has relative ease of management. It is, therefore, more appealing to small poultry farmers than the commercial production battery cage system.

There is a ready market for poultry products in Nigeria. Day-old chicks, for example, sell for ₦.80 approximately while eggs sell from ₦1.30-₦ 2.00 per dozen (farm gate) and from ₦1.50-₦2.40 at retail price. Cull birds sell at ₦5-7 per bird while heavy purebred cockrels sell from ₦7-12 each.¹⁴

The three categories of livestock--cattle, small stock and poultry--all have considerable opportunity for expansion. Table 11 shows the current livestock numbers in each local government area of Benue State.

While the production of cattle appears to be the exclusive prerogative of the Fulanis, the production of small stock and poultry have remained in the hands of the indigenous farmers of Benue State. Any development strategy, therefore, ought to take into consideration the relative ease with which poultry (layer) production can be adopted; the need to encourage improved production of ruminants as part of the mixed farming economy; the need to break Fulani monopoly of cattle herding through the establishment of a Government Cattle Ranch and the expansion of the existing cattle grazing reserves. A break in Fulani cattle monopoly will ensure that beef will be available at reasonable prices.

¹⁴MAFR Annual Report, 1981.

Slaughter figures for livestock shown in Table 12 indicate steady increases in slaughter for cattle and goats between 1976 and 1980. Note that government slaughter figures could be as much as 40% below actual slaughter due to the difficulty of obtaining accurate data on daily slaughter.

CHAPTER 3. EVOLUTION OF PROGRAMS AND PROJECTS

The basic issues that confronted agricultural planners at the inception of Benue State in 1976 were:

- i. To design agricultural programs and projects that should be adopted to rapidly increase agricultural production and productivity of the vast number of farm families fully engaged in agricultural pursuits both as an occupation and as a way of life.
- ii. To devise suitable incentives for farmers and to suggest what structural changes should accompany these programs and projects in order to entice small farmers into increasing their agricultural output.

A convenient point from which to tackle the problem was to look at the agricultural programs of the former two states (Kwara and Plateau) which hitherto had the responsibilities for agricultural development of this state. Few relevant programs were, therefore, selected and modified to provide the framework for agricultural programs of Benue State's 1st Five-Year Development Program in the 3rd National Development Plan (1975-80).

Table 13 shows the State's 2nd Five-Year Development Plan as contained in the 4th National Development Plan Period (1981-85). It should be noted that only a few programs are new. Others are programs carried over from the previous plan period (1975-80).

A total of ₦170 million is expected to be spent on agricultural programs and projects during 1981-85 plan period. Planned expenditure on livestock programs during the 4th National Plan is ₦15 million, see Table 14, while Forestry and Fisheries will spend ₦9 million and ₦7 million, respectively.

Table 13. Benue State's 2nd Five-Year Development Program for MOA in the 4th National Development Plan 1981-85.

Project Description	Status	(N million)						Estimated Total Expenditure	
		1981	1982	1983	1984	1985	1986	1981-85	1981-85
1. National Accelerated Food Production Program	Existing	.10	.10	.10	.10	.10		.50	
2. Purchase of Machinery and Land	Existing	10.0	10.0	5.0	5.0	5.0		35.0	
3. Tree Crops Development	Existing	.5	.5	.5	.5	.5		2.50	
4. Vegetable Production Programs	Existing	.04	.04	.04	.04	.04		.20	
	New	.30	.30	.30	.30	.30		1.30	
5. Alloma Oil Palm Project	Existing							1.50	
6. Improved Seed Production Project	Existing	.40	.40	.40	.40	.40		2.0	
7. Agro-Meteorological Services	New	---	.110	.10	---	---		.21	
8. Agricultural Survey & Evaluation	New	.10	.050	---	---	---		1.50	
9. Crop Protection Services	Existing	.30	.30	.30	.30	.30		1.50	
10. College of Agriculture, Yandev	Existing	1.0	1.0	.50	.50	.50		3.50	
11. Fertilizer Program	Existing	2.0	2.0	2.0	1.0	1.0		8.0	
12. Agric. Training Center	Existing	.40	.40	.40	.40	.40		2.0	
13. Agro-Service Centers	Existing	1.50	1.0	1.50	1.50	1.50		7.0	
14. Ayangba Agricultural Devt. Program (World Bank co-sponsored)	Existing	6.0	6.0	6.0	6.0	6.0		30.0	
15. Strategic Grain Reserves	Existing	.10	.20	.10	.10	.10		.60	
-Purchase of grain	Existing	.040	.040	.040	.040	.040		1.20	
16. Consumption of grain stores	Existing	.20	.20	.20	.10	.10		.70	
17. Construction/Project Staff Quarters	Existing	.60	.30	.20	.20	.20		1.50	
18. Central Mechanical W/Shop	Existing	5.0	5.0	10.0	10.0	10.0		40.0	
19. Vegetable Oil Complex (ADC)	New	14.18	12.76	2.84	1.805	1.70		29.54	
20. Others		42.76	40.70	30.52	28.185	28.08		170.25	

Source: Fourth National Development Plan 1981-85, Ministry of Economic Planning.

Table 14. Approved MAFR (Veterinary) Programs in Benue State's 2nd Five-Year Development Period in the 4th National Development Plan (1981-85).

Project Description	Status	(N million)					Estimated Total Expenditure 1981-85
		1981	1982	1983	1984	1985	
1. Rabies Control	Existing	.055	.027	.006	.006	.006	.10
2. Brucellosis Survey	New	.032	.017	.017	.017	.017	.10
3. Abattoirs, slaughter slabs, hides and skins	New	1.40	1.0	.17	.17	.36	3.10
4. Disease Control	Existing	.02	.02	.02	.02	.02	.10
5. Construction of Vet. Hospital	New	.30	--	--	--	--	.30
6. Estab. of Treatment Centers	Existing	.10	.075	.075	.075	.075	.40
7. Estab. of Livestock Training Program	Existing	.06	.06	.06	.06	.06	.30
8. Equipping Mobile Clinics	New	.06	.06	.06	.06	.06	.30
9. Construction of control and check points	Existing	.07	.07	.07	.07	.07	.28
10. Cattle breeding and fattening ranch	New	1.0	.10	1.20	.90	.90	5.0
11. Erection of rabbit breeding center	Existing	.10	.10	.10	.10	.10	.50
12. Artificial inseminations	New	.10	.20	.10	.10	.10	.60
13. Devt. and herd buildup at Raav	Existing	.10	.10	.20	.30	.30	1.0
14. Supplementary Feed Sale and Distribution	Existing	.10	--	--	.10	--	.20
15. Construction of Pilot Dairy Scheme	New	--	--	.10	.10	.10	.30
16. Estab. of sheep & goats	Existing	.10	.10	.10	.10	.10	.50
17. Poultry Demonstration Centers	Existing	.20	.20	.20	.20	.20	1.0
18. Grazing Reserves & Pasture Improvement	Existing	.20	.20	.20	.20	.20	1.0
19. Pilot Tannery in Makurdi	New	.05	.025	.025	--	--	.10
Total	Total	4.047	3.254	2.693	2.508	2.598	15.10

CHAPTER 4. EVALUATION OF PERFORMANCE OF PROGRAMS AND PROJECTS

The purpose of this exercise is to evaluate the performance of some of the major state agricultural programs and projects shown in Chapter 3. The exercise, no doubt, creates problems of methodological approach to evaluation of the programs. Should evaluation be based, for example, on achievements as opposed to the shortcomings of each program? Should achievements and shortcomings and costs of a program be measured in the concept of real social return and social costs knowing fully well that appraisal results, to a large degree, depend upon the value judgements of the appraiser?

Another problem in this type of evaluation is that programs and their results are ultimately tied to political, economic and social situations in the State in particular and the Nation in general. The question of who benefits from any of the programs depends on broad cultural factors as well as the complementarity of programs in the Ministry of Agriculture (MOA) and those in other Ministries. Whether a program benefits farmers or not also depends on the rural-urban interactions eg. in price of food items, tax and in migration patterns. Benue has a high migrant labor force.

Still another problem of evaluation in this exercise is whether to evaluate programs in terms of "well being" in the 'pareto' sense being cognisant that agricultural programs are not the only source of improvement of well being. It has been shown in Chapter 1 (page 9) that off-farm sources of income reach as high as 67% of household income in the Western Zone.

The last problem of evaluation that comes to mind is whether to evaluate programs in terms of farmer innovation. It is certain that larger (market-oriented) farmers are more innovative than the small-scale farmers. Evaluation results based on such large-scale farmers may be misleading since large-scale farmers are not representative of Benue State farmers. Furthermore,

innovation may not be profitable but because of patron-client relationship, farmers may be forced to reluctantly innovate.¹⁵

In spite of these problems, four of the programs will be evaluated in this chapter with respect to their achievements and failures. Problems in the way of greater achievements will be identified and suggestions for improvement will be made.

