DESIGNING A DAIRY/BEEF CATTLE PRODUCTION PROGRAM, ATTRACTIVE TO THE YOUTH OF THE NIGER DELTA AREA OF NIGERIA

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THE RESEARCH PROBLEM

Introduction

Nigeria is and has always been an agricultural country. However, during the two decades of nationhood after independence in 1960, food production in the country has consistently declined while the country's population of about 53 million at independence has almost doubled, according to conservative estimates. It is speculated that the demise of the Nigerian agricultural industry is the result of the crude petroleum "boom" of the late 1960's and early seventies. With quick and easy money "flowing in the cities," rural life became unattractive to the youth. Others blame the ever increasing dependence upon foreign food imports on an educational heritage of the colonial era which emphasized the production of an elite over the needs of Nigeria. As a result, the youth became pressured by their parents, peers, and prospects for greater financial gain to pursue careers such as law, medicine, and political science instead of agriculture, industrial management, business, and rural development. While these factors may have contributed towards the problems that Nigerian policy makers have to contend with today, viz., building an economically viable nation, it must be emphasized that the present day Nigerian youth is the product of many more social pressures and value systems than those generated by the oil boom or his tribal affinity.

Nigeria is looked upon today as Black Africa's leading democracy, and it is estimated that every fourth African is a Nigerian. Moreover, the country's location and position as the most stable environment in the midst of countries such as Chad, Ghana, Niger, and other West African countries with far greater political and economic problems, makes it a safe haven for large numbers of migrants seeking a place of refuge. A country in that position should be able to generate sufficient food, at least for its own citizens.

Notwithstanding, Nigeria is a rich country by all standards. The list of her mineral resources range from fifth largest exporter of petroleum to vast deposits of natural gas, tin-ore, copper, gold, and uranium deposits. In addition, Nigeria was once the largest exporter of palm produce, producer of cocoa, peanuts, hides and skins, and other agricultural cash products. It is believed that vast areas of arable land have still not been developed yet, and what is being cultivated does not produce at maximum potential. Nigeria's human resources are most remarkable. There are currently over 16,000 Nigerians studying in universities and colleges in the USA. An even larger number of intellectuals and students live in the United Kingdom, many of whom have either been frustrated by the educational system, or are otherwise not gainfully employed. In most other developed countries of the world, there are Nigerians who after attaining their education find it difficult to return home, because there is little prospect of gainful employment in their own country.

Those Nigerians who eventually return home after their education abroad are often frustrated by a political and economic system which smothers motivation and rewards ineptitude and inefficiency. Corruption,

nepotism, and favoritism are words that were commonly in use during the civil war in the late sixties. Today in Nigeria, those words are again becoming common in the street "pidgin" and the various other linguistic forms of the Nigerian society. At the core of all this are millions of resourceful human beings, some of them possessing modern skills necessary to mobilize the country's ailing agricultural industry. Most Nigerians are underfed because they have been crippled by a system that rewards incompetence. The Federal and State governments have made futile attempts to revive agricultural production in the country at costs ranging in the billions of dollars. But, the result of these programs have been negligible in containing the ever-increasing demand for food. The impact on the future leaders of the country has been less apparent. More Nigerian youth are striving to attain higher education than ever, while the majority of educated Nigerians end up in positions in an ever increasing bureaucracy. Public discontent and stagnation of the economic process have become much too apparent not to be noticed even at the highest levels of government and in the streets. Nigeria will have to feed its citizens, but how well this can be done will depend on the source of food available--domestic production, or foreign imports.

The Niger Delta Area

The Niger Delta Area of Nigeria is located between 5-7.5° E and 4.4-4.5° N. It consists of three major ecolonical zones described as, the "Coastal Plains Terrace, the Niger Sombreiko Terrace, and the Niger Delta Plains," according to a Rivers State Government Report (1980). Technically, the Niger Delta covers all of the Rivers State, the

South-eastern flanks of Bendel, Southern Imo, and the Western flanks of the Cross River State. However, the name Niger Delta is often used synonymously with the Rivers State geographical area, and in terms of agricultural production, the name is more akin to the "Central Plain Terrace," where about 70% of the state's estimated 3.0 million people reside, according to the above report. Population densities range from estimates of 100 - 160 per square km in the Delta to its highest among the Ogonis in the Coastal Plain region, where estimates are 200 persons per square km, and above. Other relevant data concerning the region are given in Tables I, II, and III.

According to the Rivers State Governor's office report,

> Although Rivers State is the main reservoir of Nigeria's oil activities, petroleum does not appear to play a major role in the state economy. More than 70% of the population depend on farming and fishing for their living. Very limited available statistics show that the state has about 300,000 hectares of cultivated land which provide means of livelihood to over 270,000 farm families. . . . In the Coastal Plains Terrace, the principal occupation is farming with more than 40% of the income derived from farm products. . . . (Rivers State Government Report, 1980, p. 5).

To say that "petroleum does not appear to play a major role" in the socio-economic life of the Niger Delta states is to grossly understate the facts. In June 1982, all secondary and primary schools in the Rivers State were shut down. Teachers had been on strike since April, because of non-payment of salaries and other renumerations. A few weeks later when school resumed, close to 50% of the primary school teachers were fired, because they lacked the basic teacher qualifications. At the time, many teachers in some of the local government areas hadn't been paid salaries for 6-8 months. Non-payment of salaries was the talk in the streets of Port Harcourt, the Rivers State Capital. Traders

TABLE I

GOVERNMENT EXPERIMENTAL AND DEMONSTRATION FARMS IN OPERATION

Ministry of Agri. Divisional Farms	Hectares	Crop Type *	NDBDA Farms	Hectares	Crop Type *
Ahoada	20.2	Mixed	Ebudu	8.0	Mixed
Rumuodomanya	43.7	Mixed & Dairy Cows	Peremabiri	40.5	Mixed
Isoba	8.0	Mixed & Dairy Cows	Kaiama	24.2	Rice
Abobiri	145.7	?	Anyama	4.0	?
Yenagoa	41.3	Rice	Otuaka	24.2	?
Ogoni/Bori	40.5	Beef Cows/ Mixed	Kpa	4.0	Mixed
Port Harcourt	34.4	Livestock & Mixed Crops	Bukuma	4.0	Mixed
			Nembe	4.0	Mixed

*Not included in gov't. statistics. ** 1 hectare = 2.47 acres.

Source: Rivers State Governor's Office. 1 = mm 0.04 inch

TABLE II

YIELD OF SELECTED CROPS AS COMPARED TO THE HIGHEST PRODUCING STATE IN NIGERIA

Selected Crop	Rivers State	Yield* of Highest Prod. State in Nigeria
Maize	1.1	2.2 (former Benne/Plateau)
Rice	4.5	4.5 (former N.C., S.E. & R.S.)
Cassava	20.8	36.6 (Bendel)
Yam	7.8	17.8 (former Benne Plateau)
Cocoyam	12.5	18.4 (former South East)
Plantain	16.6	16.6 (RS, LB, CR 7 former West)
Groundnut	1.5 (peanuts)	1.5 (RS, CR and former EC)
Cowpea	0.47	0.79 Cross River)
Melonseed	0.35	0.70 (former North West)

*Yield = (tonnes/ha) for Rivers State compared to highest producing states of Nigeria.

E.C. - East Central, S.E. - South East, and (L.B.?)

Source: Rivers State Governor's Office

TABLE III

AVERAGE RAINFALL (mm) OF SELECTED LOCATIONS IN THE RIVERS STATE (NIGER DELTA AREA)

Location	No. of Years Used	Months of the Year												
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual Ave. Total
Ahoada Agric Farm	7	14	93	133	197	182	235	355	325	365	283	72	10	2264
Bori Agric Farm	7	36	85	120	186	168	348	330	372	357	287	157	42	2288
Bonny Agric Farm	6	55	157	192	325	351	871	480	575	676	605	301	110	4698
Choba Agric Farm	7	33	92	137	225	205	275	273	299	366	285	108	65	2363
Degema Agric Farm	6	22	61	118	195	169	230	219	225	233	241	131	18	1862
Peremabiri Agric Farm	5	52	132	145	344	285	408	256	358	-	410	262	52	--
Port Harcourt Agric Farm	7	32	102	136	225	181	279	253	314	409	269	128	33	2361
Rumudomanya Agric Farm	7	34	96	129	215	156	250	278	343	396	325	116	49	2396
Port Harcourt NDBDA	10	40	119	130	183	202	367	345	389	443	387	153	47	2805
Yenagoa Agric Farm	7	44	135	132	217	235	341	292	273	395	315	108	52	2539

complained that workers were not buying goods in the market. Top civil servants grumbled about delayed payments. Many government contractors were out of business, and it was being rumored that the state owned Pan-African Bank was operating in the red, and was on the brink of collapse. It is difficult to say that the depressed state of affairs that has prevailed over most of Nigeria since the 1981 oil glut, which reduced revenues that the states received from the central government, is not the direct effect of returns on petroleum exports. Notwithstanding, it is evident that a quarter pint of evaporated milk sold for 30 kobo (approximately 50¢), while the same product sold for 27¢ at a local grocery store in Stillwater, Oklahoma, and the list of exporters had increased from the Dutch companies to the German subsidiaries of Carnation, British, and even East European countries. In an unscientific survey conducted during a conference of farmer cooperatives held in Mogho town in Gokana local government area of the Rivers State (using a "yes", "no" procedure), over 90% of the participants confirmed that what the name "milk" brought to their minds was a "canned product" on the shelves of a shop, and not cows grazing in the pastures, or the milk-maid or any other traditional ways in which dairy products reached the consumer. Specifically, it can be assumed that the present generation of Nigerian youth are "sold out" on imported dairy products, and they have no mental pictures of the natural process by which the cow converts grass to milk, and where they fit in as humans in that cyclic process.

According to West Africa Magazine (1982):

> The present Federal administration has spent ₦1.6 ($2.64 billion), on agriculture since its inception in 1979. A substantial portion of the amount was spent on the Green Revolution programme which was launched in 1980 to bring down the country's food import bill which had risen to ₦9.6b ($15.85 bn), that year (p. 2314).

Although prices are subsidized on these food imports, many basic dietary needs are still beyond the purchasing power of the average Nigerian family. As revenues from oil become less and less, in the grip of mammoth development projects such as the New Federal Capital at Abuja, subsidies for food imports will also decrease. A greater and more threatening problem is an increasing number of college graduates from the country's new universities and several hundred others who return hom from foreign countries and cannot find jobs. The major employer of high level personnel, the government, cannot afford to pay those already in its service, thus prompting a general freeze on all employment. On the streets of Port Harcourt, the frustration and bitterness can be seen on the faces of the beggars that live in the dusty corners and pick food from the garbage dumps. People vent their anger on each other at the slightest provocation. They bump into each other on the sidewalks. These are the people who left their families in the towns and villages to share in the oil boom in the capital city. There is no evidence anywhere that the "Green Revolution" has started, neither can any record of accomplishments of its predecessor, the "Operation Feed the Nation Program," be found anywhere. Whereas Nigeria is bountifully blessed with much physical and human resources, one has not been able to complement the other in modernizing the country's agricultural industry, in spite of various attempts by governments to mobilize the nation's human resources into agricultural production during the past two decades.

Statement of Problem

Nigerian youth lack the perception of future prospects in an agricultural career, and they are easily carried away by the "easy get rich" and "no hard work" cliches associated with business, government, and city life prevailing in today's Nigerian society. There is a need to know what programs of dairy/beef production might be effective in reversing this trend.

Purpose of Study

The purpose of this study was to identify and recommend what processes, programs, or methods of dairy/beef cattle production can be adopted in the Niger Delta area, that will be attractive to the youth, thus enhancing the long term goal of self-sufficiency in food production in the area.

Objectives of the Study

To accomplish the purpose of this study, the following objectives were considered appropriate:

1. Use of a modified Delphi Technique to sample opinions held by policy makers and opinion leaders in government, universities and colleges, businessmen, parents, and community leaders to learn what they consider as the most appropriate process, program, or method of dairy/beef production in the study area which will be attractive to the youth, as well as suggest what agency or group can administer such a program.
2. Design a model program based on the majority view of

participants and on information from the literature review, and recommend the major components of such a program model for implementation in the study area.

Assumptions

The following assumptions were made regarding this study:

1. Most of the participants in the study were aware of the beef/dairy situation in the study area. They were also knowledgeable on the subject of beef/dairy production in general. Collectively, they should have been able to suggest alternative methods of beef/dairy production which are suitable for the study area as well as attractive to the youth of the study area.
2. Nigerian parents, guardians, and/or relatives significantly influence the career choices of school age youth.
3. Government policies influence the trend of agricultural production in any nation, as well as career choices open to youth.
4. If youth are provided with adequate guidance and patronage, coupled with information and motivation, they should be able to bring about changes as well as reverse undesirable trends.

Limitations

1. At the planning stage of this study, attempts were made to secure financial aid from various agencies and organizations to facilitate travel to and from Nigeria regarding the data collection phase of study area. Agencies contacted varied

from the University of Port Harcourt, which did not acknowledge receipt of the request, to the University of Science and Technology in Port Harcourt, the Governor of the Rivers State of Nigeria, the United States Agency for International Development, and the Federal Ministry of Education in Lagos, Nigeria (refer to letters in appendix). Money was a major setback in that it made travel to some places where relevant data could have been more readily obtained difficult, and sometimes impossible.

2. The depressed state of the world economy which made financial resources less readily available to Nigerian governments from the oil revenue did also contribute to a general state of disgruntlement in the area at the time of data collection for this study. The Nigerian economic set up in which the government employs almost "everybody who is somebody," comes to a standstill when government treasuries are on low ebb. This was a great hinderance to the way and means of collecting data for this study, because: (a) most principals of colleges and secondary schools could simply not be reached while the teachers' strike lasted; (b) there seemed to be a high degree of animosity or antagonism between the faculty of the two universities in the study area from where most of the intellectuals were polled. This unhealthy atmosphere may not have been unrelated to the relative ease with which faculty of one institution received funds through the difficult and indirect route of the State Board of Education.
3. During the rainy season, travel is very hazardous in the Niger

Delta area; the months of June to August during which this study was conducted is the climax of the rainy season in southern Nigeria. In a place where ownership of an automobile is still a status symbol, one had to rely on public transport which was very unreliable and unhealthy.

4. The most recent available copy of the Office and Quarters listing of executive level personnel published quarterly by the Rivers State Government was an October to December 1979 copy. (a) This was the most reliable source of information on "who is who" in the government, business, and industrial establishment in the area. It couldn't provide any useful lead or contact, since most of the people in the listing had since been promoted, transferred, or had assumed other responsibilities. (b) There was no telephone directory as we know it in America, since few people have phones in their homes, so what the phone company supplied wasn't much use. In fact it was an obsolete copy that was available. Telephone operators were also hesitant about releasing the phone numbers of people who are well-placed; in fact they often refused to give such numbers away.
5. The postal system was insufficient, unreliable, and practically useless for a time-designed program.

Definition of Terms

The following words and terms used in this study are being defined strictly for putting the thoughts expressed herein in the right perspective, and they are not intended to be a distortion of the technical

meanings of the words outlined.

1. Administrative Agency: An organization, agency, or institution capable of providing for adequate organizational, administrative, and financial needs of a dairy/beef production program; the type being defined in this study.
2. Butchers: Persons nominated to be representatives of the butchers' union on the basis of their prominence, commitment to the common interest, and their contributions to the state-wide union.
3. Dairy/Beef Cattle Production: An expression often used interchangeably with the modernization process the various governments in Nigeria are trying to implement to increase the yield of dairy products, beef, and other agricultural products.
4. Educator: A person whose educational background and experience makes him (her) knowledgeable on the issues being addressed by this study, and whose profession or job places him (her) in a position to inform others.
5. Foreseen Limitations: A constraint perceived by any participant in this study, as a major setback that must be addressed, before a dairy/beef production program in the study area can be considered feasible.
6. Green Revolution: A program of agrarian reform and modernization nationwide, being sponsored by the Federal government of Nigeria with the goal of making the country self-sufficient in food production by the year 1985.
7. Lecturer: The nomenclature used with various categorizations and hierarchies for placement by universities ranging from

assistant professors to professors (when compared with their US equivalents). This was a deliberate effort by the old colonial educational system to control the number of persons in the establishment who could eventually attain the rank of university professor.

8. Livestock Officer: A Nigerian civil service title for any employee with an entry qualification of a degree in animal sciences. The highest rank in that hierarchy is the Chief Livestock Officer.
9. Livestock Production: A term used in this study many times as a substitute for dairy/beef cattle production, and not intended to cover all the areas that a much broader use of the term would imply.
10. Method: A procedure or process for attaining an objective; in this study, that objective is a short term goal of youth involvement in the dairy/beef production process.
11. Naira (₦): The Nigerian currency equivalent of US $1.64, and this fluctuates with monetary trends and economic changes in the world, but the above exchange rate is used to coincide with rate of exchange at the time this study was being proposed.
12. NYSC: The National Youth Service Corps, a compulsory twelve-month service period for Nigerian College Graduates originally designed to inculcate a sense of patriotism and national consciousness into the future leaders of the country.
13. NDBDA: The Niger Delta Basin Development Authority, one of the series of Federal parastatal agencies created for the

purpose of agrarian reform in various parts of Nigeria.

14. Operation Feed the Nation: Nigeria's second nationwide program of agrarian reform, designed and executed by the Military regime in the 1970's, which failed in achieving the desired goal of food sufficiency in the Federation.
15. Policy Makers: A cluster of legislators, cabinet level ministers, and other prominent persons consulted for facts in the course of this study.
16. Principal: The position of chief administrator in the secondary or technical college, but used in this study to include the equivalent position in the Research Colleges.
17. Process: A phenomenon marked by gradual changes that lead toward a particular result. The word is used in this study along with program and method to eliminate any bias that could have arisen during the data collection phase, where one word alone couldn't have made definitions very explicit.
18. Program: A brief, usually printed outline of the order to be followed in the process of achieving a result; in this study, any conclusions obtained from the data analysis is proposed to provide the framework for a model program of dairy/beef production in the study area.
19. Public Administrators: A term used in this study to cover various categories of individuals whose jobs or professions deal with direction and management of public services and agencies. The term is strictly used to apply to only those participants in the study who cannot be classified into any other technical or professional fields.

20. Young Farmer Organization: A body of farmers who are not completely established in business; they are referred to as young not because of physiological age, but on their length of experience as farmers.
21. Youth: A term coined so as not to exclude anybody who can still choose livestock production as a career. Whereas, the word technically denotes the period of one's life between childhood and maturity, in this study, the term has been extended to include people up to the age of 40 years, because it was considered that at that age people can still choose agricultural production for a career.

CHAPTER II

BACKGROUND REPORT AND LITERATURE REVIEW

Introduction

In outlining the procedure of this study, it was proposed that a review of literature related to the execution of Operation Feed the Nation (OFN) and the Green Revolution (GR), especially in regard to youth involvement in cattle and cattle related industries in the population area would be conducted. A review of literature related to youth programs in the US and other countries was also considered necessary as a prelude to analyzing the study data and further provide facts which participants might omit inadvertently in the course of the study. Moreover, the literature review was intended to expose any similarities between youth programs in the US and other countries, and programs designed to execute Nigeria's OFN and GR programs, as well as provide useful knowledge of procedures and programs which could be applied to the youth in the population area for a successful execution of dairy/beef production programs.

Communication within Nigeria is often more difficult than between the country and other states. Recognizing this face, an attempt was made to gather the necessary documents from libraries in Britain, but that too was difficult because of the sky-rocketing cost of traveling within the United Kingdom. From the facts available for this review,

it can be said that if a mechanism has been designed for evaluating government executed programs in Nigeria, that mechanism is not functioning well presently. If fact, it is much easier to evaluate the success story of agricultural production in the 1960's than it is for the mammoth revolutionary programs of the 1970's and early 1980's. It is therefore necessary to begin this review with a brief historical background of agricultural modernization efforts during the pre-civil war era in Nigeria.

Agricultural Production in Eastern Nigeria Prior to the Nigerian Civil War

According to an agricultural extension newsletter published by the Eastern Nigeria Ministry of Agriculture, the FAO "Freedom From Hunger Campaign (FFHC)" launched in 1960 was well received by the Nigerian government as "a vast educational and operational effort involving changes in the mental attitudes and social habits and customs . . . by appealing to both young and older people for involvement in agricultural production," and Nigerian leadership was so much involved with the whole exercise, a national day of prayers for the success of the 1966 Nigerian FFHC Week was declared. Moslems and Christians were given specific days of prayer for the success of the enlightenment campaign (July 1966). Food production in Eastern Nigeria was however more real than massive propaganda as the Minister of Agriculture, Hon. P. N. Okeke spoke of "tremendous progress" in "farm settlements, poultry farms, plantations, etc.," in his Christmas greeting to farmers (November 1965). That was the fifth year of a "Six Year Development Plan" in the agricultural field. By the end of February 1966, there were 146 Young Farmer Clubs

(YFC), with a total of 4,241 members led by 185 voluntary service adult leaders (March, 1966). These programs didn't only provide employment and educational opportunities for youth (Jan., 1965), and put more food on the tables (Sept., 1966), they provided more income for farmers through better use of land (Jan., 1965), and introduced new methods and practices of farming (May, 1965) to the people of the provinces of Eastern Nigeria.

Although many weaknesses existed in the system, such as an over-dependence on the Ministry of Agriculture (Nov., 1966), undue emphasis on government supported farm settlements (July, 1966), and much less diversification from cash crops (Jan., 1965), and traditional revenue earners, such as cattle controls (May, 1966), the six year development program brought colleges of agriculture (Sept., 1966), and livestock shows (May, 1965), foreign aid for agricultural education (July, 1965), and recognition to farmers (Jan., 1965). People like Chief S.P.U. Ogan of Okrika are still in swine production today, although the idea of artificial insemination "with frozen semen brought from the USA" discussed by the Norwegian Church Agricultural Project experts at a livestock show in April, 1965, may have been lost on the people. Notwithstanding, the fact that these foreigners brought live dairy cattle to the city of Port Harcourt nearly two decades ago for the purpose of public enlightenment is a demonstration of how much foreigners were willing to help us help ourselves in agricultural production.

Trypanosomiasis and Livestock in the Niger Delta

If any of the self-styled experts on livestock production in the Niger Delta are confronted with the question why dairy cows cannot be raised in the area, the answer is likely to be that trypanosomiasis will destroy the herd. On the contrary, we find that even in the food production campaign of the 1960's, there were detractors who were using the same trypanosomiasis scare to limit livestock production to chicken and eggs (which were more susceptible to diseases of epidemic proportions). In a "Vet News" report from the E.N. Ministry of Agriculture Extension Newsletter (May, 1966), the following report appears:

> In the recent past, it was commonly understood that pig industry might not survive or prove profitable in the Eastern Group of Provinces because of tse-tse fly infestation . . . The conclusion so far is that tse-tse fly infestation might be a problem in pig industry (the extent of which may vary with locality) yet this is not enough to make pig keeping unprofitable in the Eastern Group of Provinces, provided management is good (p. 13).

Today, we have several farmers such as Chiefs Ogan and Kalio, who make their living breeding large herds of swine in the Niger Delta. The fear of the fly-borne parasite was engrained in the decision making body of agricultural leadership in the 1960's just as it is today. But even though their activities were mostly confined to veterinary services and cattle tax collection, they still did some cattle research involving "selection and grading-up the local Muturu with introduced Ndama breed" (May, 1965). However, it is astounding that as far back as 1933, the colonial administration was containing this disease. According to an annual report on the Agricultural Department of Nigeria in 1933; they had

> . . . found by experience that if farmers' cattle are properly fed and are worked reasonably, they will show no symptoms of the disease, even though there is good reason to believe that they are infected with it . . . (Most) losses in the past have been due to the fact that we have not paid enough attention to the maintenance of the resistance of our cattle to this disease . . . Lest a false impression should be given by this discussion of the subject, it is necessary to explain that the proportion of loss during the time between purchasing cattle and handing them to the farmers, has been less than five percent of the whole number of cattle handled (p. 7).

This report seems to be speaking of draught cattle, and it seems to say in no uncertain terms that even among work animals, typanosomiasis is only a problem to the degree that management practices are bad. It mentions in an earlier paragraph that "clearing of the bush along streams near villages has resulted in a real reduction in the incidence of trypanosomiasis in the cattle areas where the campaign has been conducted" (p. 7). One half of a century later, we cannot raise cattle even in areas where outbreaks of the disease have never been proven. It was necessary to set the tone of this analytical review with this brief historical background to show where the agricultural policy makers or executives of the OFN and GR decades were coming from.

Why Operation Feed the Nation Failed

The title of this brief review is conclusive in itself. But in reality, the fact that a Green Revolution followed on the heels of OFN is suggestive that the great idea didn't accomplish its purpose; so, why did it fail?

In describing the program soon after the launching, a Federal government publication, Federal Nigeria (Oct.-Dec., 1976), wrote the following:

> One of the boldest and most courageous massive agrarian programmes ever undertaken by any government in Nigeria - and indeed in any developing country has been launched by the Head of State, Lt. General Olusegun Obasanjo.
>
> Known as "Operation Feed the Nation" (OFN), the programme is aimed at the effective mobilization of Nigeria's human and material resources for the achievement of self-sufficiency in food production (p. 14).

Under the scheme, the Federal Government was to provide "incentives to schools, colleges, universities, polytechnics, the Armed Forces, and various other segments of the Nigerian society to participate and contribute their resources in tackling the problems of food production" (p. 14). The government also earmarked $600 million as loans to farmers during the 1975-1980 National Development Plan period. According to this report, $200 million had already been loaned out to some farmers for 119 agricultural projects in various parts of Nigeria by 1976.

By the end of 1979, according to West Africa (Aug., 1982),

> The country's food import bill had risen to ₦9.6b (about $15.75 billion that year). Speaking on the food production issue, the country's Minister of Agriculture, Mallam Adamu Ciroma, said, it would be unrealistic to expect dramatic changes in the agricultural situation, 'given the careful planning and mass mobilization necessary for a national programme of this nature,' his ministry had been able to record significant achievements in the various sub-sectors (p. 2314).

One aspect of this "careful planning" was approved after a June, 1979, "Review of the Nigeria Agriculture Sector by the World Bank highlighted the constraints to agricultural development in Nigeria." According to this government report of the Federal Department of Agriculture (1982);

> The institutional framework within which the Ministry (of Agriculture) operated, severe manpower shortages at all levels especially at the Senior Level, ineffective planning, monitoring and evaluation capability and a complete lack of policy analysis; an almost complete lack

> of the means for planning, monitoring, evaluation and policy analysis, was responsible for the failure of OFN (p. 4).

The approval led to the establishment of a "Central Planning Department to coordinate the Ministry's development activities in all its ramifications," according to the above report. Briefly stated, Nigeria's answer to a bureaucratic failure was the establishment of another bureaucracy with all its tentacles and complexities.

One programme described by another Federal Government report, issued by the Ministry of Planning, as an achievement of OFN is the "Integrated Agricultural/Rural Development pilot programme" (ADP), sponsored by the Federal Government and the World Bank in the States of Kaduna, Sokoto, Benue, Kwara, Bauchi, Plateau, and Niger; seven out of Nigeria's nineteen states. According to this report from Lagos, the program established

> Farm Service Centres from which small-holder farmers could obtain items such as farm inputs (fertilizers, other agro-chemicals, planting materials and farm machinery) extension and training in the use of improved methods of farming; credit facilities through cooperative system to enable farmers purchase inputs; and marketing facilities to help attain the best possible price for farmer's produce. A network of roads (was) built to give access to the Farm Service Centres enabling inputs to be transported in and produce to be moved out (p. 23).

These projects according to the above report have proved quite successful, and have thus "attracted a considerable nationwide interest." Unfortunately, the limited resources available for this study made it impossible for an on-site appraisal of the OFN success chapter. But if only seven out of 19 states could hold up programs partly sponsored by the World Bank in the year Nigeria was supposed to have attained self-sufficiency in food production, and with food input bills, at an all time high that year, OFN could justifiably be described as an exercise

in futility. And if the Nigerian Government learned any lesson from all the resources wasted on the campaign, the lesson should be that massive food production on the scale that the OFN envisaged can only be accomplished by individuals motivated by profit to produce what consumers demand. The only function of governments in that setting is the provision of credit facilities on good terms, and incentives and security for the farmers.

The Green Revolution

After Nigeria returned to civilian rule and power was handed over to an executive presidency in October, 1979, a new plan was launched in May, 1980, to run concurrent with the fourth National Development Plan, which took effect from January, 1981, to December, 1985, and according to the outline of the fourth Plan, "agricultural production and processing (would) continue to enjoy a high priority" (p. 6). By August, 1982, according to the Minister of Agriculture, Adamu Ciroma, ₦1.6b (about $2.63 billion), had already been spent on agriculture by the new government (West Africa, Aug., 1982). Another report from West Africa published to coincide with the country's 22nd anniversay of independence on October 1, 1982, stated:

> There are now nine Agricultural Development Projects (ADPS) under implementation at a total cost of ₦1.1 billion and involving two million farm families . . . Under a similar programme over 59,000 hectares of oil palm have been established, two mini-mills installed and 24 others at various stages of completion in the relevant producing states of Imo, Bendel, Rivers, Ondo, and Cross River (pp. 2640-2642).

One problem with the distribution of these projects is that while it can be understood that oil palms do not thrive in the savanna areas in Nigeria, thus it would have been unjustifiable to set up such pilot

projects in the Northern States, there is no justification for confining the cattle production projects to the Northern States, except that Nigerian leaders still haven't learned to think of agricultural production beyond the political frontiers that served the colonial cash crop interests earlier in this century.

Addressing a conference of the Nigeria British Chamber of Commerce on "Nigeria Agriculture - How Britain Can Help," Nigeria's High Commissioner to the UK Alhaji Shehu Awak described the Green Revolution as being of such importance, "the programme (was) directed ultimately by President Shagari himself. With a planned expenditure of ₦10,000m up to 1984 . . .," (West Africa, Jan., 1982). At the time of this report, Nigeria's food import bill stood at ₦1,500m, and in spite of the "successes" of three National Development Plans and OFN, "Nigeria's future (still lies) in the hands of its small farmers who (are) responsible for 90 percent of production" (p. 17).

Leadership in Nigeria's Agricultural Industry

At the highest levels of the political and academic arena in Nigeria, the term "Green Revolution" is being debated and different suggestions made for its ultimate success. In a paper titled "Need for Pragmatic Agricultural Revolution as a Positive Action for Improving the Standard of Living in Nigeria" published by the Federal Government Press in June, 1981, Senator Cyrus Nunieh of the Ogoni/Opobo/Bonny district urged the President of Nigeria and Chairman of the Green Revolution Committee to elevate agricultural production in the country from the files in government ministries to the farms where small holders could be encouraged to form farmers' cooperatives. The Honorable Senator

suggested various methods of food production, which cannot be debated in this paper. Whether his suggestions provide the best way out of Nigeria's food dilemna, is one of the various alternative methods of food production which this research seeks to address. Other flashy headlines appear almost daily on many Nigerian newspapers, suggesting various ways of producing specific food items as a part of the Green Revolution. According to Professor Ezedimma, dean of the Faculty of Agriculture at the University of Nigeria Nsukka, "test-tube production of animals as a means of solving the shortage of meat in the country . . . (was) the surest and fastest method of multiplying animals with desirable meat characteristics" (Nigerian Statesman, June 8, 1962). In a series of publications in the Daily Times (May 12, 13, and 14, 1982), President Kim II Sung of the DPR of Korea, spoke extensively on how African countries, especially Nigeria, can help themselves improve food production by borrowing from the Korean post-war experience. And between July 27th and 30th, a National Conference on Beef Production was scheduled for Durbar Hotel in Kaduna State (Daily Times, July 21, 1982). According to the publication, some of the biggest names in the Nigerian Livestock Industry and several politicians were scheduled to make appearances at the Conference. It wasn't possible to travel and visit Kaduna during or after the Conference as scheduled, although this could have provided more relevant facts towards the study. While a lot of constructive suggestions may be discussed in top level conferences and what Senator Nunieh described as "political grammatical propaganda," it must be admitted that much of the agricultural scientific knowledge and manpower that are available to the Nigerian governments have still not been gainfully harnessed for constructive use in production of

food in the country.

Impact of Green Revolution and OFN on Youth Consciousness Toward Dairy/Beef Production in the Niger Delta

Under the Third National Development Plan, the OFN Program was to:

1. establish national breeding centres which would supply improved breeds of cattle to stock owners;
2. adopt a system of artificial insemination services whereby the cattle producing states could be adequately covered by service men;
3. eradicate tse-tse flies in feasible areas of the country; and
4. introduce typano-tolerant species of cattle such as Muturu and Ndama in the tse-tse infected areas.

In dairy production, the government planned to go into "direct production," through partnership with suitable states for milk production. Besides setting up processing plants for milk products, the government planned to increase goat-milk production "using improved high-yielding stock," for those areas "where goat milk is an acceptable item of food." It is apparent from the ADP programs that the Federal government didn't consider the Niger Delta a cattle producing area, and during visits to the government projects in the course of this study a few herds of Ndama cows were observed grazing in pastures in Bori, Rukpokwu, and Omoku. Some of these herds were established since the early 1970's, after the shock that followed the devastation of cattle in the Northern States of Nigeria.

During OFN, thousands of college and high school graduates were recruited en masse in a back to the land campaign. What impact this campaign had on the youth cannot be measured or estimated. There is no dramatic change in attitudes towards agriculture since the campaigns that can be attributed to the OFN. What can be seen, however, are several tons of fertilizer and farm equipment, some of them wasting away in the rain, which couldn't get passed on to the farmers or used otherwise, and a lot of which adequate storage is yet to be provided for. The positive elements include the setting up of the River Basin Development Authority, besides setting up a vocational agriculture training school that is being run by Korean specialists. It also initiated the Orashi River Project, which when operating in full swing, is supposed to have 6,000 heads of swine and 3,500 cattle around the Rivers State at Aluu, Ahoada, Bori, Yenagoa, Rukpokwu, and Omoku, and a five ton/hour feed mill is also a part of the project. During the many visits made to the university town of Aluu, there was little sign that the Orashi River Project had really started. According to West Africa (Oct. 4, 1982), a total of ₦3.3 million had already "been expended on the project."

Agricultural Extension Education and Adult Education Not Given Prominence

Presently, there are 13 Federal government owned universities with a total of 82,952 total enrollment by the 1981/82 school year, and a recurrent grant of ₦288 million in 1981/82. Moreover, 1,710 post-graduate scholarships tenable both in Nigeria and overseas were awarded during 1981/82. If percentages hold consistent with the pattern of admission into Nigerian universities, only six percent of the total

enrollment will go into Agriculture, Veterinary, and Forestry, West Africa Magazine (Sept. 20, 1982, p. 2419). Probably, the seven new Federal Universities of Technology planned to take off between 1980 and 1983 will significantly increase the number of students being trained for agricultural production. Whoever did plan the curriculum of the university of Port Harcourt didn't consider agricultural education as a priority at the present time in the Niger Delta. The university of Science and Technology, which was established in 1980 by the Rivers State government inherited the facilities of the livestock production department of the College of Science and Technology. Its agricultural education and research department has developed curricula geared towards the award of degrees in:

(a) Agricultural Production, Extension and Economics;

(b) Agricultural Education;

(c) Agricultural Engineering;

(d) Animal Production; and

(3) Crop, Soil, Food and Fish Science, and Technology.

In his keynote address at the National Agricultural Conference held at the University in May, 1981, the Acting Dean of the Faculty of Agriculture, Dr. N. O. Isirimah stressed the need to "arrive at ways and means of lifting Nigeria from the depth of Food deficiency to Food sufficiency in the 80's," Isirimah (1981). If the setting up of the University of Science and Technology, Port Harcourt, is perceived in that light, certainly it is a very positive step in the right direction which didn't have to come from Lagos, or Abuja, the new Federal Capital of Nigeria.

Besides a projected setting up in 1982 of a National Literacy Task Force and the training (in-service) of 83 officers from the states (at a

total cost of ₦56,000 during an average of seven months), at the Ahmadu Bello and Ibadan universities, very little seems to have been done at the Federal level for adult education. There weren't any functional adult education centres in the Niger Delta which could be observed during June to August, 1982.

At the University of Science and Technology Port Harcourt, the new department of agricultural education was still being run jointly with the livestock production, and Food and Nutrition departments. And with the financial difficulties which every agency of the Rivers State government was encountering at the time, prospects for much greater expansion beyond personnel recruitment may not be as close as it had been speculated.

Summary of Facts Available on OFN and GR, and Their Probable Impact on the Youth in the Niger Delta

According to a poll conducted recently in Lagos (POSR), West Africa (Sept., 1982), 83% of the people surveyed "believed that President Shagari was 'down-to-earth honest and trustworthy,' and 60% expressed optimism that the Green Revolution would feed the nation with time. . . ." It appears that the political leadership in Nigeria is sincere in their effort to make the country self-sufficient in food production. A table of development projects in agricultural research and their projected expenditure is being attached to lend validity to this observation. On the contrary, it is difficult to share the optimism of the 60% majority who stake the future of agricultural production on the success of the Green Revolution. This apparent pessimism is based on the fact that in

a capitalistic society like Nigeria, Public Projects can never satisfy the long term goals of self-sufficiency, because only personal satisfaction can prompt the kind of attention that a successful agricultural operation demands on a daily basis.

Moreover, a very weak link exists between policy making, financing, and policy execution. From views expressed personally by various skilled individuals in the livestock industry, it seemed that the process of dispensing grants, loans, and other government inputs to farmers must be trimmed of abuses by the executive machinery, if they are going to succeed. The attitudes of some opinion leaders regarding dairy/beef production in the Niger Delta can be summed up in the words of President Kim II Sung of the DPR of Korea, on the subject of agricultural development in African countries; "Science is considered a hard nut to crack, if one is ignorant of it, but very easy, once he grasps it, Daily Times (May 13, 1982). The negative approach by some agricultural experts towards certain industries in some parts of the country is certain to influence the youth. It appears that whatever attitudes prevail among the youth in the Niger Delta, regarding the dairy industry resulted from a body of knowledge which continues to imply directly or indirectly that dairy production is not feasible in the Niger Delta because of trypanosomiasis. In the long run, it may be discovered that many of these so-called experts knew little or nothing about the true causes of this deficiency in the Nigerian agrarian revolution.

It is evident from the government documents reviewed that projected expenditures on agricultural production by the Federal government has increased from six to fifteen percent since the launching of the Green Revolution, and the figures in Tables IV and V further lend validity to

TABLE IV

FUNDTION FOR AGRICULTURAL RESEARCH DURING 1981-1985 PLAN PERIOD

No.	Summary of Approved Funds for Institutions	₦
1	Nat. Root Crops Research Institute	112,377,942
2	Nat. Cereal Res. Institute	126,370,000
3	Nat. Horticultural Res. Inst.	56,900,000
4	Institute for Agric. Res. and Training	1,111,000
5	Institute for Agric. Research	24,267,000
6	Nigerian Stored Products Res. Institute	67,500,000
7	Agric. Ext. and Research Liaison Service	5,453,312
8	Coca Res. Institute of Nigeria	29,642,704
9	Nigerian Inst. for Oil Palm Res.	35,911,000
10	Rubber Res. Inst. of Nigeria	63,500,000
11	Nigerian Inst. for Trypanosomiasis Res.	47,400,000
12	National Vet. Res. Institute	105,630,000
14	Leather Res. Inst. of Nigeria	48,663,755
15	Forestry Res. Inst. of Nigeria	74,891,000
16	Nigerian Inst. for Oceanography & Marine Res.	18,232,400
17	Kainji Lake Res Institute	55,290,000
18	Lake Chad Res. Institute	48,620,000
19	Dept. of Agric. Sci., Fed. Ministry of Sci. & Tech.	37,318,000
	Total	1,007,661,113

TABLE V

APPROVED FUNDING FOR LIVESTOCK (CATTLE) RELATED RESEARCH IN 1981-1985 PLAN PERIOD

No.	Livestock (Cattle) Related Research Funding	₦
1	National Cereals Production Research	126,375,000
2	General Agricultural Research	24,267,000
3	Stored Products Research	67,500,000
4	Agricultural Extension and Research Services	5,453,312
5	Trypanosomiasis Research	47,400,000
6.	Veterinary Research	48,078,000
7.	Animal Research	105,630,000
8	Forestry Research	74,891,000
9	Agricultural Res. at the Kainji Lake	55,290,000
10	Agricultural Research at Lake Chad	48,620,000

Source: Federal Ministry of Science and Technology (Ibadan, 1980).

the fact that the Nigerian government has budgeted much money for agricultural research into the mid-1980's. However, states' budgets for agriculture still range from 3-5% annually (West Africa, Oct., 1982). Relaxation of "the indegenization act requirements for agricultural enterprises, lowering the required Nigerian stakes from 60 per cent to 40 per cent" (p. 2641), thus encouraging foreign participation may be contingent; what it will be in the long term interest of the smallholder farmers under the ADP projects is questionable. If President Shagari's hope of launching a "Social Revolution," on the occasion of moving the seat of the Federal government from Lagos to the new Federal capital, Abuja, and close on the heels of the launching of the Green Revolution, is to effect a change in the attitude of the Nigerian citizen to be more responsive to the needs of his fellow countrymen, he has a formidable task to accomplish in the lives of a very significant fraction of the populace, the so-called bourgeouise or elite. As for the youth, it will take a lot of convincing to persuade them that hard work pays, and that one who can buy his (her) way into one of the key positions of "executive privilege" shouldn't exploit it to the fullest for his selfish gains. In the final analysis, the youth of the Niger Delta, like most Nigerian youth are the products of a society drunken from the fruits of ill-gotten gains. It will take a re-evaluation of cultural, social and spiritual needs and a re-definition of "Actualization" needs to get them into dairy-barns for an honest day's wage. All other arguments and debates about whether or not cattle can be raised in the Niger Delta will continue to remain in the abstract, and all government fiscal investments in cattle ranches, grain production programs, and other large or small scale agricultural projects will

continue to travel the route of the "National Accelerated Food Production Programme" in the early 1970's under General Yakubu Gowon, the "Operation Feed the Nation Program" of the late 1970's under General Obasanjo, and the "Green Revolution" of the 1980's which already has a potent excuse: a recession in the Western economic system resulting in a glut in the petroleum market from which Nigeria derives 90% of its income has led to the shelving of some projects.