The four programs to be evaluated are:

- i. Agricultural credit services operation
- ii. Fertilizer program
- iii. Land development program
- iv. Manpower development and training.

i. Agricultural Credit Services

Credit sources available to farmers in Benue State include:

- On-lending Scheme of the Nigerian Agricultural and Cooperative Bank (NACB)
- Commercial Banks
- Ayangba Agricultural Development Project (AADP) Credit Savings
- Informal sources.

Attention will be focused on the On-lending Scheme as well as AADP Credit Services.

1. On-lending Scheme: Due to lack of security and collateral required of small-scale farmers to qualify for the Nigerian Agricultural and Cooperative Bank loan, the State Government decided to obtain the loan in a lump sum from NACB at 4% interest rate and to on-lend to farmers at 5% interest rate. The 1% difference was to cover part of the loan administrative expenses.

By 1977 Benue State Credit Committee was established at the State Head-

¹⁵ Benedict Starvis, Agricultural Extension for Small Farmers, 1972, Michigan State University.

quarters in Makurdi with Divisional Agricultural Credit Committees in all the local government areas of the state. The Divisional Agricultural Credit Committees (DACC) have the responsibility of recommending farmers who meet the basic loan requirements, i. e. some form of collateral--eg. house, tree crops, etc. and a reasonable guarantor. The State Agricultural Credit Committee, on the other hand, is to obtain needed money for loan each year from NACB to be disbursed to individual farmers who have been recommended by DACC in each LGA (Local Government Area). The State Credit Committee operates a bank account at Makurdi while DACC in each LGA operates a bank account with three specified signatories. All monetary transactions are done through the banks. Loan repayment for each crop matures when the particular crop for which the loan has been made is harvested. Loan repayments made by individual loan beneficiaries are transmitted through the DACC bank account to the main loan account at Makurdi. The State Credit Committee, in turn, would transfer all loans recovered to NACB in Kaduna at regular intervals.

Table 15 shows the loan volume and repayment to date. In 1979-80 a total of about ₦2 million was loaned to 2,804 farmers in addition to AADP loan scheme. Amounts disbursed during this year were ₦1000 per yam farmer and ₦700 per cereal crops such as rice, guinea corn and maize.

2. Problems: The credit program faced a number of problems which singularly or jointly resulted in the declining low loan repayment. These problems are discussed as follows:

Fragmented holdings: The purpose of the loan to the farmers was to increase production of domestic crops in order to reduce reliance on foreign food imports. The problem farmers faced was that they operated on fragmented small holdings scattered in four or more locations. Thus, supervision and maintenance of these farms became difficult and farmers inevitably ended up with little or no yields.

Table 15. MOA/NACB On-lending Scheme (1977-80).

LGA	Loan Amount	Repayment	Loan Amount	*
	1977-78	Table 1	1979-80	Repayment
	(N '000)	(%)	(N '000)	Rate
Ankpa	91.9	66.0	108.9	19.1
Bassa	68.8	44.0	---	---
Dekina	111.2	46.0	---	---
Gboko	150.7	96.1	351.9	45.6
Gwer	46.8	94.3	215.3	41.9
Idah	65.6	51.4	---	---
K/Ala	52.7	95.7	280.5	12.6
Kwande	55.9	NA	322.6	85.9
Makurdi	60.4	68.7	---	---
Oju	78.4	78.9	215.0	35.2
Okpokwu	38.9	82.5	277.9	23.9
Otukpo	118.0	55.3	---	---
Vandeikya	145.6	79.6	254.6	18.8
Total	1084.8		2026.7	

Notes

*Repayment figures up to July 1980 only small scale loans to individual farmers are ₦1000 per yam farmer and ₦700 per cereal crops.

Source: Agricultural Credit Unit, MOA.

New and appropriate technology: New technology is usually associated with risk arising from input and product price variabilities as well as yield variability under adverse weather conditions. Under these situations farmers tend to stick to their already known low output but reliable traditional system. In other situations the new technology eg. inputs, might not

have been adapted or tested under local conditions by farmers. A case in point was the state-wide rejection of calcium ammonium nitrate (CAN) fertilizers by farmers in 1978-79 due to lack of prior campaign for its use and lack of information on its technical recommendation.

Poor training: All the credit staff had no training in Agricultural Credit programs other than the training they had in Extension. Hence, the credit staff had little assistance to offer farmers on credit matters such as in the coordination of production and marketing activities.

Taste: Taste of food varieties produced out of new technology has an important effect on prices they command in markets. Some new white maize varieties had to be disposed of at a discount partly because they don't taste as good as the local varieties.

Institutional problems: Credit had become a political tool such that the basis of loan allocation and repayment had been undermined. Intuitively, loan beneficiaries had regarded these loans as a form of welfare or transfer payment which did not require repayment.

Poor supervision: Because of the nature of small farms, loan administration to this group of farmers had been difficult and costly. The use of the loans could not be properly supervised. Production loans had often been diverted into consumption, or into meeting social objectives or into doing business far remote from agriculture. Invariably recovery of loans, when attempted, became difficult.

Excess loans: The budget requirement for most of the crops ranged from ₦300-₦400 per hectare while the amount of loan due for each loan beneficiary ranged from ₦700-₦1000 depending on which crop the loan has been made. The disbursement of loans in excess of budgetary cost requirement not only made loan repayment difficult but also made some farmers poorer than what they were before the loan offer. The above statement refers to a situation where such

a farmer was faced with compulsory loan repayment.

Cooperative Societies: These societies could have added structural advantages for credit disbursements to individual farmers in all the Local Government Areas. Cooperative Movement in Benue, however, falls under the jurisdiction of another ministry, i. e. Ministry for Rural Development and Cooperatives whose record of cooperation with MDA is just beginning to be cordial. Even if the Cooperative Societies were available for use to facilitate credit disbursement and loan recovery, their use would still be limited since 45% of all Cooperative Societies in the State are yet to be officially registered as shown in Table 16. By law, only registered Cooperative Societies are recognized by Government for the purpose of financial transaction and legal status. Above are some of the problems faced by credit to small-scale farmers in Benue State. Before I discuss the improvements needed for the continuation of the program, it is necessary to look at the AADP version of the credit operation to small-scale farmers.

3. AADP Loan Scheme: Operating side by side with the MOA on-lending Credit Services is the Ayangba Agricultural Development Project's credit loan scheme covering the seasonal, short term, medium and long term loans. The seasonal loans were given to farmers groups in kind--i. e. in the form of inputs such as fertilizer and to be repaid at the end of each year. A total of 2,059 farmers groups (most of which were hurriedly formed) benefitted from the seasonal loan. As in Table 17, the recovery in the first year (1978) was encouraging but declined sharply in 1979 and 1980. The scheme has been suspended temporarily until recovery position improves.

Medium/long term loans: These are loans in kind given to farmers in form of farm capital items such as tractors, maize shellers, installation of processing mills. These have experienced satisfactory recovery position, see Table 17.

Table 16. Registered and Unregistered Cooperative Societies in Benue State, Nigeria.

Zone	LGA	Registered	Unregistered	Total
Western	Anupa	64	14	78
	Bassa	8	27	35
	Dekina	41	34	75
	Idah	79	26	105
West-Central	Oju	16	29	45
	Oupokwu	14	7	21
	Otukpo	35	12	41
North-Eastern	Gboko	25	14	39
	Gwer	7	21	28
	Makurdi	16	11	27
Eastern	K/Ala	27	22	49
	Kuande	24	--	24
	Vandeikya	--	--	--
	Total	356	258	573
		(55%)	(45%)	

Source: Ministry for Rural Development and Cooperatives (MRDC), Makurdi.

In general, therefore, while the on-lending credit operation of the Ministry suffered from organizational, technical and social problems, that of AADP suffered more from social and political problems--the sheer fact that loan defaulters on MOA credit scheme were not paying and no decisive economic sanctions are being applied to punish them.

Table 17. AADP Loan Operation Summary, Ayangba, Benue State, Nigeria.*

Loan Types		Loans Issued (N '000)	Loans Repaid (N '000)	% Recovered
Seasonal:	1978	119.85	112.10	93.5
	1979	162.87	83.40	51.0
	1980	280.30	58.20	20.7
Long Term:	1979	51.07	29.50	57.7
	1980	155.74	38.92	24.9
	1981	98.67	20.8	21.1
Processing Mill:	1981	18.16	2.0	11.0
Poultry	1980	36.87	11.72	31.8
Poultry	1981	56.86	0.13	0.2

*Figures as of December 1981.