From the foregoing, one may likely conclude that if the Nigerian Governments had invested some of their oil revenues in training agricultural extension specialists and other extension workers, and if such monies as the government dumped into public projects were channelled into enlightenment of the rural population, the revolutionary approach to agriculture would at least have enjoyed the status of following the course of historically successful agrarian movements, and probably the consciousness of the youth would have been aroused.

US Agricultural Production and Trade

Before delving into the specific area of youth programs, it is essential to make an overview of the uniqueness of the US agricultural industry, especially as it relates to the US economy in particular and world trade in agricultural products in general.

It is estimated that about 4 million Americans are employed annually in farming and ranching. Another 12 million persons are employed in the off-farm sector of the agricultural industry. According to this report from an editorial in the Agricultural Education magazine (Dec., 1981), 60% of the income of these farm operators' families is derived from non-farm sources, although as high as 85-90% of farms in some states gross

$40,000 annually. If one considers that there are about 225 million Americans, it implies that a little over 7% of the population produce and process all the foods that have made America the bread basket of the world. Estimates still place the number of real farmers under 5% of the population, and the average farmer is estimated to be above 60 years of age. In a report from the World Press Review (Sept., 1982), it is estimated that American families spend 17% of their disposable income on food. Other estimates range from 20% for Western Europeans, and 32% for Japanese, to the miserable conditions in some third world countries, where the total livelihood of families cannot ensure their eating a balanced meal daily.

The USDA reports FATUS (July/Aug., 1982), a total of $31.8 billion export of US agricultural products during the first nine months of fiscal year 1982, a $3 billion or 9% decline from the previous year. Of these exports, $3.12 billion represented sales of all animal products, and about 10% of total agricultural exports. During June, 1982, the estimate of agricultural exports as compared with total US exports stood at 16%, emphasizing the importance of agriculture not only to the stability of the US economy, but as a source of supply to the rest of the world. Tables VI through IX provide these and some other details of the importance of US agricultural exports as an off-set of balanace of trade deficits, and the trends of livestock products as a commodity in the US export market when compared to the total export products.

Over 6% of total US agricultural products during 1981/82 were shipped into Africa, off 10% from the previous year; 21.3% of these exports of food to Africa was destined for Nigeria alone, and that was up 17% from the previous year (refer to Table X). Perhaps Nigeria's

TABLE VI

U.S. CATTLE AND CALVES (BEEF), INVENTORY, SUPPLY, AND DISPOSITION 1981 (SELECTED STATES)

State	Inventory Jan 1, 1980	Calf Crop	In shipments	Marketings		Farm Slaughter	Deaths		Inventory Jan 1, 1982
				Cattle	Calves	Cattle & Calves	Cattle	Calves	
Heads of Cattle	1000 HD	1000	1000	1000	1000	1000	1000	1000	1000
United States	114,321	44,714	18,114	45,807	10,380	399	1648	3254	115,691
Alaska	1925	870	75	584	236	6	32	52	1950
California	4760	1710	1001	1946	265	20	80	160	5000
Hawaii	220	72	0	56	0	1	3	4	228
Oklahoma	5400	2160	1300	2647	188	10	85	130	5800
Texas	13,700	5400	2050	6520	438	22	210	260	13,700

Source: USDA: Meat Animals, April, 1982

TABLE VII

U.S. AGRICULTURAL, NONAGRICULTURAL, AND TOTAL TRADE BALANCE

Item	October - July		June	
	1980/81	1981/82	1981	1982
	--- Million Dollars ---			
Agricultural exports	34,809	31,768	3,191	3,129
Nonagricultural exports	140,392	134,842	16,661	15,851
Total exports	175,201	166,610	19,852	18,980
Agricultural Imports	13,429	11,547	1,310	1,363
Nonagricultural imports	178,804	174,892	21,038	20,479
Total imports	192,233	186,439	22,348	21,842
Agricultural trade balance	21,380	20,221	1,881	1,766
Nonagricultural trade balance	-38,412	-40,050	-4,377	-4,628
Total trade balance	-17,032	-19,829	-2,496	-2,852

Source: USDA: Foreign Agric. Trade of the US, July/Aug. 1982

TABLE VIII

U.S. EXPORT QUANTITIES OF SELECTED COMMODITIES, 1980/81 AND 1981/82

	October - June		June		Change	
	1980/81	1981/82	1981	1982	Oct-June	June
	--- 1,000 metric tons ---				--- Percent---	
US Total Products and Selected Commodities:	125,667	127,293	11,632	13,597	+ 1	+ 17
Fats, oils, and greases	1,119	1,174	144	123	- 2	- 15
Dairy Products	137	184	27	23	+34	- 15
Meats and Meat Products	345	344	42	43	0	+ 2
Poultry meat, fresh or frozen	300	249	40	22	-17	- 45

Source: USDA: Foreign Agric. Trade of the US, July/Aug. 1982

TABLE IX

U.S. AGRICULTURAL EXPORTS: VALUE OF COMMODITY, OCT.-JUNE 1980/81 AND 1981/82, AND JUNE 1981 AND 1982

	Oct - June		June		Change	
	1980/81 $ x 1m	1981/82 $1m	1981 $1m	1982 $1m	Oct-June %	June %
US total agric. exports and selected exports:	34,809	37,768	3191	3129	- 9	- 2
animals, life	125	160	10	18	+28	+80
Dairy products	160	298	28	32	+86	+14
Hides & Skins, incl. fur skins	824	844	67	80	+ 2	+19
Meats and meat products	794	773	82	101	- 3	+23
Total animals and products	3,204	3,231	344	347	+ 1	+ 1

Source: USDA: Foreign Agric. Trade of the US, July/Aug. 1982.

TABLE X

U.S. AGRICULTURAL EXPORTS BY DESTINATION IN 1981/82

Destination	Direct Exp.	Transit Canada	Adjusted	Change from 1980/81
	--- Million Dollars ---			Percent
US total	31,768.0	---	31,768.0	- 9
Western Europe	9,736.2	290.2	10,026.4	+ 5
- Netherlands	2,783.2	44.0	2,827.2	+ 5
- United Kingdom	735.1	16.6	751.7	+ 4
Eastern Europe	806.1	8.3	814.4	-52
U.S.S.R.	2,289.5	15.8	2,305.3	+60
Africa	1,933.7	34.2	1,967.9	-10
- Nigeria	411.6	5.1	416.7	+17

Source: USDA; Foreign Agric. Trade of the US, July/Aug. 1982

import of US agricultural products would have been much higher if the traditional exporters of products such as milk from the EEC, had relaxed their monopoly of the Nigerian market. It is worthwhile mentioning here for the purpose of this study that export statistics do not adequately represent the worth of the agricultural industry of the US in terms of its stabilizing influence on global issues. For instance, while the US economy earned a total of $28.9 billion for the sale of cattle and calves in 1981, a total of 130.3 billion pounds of milk were marked in the year, yet only an estimate of $0.16 billion was earned from the export of dairy products overseas (USDA, 1980/81). Most of the milk produced is consumed domestically or purchased by agencies of the US government at a "price support" currently running at $13.10/cwt. New legislation being proposed by Secretary of Agriculture John Block, according to Dairy Outlook and Situation (June, 1982) to limit the level of production, reduce surplus stocks and "keep dairy men in business" include an "increase in domestic disposition of stocks" by increasing both cheese and butter donations to needy persons, "increase in international," through "humanitarian distributions authorized by PL 480, a task force to investigate and propose certain measures against countries which subsidize casein and casinates and other unfair trade practices, and the increase of "out-of-condition non-fat dry milk for use as animal feed." Some of these proposals tabled in May, 1982, are still in committee in the US Congress, and many will not require congressional approval to implement, but some will likely put more dairymen out of business, such as the

> . . . guidelines (that) would limit dairy loans to stabilizing on-going enterprises or providing for within-family transfers. New facilities will only

> be financed upon determination of need for additional production in an area . . . (and the position that) if by January 1, 1983, there is no clear evidence that the milk surplus is declining, the Secretary indicated that he would use the discretionary authority to reduce the price support level (p. 9).

Dairymen in the US represent one of the pecularities increasingly becoming evident in the US industrial set up and perhaps the countries of the EEC, but which the direct opposite exists in third world countries. While their production efficiency is putting them out of business increasingly, the third world countries are having to rely on government subsidized dairy product imports, which the average citizen sometimes considers a luxury and cannot afford. In the light of these facts, the US agricultural industry provides a good model for massive food production programs such as the Nigerian Government is embarking on. In respect of this study, what contributions if any have the youth of the US made to bring agriculture from peasantry to what is today a great success story?

Youth Programs in the United States

Introduction

To accomplish the objectives of this study, a review of literature related to youth programs in the US and other countries was to be undertaken to seek similarities between such programs and those used by the Federal Government to execute OFN and the GR, as well as gain useful knowledge of procedures and programs which can be applied to the youth in the population area for a successful execution of dairy or beef cattle programs.

The 4-H Program

According to Willman (1963) the 4-H club received its official start in 1914 when Congress passed the Smith-Lever Act. Today, it is the largest youth organization in the world, with two million boys and girls enrolled in over ninety-three thousand 4-H clubs under the leadership of over three hundred thousand adult volunteer leaders.

The entire 4-H program was envisioned to provide rural boys and girls an opportunity to use their heads, heart, hands, and health for better living, "for my club, my community, and my country." The emphasis on individual identity with the organization, community, and nation is worthy of note for the purpose of this study. Yet, the same individuality is maintained in "the choice of project, . . . (which is) left largely to the member and his family" (p. 3). Willman further states that:

> Some of the more popular projects and activities at present deal with the production of milk, meat, poultry, and eggs, the prevention of accidents, fires, and soil erosion, the operation and maintenance of tractors, and the growing of vegetables, grain crops, and forests. . . . The pride of ownership usually is the keynote of a member's interest . . . (However), awards (and) recognition is usually offered for competitive achievement on a community, county, district, state, and national basis (pp. 2-4).

The Future Farmers of America

As the name implies, FFA was designed to provide rural youth an opportunity to "do more and better work in vocational agriculture (Tenney, 1977). It began in 1928, and did not receive a Federal charter of incorporation until 1950. Today, it is recognized as "one of the most effective youth organizations in the world," according to Tenney

(1977). Unlike the 4-H club, membership is restricted to persons enrolled in a high school course in vocational agriculture or any public secondary school which operates under the provisions of the National Vocational Education Act. Dr. A. Webster Tenney says:

> It is an educational, non-profit, non-political organization of students designed to develop agricultural leadership, character, thrift, scholarship, cooperation, citizenship and patriotism.
> --- Chapter members take part in many judging contests which build interest in learning how to select quality livestock, poultry and plants. Fairs and livestock shows are held to build enthusiasm for raising top quality products . . . (and with the support of) business and industrial firms, other organizations, and interested individuals give strong support to vocational agriculture and the FFA.
> --- Through their participation members learn how to take part in meetings, follow parliamentary procedure, speak in public and cooperate with their fellow students in programs for individual and community betterment (pp. 2-3).

As in the 4-H Club, FFA members are trained to respect the nature of private enterprise, while they still cooperate and compete with members of the community. Every member shares one aspiration of advancement through degrees in the "organization from Greenhand through Chapter Farmer, State Farmer, and American Farmer," based on achievement in farming. The product of this induction is an "ambitious and industrious youth who have entered the business of farming and agribusiness while they are enrolled in school" (Tenney, 1977). Membership continues for three years after graduation or until they become 21 years of age. Usually, the local agriculture teacher serves as adviser, and he (she) maintains his (her) link to the land grant college of his (her) graduation. These activities function within the agricultural extension services framework, the Parents Teachers Association (PTA) and a host of other community and national interests. Its contribution to agricultural production in the US is an unqualified success story, as transition from

student to farmer is much easier.

The Impact of 4-H and FFA on National Adult Farmer Organizations in the U.S.

The Farmers Educational and Cooperative Union (Farmers Union) was formed in 1907, and it is presently "comprised of eighteen chartered state unions and miscellaneous memberships in several unchartered states." In members, it lags behind "the aggressive and powerful Farm Bureau and the relatively apolitical National Grange" (Crampton, 1965). These organizations primarily aim at shaping US national farm policy by lobbying the Congress, Senate, and the Presidency. Thus, President Ronald Reagan's decision to supply grain from the national reserves in proportion to yield on any land a farmer agrees not to cultivate, is a policy bound to affect farmers in rural America. But whatever is the outcome of policies such as this, farmers' interest groups in Washington, DC, continue to exert some influence on national policy to the best of their interests. To relate this to the subject of this study, we find that the US farmer's productivity still lies within his control to some degree, and although he may be obligated to one of many associations that regulate the type or quality of his product, only the Federal Government is strong enough to regulate his level of productivity, and that is because the Federal Government controls the markets for his product, and absorbs his surpluses.

Finally, we must address the central question of this text, which is what American youth have contributed to the productivity of the agricultural industry, and the standard of living of the American Farmer:

1. Knowledgeable and highly productive farmers:

In a personal interview with Dr. James D. White, Professor of Agricultural Education and Advisor of the OSU Chapter of the Collegiate FFA, it was learned that US total farm assets by 1982 was estimated at one trillion dollars, with a total farm debt of $185 billion, and agricultural production still holding at 20% of US Gross National Product. Furthermore, a 1975-79 study revealed that 30% of Oklahoma State University graduates returned to farm jobs after graduation, while 14.8% of Agricultural Education graduates returned to farm jobs. Although statistics are not available for the number of high school graduates who remain on the farm after graduation, the average US farmer doesn't have a college diploma in agriculture. It can be justifiably argued that the highly productive farmer of today is either indirectly or directly a product of the high school and Collegiate 4-H and FFA programs. It must be noted that the above statistics do not include Vocational Agriculture teachers, and the Agricultural Extension Agents and Specialists who are direct products of the demands of agribusiness.

2. Highly skilled and mechanically oriented farmers:

(a) "Through SOEP (Supervised Occupational Education Programs), students 'learn by doing' by applying agricultural knowledge and skills studied in the classroom to a practical, useful occupational experience" (Stenzel, 1982). The transitional process from student to farmer is thus much easier than in other educational systems.

(b) According to the Oklahoma Agricultural Experiment Station Annual Report for 1973-74 fiscal year, "one hour of American labor produces seven and one-half times as much food and fiber as it did fifty years ago." This estimate is much higher today, so also has the impact of youth organizations on rural life.

(c) In the State of Kansas, where post-collegiate organizations such as Young Farmers and Young Farmers' Wives are much established, 4-H'ers number more than 50,000 members who through the assistance of leaders and parents own high skill projects that operate on a year round basis (KSU, Oct., 1973).

(d) On farm tests by industry, the land grant college experts in the field, and the youth have helped farmers adopt new technological innovations thus keeping pace with a highly competitive economic establishment (Leuthhold, 1980).

(e) Many youth who participated in high school 4-H or FFA have gone on to college to train for teaching jobs. This has further prepared them to teach the skills needed on the farm and in the agricultural processing industries. According to Jasper S. Lee, "Agriculture teachers need to be well prepared in . . . technical agriculture. Without good preparation in the technology of agricultural industry, there is nothing to be delivered" (July, 1980).

3. Better citizens and community-oriented farmers:

Americans, unlike many other nationals often rally around their flag in times of emergency. Belief in the American way

is emphasized by 4-H and FFA pledges and leadership training seminars. The last paragraph of the FFA Creed reads:

> . . . I believe that rural America can and will hold true to the best traditions of our national life and that I can exert an influence in my home and community which will stand solid for my part in that inspiring task (Official Manual, 1981, p. 9).

And in one of the most developed tropical agricultural programs, the 4-H in Hawaii "began its Community Pride Program in 1969, giving young people a chance to put their energy into local community improvement, service and beautification projects" (Alstad and Friedson, 1981). While questions are being raised about the competencies developed at livestock shows "that enable (students) to enter and succeed in gainful occupations" (Lee, 1980), the pride and self-esteem that winning such contests develops in the future farmer cannot be questioned. Improved communication, cooperation, and coordination of activities among Agriculture teachers and students, industry and the cooperative extension service has given rural America one of the highest standards of living in the world. To attain the present level of production in agriculture, "Secondary students, young farmers, and adults were enrolled in vocational agriculture programs" (Knight and Sutphin, 1981). But more than that, the rural youth armed with new skills did return to the farm to make a living there. However, those who went to the big cities did earn a living, too. Notwithstanding, they never did run away from rural life forever. Significant numbers of the successful did return to the country. And this trend continues to escalate as the cities become increasingly unattractive to the youth, and as more and more emphasis is placed on the quality of life. Increasingly too, the youth of the

formative years of 4-H and FFA are joining the ranks of senior citizens and retirees.

Youth Programs in Other Countries: Ireland

Many of the registered cattle in the U.S. today originated in part or wholly from the countries of the European Economic Community. Some of these countries had long established traditions of dairy production and processing in the family set up of traditional farming. Agricultural education programs were thus designed by the Department of Agriculture, and as in the case of Ireland in the early years of this century,

> . . . the Department aimed to bring systematic courses of instruction within the reach of the young men who would be the farmers of the future. A feature of the work at these classes was that a collection of samples and specimens . . . (were used by the agricultural instructor) . . . to illustrate his lessons and that he also took his students to farms in the district for occasional practical demonstration . . . (which) . . . gave the farmer's son who could not be spared from his father's farm for a year at a residential agricultural school the chance to get a good training in his future calling (Hocter, 1971, pp. 64-65).

Seventy years later, the Ministry of Agriculture still provides Extension Services for the industry in most of these countries through an elite of graduates of the colleges of agriculture, who would otherwise gain no other employment. It appears that dairy production in Ireland, like most other countries of the EEC, was able to expand during this century because of demand in overseas markets, and because the governments of the EEC continue to subsidize agriculture, and not because of any other externalities such as youth programs in the U.S. What it does offer this study is a further proof that when there is demand for a product, profit can motivate private entrepreneurs to produce more. One

good aspect of European dairy production which deserves mention is exemplified by the cooperative movement among rural dairy producers which started way back in 1866 in Denmark (Hertel, 1918). They were prompted to poll resources and join strategies in the face of competition for a share of the export market with the large "estate dairies." At the inception of the cooperative movement, they received no support from the state or any other public body. However, by 1887, they were able to open the first dairy school with an initial winter class of 43 dairymen. Through joint effort, "the cooperative dairies gradually swallowed up nearly all the private dairies on the estates" (Hertel, 1918). In many respects, the Danish cooperative movement was similar to the AMPI (American Milk Producers, Inc.), today.

Netherlands and Some Other Western Countries

According to Fletcher (1971),

> In 1957, the Netherlands attained first place among countries exporting condensed milk, second among those exporting cheese, and third among the butter-exporting nations. Cooperatives (appear to be) the important (dairy related) mass organizations; (there are) more than 5,000 agricultural cooperatives; the Red Cross, Boy Scout and Girl Scout, and numerous other sports organizations . . ., appear to be more important than agrarian youth clubs (p. 197).