Source: AADP Annual Report.

Suggestions for Improvement of Agricultural Credit Services: i) Formation of Cooperative Unions is sine qua non to the success of credit administration. The location of Cooperative Departments in a Ministry outside MOA is, therefore, not in the best interest of effective credit service to the small farmers. It is recommended, therefore, that the Cooperatives should be strengthened and made a department in the MOA organization. The merger of the strengthened Cooperative Department with MOA will no doubt solve the problem of divided loyalty and ensure total commitment of all relevant MOA Departments towards a Ministry objective.

ii) The size of disbursable amount per farmer per crop needs to be drastically reduced from its present N700-N1000 range to between N400-N500 range in order to reflect the budget cost of each crop. This will not only

help to reduce the problem of overloading the farmer with excess loan but will also enhance the spread of the loans to more farmers.

iii) In order to ensure that most of the loans given are used for the purpose for which the loans were sought, it is important that loans should be given partly in kind (inform of supply of inputs, land preparation, etc.) and partly in cash to enable farmers to purchase essential farm equipment. This approach has worked well in Ayangba Agricultural Project (AADP) area. One has also learned from AADP that all but loan in kind without cash component will not attract small-scale farmers.

iv) The availability of markets to purchase farmers' products at attractive prices should be emphasized. Farmers will continue to face depressing, unattractive prices if they are left alone to deal with the local buying agents of various Commodity Boards. It is, therefore, recommended that the Federal Government constitute a body that will make deficiency payments to farmers to cater for the difference between the farm gate producer prices and the established price by the Boards.

v) Ways of selecting individual borrowers at the Local Government area should be based on the potential to use credit for productive investment on the farm and the borrower's ability to repay the loan.

vi) Defaulting can easily be stimulated by imitation. Effort should, therefore, be made to prevent negative attitudes toward repayment. Where a case of loan delinquency has been established, an effective economic and social sanction should be applied and enforced on the defaulter. It should not be enough to deny offer of new loans until the old ones are repaid, especially if the old is bigger than the new. Since most farmers fear legal proceedings, threats of legal action and police arrest against defaulters and their sorts could force consistent defaulters to repay their credit loans without further delay.

vii) For credit to be of maximum benefit to small scale farmers, it should be combined with technical assistance which can be provided only by training credit staff in agricultural credit programs. Training an adequate number of staff will facilitate understanding and rapid adoption of improved new technology.

ii. Fertilizer Program:

This program involves the purchase, storage and distribution of fertilizers throughout the state. The objective of the fertilizer program (as part of the input supply objective) is to ensure sufficient supply and distribution of fertilizers in all farming villages and communities of Benue State. Procurement of fertilizer is the responsibility of the Federal Department of Agriculture (FDA). The amount of fertilizer procured each year by FDA depends on the fertilizer requisitions from the various states and special projects within the Federation. Fertilizer procured is then transported to each State Ministry of Agriculture at cost to the Federal Department of Agriculture. The cost to the states of fertilizer supplies each year is minimal. Because the Federal Government subsidizes fertilizer cost to 75%,¹⁶ States are only expected to pay back 25% of the cost of fertilizer supplied by the Federal Government. The State Governments are, therefore, under obligation to reflect the Federal subsidy element in fertilizer prices by selling at Federal stipulated prices. The 1980 sale prices for different types of fertilizers are in Table 18 and, Table 19 shows the procurement position since inception of the state.

Fertilizers received at the State Headquarters of MOA are held in central warehouses and later distributed to all the Local Government Areas on basis of need. From Table 18 it can be seen that fertilizers received from Federal Department of Agriculture vary from year to year and in line with state annual requisition. In a similar vein, fertilizers distributed to the LGAs vary in

¹⁶ Actual Federal Subsidy is 84-85%, see Table 21.

Table 18. Subsidized Fertilizer Prices (₦) 1980 Sales Price Benue State, Nigeria

Fertilizer Type	Per Bag (50 kg)	Per kg.	Per tonne
1. Compound Fertilizer	2.20	0.04	44.00
2. Calcium ammonium Nitrate (CAN)	1.80	0.04	36.00
3. Single Superphosphate (SSPO)	1.80	0.04	36.00
4. Muriate of Potash (KCL)	2.00	0.04	40.00

Source: MOA.

Table 19. Fertilizer Supplied to Benue State 1977-1980 (Metric tonnes).

Fertilizer Type	1977/78	1978/79	1979/80	1980/81
Urea	6,180	6,750	3,170	2,770
CAN	19,750	---	---	2,770
SSP	780	800	510	2,770
Compound				
26:12:0	30	940	1,590	1,760
15:15:15	400	1,950	2,550	4,160
S/Ammonia	---	---	6,450	2,770
Total Supplied	30,740	10,440	14,270	17,000
Total Indented	32,860	15,000	18,800	20,300

Source: MOA, (Fertilizer Unit), Benue State.

quantity and types and thus have a sort of unsettling effect on the farmers' fertilizer need.

1. Weak Points of Fertilizer Program: The major problems occur at the most points of the distribution chain. These include:

Storage: Lack of storage of adequate capacity to handle fertilizer supplies. At the State Headquarters where fertilizers are held in stock, the available store cannot handle 25% of annual supplies from Lagos with the result that large quantities of various types of fertilizers are stacked in heaps in open spaces for months under the heat of sun and showers of rain. At the divisional level, similar problems occur. Often private houses are being hired for fertilizer storage at the risk of theft and damages from leaking rooftops. Fertilizer losses/damages in this way are high and amount to about 20% of annual supply for villages.

Fertilizer needs: Another problem is the poor and uncoordinated assessment of fertilizer requirements both at the LGA and state levels. Fertilizer requirements for each LGA is often under or over estimated by the Divisional Extension Officer with the result that while one type of fertilizer is not available in adequate quantities to satisfy farmers' needs, another type may be left undemanded so that its continued exposure to rain may result in heavy losses to the State Government.

Stock control: Yet another problem is the lack of understanding in ordering and backlog stock control and accounts procedures. All extension agents play a multi-purpose role in the Divisions including extension visits, input sales, tractor hire, credit supervision, etc. This multi-purpose function tends to dilute efficiency. Thus, an Agricultural Assistant who adds sale of fertilizers to his many other roles will have little or no time to take inventories of what is left in stock, will not understand stock control, etc. for fertilizers.

Transportation: Lack of vehicles to move fertilizers from divisional offices to villages is another added problem. Usually MOA stations one or two input distribution lorries at the LGA Headquarters. Due perhaps to breakdown and other exogenous factors, these vehicles may not be able to distribute fertilizers to villages at the time they are needed. Commercial vehicles are occasionally contracted to convey fertilizers to villages but only at a very high cost. For example, it costs ₦.50 to transport a bag (50 kg) of fertilizer bought at ₦1.80 from fertilizer depot to any village within the depot's supply limit.

2. Fertilizer Service in AADP Area: AADP appears to have taken care of most problems of the fertilizer program in the Western Zone. Its Commercial Department is solely responsible for fertilizer purchase, storage and distribution. The annual fertilizer requisition from the Federal Government is 6,000-8,000 tons of assorted fertilizer. Table 20 shows fertilizer consumption by type in AADP area since the inception of the project. There was a significant increase in fertilizer consumption in 1981 due to increased awareness of potential benefit of fertilizer application on crops. This was brought about by vigorous fertilizer use campaigns mounted early in 1980 by the Project's information unit.

3. Fertilizer Subsidy: As in the other parts of the state, fertilizer sold to farmers in the project area is heavily subsidized. Government's claim that fertilizer cost is being subsidized at 75% is not actually correct, except if costs are compared only at C. I. F. Lagos or Port Harcourt. Port charges and transportation costs to warehouse in Lagos/Port Harcourt as well as distribution costs at state level are substantial. If these are taken into consideration, the Federal Government of Nigeria actually bears 84-85% of the cost of fertilizer to farmers in Benue State and others of equal distance from the Port, see Table 21 for prices.

Table 20. AADP: Fertilizer Consumption, 1978-81, Ayangba, Benue State Nigeria.

Fertilizer Type	1978-79 (tons)	1979-80 (tons)	1980 (April-Dec.) (tons)	1981 (tons)
Superphosphate	226.3	36.9	142.0	314.0
Nitrophoska	243.0	27.33	---	---
CAN	908.0	1157.2	1651.0	1731.0
Urea	1123.9	131.6	30.1	4.0
NPK (15-15-15)	1613.3	2049.7	2203.4	3674.0
Sulphate of Ammonia	143.1	2.4	---	---
Total	4257.6	3422.73	4026.5	5723.0

Source: AADP Progress Report, 1981.