In Norway, "Farm economic organizations and agricultural cooperatives are represented in the Federation of Agriculture, (and) more than 3000 agricultural cooperatives are active . . ." (Eyck, 1971). According to Blechinger, "the cooperative movement (in West Germany), is well developed. There were 18,404 agricultural cooperatives (in 1965), with 2.5 million members" (p.). Agricultural youth programs such as the 4-H exist in Finland, and most other West European countries. However,

their emphasis and impact on the national scale cannot be compared with the degree of influence of the 4-H and FFA in the U.S. Commenting on this weakness in agricultural education systems of the EEC countries, Moore and Higgs (1980), wrote the following:

> The majority of Europe's farmers have received little, if any, formal training for their task. It is now generally recognized that new entrants to farming should receive some specialized technical training. Certain countries provide financial inducements to this end. It can be expected, therefore, that at least in the present member countries of EEC an increasingly high proportion of young farmers and farm workers will have a technical background (FAO, 1980, p. 23).

According to Reines (1971), agriculture in the U.K. occupied only 724,000 persons in a population of about 53 million (that is about 1.37%). ". . . roughly half of the farms are worked by tenant farmers, (and) . . . the UK now produces about half of its total food requirements" (p. 307). Agricultural Youth Programs in the EEC countries in general, and the UK in particular, may still be less comparable to US standards either because of what Hudson (1972) described as "the general assumption, sad but realistic . . . that the most intelligent boys would take the first opportunity of getting out of the countryside and into the town"; or perhaps as Moore and Higgs (1980) put it,

> European expatriates . . . have been much involved in helping developing countries build up both general and agricultural education systems (without reflecting on what the influences exerted upon them in their own countries) may have led to the creation of similar problems in the developing countries (p. 21).

Four-H clubs are listed as existing all over Europe under various names, much as they are found in South America, Africa, and Asia. To say that their existence in these countries is of no significance may not be true. However, the degree to which their existence has

influenced agricultural production, rural development, and youth involvement in the agrarian reform movements vary from country to country. Where the programs in the US are used as a crux, perhaps many of these National 4-H clubs will be classified as substandard.

Collective and State Farms in the USSR

According to Conquest:

> . . . the USSR Ministry of Agriculture has direct responsibility for the state of agricultural production in the country's collective and state farms . . . (although) . . . the hiring and firing of all key officials . . . (are) . . . securely in the hands of the local party authorities . . . (and) . . . if they . . . attempt to resist the appointment of official nominees, the local authorities may employ various forms of pressure and intimidation to get their way . . . (pp. 88-89).

So far, we have examined various forms of agricultural and dairy production strategies from the free enterprise system of the USA, through the export market stimulated farms in Europe to the State controlled farms of the Soviet Union. In order to examine what motivating forces exist in the various systems to make agriculture cum dairy production attractive to youth, it will be necessary to examine the Soviet system a little further. Conquest further states that:

> In 1966, there were about 37,000 collective farms with an average of about 417 peasant households, 2,800 hectares of arable land, 1,072 heads of cattle, 41 tractors, and 829,000 roubles of fixed assets . . . (and) . . . an average membership for each peasant household of about 3.4 . . . (That same year) . . . there were 12,000 State farms with an average of 651 workers, 7,300 hectares of arable land, 2,071 head of cattle, 114 tractors, and 2,110,000 roubles of fixed assets . . . Conditions on the farms . . . (varied) enormously according to their economic strength, and this (did) not necessarily depend on whether the farm (was) well managed or well situated (climatically or geographically), but quite possibly on circumstances such as whether a . . .

> chairman (had) enjoyed the favour of the local party authorities, or (had) been adept in securing favourable agricultural delivery tasks; . . . pay per work-day was over 22 times higher in the best paying farms than in the worst paying . . . (pp. 88-93).

There is no wonder in 1965, about half the State farms were run at a loss, and in a very good harvest year (1966) about 25% of State farms were run at a loss. The industrial worker, on the contrary, enjoyed higher and much less fluctuating wages than workers on State and collective farms. The limitations of this study cannot allow us to further explore what is "ideal" about the Soviet State farm or collective farm system. But from what we know at this stage, we can address the central question of this study. What will make dairy and/or agricultural production attractive to youth in a system that doesn't reward or allow for individuality and ingenuity? Alternatively, what prevents the youth from being attracted to the higher paying jobs in the industry and the bureaucracy? A third question that State establishments pose is what will maximize the productivity of the human individual when he knows that either way, he gets the same amount in his pay packet?

China

In China, "over 80% of the people to be served (by the educational system) are engated in some aspect of agriculture" (FAO, 1978). There are no youth programs that can be characteristically described as agrarian, since the Central Communist Party representatives in the farm communes control all youth indoctrination along party lines.

However, according to the above report:

> . . . the entire educational system, in both urban and rural areas, has a heavy bias towards farming and related productive activities. Agricultural education is

> therefore focused on the needs of farmers especially 'the poor and lower-middle' farmers . . . This means that agricultural training is only given to the level required for specific farming needs. China does not believe in over-education . . . Farmers are members of production teams in each commune. It is the production team that decides whether it is in its interest to nominate or sponsor a member (or the son or daughter of a member) for special agricultural training. The guiding philosophy in selection is 'From the Team to the Team'. Those who are sent, therefore, return to help their own production team (p. 49).

The lesson to learn from China is the less emphasis on paramilitary training which is most prevalent among youth educated in the other communist States including the Soviet Union. Moreover, the capital saved in "over-education," and that farmers decide the need and choose the students for further training ensures that youth eventually return to their communities to serve the people who trained them.

Rural Education in Cuba

After the 1959 revolution, the new Cuban leader - Fidel Castro - embarked on an educational process which favored rural residents, and between 1961 and 1962 the illiteracy rate dropped from 15.55% to 3.90%. Rural youth, caught up in the revolution through formal and non-formal educational activities, and through participation in voluntary organizations gained a better status, thus narrowing the gap between agricultural workers and peasant farmers. But according to Foster and Sheffield (1974):

> . . . increasing numbers of peasant children are declining to succeed their fathers. Thus, as members of the old generation raised in pre-revolutionary society die, their farms are now, for the most part, acquired by the government and added to State farms. This change presents significant evidence of how the new value system emphasizing collectivistic over individualistic

> behaviors has become woven into the very fabric of life, culture, and politics in the Cuban countryside . . . (pp. 243-244).

It is necessary to emphasize that the Cuban agrarian revolution was more than just propaganda, since ". . . technical training and volunteer youth education and service programs (designed) to give rural youth widespread and significant opportunities to learn new skills and use them in the ongoing struggle to mechanize agriculture," were incorporated in the educational process (Foster and Sheffield, 1974).

But in a 1972 speech, Castro lamented the shortcomings of the process:

> The new man doesn't exist yet . . . the irresponsible fellow that destroys equipment, who doesn't work or study is not yet a new man. The old man who lived under capitalism knew how hard it could be to find a job. He learned how to handle a bulldozer or a centrifugal in a sugar mill by working ten years as an apprentice. He learned about discipline because life, the factory, and hunger imposed it upon him. When you arrive at a sugar mill today, you do not see this discipline. The discipline of the old man is gone, and we don't have the new man with the corresponding discipline - self-discipline and awareness of his obligations and tasks . . . (Foster and Sheffield, 1974, p. 253).

It is acknowledged that Cuba under Castro has done more to improve rural life than most Latin American countries, Brazil and Venezuela included. But can it survive without the charisma of Castro? Actually, revolutionary fervor does sustain productivity in state establishments for some time. How long it does is not within the scope of this study. But unless the individual is being motivated by one form or the other of personal gains based on his output, the natural turn for his productivity is downwards. And if the youth in countries such as Cuba were sufficiently grounded in agricultural knowledge and skills before being swept away to other pursuits, there is still the question of the land to

return to, when they do retire.

Youth and Community Programs in the Third World

Since the early part of this century, many colonial and post-colonial governments have introduced educational programs designed to improve the living standards in their rural areas by mobilizing both youth and adults in the communities. Many of these have had a major impact, but most of them failed to achieve their long term objectives. Sinclair and Lillis (1980) offer six case studies, three of which shall be examined briefly for their relevance to youth motivation into dairy and/or agricultural production.

Indian Basic National Education - the "Wardha Scheme"

This process was explicitly concerned with an alternative to the colonial primary education which emphasized the three R's; in its place the new system was to teach primary school children all the subjects "except English, plus a vocation" which could provide self support by the age of fourteen. It was inspired by Mahatma Gandhi's experience on an agricultural commune near Johannesburg known as the "Tolstoy Fram." The process did arouse widespread interest and was adopted in many parts of India. However, it did not survive the concept of application of modern science and technology to industry and agriculture - a very popular concept in the world of the 1960's.

It may be assumed that although vestiges of the Basic education scheme still remain in parts of India, including the Mahatma's home

state, it failed because Gandhi had emphasized working with the hands beginning at adolescence. When he died, the opponents of his concept and style were armed with spinning wheels and a gradually advancing technology and industrialization of the silk and cotton products on which his students could have established their self-sufficiency. They couldn't compete with the new machines, proponents of agricultural modernization without technology may consider this evidence.

The 1950's Tanganyika Agricultural Programme

Although Western education in this part of Africa was introduced by German Christian missionaries, the colonial administration soon introduced restraints because of the threat of overproduction of clerks and school teachers. Emphasis they believed should be placed on agriculture (production of cash crops), and this resulted in the introduction of agricultural education at all levels of the educational system. However, this soon "degenerated into mere manual labor on large, non-typical holdings to supplement fee revenue" (p. 66). But as output from the schools increased and the typical jobs of aspirants became fewer, a new middle school course was introduced to provide graduates with vocationally useful skills. However, the subsequent program of "education for self-reliance" introduced by President Nyerere upon assumption of independence from the British (who took over the colony from the Germans), provided a detailed syllabus for classroom and practical agriculture. The 1950's program excluded European and Asian schools, thus it was perceived as a "control imposed upon Africans by a colonial government anxious to raise the productivity and stability of a subservient agricultural labor force, a political constraint which ultimately helped to

seal its fate in conjunction with other social, economic, and educational forces" (p. 67). Some of the strategies employed by Nyerere included interschool farm production competitions; however, confinement to experimental plots was a major weakness which may have been adopted more as an anti-colonial approach, or because the pressure of food for domestic consumption in Africa in the late 1960's wasn't as strong as it is today. Perhaps if cash crops demand had continued unabated, bringing more cash into the African communities, the agricultural education program would have survived the protests of African parents, who appealed to every international body including the British Parliament for the abolishing of the system. On the other hand, Nyerere's program didn't lift Tanzania into the modern age of agriculture; urban employment provided the only escape route for the victims of both.

Rural Education Centers in Upper Volta

Designed by French administrators in the late 1950's, this program was intended to provide "literacy, numeracy, and agricultural training . . ." for adolescents, since they would be "more highly motivated than primary school children (and since) . . . these older pupils would be able to learn the principles and methods of modern agriculture and to offset some part of the costs of education through labour on the school farm" (p. 71). An alternative was designed to provide a three-year basic education to "unschooled teenagers combining vocational agricultural instruction with basic literacy in French and basic numeracy."

With support funding from the EEC combined with local resources, a total of 759 centers were built, and enrollments rose slightly to 24,000 about one-sixth of the target figure. However, the centers had become

so unpopular by 1973, they were transferred to the Ministry of Agriculture, for development as Young Farmers Training Centers, with a new "program of work designed to overcome the weaknesses of the earlier venture." According to a visiting missionary, so much time was concentrated on teaching French to the pupils that teaching the agricultural skills was severely restricted. However, they noted that "the attitudes of Rural Education Center pupils to rural life was more positive than those of primary school graduates, the latter being mainly interested in migration to the towns" (p. 73).

Here was a case where a change in attitudes could be observed. Perhaps the process didn't achieve much before it finally disintegrated, because there were no model examples of graduates whose knowledge placed them at a comparative advantage over the pupils who went through the traditional primary school and had better prospects for higher education. Whatever was responsible for the unpopularity of the Centers in the first instance, the arrogance associated with the bureaucrats of the post-colonial administrations was no ideal setting for training youth to return to the country and be proud farmers in a land with sparce natural resources.

Two Food Corps Classic Examples of Village Level Self-Help

The Food Corps program, engineered by Ruth Morgenthau, a Brandeis University political scientist was an effort "to organize those who are hungry and those who have technical knowledge about production into a mutually sustaining relationship that will bring out the knowledge of the villagers and the knowledge of the technicians." The basis of her

effort was a speech on the subject by Ambassador Andrew Young to the United Nations Food and Agriculture Organization in 1977. However, the inspiration for the formation of an International Liasion Committee for Food Corps Program (CILCA) was provided by two village level projects - Sarvodaya and Plan Puebla. Some elements of these efforts to mobilize people at the village level will serve as our final analysis in this discussion of youth motivation into agriculture.

Sarvodaya (Gift of Labor) in Sri Lanka

Described as a "genuine village-level decentralized self-help" project, Sarvodaya originated in a work camp organized by a Buddhist teacher for a science class field trip. These camp activities called "Shramadana" have since given birth to various community improvement projects involving people of different professions, castes, and social status, and has attracted support and recognition from the international philanthropists' community. Some of the key items in the strategy involve good leadership, provided by the priest A. T. Ariyaratne, improved communication with the rest of Sri Lanka by building roads, and opening channels which kept people of various castes apart, and the building of "social and psychological infrastructures for a healthy society."

Sarvodaya development projects are thus centered around irrigation works, agricultural research, education, training, health care, and other activities which provide "spiritual development" for volunteers. This list may resemble an inventory out a 4-H or FFA manual, but the spiritual dimension is one area that curriculum designers are always fuzzy about when it comes to specific objectives. The launching of an

ethical revolution in Nigeria in 1982 at least suggests that leaders are finally recognizing that social values and norms are essential in any educational process.

Plan Puebla

Some veterans of the Green Revolution working out of CIMMYT (The Center for International Agriculture in Mexico), began this project in 1967. They included scientists and technicians, and their aim was to bring improved maize and wheat developed at the Center to the small farmers in the Puebla Valley, Southeast of Mexico City. Using faculty and graduate students from Mexico's graduate agricultural institute at Chapingo, they were able to study the social and political structures of the villages, thus enabling them to carry out their research in "cooperative teams with the peasants." Seven years later, maize production among the peasants in the valley was increased by nearly 33%, and the "income of farm families from crop production . . . increased by almost a half." The key factor lies in the fact that International research fellows, university faculty, graduate students, and peasants could work as a team towards the realization of one specific objective. This is very relevant to our study.

Summary

The earliest post-colonial governments in Nigeria set priorities for agricultural production, thus agricultural extension activities such as young farmer clubs were established in the Eastern region before the civil war. However, increased revenues from petroleum in the decade of the 1970's brought about neglect of the agricultural sector. Along with

this drift came a new society of city dwellers with exotic tastes which the Federal government continued to satiate with imported foods, thus depleting her foreign reserves. Efforts aimed at making Nigeria self-sufficient in food production, such as the OFN and the current Green Revolution, achieved little or no success because the youth who should be the cornerstone of such a revolution have been trained to escape from rural life, and because the government places undue emphasis on para-statal agrarian development as the remedy.

Youth movements such as 4-H and the FFA have helped in developing the future farmers of an over productive agricultural industry such as in the US. But in other countries with long histories of dairy production, private enterprise, coupled with government subsidies have helped sustain the industry, while the demand for their products on the foreign market continues to motivate production. However, in countries where agricultural production is controlled by the state, there is hardly any motivation for maximum productivity. Reviewing the trend of agricultural education for higher productivity in many third world countries under colonial and post-colonial governments, we see many elements of failure and success which lead us to conclude that any plan to motivate the youth of our study area to those careers in agriculture cum dairy or beef cattle production must inculcate these elements: future prospects, self reliance, use of rewards, national identity and patriotism, relevant skills, communication skills, leadership training, appropriate curriculum, community and individual needs, spiritual and moral values, and opportunities through scholarships, recognition, and cooperative application of research. Government investment in future agricultural production must also avoid parastatal, communal, and state

ventures, because they have not succeeded anywhere that self-sufficiency was the ultimate goal of the agricultural industry. Finally, educational and research institutions must work cooperatively with the local communities and among themselves, if new knowledge can be conveyed to the farmers, and if they expect the farmers to relate their problems to scientific research.

CHAPTER III

DESIGN AND METHODOLOGY

Introduction

The purpose of this chapter was to present the method used and the procedure followed in the process of conducting this study dealing with the most appropriate process, program, or method of dairy/beef cattle production, which will be attractive to the youth of the Niger Delta area.

To collect the relevant data which could provide information for accomplishing the purpose and objectives of this study, the population to be studied was determined, and instruments were developed. A procedure was established for the collection of data, and the methods to be used in analyzing the data were selected. Informative documents were collected, studied, and all relevant facts were carefully noted down for use at the appropriate time.

Population of Study

The initial plan was designed to draw a concensus opinion of about fifty leaders drawn evenly from among government officials, policy makers in higher education, community leaders, parents, and businessmen, to know what they consider as the most appropriate process, method or program of livestock production which will be attractive to the youth of

the study area. It was realized on arrival in the study area, that many policy makers in higher education don't possess the technical knowledge and awareness of the livestock industry, which is necessary to give them a dominant role in this study as the primary source of information.

The following establishments were thus selected as the primary sources of knowledgeable persons in the area of livestock production:

(a) The Directorage of Agricultural Research and Technology of the Governor's Office;

(b) The Animal Science/Nutrition/Agricultural Education Department of the Rivers State University of Science and Technology (UST) Port Harcourt;

(c) Department of Livestock Production, Ministry of Agriculture and Natural Resources;

(d) Department of Veterinary Services and Animal Health, a Division of the Ministry of Agriculture;

(e) Department of Biological Sciences of the University of Port Harcourt at Aluu;

(f) Butchers from the State Meat Production main abattoir;

(g) Policy makers from the State House of Assembly, the State Executive Council, and a Senator with a profound interest in agricultural production. As it turned out later, Senator Nunieh, a member of the Nigerian Senate Foreign Relations Committee, and Chairman of the Sub-committee in charge of North and South American Affairs, was a leader with vast and diverse interests. He became a major source of the facts relevant to the current revolution to revive Nigeria's agricultural industry.

(h) The Institute of Agricultural Research at Onne;

(i) Principals of Secondary Schools, which fall under the jurisdiction of the Ministry of Education;

(j) Private business men residing in the Niger Delta;

(k) A Livestock officer and a Veterinary officer from the Niger Delta Basin Development Authority, the only Federal Government established Parastatal, established with the primary objective of agricultural production management, research, development, and administration. Both officers did consent to act as expert consultants, and they provided invaluable help in designing what will be the final outcome of this study.

From among these selected establishments and institutions, a total of fifty persons were contacted. The procedure used in most establishments was to approach the head of Department to seek consent for his participation and that of his subordinates.

Reasons for using this procedure are discussed later in this chapter. It should be emphasized for those reasons that if the classical mailing procedure specified by the Delphi Technique had been adopted in this study, a much lower rate of return on the first schedule would have resulted. Probably, it would have taken much longer time than the scheduled data collection period of summer 1982 to get this study on the way.

The Delphi Technique

According to the Oklahoma State Department of Vocational and Technical Education (Hopkins et al., 1972):

> The Delphi Technique involves getting individuals' reactions by mail to specific questions or statements, combining these

> reactions and again asking these individuals to review and rank the findings until a priority ranking has been determined (p. 1).

Parker and Taylor (1980) further suggest that the "Delphi Survey tries to identify and clarify . . . issues . . . and suggest solutions to certain of these issues" (p. 2). "The rationale for the procedures," according to Dalkey (1969), "is primarily the age-old adage 'Two heads are better than one,' when the issue is one where exact knowledge is not available."

Historically, the Delphi Technique originated at the RAND Corporation, where in 1953, Dalkey and Helmer "introduced . . . (an) iteration with controlled feedback. In general, the Delphi procedures have three features: (1) anonymity, (2) controlled feedback, and (3) statistical group response" (Dalkey, 1969).

The anonymity is effected by the use of questionnaires. Controlled feedback is done by returning a summary of results of the previous questionnaire for the participants to rank in order of preference, while the "use of a statistical definition of the group response (is effected by) reducing group pressure for conformity . . . (that is) a device to assure that the opinion of every member of the group is represented in the final response" (p. 16).

In its modified form used for this study, a four-part questionnaire was designed to furnish responses from participants on (a) their personal and career related data; (b) what they would consider as the most appropriate program, process, or method of dairy/beef production attractive to the youth of the study area; (c) the best possible administrative agency for such a program; and (d) their foreseen limitations for the execution of such a program. A cover letter of endorsement from

the OSU Department of Agricultural Education provided an explanation of what the participants were being asked to do (see Appendix B).