4. Suggestions for Improvement:

i) The burning issue with the fertilizer program is the subsidy element. The following are suggestions for improvement: On the face of it, one would recommend commercial concerns to take over the purchase, storage and distribution of all input supplied including fertilizer. The structure of subsidy element (up to 85%), however, has precluded commercial investment in the business even if subsidy element is to be reduced. In any case, it is unlikely that Nigerian Government will bow easily to pressures to reduce subsidy element on input supplies. It is, therefore, recommended at the moment to strengthen and improve the present system of operations and make sure that not more than four to five types of fertilizers are introduced to farmers for fear of misuse.

ii) There is the need to establish state buffer stock to be reserved in Central Warehouse and from where replacement stocks to Local Government

Table 21. Economic Prices of Fertilizers at Constant 1981 Prices (₦ per ton), Benue State, Nigeria.

Item	NPK: 15-15-15		MOP (kc)	CAN
FOB (U. S. tons)	\$230.00	\$135.00	\$100.00	\$185.00
Add C.I.F.	70.00	70.00	70.00	70.00
C.I.F. Lagos/Port Harcourt	\$300.00	\$205.00	\$170.00	\$245.00
Naira Equivalent	₦165.00	₦113.00	₦ 94.00	₦135.00
Port charges and transport to warehouse	₦ 83.00	₦ 83.00	₦ 83.00	₦ 83.00
State Distribution Costs	₦ 25.00	₦ 25.00	₦ 25.00	₦ 25.00
Farm Gate Economic Value	₦273.00	₦221.00	₦202.00	₦243.00
Subsidized rates to farmers	₦ 44.00	₦ 36.00	₦ 40.00	₦ 36.00
% Subsidy at Farm Gate Value*	84%	84%	80%	85%

Assumptions: Official rate of exchange ₦0.55= \$1.00 U.S.
 Source of World Market Prices: Fissons U. K. and Ibold.
 Distance Port to Warehouse: 680 km at ₦.10/T/Km.

*Note that actual Federal Subsidy is 84-85%, not 75% as always claimed.

Source: IBRD Consultants to Ministry of Economic Planning, Makurdi.

can be released according to needs.

iii) In order to prevent huge fertilizer losses through exposure to rain and caking, fertilizer storage facilities should be provided at all key distribution points, namely MOA headquarters, LGA headquarters, district or clan headquarters as well as on relevant project or scheme sites.

iii. Land Development Program

One of the greatest problems facing Nigerian agriculture is that of rural-urban migration of the youth. This trend leaves the aged and the weak on the farm with the result that their inability to open up new or improved farms was leading to decreasing farm holdings and putting decreasing trends on food production. In order to arrest the situation, Benue State Government decided to operate land development program for its farming communities. This program involves the government acquiring suitable blocks of farm land near village communities, clearfell the site through contracting, develop and then allocate manageable sites free of charge to farmer groups in the village for cultivation of selected crops on a rotational basis. All the farming operations and necessary advice are provided by MOA extension agent attached to the community farm. Initially the plan was to open up 500 acre units (202 ha) in suitable locations for clearing and development and to allocate not more than 5 acres ($2\frac{1}{2}$ ha) to each participating farmer. The plan from 1981 onward called for 1000 hectares of land to be cleared by mechanical means in each constituency in blocks of 250 ha units. There are 52 political constituencies in the state.

Although farmers are not required to pay for initial clearing and land development, they are expected to pay for mechanical preparation of the farm for the next cropping in the rotation system. Crops, when harvested, would be sold through cooperative marketing arrangements. Repayment of agricultural credit loans was expected to be made easier for loan beneficiaries participating in the land development schemes.

To date over 300 tractors were purchased to enhance the performance of the scheme, nevertheless, the scheme has not contributed significantly to increase agricultural output in the state. So far, less than 10,000 acres or 19% of the total have been cleared and cultivated. The idea behind the program was laudable but there are many factors militating against its success. These

include (i) misunderstanding by farmers of the aim and purpose of the program. Participating farmers have thought these farms to be government farms and are asking for daily wage payment in return for their services on the farms. (ii) Many of the land owners (family heads) within the communities are increasingly becoming unwilling to give up lands for land development projects. Land owners feel they would have little or no land to pass to their children as part of the legacy they will leave behind at death. (iii) There is apparent lack of skilled management which is capable of developing and coordinating, in the face of government red tape, effective implementation of such projects on the scale envisaged by the Ministry of Agriculture. (iv) The modus operandi for production on the farms was based on hope to form verile cooperative societies. We now know that these farmers due to past experience with cooperatives, are no longer interested in forming Cooperative Societies. Hence, there is no common bond among the participating farmers on the land development sites. (v) Experience from the sites under implementation has shown that far too many resources in terms of manpower, tractors and equipment, access road construction to some sites and planning times have been taken up compared to how much of these resources are available to the rest of the state to implement other planned programs. In any case, the output from the Land Development Program in relation to the potential state's output is insignificant. (vi) The failure of contractors to keep to contractual obligation has been a force militating against successful land development schemes. In most cases contractors (mostly indigenous) run into problems of spare parts to repair breakdowns of plants and vehicles. There is also the question of delay by the Central Bank in approving importation of needed items with the overall result that most contractors failed to get the sites cleared, prepared and ready for planting as per the dates specified in the Agreement.

In the AADP area, the Land Development Program has run fairly well. To

date, seven LDS sites are under the management direction of AADP. Each site was preceded by a pilot seed multiplication scheme by outgrowers emphasizing the crops to be grown on the LDS sites. Closely knit groups, or large groups with parental linkage as opposed to large groups loosely bound on the LDS sites, are being encouraged to facilitate spirit of teamwork and confidence in leadership. The identification of closely knit groups was made easy because most village settlements are based on paternal linkages. The following LDS sites in AADP are on various cropping rotation:

Okowdwole - Dekina--70 ha: maize, groundnuts, rice
 Agado - Bassa --50 ha: maize, groundnuts, cowpea
 Ofugo - Anupa --50 ha: maize, groundnuts, cassava, yam
 Adikahane - Idah --40 ha: maize, groundnuts, melon.

1. Suggestions for Improvement: The State Government needs to exercise extreme caution over future expansion of this program considering the fact that the failures and demands of sites established have outweighed their successes. It is unlikely, for example, that the State Government could find skilled indigenous management which is capable/ready to run the land development programs under government bureaucratic red tapes. Moreover, its high demand for the State's limited resources presupposes that less attention and resources will be available for small scale farmers--a development that tends to negate the government commitment to the small farmers. It is, therefore, recommended that while government continues to work on the present sites, no further expansion of land development program should be undertaken in any part of the state. The program should later be scrapped in order to 'liberate' men and materials for the needed service to the small scale farming communities of the state. One is no doubt aware of the political and social implications of the recommendation. Village communities earmarked for land development programs will no longer realize their dreams. The political party whose government will

scrap the program will have an uphill task of explaining to politically charged communities why the government has to backpedal from its planned proposals.

iv. Manpower Development and Training: The Government of the Federal Republic of Nigeria and, indeed Benue State, lay much emphasis on staff development and training in order to develop the necessary skills required to meet the challenge of the expanding government functions.

The staff filling various posts in MOA can be broadly divided into four groups namely:

i) Artisans and Support Staff: Those with little or no formal schooling but have undergone apprenticeship and passed government trade tests. These are usually on salary grade levels 01-04.

ii) Lower Technical Staff: Those with formal training at ordinary diploma (OND) level. Grade level 05-06.

iii) Higher Technical Staff: Those with higher diplome (HND) qualifications usually grade level 07-12.

iv) Professional staff: Usually those with University qualifications grade level 08-15 depending on experience.

Considering the number employed as against the establishment, there exists considerable deficits particularly in the professional/Higher Technical Staff cadre. Table 22 shows the staff position as of June 1981.

1. Staff Training Schemes: Formal in-service training exercise for various categories of agricultural staff takes place either within or outside the state. Training courses within the state are usually at the MOA training institutions including:

- i) College of Agriculture, Yandev
- ii) Agricultural Training Center, Mbatie
- iii) Vocational Training School, Otobi

Table 22. Staff List - Ministry of Agriculture

Agricultural Services										Agricultural Education/Planning										Crop Production/Projects										Irrigation/Construction										Agricultural Engineering										TOTALS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Extension					Land Use					Ag. Credit					Extension					Agro Service					Planning & Eval.					Yander Coll.					Mobile Sch.					Obst. T.C.					Seed Mult.					Allom					Crop Protec.					NAFF					Land Use					Const. Unit					Prod. Insp.					Ag. Eng. Division					Tractor Sch. Obst.					Total Agricultural					Total Special- Areas & Activities																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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TOTAL ALL STAFF 4218 2671

E - Established Post (Figures taken from Approved Recurrent & Capital Estimates of Govt. of Benue State of Nigeria)

P - Posts filled as at March 1981 (Figures supplied by individual units, sections and divisions)

Clerical and stores personnel not included, NAFF Ministry staff included in table.

Source: Education and Planning, MOA, Makurdi.

1. Figures for 1981 intake at Mbatle and Yander not available at time of writing

2. Including 250 tractor operators

- iv) Agricultural Training Center, Ochaja (AADP)
- v) Home Economics Training Center, Oforachi (AADP)
- vi) Fisheries Training School, Bagana (AADP).

The training schemes for courses in the above listed institutions are as found in Table 23.

A brief resume of agricultural institutions within Benue State are as follows:

i) College of Agriculture, Yandev: This school was opened in 1973 under the then Ministry of Agriculture and Natural Resources, Benue-Plateau State. Its main purpose was to train Agricultural Assistants recruited under the various schemes indicated in Table 23. With the creation of states in 1976, the Ministry of Agriculture Benue State then assumed full responsibility for the school and steadily pursued the original objectives of the school. In 1980 Yandev was bestowed with a College status in recognition of its ramified courses covering new areas such as Veterinary, Forestry and Fisheries.

Staff and Students: The College of Agriculture, Yandev has about 400 students of whom 50 are women. There are 30 members of staff of which 12 have professional level training backgrounds. Courses held in the college include:

HND Courses (Higher National Diploma)	in General Agriculture and in Home Economics.
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OND Courses (Ordinary National Diploma)	in General Agriculture.
	Agricultural Mechanization
	Home Economics
	Livestock
	Poultry and
	Fisheries.

The main problem of Yandev is in facilities. The college farm lacks live-stock for practical training; crop blocks face severe erosion problems in addition to leaching of top soil. Library facilities have been non-existent

Table 23. Training Schemes for MOA Staff, Benue State.

<u>A. Qualification for Entry</u> (Junior Technical)	<u>Course</u>	<u>Where</u> Oforachi Mbatie Ochaja	<u>Duration</u>	<u>Leading To</u>
Primary VI, WASC attempted	Certificate		1 year	Field overseer GL. 04 Home overseer
WASC level with bias in Science subjects	Ordinary National Diploma (OND)	Yandev out of state	2½ years	Agricultural Assistant or its equivalent GL. 07/1
Field Overseer plus at least 2 years field experience	Pre-technical preparatory to OND	Yandev	½ year	Entry qualifications for OND Course.
B. Senior Technical (Entry Qualifications)				
OND with at least 2 years field experience	Higher National Diploma (HND)	Out of State	2½ years	Agricultural Superintendent GL. 07/5
C. Professional				
HND with years of field experience	Degree	Out of State or Overseas	3 years with 2 years inservice 1 year scholarship	Officer Grade GL. 09a above

Source: Education/Planning Section, MOA, Benue State.

and students have faced unreliable water supply services.

ii) Agricultural Training Center, Mbatie: This school established in the late sixties has the main purpose of training junior technical staff at the Certificate level. Courses offered include General Agriculture, Soil Conservation, Home Economics, Irrigation and Fisheries.

Student population at Mbatie is 150 of whom about 50 are women. Staffing position has remained poor due to poor housing and light facilities. The school itself lacks virtually everything. Practical facilities are deficit for all courses, the school buildings have remained dilapidated. The school was wrongly sited on a sandy gradient thus heightening erosion problems in the compound.

iii) Agricultural Training Center, Ochaja: Previously a vocational agricultural training school, Ochaja Farm Institute was changed to Agricultural Training Center in 1977 and has since been run by Ayangba Agricultural Development Project. Courses run at the Center include Field Overseer Training for agricultural staff and Accounting courses such as Financial System and Control for the benefit of Accounts Staff of AADP. The Ayangba Project similarly runs Home Overseer courses, seminars, etc. for women folk at the Oforachi Home Economics Training Center.

The student population of the two schools is 100 of whom 30 are women undergoing Home Economics Training at the Oforachi Training Center. These two AADP Training Centers appear properly equipped in training facilities. They lack, however, trained teachers with agricultural backgrounds. The Principal of ATC Ochaja, for example, holds a National Certificate of Education (NCE) from Katsina Alla Advance Training College and that of Oforachi Training Center is an OND level certificate in General Agriculture. On the other hand, their teaching staff are good and have, therefore, maintained high

standards in the school.

It should be noted, however, that efficiency of AADP Training System has depended mainly on three factors namely:

- sufficiency of funds to meet training needs
- effective backup service in audio-visual aids in type and form that suit local requirements.
- ability to detect training needs due to close contact with field staff rather than following seniority list as operates in MOA.

iv) Agricultural Training Outside Benue State: Training in agricultural institutions within Benue State as discussed above are mainly in respect of Junior Technical courses leading to Certificate level grade. Training in Junior Technical (OND); Senior Technical (HND) and at Professional levels are undertaken mostly out of state and overseas. Junior and Senior Technical (OND, HND) level staff of Benue State are being trained at:

College of Agriculture - Samaru

School of Agriculture - Kabba

School of Agriculture - Bakura.

As for professional training, Benue State Government has an agreement with Kansas State University, Manhattan, Kansas to train 75 officers through an in-service arrangement. To date about 40 Benue officers have utilized the opportunity to study various courses in the Departments of Agronomy, Agricultural Education, Agricultural Mechanization, Agricultural Journalism, Crop Protection, Fisheries and Animal Science. The 5-year agreement expires this year (1982) and there is no hope that the program will be renewed despite the fact that only half of the number of officers intended in the agreement have so far been trained.

2. Suggestions for Improvement: Because of the need to have staff properly trained in order to increase their productivity, it is recommended that government continue to lay much emphasis on the level and quality of training of its staff. Training institutions in the state should be properly equipped both for theory and for practicals.

The two existing Agricultural Training Centers at Ochaja and Mbatie with a total output of 250 field overseers annually appear inadequate to provide the much needed Extension Agents both in quantity and quality to cope with the challenge posed. The location of the two Agricultural Training Centers at two extreme zones of the state made emphasis on zonal peculiarities difficult. It is, therefore, recommended that two similar ATCs be established in two other zones so that each zone should have one ATC located within it and taking care of its zonal crops and extension biasis.

Training workshops eg. in electrical, mechanical, diesel, etc. should be arranged for Artisan grade staff in order to improve the unusually large unproductive group of Artisans in the service.

As for out-of-state and overseas courses, the state must be ready to keep all training avenues open and to renew training contracts with Kansas State University, especially now that other states like Kano and Borno have borrowed a leaf from Benue State and have started similar training agreements with the same university.

CHAPTER 5. AYANGBA AGRICULTURAL DEVELOPMENT PROJECT (AADP)

Ayangba Agricultural Development Project (AADP) is the fourth of the World Bank's co-sponsored agricultural projects in the northern parts of Nigeria. The three earlier ones were Funtua Project (Kaduna State), Gusau Project (Sokoto State) and Gombe Project (Banchi State). The objective of these projects is to rapidly accelerate rural development in these states through integrated development approach.

As we know, the term "Rural Development" implies more than improvement in agricultural pursuits of the small farmers. It also means improvements in the living standards with respect to income, health, education, housing and other essential human needs. It also implies a decreasing inequality in the distribution of rural incomes as well as urban-rural differences in income and economic opportunities.¹⁷

Although not a multi-sectoral project as such, the scope of Ayangba Project extends beyond agricultural production to include home economic services, veterinary and livestock services, forestry and fisheries, rural roads as well as rural water supply.

The development phase of the project was planned to be implemented over 5 years starting from October 1977. The cost of the project over the development phase was ₦64 million out of which the Federal Nigerian Government and Benue State were to contribute 70% or ₦45 million while the World Bank would contribute ₦19 million which was the foreign exchange component of the project's cost.

As shown in the organization chart, AADP is an arm of MOA with the Honorable Commissioner for Agriculture holding the Cabinet responsibility for the

¹⁷ Todaro, Economic Development in the Third World, 2nd Edition, Longman, Inc. New York.

Project. An inter-ministerial executive committee (Ayangba Project Executive Committee, APEC) is responsible for the direction of the project through the Project Management Unit headed by the Project Manager.