The second stage involved the return of a list of responses from all previous participants. Unlike the classical model of the Delphi, the participants were requested in the cover letter to choose only two items ranked as first and second choice from the list of programs and the preferable administrative agencies.

These responses were intended to narrow down the list to a few items or clusters of items which would then be discussed with a panel of experts to ascertain the best alternatives of programs and administrative agencies, which would ultimately be used as the core for developing a program outline for dairy/beef production that would serve as a recommendation for this study.

Advantages of the Modified Delphi Technique

1. It eliminated all the bias that occur during face-to-face discussions.
2. It saved most costs associated with bringing into conference people of varied opinions and from different locations, such as, hotels, conference centers, opportunity costs, and inconveniences.
3. Time and money was saved also.
4. Personal differences were covered by anonymity, while every point of view was taken into consideration.

Method of Data Collection

The classical model of the Delphi Technique stipulates the mailing of questionnaires. However, the inefficiency in the postal system in Nigeria made it necessary to deliver them by hand. Choosing participants posed another difficulty because of the unavailability of a current "offices and quarters list," the Nigerian equivalent of the telephone directory. This was further compounded by the poor telephone services between the residences and the different government departments in Port Harcourt, the state capital, and the non-existence of phone services to various divisions of the Niger Delta administrative area.

Collection of data was, therefore, on a person to person basis. Many participants filled out the questionnaires and returned them on the first visitation. Others filled them out, and were collected from their offices later, while some individuals insisted that the questions be asked them while their answers were being recorded on the questionnaires. This was particularly the case with the butchers, whose working environment to them wasn't very tidy for "paperwork."

Instruments

The first questionnaire was designed to answer two categories of questions:

(a) Participant related information, including name, age, profession, marital status, number of children and other dependents, and other job related questions (see Appendix B).

(b) Subject matter related questions included a column for listing of the participant's preferred program, either under the columns of beef, dairy or beef, and dairy, if the participants

had any such bias. Space was also given for the participants to indicate their best possible administrative agencies, and any limitations they could foresee as hindering livestock production in the study area.

It must be emphasized that this very questionnaire was the product of several revisions by the research committee members, after which the committee chairman practically read it over sentence by sentence to eliminate any ambiguities.

Pretest of Instrument

Eleven graduate students from various colleges of Oklahoma State University were selected to give responses on the questionnaires. These participants varied from agricultural education majors to higher education, technical education, industrial engineering, to animal science graduates. They were requested to make notes wherever the questions were indefinite and ambiguous, and to recommend changes and alterations in the basic design. Their responses are listed in the following tables (Tables XI, XII, and XIII). Corrections were made taking these suggestions into consideration, and with the assistance of the chairman of the committee the first instrument was developed into its present form. Perhaps if we had included questions on the educational background of participants, we could have found out many interesting factors in the make-up of the personalities who consented to participate in this study as well as lend their names to give it credibility. Another item which didn't seem to count as much as we had emphasized during the development of the instrument is the beef, dairy, dairy and beef cattle column. Participants generally wrote in one column and indicated that their

TABLE XI

RESPONSES TO STUDY ON PRETEST SCHEDULE

Beef Cattle Program	Administrative Agency	Foreseen Limitations	Total Responses in this category
Farm settlements that recruit rural farmers	Government and Cooperatives	Provisions of urban-type ammenities for residents and cost of feeds	2
Army Reserves	Armed forces	Cooperation of soldiers	1
University Res. Centers	National Beef Centers, Separate from Mins. of Agriculture	Finance, disater, attitude of tribal cattlemen	1
Private Enterprise	Government loans, partnership financing, Farmer cooperatives, Government Grants	Availability of credit, finances, administration climate problems, politics, disease, marketing facilities, availability and cost of feeds, skilled manpower	6
Ministry of Agri.	Government and State University	Political Instability Finances	1

TABLE XII

PRETEST RESPONSES TO STUDY DATA (SUMMARY CHART)

Item	Total Respondents	Correct Responses	Incorrect Responses	% of total Participants Responding	Probable Ambiguity or Suggested Correction
4					
Beef Cattle	9	8	1	75	State that Beef Cattle - (Meat Type)
Dairy Cattle	8	7	1	66.67	State that Diary Cattle - (Milk Type)
Beef & Dairy	10	9	1	83.33	---
5					
Consent for Participation	10	8	-	83.33	---
Objection to Name Being Used	10	2	-	83.33	---

TABLE XIII

PERSONAL DATA ON PRETEST RESPONSE

Item	Total Responses	Correct Responses	Incorrect Responses	% of total Participants	Probable Ambiguity or Suggested Correction
1					
a. Name	12	12	-	100	
b. Age	10	-	-	83.33	Use of age ranges
c. Profession	12	12	-	100	
d. Rank	5	5	-	41.67	Suggested inclusion of previous agric. related job held or position held.
2					
a. Marital Status	12	-	-	100	
b. Dependents	5	Uncertain	Uncertain	41.67	a) Redefine "school age". b) State dependents clearly as relatives who seek your advice of choice of career.
3					
a. Length of Service	3	2	1	25	All respondents were grad. students of OSU
b. Employer	2	2	-	16.67	Not quite applicable to respondents
c. Place of Employment	1	-	-	8.33	Not quite applicable to respondents

responses were good for the other columns also. Whatever measure of success this instrument did accomplish, however, the key to it all was the cover letter, which was developed to introduce the subject of the study to the participants. Nobody who was handed a copy of the questionnaire and took the time to read that letter returned the questionnaire unanswered.

Schedule number two was a listing of participant responses to questions on preferred processes, programs, or methods, and their best administrative agencies. The cover letter advised participants to use the grading procedure of first and second to indicate from that listing what programs and agencies they considered as most appropriate for beef or dairy cattle production, which will be attractive to the youth of the Niger Delta Area.

The third instrument was a list of the limitations foreseen by participants as possible hinderances for the execution of the listed programs of dairy production in the Niger Delta. Other questions which were also included were directed at specific individuals, who were approached to give expert answers and advice regarding the questions.

It should be noted that at the secondary phase of the questionnaires, it became necessary to include among the suggested programs and administrative agencies any such items which the participants may have overlooked, or which the participants may not have been aware of, but which through the literature review was considered an appropriate item. The need arose to exercise that prerogative in redefining certain items to be included on the list of items on schedule number two, especially where the given responses weren't quite explicit or distinct in the form outlined.

Methods of Data Analysis

The Delphi Technique is not hypothetical in its design or procedure. In its modified structure used in this research, the process could be defined simply as follows:

Stage I: Collection of facts from the population;

Stage II: Analysis of facts by the population;

Stage III: Analysis of facts by experts, and recommending the most appropriate process of satisfying the purposes and objectives of this study.

The third stage of this technique involved splitting the study data into various composite areas of expertise in which the experts on the panel could only deal with specific questions relating to the various areas of their specialization. Thus:

(a) Two livestock experts, a Principal Livestock Officer, Mr. Solomon A. Akpovwovwo, and a Principal Veterinary Officer, Dr. Kingdom O. Ogbamgba, both of the Federal parastatal, the Niger Delta Basin Development Authority, treated the questions relating to programs of livestock production, foreseen limitations, and other technical questions related to the running of an agency, such as the Niger Delta Basic Development Authority.

(b) The educational consultant was Dr. Charles C. Umechuruba, a plant pathologist and lecturer at the University of Port Harcourt had graduated from Oklahoma State University in 1980. Much of his agro-related career was an asset, Dr. Umechuruba had lived in various livestock producing areas of the USA including California and Oklahoma.

(c) We did get a businessman, Mr. Appiafi Hailsham, a prominent contractor, real estate developer, a person with profound interest in agricultural production to answer some of the business and management related questions. This was done on an informal basis, since it wasn't possible to bring together all the above individuals for a round table talk. The nature of the questions addressed didn't make a common discussion necessary in the first place.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction

This research was designed to draw out the viewpoints of a population of experts concerning the most appropriate process, program, or method of dairy and/or beef cattle production which might be attractive to the youth of the study area. Whatever emerged as the concensus opinion or judgement of the experts would then be used in the interim to develop a compact program of dairy and/or beef cattle production for the study area. Livestock production cannot be perceived in the light of the trend in many Western countries where children born on farms with production units frequently take up other careers in college in a bid to escape from the only life they have known since childhood. But while such trends exist among children of the farmers in the Niger Delta, the industrialization or commercialization of production in most fields of agriculture is far from that with which educated youth would desire to be identified. Dairy production or beef cattle ranching passe are new concepts, just as law and medicine in their professional forms came with Western education. These agricultural industries do have a greater disadvantage in getting established, because they are not only having to contend with established systems of food production; they are having to contend with the much earlier established professions that were

considered vital in the advent of self-rule from British colonization. The purpose of writing this chapter is to analyze and interpret all the data collected in the course of undertaking this study. To make any facts derived from such an analysis meaningful, it is essential to begin with an analysis of the individuals that participated in the study.

Extent of Participation by Respondents

As mentioned earlier, a total of fifty officials were originally contacted and requested to participate in the study. The four persons who couldn't be included on the final list of participants were left out, not because they were unwilling to contribute to the study, but because it just wasn't possible to schedule a time of meeting with them. However, 46 questionnaires did go out to participants, some of which chose to reply and hand back instantly, some who preferred to respond to the questions while their responses were being recorded, and others who filled out the questionnaires at their convenience, and retained them to be collected later. As can be readily seen by an examination of data shown in Table XIV, a total of 43 questionnaires were turned in on the first survey, while a total of 33 returns were made on the second. In essence, about 94% of the consenting participants returned their questionnaires on the first survey, while 77% did on the second questionnaire.

Respondents' Personal Data

As shown in Table XV, of those individuals collectively referred to as participants, nearly 70% of them were in the 30-40 year age range; another 23% were in the 40-50 year age range; while only 7% or less fell

TABLE XIV

DATA ON OVERALL PARTICIPATION IN STUDY

Respondent Categories	Number Responding	Percent of Total Respondents	Respondents to Schedule #1	Percent Responding to Schedule #1	Respondents to Schedule #2	Percent Responding to Schedule #2
University Faculty	10	21.74	8	18.61	6	18.18
Public Administrators	9	19.57	9	20.93	7	21.21
Veterinary Surgeans and Officers	7	15.22	6	13.95	6	18.18
Livestock Officers	6	13.04	6	13.95	5	15.15
Policy Makers	6	13.04	6	13.95	5	15.15
Research College and Secondary School Principals	5	10.87	5	11.63	2	6.06
Butchers	3	6.52	3	6.98	2	6.06
TOTAL	46	100	43	100	33	100

% of total responses per total no. of persons contacted = 93.48%

% of total responses on 2nd questionnaire per total participations on 1st questionaire = 76.74%

TABLE XV

AVERAGE AGE DISTRIBUTION AMONG PARTICIPANTS AS A PART OF THEIR DEMOGRAPHIC DATA

Categories of Participants	Total Part.	Years							
		20-30	%	30-40	%	40-50	%	Above 50	%
UNIVERSITY FACULTY	8	0	-	8	100	0	0	0	0
PUBLIC ADMINISTRATORS	9	2	22.22	4	44.44	3	33.33	0	0
VETERINARY SURGEONS & OFFICERS	6	1	16.67	5	83.33	0	0	0	0
LIVESTOCK OFFICERS	6	0	0	5	83.33	1	16.67	0	0
POLICY MAKERS	6	0	0	2	33.33	4	66.67	0	0
RESEARCH COLLEGE AND SEC. SCHOOL PRINCIPALS	5	0	0	4	80	0	0	1	20
BUTCHERS	3	0	0	1	33.33	2	66.67	0	0
TOTAL	43	3	-	29	-	10	-	1	-
Age Brackets as % of Total Participants	-	-	6.98	-	67.44	-	23.26	-	2.33

below 30 years of age. This information becomes more meaningful when considering the fact that the average American farmer is about 60 years of age. Looking back at the definition of youth used in this study, one discovers that the average participant in this study may have been prescribing a process of making himself (herself) a livestock farmer in the study area. Ninety-three percent of the participants were married, the same percentage had children which averaged four a piece, over the entire population of participants. After adding eight other dependents over 15 years of age per participant, we observe that the average participant in this study either directly or indirectly has influence over the choice of a career for 12 potential cattlement in the Niger Delta, should this business suddenly become an attractive career for the youth. As would be expected, only 7% of the total participants were females, and all of them were married (see Table XVI).

Responsibilities of and Positions Held by Respondents

Responsibilities of and positions held by respondents varied to a considerable extent as can be verified by reference to data shown in Table XVII. There was a Nigerian senator, with profound interest in agrarian reform in Nigeria. Two other participants were members of the Rivers State Executive Council, a Commissioner of Water Supply and Electricity, and the Honorable Commissioner for Agriculture and Natural Resources, who soon afterwards assumed the portfolio of Commissioner for Local Government. Other prominent persons included an Apostle of a worldwide evangelical ministry, a permanent secretary, who had been Secretary of Agriculture for over three years, a local government

TABLE XVI

DEMOGRAPHIC DATA OF PARTICIPANTS, INCLUDING SEX, MARITAL STATUS, CHILDREN, AND OTHER DEPENDENTS

Categories of Participants		Sex				Marital Status				Dependents			
	Total	M	%	F	%	M	%	S	%	C	R	To	Ave
UNIVERSITY FACULTY	8	8	100	-	-	8	100	-	-	18	20	38	5
PUBLIC ADMINISTRATORS	9	9	100	-	-	9	88.89	1	11.11	29	49	78	9
VETERINARY SURGEONS AND DOCTORS	6	5	83.33	1	13.89	5	83.33	1	13.89	7	50	57	10
LIVESTOCK OFFICERS	6	5	83.33	1	13.89	6	100	-	-	22	53	75	13
POLICY MAKERS AND LEGISLATORS	6	6	100	-	-	6	100	-	-	32	50	82	14
RESEARCH COLLEGE & SECONDARY SCHOOL PRINCIPALS	5	4	80	1	20	4	80	1	20	17	33	50	10
BUTCHERS	3	3	100	-	-	3	100	-	-	21	19	40	13
TOTAL	43	40	93	3	7	40	93	3	7				

C = Children

R = Other Relatives

TABLE XVII

EMPLOYMENT STATISTIC OF PARTICIPANTS AS A PART OF THEIR DEMOGRAPHIC DATA

Employer of Participant	No. of Partic.	Ave. no. of yrs. in position	RANK					
			LECT	SNR	PRN	CHF	CMR	LEG.
PRIVATE	5	8.4		-	-	-	-	-
RIVERS STATE GOVT. PARASTATAL	1	1.0		1	-	-	-	-
MINISTRY OF AGRI.								
a) livestock dept.	3	2.5		1	1	1	-	-
b) veterinary dept.	7	3.88		5	2	-	-	-
GOVERNOR'S OFFICE	3	1.33		1	1	1	-	-
FEDERAL GOVERNMENT PARASTATAL	2	2.5		-	2	-	-	-
APPOINTED & ELECTED OFFICIALS	6	1.67		-	-	1	2	3
MIN. OF EDUCATION	3	5.0		-	3	-	-	-
MIN. OF ECON. DEV. & SOC. WELFARE	1	10.0		-	-	-	-	-
COLG. OF AGRI. RES.	2	4.0		-	2	-	-	-
MIN. OF RURAL DEV. AND COOPERATIVES	2	5.0		1	1	-	-	-
UNIV. OF PORT HARCOURT	4	1.63	4					
RIVERS STATE UNIV. OF SCI. & TECH.	4	2.63	4					

RANK:

Senior Executive	SNR
Principal Executive	PRN
Chief Executive	CHF
Commissioner	CMR
Legislator	LEG
Lecturer, Asst Prof.	LECT

Ave. no. of Years in Position = 1.15

district Chairman, and two members from each of the two political parties which form the Rivers State House of Assembly (refer to list in Appendix A).

Among the remaining participants were eight university lecturers, five of whom had doctoral degrees, two with Masters degrees, and one with a doctor of Veterinary Medicine Degree. Their appointments as lecturers is the Nigerian equivalent of the American Assistant Professorship. Unfortunately, very few ever get to be promoted to the position of a professor in Nigerian universities.

Seven of the others were registered and practicing veterinarians, although every one of them was a public servant. There were six livestock officers and five principals, one of which was the vice principal of the newly established College of Agricultural Research at Onne; it used to be the College of Agriculture, when it was being run by the Ministry of Agriculture. It should be emphasized at this juncture that every other participant was in or above the rank of senior executive officer in their various establishments. To be promoted to that rank, one must have at the least a college degree or BS equivalent, and had put in continuously a minimum of five years in the service of that government agency. And it should be understood that over 90% of college graduates in Nigeria are employed either directly or indirectly by Nigerian government or government agencies. Nigerian governments own shares in every enterprise with sufficient capital to employ top level manpower; most other private enterprises rich enough to pay college graduate salaries mostly depend on government contracts to stay in business.

The butchers who participated in this study were the only individuals with sufficient capital to start a commercial operation of the

magnitude that can project self-sufficiency in dairy and meat products in the study area in the foreseeable future. Unfortunately, they are non-indegenes of the area, and with a knowledge of Nigeria's recent political upheavals, one wouldn't expect them to delve into land purchases and other long term investments associated with dairy or beef cattle operations.

Previous Agriculture Related Positions Held

Of the 43 participants in the study (Table XVIII), 25 had at one time or the other, one way or other, been employed in agricultural enterprises, that means over 58% of all respondents had some knowledge of modern agricultural production. Significant among these were livestock officer jobs, agricultural research officers, veterinary and livestock assistants, and butchers assistants. Among the others who didn't indicate any previous agriculture related careers are those who spent several years of their lives as students in countries and states where agricultural production is the mainstay of their economy. But most of these individuals were drawn from various wings of Federal or state government institutions directly or indirectly responsible for the future of cattle production in the study area.

Analysis of Data Secured From Administration of Schedule Number One

Participants were requested to suggest what they considered the most appropriate program, process, or method of dairy and/or beef cattle production which will be attractive to the youth of the study area. It is necessary at this point to mention that the words process,

TABLE XVIII

DEMOGRAPHIC DATA IN RESPECT OF PREVIOUS AGRICULTURE RELATED POSITIONS OR JOBS HELD BY RESPONDENTS

Title of Position	No. of Part.	% of Total Partici.	Rank EX	SNR	PR	CHF	EX SEC	TA
Secretary of Agriculture Permanent Secretary	1	2.33	-	-	-	-	1	-
Livestock Officer	3	6.98	1	-	-	-	-	-
Veterinary Assistants	2	4.65	-	-	-	-	-	2
Livestock Assistants	2	4.65	1	-	-	-	-	1
Agricultural Officer	1	2.33	1	-	-	-	-	-
Agric. Research Off.	4	9.30	1	3	-	-	-	-
Agricultural Assistant	2	4.65	1	-	-	-	-	1
Advisory Co. Member	1	2.33	-	-	-	1	-	-
Vet Consultant	1	2.33	1	-	-	-	-	-
Vet Officer	1	2.33	1	-	-	-	-	-
Meat Inspector	1	2.33	-	-	-	-	-	1
Farmers Coop. Officer	1	2.33	-	1	-	-	-	-
Private Farmer	2	4.65	-	-	-	-	-	-
Butchers Assistant	3	6.98	-	-	-	-	-	1
Non Agric. Rel. Jobs	18	41.86	-	-	-	-	-	-
Total	43	100	7	4	-	1	1	6

Total Agriculture Related Careers = 58.14%

program, and method were introduced into the instrument to eliminate any bias that could arise from submission of purely definitional terms. As a result of this open question technique, participants listed everything from youth programs to specific methods of ranching or dairying.

In Appendix B beginning on page 142, is to be found schedule one, from which data was analyzed and collated for inclusion in schedule number two. Thus, the source of form and content culminating in schedule number two was wholly that secured from the administration of schedule number one. Table XIX is a distribution of participants' responses on the programs, processes, and methods item. Worthy of mention also, is the fact that nearly all participants indicated either with the word "ditto," or inverted commas (,,), in the columns on the questionnaire labeled "dairy," "beef," and "beef and dairy," that whatever answer they gave for one was good enough for the others. The significance of these responses may be that the absence of large scale cattle operations in the area certainly influenced the way participants were specific in their answers as to dairy, beef, or dairy/beef operations.