In terms of crop development, AADP has two main features that distinguished it from the rest of MOA extension services. These are the Rural Development Centers (RDC) and the new agricultural extension innovations. In the case of RDCs there are approximately two per each of the twenty districts within the AADP area. Each RDC has capacity to hold 400-500 tons of fertilizer in addition to improved seeds and chemicals, supplies and equipment such as knapsack sprayers, rodenticides, chicken feed, barbed wire, fishing nets and hooks, etc. Each center is under a commercial assistant supervised by a commercial officer in charge of the particular zone. The working relationship between the commercial officer in charge of a zone and his agricultural counterpart is, however, not clearly defined. Sale of inputs to farmers by the commercial assistant is often not to the knowledge of the Extension Agent with the result that use of dangerous chemicals and fertilizers are not properly followed up with advice on their proper use.

Each RDC in AADP is intended to serve farmers within 15 km radius--the idea being that all farmers should have access to agricultural inputs at reasonable distance from the distribution points at the RDCs.

RDCs have other uses. They can be used for farm demonstration for certain crop varieties if it is required to test suitability of a certain variety to locality before they are sold to farmers. The other use of RDC is its potential use for staff training sessions and farmer group meetings. An attempt is also being made to operate small scale agro-processing machines such as rice mill, maize (corn) mill, groundnut decortivating machine, etc.

The agricultural extension innovation tried and tested is the Indian type of Training and Visit (T & V) system. The system calls for the sub-division

of the present six LGAs in AADP area into twenty-two zones with each zone further subdivided into ten cells. Each cell is further split into eight units with eight contact farmers selected in each unit. Thus, some 14,000 contact farmers are directly contacted by extension agent every 2 weeks. Staff requirements for this extension system are as follows:

<u>Area</u>	<u>No.</u>	<u>Staff in charge</u>
LGA level	6	Divisional Extension Officers
Zonal level	22	Zonal Extension Supervisors
Cell level	220	Agricultural Assistants/Field Overseers

The main problems of this program are: i) immobility of the Extension Agents at the cell level. By design, this level of extension staff are expected to visit 64 contact farmers in 2 weeks, an average of 5 farmers a day. It will, therefore, require a full scale dedication of staff at this level to be able to carry out this assignment effectively. The need to provide transport has since been identified and project has taken appropriate steps in this regard. ii) The other problem is that of supervision from the zonal and LGA level supervisors as these two hold the key positions in the whole extension system. In order to ensure that supervisors perform their duties well, AADP had to introduce strict system of zonal reporting.

Other aspects of crop development include farm demonstration and seed multiplication of improved crop varieties suitable to AADP locality, see Tables 24 and 25.

AADP is increasingly becoming involved as a testing center for major research trials. In 1981 alone, nine crop varieties were brought for both trial and/or observation by the Institute for Agricultural Research (I.A.R.), Zaria or the International Institute for Tropical Agriculture, Ibadan as shown in Table 26.

Table 24. AADP Farm Demonstrations 1978-81, Ayangba, Benue State, Nigeria.

Type	Cummulative Number Since 1977	Average Yield (lb/ha)
Maize (Minikit)	2,072	1,794
Millet	503	710
Ground Corn	702	1,250
Rice	560	1,380
Cowpea	1,175	650
Groundnut	1,371	960
Yam (white)	N.A.	8,160
Cassava	N.A.	24,870

Source: AADP Progress Report, 1981.

Table 25. AADP Seed Multiplication Scheme 1981, Ayangba, Benue State, Nigeria.

Crop	Variety	Area Sown (ha)	Yield/ha
Maize	T2PB/T2SR-1	12.50	
Yam	white	0.30	
Yam	water	1.0	
Cassava	30572	0.1	
Cowpea	TVX 309-1G		
	TVX 3404-012E		
	TVX 1850-01E	2.0	
	TVX 1836-013J		
	TVX 3048-02D		
	TVX 7-514		
	TVX 3236	1.0	
Groundnuts	T28/204	3.50	

Source: AADP Progress Report, 1981.

Table 26. Summary of Trials on Behalf of Research Institutes, AADP, Ayangba, Benue State, Nigeria.

Title of Trial	Type	Sponsor
Cowpea International Trial	Trial	I.I.T.A.
Maize Streak Observation	Observation	I.A.R.
Sorghum/Millet Observation	Observation	I.A.R.
Egnsi Mellon Variety	Observation	I.I.T.A.
JM 298 (74) 81 Soya Variety	Trial	I.I.T.A.
Rice Variety	Observation	I.A.R.
JP 187 (76) 81 Millet Variety	Trial	I.A.R.
IP 17 (80) 81 Sorghum Variety	Trial	I.A.R.
IP 300 (74) 81 Citrus Fertilizer	Trial	I.A.R.

Source: AADP Progress Report, 1981.

Livestock, Fisheries and Forestry Development

The other areas of AADP activities are in the development of livestock and veterinary, fisheries and forestry. In the case of veterinary service, its extension service is patterned along the Train and Visit (T&V) System discussed earlier under the crop development activities. Most of the veterinary activities center on the treatment of livestock both in curative and prophylactic sense. Tables (27a) and (27b) show details of treatment given to livestock since 1980.

In the Production Unit of the Veterinary Department, the main objective is to produce sufficient quantity of day-old chicks to be sold to farmers at subsidized prices and to undertake chicken exchange flushing program within the local communities. In pursuant of this objective, a breeding unit with a capacity for 4,000 breeding stock was established at the Project Headquarters

Table 27. Details of Treatment of Livestock, AADP, Ayangba, Benue State, Nigeria.

a. Curative Treatment - Cumulative Since 1980

	Cattle	Sheep	Goats
Helminthiasis	16,612	13,619	20,178
Coccidiosis	1,300	2,252	3,814
Ectoparasites	6,886	2,360	3,342
Tryps	26,048	98	852
Dystociar	1,364	911	1,992
Castration	38	115	111
Otitis	781	272	1,161
Snake Bites	43	29	61
Diarrhoea	5,580	9,466	11,606
Fasciolosis	1,032	400	342
Mastitis	804	1,355	2,272
Metritis	173	218	99
Conjunctivitis	647	1,829	1,457
Stomatitis	384	1,906	1,147
Kata	391	7,099	10,410
Mange	358	809	1,356
Totals	69,274	94,781	88,086

Source: AADP Progress Report, 1981.

in Ayangba. Four breeding houses capable of holding 12-15,000 chicks were constructed in addition to a 115,000 per annum chick hatchery. Some purebred Rhode Island Red, Light Sussex and hybrid layer and broiler parent stock were imported. In order to solve the problem of feeds, a 2 ton per hour feed mill and mixer was installed so that since March 1981, AADP has been able to supply adequate livestock feeds for its own establishments as well as for sale to livestock farmers in the villages.

b. Prophylactic Treatments - AADP, Ayangba.

Vaccinations	Dogs and Cats	Cattle	Sheep and Goats	Poultry
Antirabies	3,693	---	---	---
Contagious Bovine Pleuropneumonia (CBPP)	---	15,201	---	---
New Castle Disease (NDV) Lasota	---	---	---	56,992
New Castle Disease (NDV) Komorov	---	---	---	45,668
New Castle Disease (NDV) i/o	---	---	---	67,987
Trypanosides	---	43,653	---	---
Gumboro Vaccinations	---	---	---	27,156
Fowl Cholera and Typhoid	---	---	---	23,476
Fowl Pox	---	---	---	42,739
Rinderpest	---	---	15,337	---
Total since 1980	3,693	58,854	15,337	264,018

Source: AADP Annual Report, 1981.

Forestry Services

The main objectives in the forestry program were:

- i. to aforestate the depleted plantations, especially in the Forest Reserves, using improved seedlings from the project's own nurseries.
- ii. to effectively manage existing forest plantations with a view to provide poles and firewood for sale to wood consumers in the project area.

To date, significant achievements have been made in forestry activities towards meeting the set objectives. Table 28 shows the details of areas

Table 28. Comparison of Plantation Planted Before and During AADP Life, AADP, Ayangba.

LGA	Existing Plantation Prior to Project (ha)	Area Planted by AADP				AADP Total	Grand Total
		1978	1979	1980	1981		
Anhpa	152	107	74	133	102	416	568
Bekina	189	87	98	98	100	383	572
Idah	401	56	40	29	91	216	617
Bassa	---	--	21	30	7	58	58

Source: AADP, Ayangba, Progress Report, 1981.

planted before and during the project life. A total of 1,073 ha was planted by AADP in 4 years compared to 742 ha planted by Ministry of Animal and Forestry over 20-30 years. Provision of poles and firewood from forest plantation thinnings was also undertaken by AADP. A total of 141,425 poles and 3,292 firewood were sold at a total cost of ₦95,875 as shown in Table 29.

Table 29. Sale of Poles and Firewood, AADP, Ayangba.

Year	Number of Poles	Sale Value ₦	Number of Firewood	Sale Value ₦	Total Sales
1978	6,136	1,196.90	36	162	1,358.90
1979	51,594	23,343.03	1,293	5,016.50	28,359.53
1980	48,899	34,406.75	1,154	4,468.60	38,875.25
1981	31,550	21,342.77	734	2,976.00	24,318.77
AADP Depts	3,066	2,642.35	75	321.00	2,963.35
Total	141,245	82,931.80	3,292	12,944	95,875.80

Source: AADP, Ayangba, Progress Report, 1981.

Rural Roads Program

As part of the integrated approach to Rural Development, Ayangba Agricultural Project also undertook the task of constructing rural feeder roads. The AADP appraisal report initially set some 625 km of roads to be constructed and laterited over the 5 year period of the project life. The speed with which the roads unit executed its assignment was so impressive that by December 1981, a total of 850 km of road was laterited, 640 km of LGA roads improved and some 1040 km of state roads were graded. The cost of the roads per km had been estimated at ₦6,000, a cost that has been acclaimed to be the lowest per kilometer in the Federation of Nigeria. The slow-down of the operation of the road unit is imminent partly due to aging of the road plants and partly due to problems of spare parts to repair breakdown of plants and vehicles. From the Ayangba experience, we now know that provision of feeder roads among communities is as important to farmers as the provision of input supplies. In fact, some communities would prefer to have road access than providing them with cheap fertilizers and seeds.

Possibility of Replicating the Ayangba Project as a Model of Success

The possibility of replicating Ayangba's type of integrated agricultural project in other parts of Benue State has been a subject of consultations between State and Federal authorities following a recent State declaration that AADP has been successful in meeting its main set objectives. The areas of its success are in (i) the new agricultural extension program (Train and Visit System); (ii) the chicken exchange program; (iii) the provision of farm to market road network as part of improvement package to rural development; (iv) afforestation program of the depleted forestry plantations.

Each of the above have been discussed in the early part of this chapter. No doubt the idea of replicating the integrated type of project elsewhere in

the state is justifiable. We have seen in Chapter 4 why State and, indeed, Federal programs have either failed or made insignificant impact on increases in food production. The experience of integrated projects of Ayangba, Gombe, Funtua, Gussau and Lafia all in the northern part of Nigeria have shown that these projects can be relied upon to rapidly accelerate increases in food production. This can be attributed to the fact that their program of activities is primarily directed towards uplifting the small-scale farmers which form the bulk of Nigerian producers. By structure and function, these projects, partly monitored by the World Bank in Washington, are designed to avoid institutional, technical and financial constraints which programs wholly sponsored by the State face. The World Bank co-sponsored integrated agricultural projects, for instance, are initially staffed by international staff recruited by or by consent of the World Bank, and are allowed to maintain their own bank account outside the usual State Government Treasury. Thus, they are not usually affected by periodic slow down in government spending; neither are they subject to government financial regulation.

We noted in Chapter 1 that the failure to meet set national objectives was because institutional weaknesses or drawbacks in which policies and programs operate do not complement the attainment of these objectives. One is, therefore, optimistic that integrated agricultural development designed to avoid these weaknesses and to stimulate economic activities in the rural areas may be able to reduce/solve the problem of widespread poverty, check growing inequalities in income and offset the rising unemployment rate in Nigeria in general and Benue State in particular.

CHAPTER 6. POTENTIAL NEW AREAS FOR PROGRAM DEVELOPMENT

In Chapter 3, Tables 13 and 14 show the current list of programs and projects under execution by both MOA and MAFR. In both cases the number of programs lined up for execution appears too many to be effectively executed given the present staff strength and the limited resources of the government. It is, therefore, important to trim down programs to a number that can be properly executed. Emphasis should be given to programs that work towards meeting the National objective of increased production through small-scale farmers. With regard to MOA programs, the need for reduced priority on land development programs has been discussed in Chapter 4. Areas of high priority in MOA programs should be in effective input distribution eg., fertilizers, improved seeds and chemicals, supervised credit services and in staff training and manpower development.

As for the veterinary programs of the Ministry of Animal and Forest Resources, higher priority should be placed on programs that could benefit the majority of farmers. Such programs include improvement schemes for sheep and goats, prophylactic and curative treatments of animals as well as diagnostic (veterinary) epidemiology.

Potentially New Areas for Program Development: Citrus Production

A potentially new area which requires government support program is the development of tree crops, particularly citrus and oil palm production. In the case of citrus, examination of soil and other technical factors indicate that Benue State is suitable for large-scale citrus production.

The growing of citrus is already well established among farmers in most parts of the state. A baseline sample survey carried out by AADP in 1981 showed that about 36% of small farmers in the state owned citrus in form of compound crop. Thus, a purposeful extension program designed to convince

farmers to adopt citrus recommended technology will likely raise its potential as revenue earning crop in the state.

Physical Factors: Citrus can be grown on a variety of soils although well-drained soils are preferred. Rain-fed citrus requires some 800 mm which should be evenly distributed. It is tolerant to high temperatures (35-40°C) such as are found in the state.

Citrus also requires ample sunshine so that areas of the state with cloudiness and high relative humidity may not be suitable except under good orchard plantation management. Thus in theory, AADP area may have less advantage in citrus cultivation. In practice, however, as observed from small citrus producers, citrus on their farms are flourishing with little or no disease symptoms.

Rough lemon and sour orange are commonly used as root-stock onto which selected citrus cultivars are bud-grafted. The use of root-stock for budding is necessary because these roots are more resistant to diseases. Moreover citrus plant seedlings do not always reproduce the desired type of citrus variety.

Suitable Cultivars: A good number of cultivars are available in the state MOA nurseries. These include Sweet Orange (Ogbomosho sweet orange, Agege I, Carter Navel, Valencia); Grape fruit (Foster, Duncan, Marsh Seedless); Tangerine (Danay, Algerian); Lemon (Lisbon, Eureka, Villafrance). These cultivars, it is hoped, will improve the quantity and quality of citrus in the state if their cultivation is promoted among interested farmers.

Pests and Diseases Problems: The most common disease, gummosis, can be checked by using sour orange root-stock which is resistant to the disease attack. Similarly, scale insects, the most common citrus pest, can be prevented

Gross Margin: Citrus budget plan¹⁸ for both dryland and irrigated plot shown below clearly indicates a reasonable gross and net margin which could elicit farmers to increase production through use of recommended technology.

a. Dryland:

i. <u>Variable Costs</u>	<u>N</u>
Labor, 170 mandays at N3.00/day	510
Fertilizer, CAN	265
Fertilizer, SSP	240
Fertilizer, (MOP)	220
Pesticides	100
	<u>1,335</u>
ii. <u>Returns</u>	
22.5 ton/ha at N80/ton	1,800
Gross Margin (ii-i)	<u>465</u>

b. Irrigated:

i. <u>Variable Costs:</u> as shown above plus irrigation variable costs	<u>N</u> 1,510
ii. <u>Returns:</u> 40 tons/ha at N80/ton	3,200
Gross Margin (ii-i)	1,690
less capital cost of pump (amortised at 8% over 10 years)	897
Net Margin	<u>793</u>

Strategy for Propagation of Citrus Planting: The best strategy for expansion of citrus production probably starts with the extension staff. Those to be involved in citrus expansion program should be relieved of other duties to enable them to concentrate on the program. The staff needs to be specifically trained in the area of horticulture and in teaching the application of correct technology among practicing citrus farmers. Nurseries, where necessary should be established and sufficient numbers of citrus varieties budded.

¹⁸ Ministry of Economic Planning (Consultants, 1981).

The main problem in this program is how to find out which of the root stocks (lemon or sour orange) is most suited to different localities. Research will have to be conducted in each locality to determine the better stock. One other problem may be how to estimate reasonable farmers' requirement by type so as to avoid waste of budded citrus due to demand deficiency.

Potential New Area for Program Development: Oil Palm Production/Rehabilitation

There is potential for oil palm development in Benue State due to two main factors, namely, technical and economic factors.

Technical factors: Oil palm generally thrives well under adequate light and soil moisture and other ecological conditions found in the forest fringes of Rivers Niger and Benue. In these areas oil palm grows in semi-wild groves with ownership loosely held by the land owners. Soil texture is sand to clay with exchangeable action medium.¹⁹ The soil/water deficit of the area is yet unknown and the rainfall of between 1300 mm to 1800 mm is below 2000 mm optimum for commercial oil palm production. However, the mean temperature of 27°C and relative humidity of 85°F or more of the Benue palm belt are well within optimum for oil palm production and rehabilitation program. The sunshine hours of say 5 hours²⁰ per day in Benue palm belt does not appear to limit oil palm development either. On the whole, therefore, technical factors may not constitute serious limitation to oil palm development program in the state particularly the small holder scheme.