Respondent Choices as to Most Suitable Administrative Agencies

Data presented in Table XX reveal participant responses to the question of the most suitable administrative agency for the specific item of process, method, or program chosen. Most answers were direct and easy to comprehend. In compiling the list for schedule number two, allowance was made for items to appear in the original form supplied by participants to remove any bias that could have arisen if

TABLE XIX

JUDGEMENTS OF RESPONDENTS BY PROFESSION AS TO BEST POSSIBLE METHODS, PROGRAMS, AND PROCESSES OF DAIRY/BEEF PRODUCTION

List of Suggested Methods, Programs & Processes of Dairy/ Beef Production	University Faculty	% of Total Participants	Public Administrators	% of Total	Vet. Surgeons & Officers	% of total	Livestock Officers	% of total	Policy Makers	% of total	Res. Coll. & Sec. Schl. Principals	% of total	Butchers	% of total	Total Response	% of Total No. Responding
METHODS:																
INTENSIVE AND SEMI-INTENSIVE METHOD OF PRODUCTION	2	40	-	-	1	20	1	20	1	20	-	-	-	-	5	8.47
CORPORATIONS (beef, dairy & mixed)	-	-	-	-	1	100	-	-	-	-	-	-	-	-	1	1.70
URBAN-TYPE DAIRIES	1	25	-	-	1	25	2	50	-	-	-	-	-	-	4	6.78
PROCESSES & PROGRAMS:																
PRIVATE COMMERCIAL PRODUCTION	1	12.5	-	-	1	12.5	2	25	3	37.5	1	12.5	-	-	8	13.56
FARMERS COOP PROD.	4	20	6	30	4	20	2	10	-	-	3	15	1	5	20	33.9
YOUNG FARMER ORG.	1	25	2	50	1	25	-	-	-	--	-	-	-	-	4	6.78
REVOLUTIONARY FARMERS' CLUBS	-	-	1	100	-	-	-	-	-	-	-	-	-	-	1	1.70
EXPERIMENT. RESEARCH & COMMERCIAL PROD. ENTERPRISES	-	-	-	-	-	-	-	-	-	-	1	100	-	-	1	1.70
CATTLE RANCHING OR OPEN RANGE SYSTEMS	2	40	-	-	-	-	-	-	1	20	-		2	40	5	8.47
RANGE & FEEDLOT PROD.	-	-	-	-	1	100	-	-	-	-	-	-	-	-	1	1.70
NAT'L YOUTH SERVICE CORPS PROGRAM	2	50	-	-	-	-	1	25	1	25	-	-	-	-	4	6.78
CATTLE RES. CENTERS	-	-	1	100	-	-	-	-	-	-	-	-	-	-	1	1.70
MIN. OF AGRICULTURE	1	100	-	-	-	-	-	-	-	-	-	-	-	-	1	1.70
CATTLEMEN ORG. AS PROFESSIONAL RANCHERS	1	100	-	-	-	-	-	-	-	-	-	-	-	-	1	1.70
UNIVERSITY & RESEARCH INSTITUTES	1	50	-	-	-	-	-	-	1	50	-	-	-	-	2	3.39

TABLE XX

JUDGEMENTS OF RESPONDENTS BY PROFESSION AS TO QUALIFIED AGENCY FOR ADMINISTRATION OF PROGRAMS

SUGGESTED ADMINISTRATIVE AGENCIES FOR THE VARIOUS PROGRAM, PROCESSES & METHODS: GOVERNMENT, RELATED AGENCIES & PARASTATALS:	RESPONSES FROM DIFFERENT CATEGORIES OF PARTICIPANTS															
	University Faculty	% of Total Participants	Public Administrators	% of Total	Vet. Surgeons & Officers	% of Total	Livestock Officers	% of Total	Policy Makers	% of Total	Res. Coll. & Sec. Sch. Pr.	% of Total	Butchers	% of Total	Total Response	% of Total Respondents
Ministry of Agriculture	4	28.57	3	21.42	2	14.30	3	21.42	-	-	2	14.30	-	-	14	19.72
Special Agency of Government	1	16.67	1	16.67	-	-	1	16.67	2	33.33	1	16.67	-	-	6	8.45
Special Administrative Agency	-	-	1	33.33	1	33.33	-	-	1	33.33	-	-	-	-	3	4.22
Partnerships with Government	-	-	-	-	-	-	-	-	-	-	-	-	1	100	1	1.41
Niger Delta Basin Development Authority	-	-	-	-	3	75	-	-	-	-	1	25	-	-	4	5.63
National Youth Service Corps	1	50	-	-	1	50	-	-	-	-	-	-	-	-	2	2.82
Government or Government Corporations	1	20	2	40	-	-	-	-	1	20	1	20	-	-	5	7.04
Research Colleges & Institutes	-	-	-	-	-	-	1	50	-	-	1	50	-	-	2	2.82
Secondary Schools	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Universities	4	40	3	30	2	20	1	10	-	-	-	-	-	-	10	14.08
PRIVATE, VOLUNTARY, & OTHER ENTERPRISES:																
Farmer Cooperatives	1	11.11	2	22.0	2	22.0	2	22.0	1	11.0	1	11.0	-	-	9	12.68
Butchers' Union	-	-	-	-	-	-	-	-	-	-	-	-	1	100	1	1.41
Private Enterprise & Business	1	12.5	1	12.5	1	12.5	1	12.5	1	12.5	1	12.5	2	25	8	11.27
Organized Professionals	2	100	-	-	-	-	-	-	-	-	-	-	-	-	2	2.82
Cooperative or Village Scheme Cooperatives	-	-	-	-	-	-	1	50	1	50	-	-	-	-	2	2.82
Voluntary Agency (F.A.O)	2	100	-	-	-	-	-	-	-	-	-	-	-	-	2	2.82
Total of Responses of Various Categories	17	23.94	13	18.31	12	16.90	10	14.08	7	9.86	8	11.27	4	5.63	71	100

knowledgeable individuals insisted on sticking with the agencies of their suggestion on schedule number one, and they couldn't find the names listed in the form they had presented them earlier. Notwithstanding, in looking at the list of items, we can see similarities such as, cooperative societies, farmer's cooperatives, and village scheme cooperatives. Or we see another example such as government, and Ministry of Agriculture, or Niger Delta Basin Development Authority, and special agency of government.

Respondent Recognition as to Foreseen Limitations for Implementation

As on the programs and administrative agency items, participants exercised the freedom to give more than one response. On this item, they exercised no restraint. Every problem listed (Table XXI) as a constraint on livestock production in the tropics was listed except specifically mentioning that organizational (administrative), and educational problems may be the key factors to the lack of cattle operations in the Niger Delta. Only one participant mentioned the political constraints associated with getting money from Lagos to support any cattle research program south of the Benue River (refer to map in Appendix D).

Analyses of Participants' Responses

While the primary objective of collecting these data was not for an analytical process, it was advantageous to look at the clusters of responses.

Thirty-four percent of the respondents were in favor of farmer

TABLE XXI

JUDGEMENTS OF RESPONDENTS BY PROFESSION AS TO SELECTED CATEGORIES OF LIMITATIONS FOR PROJECT SUCCESS

LIMITATIONS SUGGESTED BY PARTICIPANTS	University Faculty	% of Total	Public Administrators	% of Total	Vet. Surgeons and Officers
HUMAN RESOURCES LIMITATIONS:					
Management Personnel	1	25	1	25	-
Manpower - professional skills	2	10	3	15	4
Political Contraints - (leaders)	-	-	1	100	-
Rustlers	1	100	-	-	-
NATURAL RESOURCES					
Water Supply on rangeland	1	100	-	-	-
Land tenure and availability	2	29	-	-	1
Nutrition & feeds availability	2	50	-	-	-
DISEASES & GENETIC PROBLEMS					
Genetic Potential of native (local) breeds	1	100	-	-	-
Livestock diseases	2	33	-	-	1
Trypanosomiasis & Tse tse fly problems	1	33	-	-	-
Parasitic problems	-	-	1	100	-
SCIENTIFIC & TECHNOLOGICAL PROBLEMS					
Erratic supply of electricity (energy)	1	100	-	-	-
Products processing facilities	1	100	-	-	-
Farm & Industrial Technology	4	17	6	29	3
FINANCIAL RESOURCES & LABOR COSTS					
Financial Management (Capital availability)	6	17	8	22	4
Transportation & Labor costs	1	50	-	-	-
GEOGRAPHICAL LOCATION & MARKETING					
Vegetational problems	-	-	-	-	-
Climatic (geigraphical location) problems	-	-	2	50	-
Inadequate marketing procedures	1	100	-	-	-
ORGANIZATIONAL PROBLEMS					
Rangeland Improvement programs	1	100	-	-	-
Administrative (organization) problems	-		-	-	-
Educational problems	-		-	-	-
	28	23.93	22	18.8	13

TABLE XXI (Continued)

% of Total	Livestock Officers	% of Total	Policy Makers	% of Total	Res. Coll. & Sec. School Principals	% of Total	Butchers	% of Total	TOTAL RESPONSE	% of Total Respondents
-	-	-	2	50	-	-	-		4	3.41
20	3	15	4	20	4	20	-		20	17.09
-	-	-	-	-	-	-	-	-	1	0.85
-	-	-	-	-	-	-	-	-	1	0.85
-	-	-	-	-	-	-	-	-	1	0.85
14.3	3	43	-	-	1	14.3	-	-	7	5.98
-	1	25	-	-	1	25	-	-	4	3.42
-	-	-	-	-	-	-	-	-	1	0.85
16.7	2	33	-	-	1	16.7	-	-	6	5.13
	2	67	-	-	-	-	-	-	3	2.56
-	-	-	-	-	-	-	-	-	1	0.85
-	-	-	-	-	-	-	-	-	1	0.85
-	-	-	-	-	-	-	-	-	1	0.85
15	2	10	3	15	3	15	-	-	21	17.95
11	6	17	5	14	4	11	3	8	36	30.77
-	1	50	-	-	-	-	-	-	2	
	1	100	-	-	-	-	-	-	1	0.85
-	1	25	-	-	-	-	1	25	4	3.42
-	-	-	-	-	-	-	-	-	1	0.85
-	-	-	-	-	-	-	-	-	1	0.85
	-		-		-		-		0	
	-		-		-		-		0	
11	22	18.8	14	11.97	14	11.97	4	3.42	117	

cooperatives as the most appropriate method of dairy/beef production which will be attractive to the youth of the Niger Delta, and this response came from across the board (refer to Table XIX). Another 14% favored private commercial production. About 9% favored cattle ranching, and intensive and semi-intensive methods of production, respectively; while about 7% favored urban-type dairies. If one considers the fact that cattle ranching, urban dairies, and semi- or intensive methods of dairying can either be private commercial or corporate operations, it can be seen that another 39% of the responses leaned towards private commercial operations. These too, were received from a broad spectrum of participants.

Nearly 50% of the responses regarding the best possible administrative agency for the suggested programs listed some form of government patronage, while 20% specifically listed the Ministry of Agriculture as the best possible administrative agency. Another 35% of the responses leaned towards Farmer Cooperatives, private enterprises, and voluntary agency administration, while another 17% considered universities and research colleges the most appropriate administrative agencies for good programs. As with the programs, these responses could not be attributed to a particular category of participants.

The most frequently listed limitation for the most appropriate program of dairy/beef cattle production was finance (31.30%), either in the form of poor financial resources management or capital availability. Next to that, more people listed farm and industrial technology as a major setback (18.3%). This was closely followed by manpower (lack of professional skills) (17.40%). If another 3.48% response for management personnel is combined with the latter, it can be seen that over 20% of

the responses considered manpower a major setback to execution of a successful dairy/beef operation which can be attractive to the youth of the Niger Delta (refer to Table XXI). It is surprising to observe that only 5.22% of the responses favored livestock diseases as a primary limitation. Amazingly, only 2.61% spelled out trypanosomiasis by name. By the same token, less than 1% of total responses named political constraints (a major factor in the distribution of Federal government funds for agricultural projects), as a foreseen limitation.

Phase Two of Data Collection Process
Using Schedule Number Two

From a list of participant responses on the programs and administrative agency items (Appendix B, Schedule #2), participants were requested to use a simple (1) and (2) procedure to indicate their first and second choices out of the whole list of items, both programs, processes, and methods on the one hand, and administrative agencies on the other. From the way responses were given, it is considered that the cover letter was explicit enough; however, only 33 questionnaires could be collected back at this point. This number represents about 77% of the 43 persons who had turned in their questionnaires the first time, and who were the only eligible participants at this stage of the study.

In analyzing the responses, a two point procedure was used to grade all first choice responses, while a single point was placed on every second choice. An aggregate of these points show that about 46% of the participant responses was in favor of private commercial production, while 18% favored farmer cooperatives as the most appropriate method of beef/dairy cattle production likely to be attractive to the youth of the

Niger Delta (refer to Tables XXII and XXIII). If we add cattle ranching and urban dairying as different forms of private commercial production, then we observe a definite tilt in the direction of private enterprise, as participants have a better chance to look over alternative methods before selecting one. This tilt in the direction of private commercial enterprise away from cooperatives cannot be explained easily except to say that participants had a chance to look over other responses, and perhaps comparing previously held views with other alternatives - prompted their making new choices.

On the preferred administrative agencies item, 26% of the responses favored the Niger Delta Basin Development Authority, another 17% favored a special administrative agency, probably set up by the government, while 20% and 12% favored private businessmen or universities, respectively. To understand why participants may have given these responses, it is necessary to understand the nature of the Nigerian economy. All the money for development purposes comes from the government; very little economic activity exists outside the sphere of government influence, thus our participants may believe that only individual endeavor can succeed in an industry such as dairy (the type of success that makes youth want to be involved in it), but unless the government takes the financial risks, people would be scared to risk their money in such a venture.

Most Favored Programs, Processes, or Methods and Their Best Administrative Agencies

Table XXIV is a summary of the most frequently chosen administrative agencies for the various processes, methods, or programs of dairy/beef cattle production listed on the second schedule for phase two of

TABLE XXII

PREFERRED PROGRAMS, PROCESSES, OR METHODS OF DAIRY/BEEF CATTLE PRODUCTION, CHOSEN BY PARTICIPANTS ON SCHEDULE NUMBER TWO

LIST OF SUGGESTED PROCESSES, METHODS, OR PROGRAMS, COMPILED FROM 1ST QUESTIONNAIRE	DIFFERENT CATEGORIES OF PARTICIPANT AND THEIR CHOICE ITEMS IN ORDER OF PREFERENCE																						Total No. of Response		Total Aggregate Points of Responses	% of Total Aggregate Points
	University Faculty			Public Administrators			Vet. Surgs.& Officers			Livestock Officers			Policy Makers			Res. Coll.& Sec School Principals			Butchers							
	Total Aggr. No.	1st	2nd	Total Aggr. No.	1st	2nd	Total Aggr. No.	1st	2nd	Total Aggr. No.	1st	2nd	Total Aggr. No.	1st	2nd	Total Aggr. No.	1st	2nd	Total Aggr. No.	1st	2nd	1st	2nd		
Private Commercial Prod.	12	5	2	6	3	-	7	3	1	10	5	-	8	4	-		-	-	3	1	1	21	4	46	45.55
Farmer Cooperatives	2		2	2	-	2	6	2	2	2	-	2	4	1	2	2	1	-		-	-	4	10	18	17.82
Yng Farmer Orgs, Clubs or "Rev. Farmers' Clubs"				2	1	-		-	-		-	-		-	-		-	-	2	1	-	2	-	4	3.96
Intensive & Semi-Int. Method of Production				4	1	2		-	-		-	-		-	-	2	1	-		-	-	2	2	6	5.94
Experiement, Res. and Commercial Producation				4	1	2		-	-	1	-	1		-	-	2	-	2		-	-	1	5	7	6.93
Cattle Ranching	2	1		1	-	1	2	1	-	1	-	1	1	-	1		-	-	2	1	-	3	3	9	8.91
Corporations					-	-	1	-	1	1	-	1		-	-		-	-		-	-	-	2	2	1.98
Range & Feedlot Prod.					-	-	-	-	-		-	-		-	-		-	-		-	-	-	-	-	-
Urban Dairies	1		1		-	-	3	1	1		-	-		-	-		-	-		-	-	1	2	4	3.96
Nat'l Youth Serv. Corps.	1		1		-	-	-	-	-			-	2	-	2		-	-		-	-	-	3	3	2.97
Cattle Research Cntrs.		-	-	2	1	-	-	-	-		-	-		-	-		-	-		-	-	1	-	2	1.98
Total Resp. of diff. Cat.		6	6		7	7		7	5		5	5		5	5		2	2		3	1	35	31	101	100
Total Aggr. Pts of Resps.	18	12	6	21	14	7	19	14	5	15	10	5	15	10	5	6	4	2	7	6	1	70	31	101	100

Aggregate Points:
First Choice: 2 points
Second Choice: 1 point

TABLE XXIII

PREFERRED ADMINISTRATIVE AGENCIES CHOSEN BY PARTICIPANTS ON SCHEDULE NUMBER TWO

SUGGESTED ADMINISTRATIVE AGENCIES	RESPONSES OF THE DIFFERENT CATEGORIES OF PARTICIPANTS											
	University Faculty			Public Administrators			Vet. Surgs.& Officers			Livestock Officers		
	Total Aggr. No.	1st	2nd	Total Aggr. No.	1st	2nd	Total Aggr. No.	1st	2nd	Total Aggr. No.	1st	2nd
GOVERNMENT, RELATED AGENCIES, & PARASTATALS:												
Ministry of Agriculture		-	-	1	-	1	2	1	-		-	-
Special Agency of Government	3	1	1	3	1	1	3	1	1		-	-
Special Administrative Agency		-	-	2	1	-		-	-	2	1	-
Partnerships with Government		-	-	1	-	1	1	-	1	1	-	1
Niger Delta Basin Development Authority	9	4	1	6	2	2	5	2	1	4	1	2
National Youth Service Corps		-	-		-	-		-	-		-	-
Government, or Government Corporations		-	-		-	-		-	-		-	-
EDUCATIONAL & RESEARCH INSTITUTIONS:												
Research Colleges & Institutes	1	-	1	1	-	1		-	-		-	-
Secondary Schools		-	-		-	-		-	-		-	-
Universities	2	-	2	4	2	-	3	1	1		-	-
PRIVATE, VOLUNTARY, & OTHER ENTERPRISES:												
Farmer Cooperatives		-	-	2	1	-		-	-		-	-
Butchers' Union		-	-		-	-		-	-	1	-	1
Private Enterprise & Business	1	-	1		-	-	3	1	1	8	4	-
Organized Professionals		-	-	1	-	1		-	-		--	-
Cooperatives, or Village Scheme Cooperatives		-	-		-	-	1	-	1		-	-
Voluntary Agency (F.A.O)	2	1	-		-	-		-	-		-	-
Total Responses of Different Categories		6	6		7	7		6	6		6	4
Total Aggregate Points of Responses	18	12	6	21	14	7	18	12	6	16	12	4

First Choice = 2 points

Second Choice = 1 point

TABLE XXIII: (Continued)

RESPONSES (CONT.)