Economic factors: The Green Revolution Plan for Nigeria²¹ (1980) estimated demand for palm oil for consumption and for manufacture at 150,000 tons

¹⁹Olivin (IBRD, 1975).

²⁰Hartley, 1977.

²¹FMDA (1980), The Green Revolution: A Food Production Plan for Nigeria.

between 1980 and 1985 of which Benue's share of the demand is 32,000 tons. At the same time, oil palm production in the state was estimated at 24,000 tons,²² leaving a consumption deficit of 8,000 tons by 1980. On this basis, one would assume there is no marketing problem for oil palm products in Nigeria. From the point of view of yield consideration, it is unlikely that small-holder scheme will follow all recommended technology for oil palm development. In this view small-holder schemes may be assumed to yield 75% (6 tons) of the average yield (8 tons) per ha for well-managed plantations. This yield for small-holder schemes is low and not commercially attractive. The low yield, as it is, does represent a substantial improvement over yields from wild-palm groves. Thus economic consideration also encourages one to give attention towards initiating and implementing an oil palm development program.

Problems:

The program of oil palm production and rehabilitation is expected to be associated with three main problems. (i) The first problem is the lack of relative experience from which to draw on. Successful oil palm management has not been common in Nigeria and the failure of the Kwara/Benue attempt at an oil palm project located in Alloma in Ofu LGA may make it difficult for government to quickly comprehend a new program akin to the old.

(ii) A rather technical problem is that of fertilizer application during oil palm planting. The need for additional nutrients varies according to the soil type as well as the age of the palms. How to determine the type and rate of fertilizer application beyond, say, 3 years of oil palm establishment is a problem since too low or too high a nutrient level depresses growth and subsequently, yields.

²² Skoup and Company, Consultants (MTI), 1980, Lagos.

(iii) Another problem is the low guaranteed minimum price (GMP) for the palm oil set by the Nigerian Palm Produce Board. For instance, the Nigerian Palm Produce Board prices (1980-81) for special and technical palm oil grades are ₦400 and ₦386 per ton, respectively--a price setting that reflects the World Bank (FOB) price of ₦410 or ₦526/ton wholesale price at Makurdi for similar palm oil grades. These GMP prices are far below open market prices which range from ₦700 to ₦800/ton. The effect of low price setting by the Produce Board is two-edged--it tends to discourage contract oil palm producers as well as foreign investors from investing in the business. It also tends to make the Palm Produce Board redundant since not many farmers are prepared to sell their produce at depressed prices to the Board when higher prices exist elsewhere.

A GENERAL CONCLUSION

Evaluation of programs in Chapter 4 has provided insight into the weaknesses of agricultural programs thus explaining why development strategies have always failed to benefit subsistence farmers who are in the majority. The consequence has been widespread poverty. To improve the lot of these farmers, at least in the short run, will require a conscious effort to improve the existing programs by way of suggestions and recommendations made in respect of each Program in Chapter 4. I am confident that these recommendations, if adopted, will have a favorable overall impact on yield increases, and cost effectiveness resulting in increased farm income for small farmers.

However, because the identified problems facing "normal" MOA programs are deep-rooted, it is unlikely that suggested recommendations will provide lasting solutions to small farmers' problems. A lasting solution appears to lie in our determination to approach rural development from another perspective, i.e., through Integrated Rural Development approach.

As noted in Chapter 5, the pilot scheme (AADP) had superior advantages over an extension of 'normal' MOA programs since there is autonomy and freedom with which managerial decisions are made regarding financial, technical, social and other aspects of the project. These autonomies have made it possible to avoid the usual bureaucracies of civil service and have thus encouraged improved managerial initiative and administrative efficiencies in Project operations.

The working climate in the Integrated Rural Development was also made more attractive compared to normal MOA programs. For example, improved conditions of service and bonus incentives were part of the device that made the Project perform at improved levels.

We noted in Chapter 4 that one of the major problems facing each of the

programs evaluated: Credit Services, Fertilizer, Land Development and Manpower Training and Development is the shortage in both number and quality of extension agents to properly staff these programs. An Integrated Project will be able to solve these staff problems by quickly instituting training policies in diversified fields so that staff trained in specialized areas can be available within a short period to take up assignments on different programs. Integrated Agricultural Development also strengthens the capacity to deal with the problems of credit. Integrated Rural Development can reduce credit problems by: reducing the size of disbursable loans; by ensuring that loans are partly given in kind and in cash; by ensuring that the use of loans are supervised; as well as ensuring that specific economic sanctions against loan defaulters are enforced. Normal MOA programs will not be able to carry out these tasks due to political and social intricacies.

The problems of fertilizer program can be solved by Integrated Rural Development by maintaining adequate buffer stock in reserve in the central warehouses to be released to LGAs according to need. Fertilizer losses through exposure can also be minimized by building storage facilities at specific points of the distribution chain.

In recommending a state-wide Integrated Rural Development, I am aware of the financial and technical requirements of such a venture. I think that staff limitations (executive grade) will not be a problem considering staff strength of MOA at the moment. I think, too, that the program would need some ₦3-4 million per month for operational expenses. This amount of expenditure appears justifiable if we remember that the state-wide Integrated Agricultural Development objective is to cater for 81% of the State's population.

It should be understood that until the Nigerian economy develops sufficiently through expanded industrialization to absorb many of the unemployed and underemployed laborers in rural Nigeria, an essentially subsistence agriculture,

dominated by small farmers, will continue to exist. A program such as Integrated Agricultural Development is designed to improve the welfare of small farmers where they presently reside as opposed to a program which promotes outmigration to urban areas where employment opportunities may not exist. Therefore, AADP should warrant priority funding by the State and Federal Governments.

While the cost per farmer under the Integrated Agricultural Development Project appears high, the program performance and demonstrated benefits to the small farmer clientel, as discussed in Chapter 5, appear attractive to justify the most serious consideration of adoption of the Integrated Rural Development approach by both State and Federal Governments on a nationwide basis.

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AGRICULTURAL DEVELOPMENT AND POLICY
IN BENUE STATE, NIGERIA

by

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AN ABSTRACT OF A MASTER'S REPORT

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ABSTRACT

This Master's Report is concerned with the evaluation of some of the major agricultural programs in Benue - one of the 19 States of the Federal Republic of Nigeria. The report arose out of the concern that Nigeria, in the last two decades, in spite of output-increasing agricultural programs, has increasingly become dependent on imports of basic grains and palm oil for which it was a net exporter during the 1950s. This failure of agricultural programs to meet desired National Agricultural Objectives has preoccupied the attention of Nigeria policy makers because of the public welfare implication the declining production carries with it.

My approach in this report was to look critically at how some of the major Federal Agricultural programs have been implemented at the Benue State level irrespective of the fact that the writer in his then capacity as the Head, Planning, Statistics and Monitoring Unit, Ministry of Agriculture (MOA) was a participant in the formation of these programs at the State level. Factors or weaknesses militating against each program were identified and suggestions for improvement made. In general all four programs evaluated namely:

- i. Credit Services to small farmers,
- ii. Fertilizer purchase, storage and distribution program,
- iii. Land Development Program,
- iv. Manpower Development and Training,

suffer from lack of technical, financial (organizational) as well as institutional problems of one form or another.

Consideration was also given to the development of potentially new programs in the State given favorable technical and economic endowment. These

include development of small holder citrus production as well as oil palm rehabilitation and production.

For ease of comprehension, the Report is divided into 6 chapters. Chapter 1 provides the situation background to agriculture in Nigeria in general and in Benue State in particular. Chapter 2 discusses the potentials that exist for development of crop and livestock in Benue State while Chapter 3 describes the evolution of existing programs for both the Ministry of Agriculture (MOA) and Ministry of Animal and Forestry Resources (MAFR) in the 4th National Development Plan (1981-85). Chapter 4 is essentially evaluative of four of the MOA programs--viz) credit services; ii) fertilizer purchase, storage and distribution; iii) land development program and iv) manpower development and training. Chapter 5 discusses the achievement of an Integrated Agricultural Project (A.ADP)--a World Bank co-sponsored rural development project located at Ayangba in Benue State with particular attention to those features that distinguished it from the main MOA and why it's programs perform better than the 'normal' MOA programs in reaching the small farmers.

In conclusion the Report recommended that in view of institutional, technical and financial problems militating against success of 'normal' MOA programs to effectively deal with the problems of small farmers and in view of the visible success of the pilot integrated approach to rural development located in Ayangba in Benue State, the Government should adopt a state-wide integrated approach to agriculture and rural development.