Policy Makers			Res. Coll. & Sec. School Principals			Butchers			Total No. of Response		Total Aggregate Points of Responses	% of Total Aggregate Points
Total Aggr. No.	1st	2nd	Total Aggr. No.	1st	2nd	Total Aggr. No.	1st	2nd	1st	2nd		
	-	-	3	1	1		-	-	2	2	6	6
4	2	-		-	-		-	-	5	3	13	13
	-	-		-	-		-	-	2	-	4	4
	-	-		-	-		-	-	-	3	3	3
	-	-		-	-	2	1	-	10	6	26	26
2	-	2		-	-		-	-	-	2	2	2
	-	-		-	-		-	-	-	-	-	
	-	-		-	-		-	-	-	2	2	2
	-	-		-	-		-	-	-	-		
2	-	2	1	-	1		-	-	3	6	12	12
	-	-		-	-		-	-	1	-	2	2
	-	-		-	-		-	-	-	1	1	1
4	2	-		-	-	4	1	2	8	4	20	20
	-	-	2	1	-		-	-	1	1	3	3
5	1	3		-	-		-	-	1	4	6	6
	-	-		-	-		-	-	1	-	2	2
	5	5		2	2		2	2	34	32	100	100
15	0	5	6	4	2	6	4	2	68	32	100	100

TABLE XXIV

SUMMARY OF RESPONSES ON SCHEDULE NUMBER TWO AS TO VARIOUS CATEGORIES OF RESPONDENTS IN RELATION TO THE PROGRAMS AND THEIR BEST ADMINISTRATIVE AGENCIES

SUGGESTED PROCESSES, METHODS, OR PROGRAMS OF DAIRY, and/or BEEF CATTLE PRODUCTION		SUGGESTED AGENCIES BY VARIOUS CATEGORIES OF RESPONDENTS																																Total Response	Response Aggregate	% of Total Aggregate
		GOVT. & PARASTATALS														HIGHED EDUC. INSTITUTIONS						PRIVATE, VOLUNTARY & OTHER ENTERPRISES																
		Ministry of Agriculture		Special Agency of Govt.		Special Admin. Agency		Partnership with Govt.		N D B D A		Nat. Youth Service Corps		Govt. or Govt. Corps.		Research Colleges & Institutes		Secondary Schools		Universities		Farmer Cooperatives		Butcher's Union		Private Enterprise & Business		Organized Professionals		Coop. or Village Scheme Coop.		Voluntary Agency(F.A.O)				
		1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2			
Private Commercial Production	1			4		1				6										1		1				8								21	42	42
	2										1																2							3	3	3
Farmer Cooperatives	1	2		1																		1												4	8	8
	2		1				2				2									2			3		1									11	11	11
Young Farmer Orgs., Club or "Rev. Farmers" Clubs	1					1				1																								2	4	4
	2																																	-	-	-
Intensive & Semi-intensive Method of Production	1																											1						1	2	2
	2							1			1							1																3	3	3
Experiment Reseach & Commercial Prod.	1																			1														1	2	2
	2		1								2									1							1							2	5	5
Cattle Ranching	1											1																						2	4	4
	2											1										1						1		1				4	4	4
Corporations	1																																	-	-	-
	2											2																						2	2	2
Range & Feedlot Production	1																																	-	-	-
	2																																	-	-	-
Urban Dairies	1																																	-	-	-
	2						1											1													1			3	3	3
National Youth Service Corps	1																																	-	-	-
	2																			3														3	3	3
Cattle Research Centers	1																			1														1	2	2
	2																																	-	-	-
																																		66	99	100%

1 = 1st Choice

2 = 2nd Choice

this study. This summary table brings together the responses of the various categories of respondents, ranging from universities' faculty to the butchers in the field. A distinction is made in this table between the first and second choices of respondents, and aggregate scores are given on the same basis, using the two point score for first choice and one point for second choice as mentioned earlier. The sum of the scores on the various program items are then converted to percentages. It can be seen that out of a total of 21 points first choice of private commercial production, eight points, or nearly one-half, favored private enterprise and business as the most appropriate administrative agency. These responses came primarily from veterinary and livestock officers, policy makers, and butchers. Those who favored the NDBDA as the most appropriate administrative agency for private commercial production were mostly university faculty. This definite tilt of opinion in favor of the NDBDA by intellectuals cannot be explained easily, except to say that if university students could be further exposed to the field activities of the NDBDA during their college career, their educational experiences might be more pragmatic than theoretical.

Another category of programs that was most favorable to respondents was the Farmer Cooperatives item (four first choice and eleven second choice responses). However, no particular agency was outstanding as the best possible administrator, and no particular group of respondents can be attributed with a bias towards this particular choice of program and administrative agency.

For all practical purposes, the foreseen limitations item didn't fit into the second appraisal framework, and was therefore left out of the second schedule. However, a list of these limitations was

presented before the panel of livestock production experts, Dr. Ogbamgba and Mr. Akporwovwo, including a copy of the second questionnaire, on which they were requested to give their comments, summary, and critical judgement. Table XXV is a summary of their perception of the different responses on the programs, processes, and methods items, and their corresponding administrative agencies. From the outlay (Figure 1), designed to reflect their answers, we observe that they considered commercial operations whether private or corporate to be potentially successful, and while they believed that university projects are necessary for research purposes, they believed that there is an element of failure in every state run project. According to these experts, the livestock industry involves a lot of risk-taking, and as long as governments pay people not to take risks, only few people would attempt to take on the odds involved in new ventures. Table XXVI is a listing of the various ways in which the selected experts perceived the constraints listed by participants.

Other Facts Volunteered by Selected Experts and Other Participants

1. Young College Graduates:

   These often lose the zeal and enthusiasm with which they left college, because the public service jobs are not challenging enough, and the "dead wood" in the system ensure that the youth are frustrated and not motivated.

2. The Expatriate:

   To qualify for grants from the Federal government, state agencies and parastatals are forced to back their claims with

TABLE XXV

SUMMARY LIST OF PROGRAMS, PROCESSES, METHODS, AND ADMINISTRATIVE AGENCIES, FEASIBLE IN THE NIGER DELTA AREA, AS PERCEIVED BY SELECTED LIVESTOCK PRODUCTION EXPERTS

PROGRAM	PROCESS	METHOD	ADMINISTRATIVE AGENCIES
Commercial Production, Range and Feedlot, Cattle ranching, urban dairies	Family, Corporate, and Private operations	Intensive and semi-intensive units on range and feedlot	Cooperative farmers, Bank Loans, Family Assets, Govt. Subsidies and Grants, etc., but administered by the individual owners.
Experiment, research, and other educational projects	State farms and experiment stations, university and college farms, secondary school farms	Semi-intensive units on the range & feedlot, young farmer programs, and demonstration centers	Universities, Research Colleges, Govt. Ministries of Agriculture, Education, and Rural Development, and Voluntary Agencies (FAO).
State farms for large scale production	Rural, or local council, or village scheme cooperative partnership	Large-scale, highly intensive and mechanized	Jointly managed by government experts and local coop committee

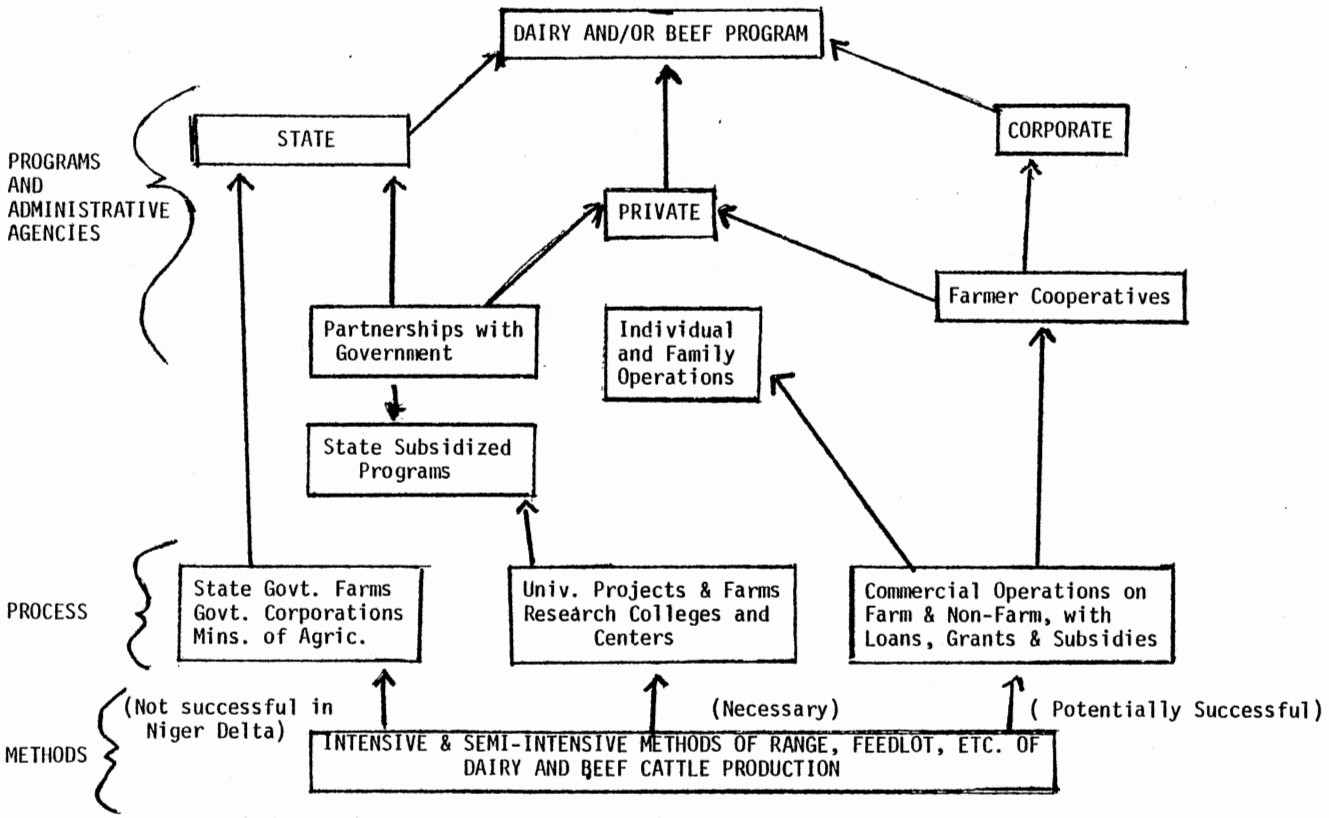

Figure 1. Outlay of Dairy/Beef Production Program, Designed From Information Supplied by Selected Livestock Production Experts, Literature Review, and Other Information Supplied by Participants in Study

TABLE XXVI

SELECTED EXPERTS PERCEPTION OF LIMITATIONS FORESEEN BY PARTICIPANTS

FORESEEN LIMITATIONS	Principal Vet Officer	Principal Livestock Officer
Human Resources Limitations:		
Management Personnel	*	*
Professional Personnel	Not being exploited	Not being exploited
Political Constraints	***	***
Rustlers	*	**
Natural Resources Limitations:		
Water supply (irrigation)	*	**
Land tenure & availability	***	**
Nutrition & feeds availability	***	***
Diseases & Genetic Problems:		
Genetic Potential of Nature (local) breeds	Good prospect	Excellent prospect for crosses
Livestock diseases	**	**
Trypanosomiasis & tse tse problems	Perception problem	Perceptional Problem
Parasitic problems	***	***
Scientific & Technical Problems:		
Supply of electrical energy	***	***
Products procyssing facilities	***	***
Farm & Industrial technology	***	***
Financial Resources & Labor Costs:		
Financial Mngt & Capital Avail.	***	***
Transportation & Labor Costs	**	**
Geographical Location & Marketing:		
Vegetational problems	**	*
Climatic (geographical) problems	*	*
Inadequate marketing procedures	**	**
Organizational Problems;		
Rangeland Improvement programs	*	*
Administrative problems	***	***
Educational problems	***	***

* Minor constraint ** Formidable constraint *** Major Constraint

Source: Follow-Up Interview with 2 experts in livestock production at the NDBDA.

data from feasibility studies, and only studies conducted by foreign consultants are considered valid by the Federal Government. Case in point; the Niger Delta Basin Authority, in bid to obtain such data spent about ₦200,000 contracting a Peter Collins Holding Pty. Ltd., of Queensland, Australia, to undertake a feasibility study on livestock production in the Niger Delta. At the time this interview was being conducted, the grants had already been allocated to the qualifying states by the Federal government. However, the Australian firm was still holding on to its final text because ₦80,000 of the contracted amount hand't been paid by the Rivers State government. Nigerian leaders can still not entrust their intellectuals and professionals with challenging activities such as feasibility studies.

3. Literature Bias:

Most technical literature provides biased information and sometimes exaggerated constraints on agricultural production in certain countries. On the other hand, the masses of the people are poorly informed, since adult education is not widespread in the rural areas.

4. Local Breeds:

Fulani and Sokoto dual purpose cattle crossed with Holstein cows thrive at the Shika Research Institute in Zaria. The possibility of their adaptation to climatic conditions in the Niger Delta has never been tried. Yet, beef cattle en route to the slaughter house show marked improvement when they are pastured on the grass in the area before slaughter.

5. Relationship with Higher Institutions:

There is no formal relationship between the universities and the government agricultural agencies. As a result, there is no flow of new knowledge from the higher institutions through the government ministries and their agencies to the people in the rural areas. Sometimes, students are sent to the parastatals for industrial training, but the relationship is not a two way street, since there is no obligation that the trainee must be provided jobs after graduation.

Interview with an Educator

The purpose of this interview was to consider the problem of an appropriate dairy/beef production process likely to be attractive to the youth in the Niger Delta in the light of the state of the arc of the Nigerian education process. Dr. Charles I. Umechuruba was considered the most likely source of these facts, not only because he lectured in one of the universities in the Niger Delta, but because he had his education at OSU and his acquaintance was considered an asset for this study. He was requested to answer these questions, or make brief comments on the following subjects:

1. Attitudes of the college undergraduates:

The typical student, according to him, was in college to get a degree and not an education. Recent gains won by intellectuals which gave them a different salary structure from their counterparts in the public service has further increased the pressure on the students for terminal degrees. Hardly anyone dreams of returning to the rural areas to work

among the people. A lack of basic facilities and utilities in these areas further aggravates the situation.

2. The Job Situation:

There is currently a freeze on all employment at all levels. The governments in Nigeria can hardly pay those in their employment. Even when researchers have access to grants, there are no equipment and facilities to carry out the studies. Faculty are thus compelled to accept outside jobs which divide their attention from their students.

3. Priorities:

Intellectuals provide poor character models for the youth. Hard work is not rewarded. People who live in luxury, no matter how they attained their wealth, are looked upon as the light bearers of society.

4. Inter-University Relationships:

There is absolutely no communication between the two universities in the area on a formal basis. There is no exchange of information or faculty, no joint studies, and not even a telephone system joins the two institutions, and there is hardly any interpersonal relationship between academicians in the same field but working on the two sister campuses.

It would be difficult to go into detail in explaining the educator's perception of the hostile relationship that exists between the University of Port Harcourt and the University of Science and Technology, Port Harcourt. But when he was asked if he would recommend the procedure of promotions from assistant posts to professorships as practiced in the US, he

said no. In his view, Nigerian universities do not generate any funds, thus they couldn't support a system of rapid promotions, and additional benefits as US universities do. Moreover, the State universities are funded by the Federal government through the indirect route of their respective State governments. Delays resulting from State appropriations sometimes result in late payments at the State institutions, which rarely happens at the Federally owned universities funded directly by the Federal Universities Commission. Developments like this nurture unhealthy situations which eventually create hostilities between personnel of sister institutions such as the two universities in the city of Port Harcourt.

5. Futuristic View:

Change is imminent, especially as more and more qualified and professional persons return home to take up positions of responsibility. However, he emphasized, there must be a redefinition of values in the society. Educators must set models which encourage the youth to think of what they can contribute to the welfare of society and not what they can take out of it.

Interview with a Businessman

The meeting with Mr. Hailsham was very informal, because most technical questions had been answered at that stage of the data gathering process. However, some conclusions can be derived from the information gathered through the informal discussion with him, such as the following:

1. Contracts awarded by governments for construction of agricultural projects often do not measure up to specified standards, because the contractors are not penalized when they do bad jobs. Most times they still got paid for the poor quality jobs done.
2. Government contracts are awarded more on a quota basis for people from various political divisions of the State. If only qualified contractors were given high technology related jobs, the basic infrastructure for agricultural projects, such as feed mills would have been available for potential cattlemen in the Niger Delta. Other relevant information supplied by the businessman were similar to that obtained from the educator in relation to youth and the responsibility of higher educational institutions to groom the future leaders to be more responsible citizens. His opinion on dairy/beef production was that the government should leave such programs in the hands of the private sector.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The primary objective of this study was to design an outline of a dairy/beef cattle production program that will be attractive to the youth of the Niger Delta area, who otherwise would turn to careers in law, medicine, the civil service, and other professions. Several factors were taken into consideration at the design and planning stage, foremost of which was the tendency among policy makers in many third world countries to view critically and suspiciously any programs in which they did not actively participate in the design. As a result, it was decided that drawing on the perceptions and knowledge of these policy makers, professionals, educators, opinion leaders, parents, and businessmen, would provide the best building blocks for this program design. Different approaches to obtaining such data were considered, but the delphi technique offered the best procedure, since it could be modified to suit the peculiarities of the prevailing circumstances in the study area. The study was conducted along the pattern discussed in Chapter Three, and where slight adjustments had to be made, reasons which prompted such adjustments were discussed. Notwithstanding, it can be said that the short term goals of the study were accomplished.

Participants

Over 70% of the participants were in the age range between 20-40 years, and when considering that 40 years of age was the upper limit used in this study for our definition of youth, it can be said that the majority of the participants were prescribing conditions favorable for their involvement in the subject being studied, with an added potential influence over twelve other persons (dependents) aged 15 years and above. Over 36% of them were public administrators and policy makers, 33% were professionals in the livestock industry, and another 24% were administrators and faculty in higher institutions. A total of 58% had been in some agriculture related career prior to their present appointments.

Programs

In giving answers on schedule one, 34% of participants listed farmer cooperatives as the most appropriate program of dairy/beef production. Next in line was 14% for private commercial production. But when faced with a list of responses from other participants, 46% chose private commercial production, while the number choosing farmer cooperatives dropped to 18%. Looking over the distribution of other responses such as cattle ranching, urban dairies, and semi-intensive and intensive methods of dairy production which many participants had listed on the first schedule, but lost much ground on the second, the only rational explanation for this may be that on the first schedule, some of the participants couldn't verbalize adequately what they considered the most appropriate program, but when they were given the choice among alternatives, private commercial production appeared to be the nearest verbalization of their preconceived notions.

Administrative Agency

About 50% of the participants suggested some form of government patronage on the first schedule, 20% specifically mentioning the ministry of agriculture. On the second schedule, where participants were requested to make a first and second choice, points were allocated in order of preference. An aggregate of these points showed a significant decline in the support of the ministry of agriculture, although the highest aggregate point of 26% placed the NDBDA in first place. This percentage increased to 46% if partnerships with government, special agency of government, and special administrative agency, were included as programs that governments are most likely to establish. We still found a significantly high percentage of 20% in support of private entrepreneurs administering their own programs.

Foreseen Limitations

On the first schedule, responses to this item clustered around three major factors; nearly 31% suggested financial management and capital availability as the most limiting factor. Others were 20% for farm and industrial technology, and 17% for manpower especially in the form of professional skills. In consulting with the livestock experts mentioned earlier, the question of manpower availability was disputed. There is some credence to the view shared by these experts that veterinarians and livestock specialists living in the Niger Delta area were under-employed, and that they accepted government jobs for lack of challenging prospects outside the public service. Careful consideration was made about whether or not to include the limitations items on the second schedule. In the light of the primary objective of this study,

an exercise in identifying what participants foresaw as limiting factors for a dairy/beef program seemed to be the best way of bringing out alternative programs which participants would have otherwise presented with reservations. Presenting this before a panel of experts seemed the most logical approach to giving these foreseen limitations their due consideration. When a panel of experts was difficult to assemble, these items were discussed with two experts. Their views were summarized thus:

1. Financial limitations posed the greatest problems.
2. Public administration of financial and agricultural institutions further aggravated the problems; Nigerian financial institutions being centrally controlled.
3. There was an undue emphasis on large scale government production with built-in causes for failure of such projects.
4. A lack of research facilities and an adequate avenue for communicating new ideas to rural areas, had made farmers unable to adopt new techniques.
5. Other foreseen limitations associated with disease problems, breeds of cattle, and nutrition were perceived as existent to the degree that the people were less informed about the potential benefits from investing in agricultural production in the study area in particular, and Nigeria in general.

In the view of the educator consulted for this study, youth in the Niger Delta had misplaced their values, and they aspired for terminal degrees as a "license" to earn a better living. The educational system also rewarded rote memorization and recall techniques of studying by using only grades scored on terminal examinations as criteria for qualification into professions that demand psychomotor and affective

skills, and over emphasizing paper qualifications as prerequisites for placement in technically oriented careers.

Literature Comparison

When compared with facts obtained from the literature review, the findings in this study do not break any new ground. Therefore this study must be seen in the light of its own merits, viz. public administrators recommending private commercial production in an industry that has always been deemed goverment responsibility. This is a dramatic change in the trend of policy makers. Likewise, the choice of the NDBDA as the most appropriate administrative agency for private commercial production programs further demonstrated a definite change in the attitude of intellectuals towards government agencies, which had before now been that of resentment. In designing a feasible dairy/beef production program attractive to the youth of the study area, the role of higher educational institutions must be given top priority. It appears from the literature reviewed that successful agricultural production programs give priority to youth activities and programs through the higher educational process of the high schools and universities. Dairy and beef production in the US and most EEC countries is mostly private enterprise spurred on by guaranteed minimum prices which the national government pays to farmers. Cooperative movements are a normal feature of agribusiness ranging from producers, to transporters, processors, and marketers. However, what factors determine who eventually becomes a farmer varies from country to country, and the degree of emphasis placed on certain factors over others depends on the political and administrative institutions of the particular country. But in the light of the

primary objective of this study, the role of youth is considered as a key factor in whether or not a revolutionary approach to agrarian reform succeeds. As a percent of total aggregate points of first and second choices, only 4% of participants in this study selected Young Farmer Organizations, clubs, or "revolutionary farmers clubs" as a preferred program of dairy/beef production as defined in this study. Another 3% selected the National Youth Service Corps as an appropriate program, although 8% and 7% respectively had listed such programs on the first schedule. No reason for this decline is apparent from the limited facts available for this study.

In the final analysis, it can be justifiably said that very successful youth programs in agriculture, such as exist in the US, tend to be highly positively associated with increased productivity in agriculture in that country. And since this study was aimed at designing a program that would be attractive to the youth of the study area, youth programs and the role they have played in successful agricultural industries cannot be ignored completely. Manpower development and training is considered an essential aspect of a progressive industry by the recognition that participants gave to "skilled personnel" as a primary limitation to dairy/beef production in the study area. Unfortunately, the youth of the Niger Delta, according to our educational consultant for this study, were complacent and ill-motivated by the educational process and society models. A successful dairy/beef production program that would be attractive to the youth should therefore include an educational process with built-in rewards, incentives, and motivation. This would provide the only feasible channel by which "native sons" and daughters could be trained to provide the skilled manpower necessary for building a sound

agricultural economy.

The finding of this study could thus be summed up as follows; an analysis of the individuals who participated in this study revealed that they were persons of integrity holding responsible positions in the public service and educational institutions in the Niger Delta. They were mostly parents with several children and dependents whose choice of careers would be greatly influenced by them. Thirty-four percent of the original 43 participants suggested Farmer cooperatives as the most appropriate method of dairy/beef production likely to be attractive to the youth of the Niger Delta, but when given a list of alternative methods, processes, and programs, suggested by other participants including theirs, 46% of the participants chose private commercial production as the most appropriate method of dairy/beef production likely to be attractive to the youth of the area. At the preliminary phase of the data collection process, the majority of participants were in favor of government administration of any such program, the Ministry of Agriculture being the most likely. However, when they had to choose between several administrative bodies, nearly 43% favored a special government agency as the administrative body for a good program; 26% specifically were in favor of the NDBDA as the best possible administrative agency.

Participant responses on the foreseen limitations for suggested programs were examined by a panel of selected experts whose views seem to suggest that with adequate financial management, a good organizational structure, and a little more responsibility given to local professionals, good dairy/beef operations could be feasible in the Niger Delta. While the educational consultant spoke of the nonchalant attitudes of college youth in the area, the business executive

emphasized that such a trend existed in the society because governments often contracted the wrong elements to set up agricultural projects, the result of which was a total lack of basic agricultural infrastructures. The picture that emerged from this analysis was that of a society that had hitherto depended solely on government handouts. Based on these finding and other information gathered from the review of literature realted to this subject, it was justifiable to assume that for dairy/beef production to be an aspiration of the youth of the Niger Delta, structural changes in the organizational set up of the government in executing agricultural projects must be effected. Other necessary changes must include youth attitudes, societal values, the educational process, and the financial distribution process of the government.

Conclusions

Based on the choices of programs and administrative agencies as chosen on schedule number two, the following conclusions were drawn:

1. There was an overwhelming support for private commercial production of dairy/beef cattle, as a program which would be attractive to the youth of the Niger Delta area. Respondents as mentioned earlier were mostly public service employees, and their responses were almost evenly spread across the spectrum of participants. It could be concluded therefore, that there was an awareness among civil servants that government projects for dairy/beef cattle in particular, and agriculture in general, did not offer any incentives or motivation that would make them attractive to youth. Thus, by opting for private commercial production, they might have been signalling the

government to stay out of agricultural production in general.

2. With as many as 19% of responses in favor of Farmer cooperatives, it could be said that many participants recognized the importance of the cooperative movement in dairy/beef cattle production. In designing a program attractive to the youth therefore, farmer cooperatives must be given their place, or recognized as such.
3. Further data clearly showed respondents only somewhat favorable (7%), to Experiment, Research, and Commercial production type programs. When the 2% of total aggregate points in favor of cattle research centers was added, it could be concluded that close to 10% of responses favored some type of research or experimental program geared towards commercial production. Experimentation and research introduced the role of higher education into a program with long term goals, therefore when recommending a feasible choice of alternative programs that will be attractive to the youth, the role of higher educational institutions should be defined.
4. Four agencies stand out with various degrees of acceptance as best alternative programs, and best administrative agencies. They are: Private enterprise, government, higher educational institutions, and farmer cooperatives. It wasn't possible to define the specific role of the various agencies, since provision wasn't made for that in the instrument used, which probably was the one shortcoming of using the delphi technique for this kind of study. Notwithstanding, recommendations will be based on the roles of these agencies as defined by a

successful agricultural economy such as exist in the US, and other discussions of the subject in the literature review. Avoiding such activities as government involvement in production in Nigeria's Green Revolution, activities such as higher educational institutions' assumption of greater responsibilities in agricultural education should be stressed.

From the foregoing conclusions arising from the responses of participants, it could be said that:

a. The participants in this study, representing a wide spectrum of the decision making process regarding dairy/beef production, with a highly significant influence on the youth of the Niger Delta, recognized that the methods, programs, and processes adapted in the past by various governments to improve agricultural production in the area, could not be considered as successful.

b. Implicit in the highly positive suggestions for various programs and administrative agencies, in recognition of the limitations, was a dramatic change in attitude towards the feasibility of dairy/beef production in the Niger Delta area, which used to be diagnosed as not feasible sine-die.

c. It was evident that although private entrepreneurs provide the best possible dairy/beef production operations that could be attractive to youth, government involvement could not be written off completely.

d. Based on the foreseen limitations suggested by the participants and their relative impact on dairy/beef production in the Niger Delta, as analyzed by two livestock specialists consulted for

this study, it appeared that there were no limitations that could not be addressed, or controlled for economic gain, if dairy/beef production was practiced in the Niger Delta area.

e. The lack of recognition of Youth Organizations in agriculture by respondents as a major influence on the future trend of agricultural production in any nation underlines the fact that although opinion leaders and policy makers in the area recognized the potential of individual capabilities for production on the short run, they did not give appropriate consideration to vital elements related to youth motivation. This was the Youth motivation factor that addressed who would be the farmers of tomorrow. In recommending a program for the study area, the youth movement factor would be given due consideration. A Youth organizational structure or network that addressed the various stages of development from kindergarten to adulthood would thus be necessary not only for developing future leaders with a positive attitude towards the dairy/beef industry, but to retrain adults who demonstrate an interest in dairy/beef or any other related farm operation. In the U.S., the Department of Agriculture provides credit facilities as well as an assured minimum price for dairy producers. In the EEC countries, governments supplement the production costs of farmers to make their exports competitive in the world market. Perhaps the governmental agencies in the Niger Delta could review the process or procedures for giving bonus to farmers to see whether they reward the dubious or if they actually motivate increased productivity. As observed in the literature

review, most communist countries were net importers of foods, because the motivating influence stopped short of man's most native instinct - maximization of personal gains.

Recommendations

The aim of these recommendations was not to set in concrete certain procedures that must be followed to attain the desired goal. Rather, it was an attempt to highlight various operations in the total dairy/beef industry as they relate to the types of organizational structures agreed on by a majority of the participants to be the best programs and administrative agencies. Secondly, an outline of educational activities that could motivate youth towards increased productivity would be examined in the light of existing institutions to recommend what degree of involvement of youth at that level would provide the desired motivation.

Before proceeding any further, it was necessary to redefine the various institutions as they should be perceived in this study, since participants were not given the chance to further express their perception of these institutions as they now exist, or as they would want them to be like in the future dairy/beef industry.

Government

a. Parastatal Corporation:

The Niger Delta Basin Development Authority, an agency set up and financed by the Federal government was currently providing high yielding seed crops, low cost fertilizers, day-old chicks, and agricultural credit to farmers.

b. The Ministry of Agriculture is State owned, and it managed the

State farms mentioned in Chapter One of this report, as well as provided extension and other services statewide. A government agency was perceived in this study as a redesigned organization with the resources to provide long term credit, loans, grants and bonuses, a farm machinery rental service, and a coordinated extension program to rural farmers.

Higher Educational Centers

These included the universities, the regional and state owned agricultural research centers, and the colleges of agriculture and education. They should be seen in the light of providing research, instruction, and extension services to the people at all levels, including secondary and adult education.

Cooperative Societies

Since dairy/beef production requires the establishment of grain (concentrate feeds) production, hay and forages production, veterinary services, transportation, processing and marketing of products; all forms of cooperatives would eventually develop out of this network of associated operations. Cooperatives as defined by this study was much more than the existing institutions in the study area now provided. On the long run, they should be able to establish a centralized financial institution that could provide loans to its member societies as well as private businessmen in affiliated industries.

Private Enterprise

While this could be defined in the light of existing farming systems (the peasant farmer), the type of operations that participants seem to have been referring to was the large scale production of milking cows, feeding calves to market weight, and probably processing and packing dairy products for marketing, all as part of one operation with a centralized management under one proprieter. But whether the system finally evolved whereby family operations emerged such as they exist in the US and other countries, there must be a source of purchasing the required stock; the large scale producer, such as the cow-calf operation proprieter. It appeared that the NDBDA, by concensus opinion, could provide such services at the preliminary phase of establishing a dairy/beef industry in the area.

In Table XXVII, different operations of a dairy/beef indusry are listed. The number of asterisks under each column denote the degree to which the various agencies listed could be involved in a successful program. For instance, column one and row four contain three asterisks. In literal terms, it was highly recommended that a parastatal such as the NDBDA be actively involved in the sale and leasing of farm equipment, as well as provide operational credit for farmers, whereas column two and row four show that it would be inadviseable for the Ministry of Agriculture to be involved in such activities. It should be emphasized that this program stopped short of specifying every activity entailed in the involvement of a specific agency in any phase of a production operation as listed in the above table. This responsibility of specifics was left for the consultants who cash in on the drafting of the fine print for the program execution phase.

TABLE XXVII

RECOMMENDED PARTICIPATION LEVEL IN VARIOUS DAIRY/BEEF ASSOCIATED OPERATIONS BY AGENCIES, BASED ON INFORMATION GATHERED FROM STUDY AND LITERATURE REVIEW

	GOVERNMENT		HIGHER EDUCATION CENTERS				COOP SOCIETIES				PRIVATE ENTERPRISE	
DIFFERENT DAIRY/BEEF AND RELATED OPERATIONS	Parastatal Corporations (NDDBA)	Ministry of Agriculture & State Farms	Universities	Colleges of Ag. Education	Research Centers	Secondary and Adult Educ	Rural	Urban	Agribusiness	Family Farm Operations	Partnerships	Part-time Farming
Beef and or Dairy Production	-	*	*	*	* *	*	* *	-	*	* * *	* * *	* *
Beef and Dairy Processing, and Quality Control	*	* *	*	-	* *	-	* *	* * *	* *	-	* *	-
Feeds Production and Processing	*	* *	*	*	*	-	* *	* *	* *	* *	* * *	*
Livestock Products and Calves, and Feeds Marketing	* * *	-	*	*	*	*	* *	* * *	* * *	*	* *	* *
Farm Equipments Sales and Leasing, and Farm Credit	* * *	* *	*	*	*	-	* *	* *	* * *	*	* *	* * *
Veterinary and Pest Control Services	* *	-	* *	*	* *	-	* *	* *	* *	*	* * *	* *
Research, Extension, and Education in Agriculture	*	*	* * *	* *	* * *	*	*	*	*	-	-	-

\- Not Recommended
* Recommended
* * Highly Recommended
* * * Very Highly Recommended

The next question to be addressed was how to make this industry attractive to the youth. Several experts and students had suggested ways of making rural life attractive to youth in a bid to curtail migration to the cities. Some of these suggestions included the provision of good paying jobs, the basic needs of life, and recreational facilities, etc., in rural areas. The number of jobs that could be generated by a 1000 cow herd is very significant. It begins with the grain and forage producer and includes the farm management and maintenance personnel, not leaving out transporters, processing plant and equipment staff, distributors, and the local salesmen. And the list of jobs continues to the garbage collector and auto maintenance mechanic. Setting up such an industry in a district attracts the home owners of tomorrow and the parents who employ the teachers who would otherwise seek employment in the cities.

However, the responsibility of motivating youth and training them for the industry lies with the educational institutions which are themselves government operated or financed. In Table XXVIII, a list of suggested activities have been outlined showing what emphasis the different levels of existing educational and public enlightenment institutions could place on different youth educational and extracurricula activities to prepare the youth for a future in an agricultural career. For instance, while classroom instruction could be a high priority activity in a university, scholarships may not be needed to motivate adults who are training for a career in dairy/beef production. Looking down the rows on the table, it would be observed that the university has a primary role to play in preparing and motivating youth for a career in dairy/beef production in the study area. This however depends on a

TABLE XXVIII

SUGGESTED PARTICIPATION LEVEL BY VARIOUS EDUCATIONAL AGENCIES AND INSTITUTIONS IN YOUTH ACTIVITIES THAT CAN MAKE DAIRY/BEEF PRODUCTION ATTRACTIVE TO YOUTH IN THE NIGER DELTA AREA

Educational Programs Needed to Enhance Youth Involvement in Dairy/Beef Cattle Production	INSTRUCTION				S.O.E.P.				YOUTH ORG.					COOP				MOTIVATION				EXTENSION				AFFECTIVE SKILLS			
	Classroom	Tours	Research Lab.	Res. stations	Crops	Livestock	Farm equip.	pasture mngt.	Ag. youth clubs	Rural youth	L/stock clubs	Agron. club	Ag. Econ club	Rural	Farmer	Livestock	Beef/Dairy	Scholarships	Awards	Grants	Recognition	Farm Machinery	L/stock mngt.	Crop Prod.	Pasture mngt.	Leadership	Patriotism	Community spirit	Comradeship
Primary Education Program	*	*			*	*	*	*	***	***	**	**	-	-	-	-	-	*	**	-	***	**	*	**	*	**	***	*	**
Secondary School Program	***	**	*	**	**	**	***	**	***	***	***	**	**	-	-	-	-	***	***	*	***	**	***	**	**	**	***	**	**
Vocational Technical Education Program	*	*	*	**	*	*	***	*	***	*	*	*	*	-	-	-	-	***	***	*	***	***	*	*	*	***	***	**	**
Agricultural Research Program	*	**	***	***	***	***	***	***	**	**	**	**	**	**	**	**	**	**	**	**	***	**	**	***	***	**	**	***	**
College of Education Program	**	*	*	*	**	**	**	**	**	**	**	**	**	*	*	*	*	**	**	*	***	*	*	*	*	***	**	*	**
University Program	***	**	***	***	**	**	**	**	***	***	***	***	***	**	**	**	**	***	***	***	***	***	***	***	***	**	**	**	**
Adult Education Program	*	*	-	*	**	**	**	**	*	*	*	*	*	***	***	***	***	-	-	***	***	**	**	**	**	**	**	***	***
Business Seminars	*	*	-	-	-	-	-	-	*	*	*	*	*	***	***	***	***	*	*	*	***	**	**	**	**	**	**	***	***
Govt. Extension Personnel	**	**	**	***	**	**	**	**	**	-	***	-	-	***	***	***	***	**	**	**	***	***	**	**	**	*	***	**	***

* Emphasis
** Extra Emphasis
*** High priority Emphasis
\- Not Emphasized

sound premise of motivational activities undertaken by the primary and secondary schools to make agriculture attractive to youth at a tender age.

Further Study

The findings of this study have provided the building blocks for alternative methods of developing a dairy/beef industry to which the youth of the area could be attracted. It must be recalled, however, that schedule two of this study was based on the assumption that the foreseen limitations could be overcome, which is easier said than done. Consider the following for instance:

a. How can a better procedure for funding agricultural programs other than total government control be achieved?
b. What breeds of cattle can be most productive in the Niger Delta area, and from what source can a steady supply of calves be ensured?
c. Is the nonchalant attitude of youth towards agricultural production the result of one factor or a multiple complexity of factors that cannot be easily overcome?
d. How can the nutritional needs of an industry very much dependent on mass production of feeds be ensured in an area where the average human being is grossly underfed?

These and various other questions must be addressed in further studies related to the subject of ensuring that future generations of residents in the Niger Delta do not continue to depend on imported dairy products for their dietary needs.

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APPENDIXES

APPENDIX A

PARTICIPANTS IN THE STUDY

LECTURERS AND AGRICULTURE RELATED FACULTY

1. Mr. John Alawa
   Animal Nutritionist
   University of Science and Technology
   Port Harcourt

2. Dr. Nnadi S. Wekhe
   Lecturer/Vet. Surgeon
   University of Science and Technology
   Port Harcourt

3. Dr. U. I. Oji
   Lecturer
   University of Science and Technology
   Port Harcourt

4. Mr. George N. Emah
   Lecturer
   University of Science and Technology
   Port Harcourt

5. Dr. C. O. Ofuya
   Lecturer
   University of Port Harcourt

6. Dr. T. V. Otokunefor
   Lecturer
   University of Port Harcourt

7. No name disclosure

8. Did not return questionnaire (Dr. Onofeghara)

9. Did not return questionnaire (Dr. Alex Monsi)

10. Dr. C. I. Umechuruba
    Plant Pathologist and Lecturer
    University of Port Harcourt

PUBLIC ADMINISTRATORS

1. Mr. Richard Alamina
   Administrative Secretary
   Advisory Council on Agriculture
   Governor's Office - Port Harcourt

2. Mr. Humphrey A. Assor
   Inspector of Schools
   Governors Office
   Port Harcourt

3. Albert T. Badey
   Permanent Secretary
   Ministry of Economic Dev. & Social Welfare
   Port Harcourt

4. Mr. Kpuginawae W. Gbarato
   Asst. Registrar of Cooperatives
   Bori -- Bolga, Rivers State

5. Mr. Ikega D. Dokubo
   Administrative Secretary, Coop.
   Rivers State Cooperative Federation

6. Apostle G. D. Numbere
   International Director
   Greater Evangelism (World) Crusade
   Elikahia Housing Estate
   Elikahia

7. Evangelist Fubara Ibama
   Director, Field Operations
   Greater Evangelism (World) Crusade
   Port Harcourt

8. Mr. Richard T. Barika
   Marketing Superintendent
   Supabod Stores
   Port Harcourt

9. Mr. W. J. Kieribo
   Research Fellow
   Governors Office
   Podium Block
   Port Harcourt

VETERINARIANS

1. Dr. Aziba-Aloaguo Seibofa (S.V.O.)
   Veterinary Clinic
   Port Harcourt - Rivers State

2. Dr. N. O. Ebirika (S.V.O.)
   Veterinary Clinic
   Port Harcourt

3. Dr. G. J. Iyo (S.V.O.)
   Veterinary Headquarters
   M.O.A. & N.R.
   Port Harcourt

4. Dr. George Nwankwo (P.V.O.)
   Veterinary Headquarters
   M.O.A.N.R.
   Port Harcourt

5. Dr. (Mrs.) A. A. Oji (S.V.O.)
   Veterinary Laboratory
   Port Harcourt

6. Dr. Kingdom Oyeabuan Ogbamgba (P.V.O.)
   N.D.B.D.A.
   Port Harcourt

7. Did not return questionnaire.

LIVESTOCK OFFICERS

1. Solomon A. Akpovwovwo (P.L.O.)
   N.D.B.D.A.
   Port Harcourt

2. Geoffrey A. George (S.L.S.)
   Veterinary Headquarters
   Degema, Delga, Rivers State

3. Mrs. Iritari C. Ogan (P.L.O.)
   Veterinary Headquarters
   Port Harcourt

4. Mr. Bernard B. Baa (S.L.O.)
   Livestock Department
   M.O.A.N.R.
   Port Harcourt

5. Mr. A. A. Pondel (C.L.O.)
   Livestock Department
   M.O.A.N.R.
   Port Harcourt

6. Mr. M. C. Ariolu (P.L.O.)
   Livestock Department
   M.O.A.N.R.
   Port Harcourt

POLICY MAKERS AND LEGISLATORS

1. Hon. Cyrus N. Nunieh Esq.
   Senator
   National Assembly
   Tafawa Balewa Square
   Lagos

2. No name disclosure.

3. Hon. S. N. Orage
   Commissioner for Agriculture & Natural Resources
   Secretariat Complex
   Port Harcourt

4. Hon. A. L. Abe
   State Legislator
   Rivers State, House of Assembly
   Port Harcourt

5. No name disclosure.

6. Hon. John A. Nubel
   Chairman
   Gokana Local Government Council
   Bolga - Rivers State

PRINCIPALS OF COLLEGES/SECONDARY SCHOOLS

1. Mrs. Beatrice B. Okiki
   County Girls Secondary School
   Omoku-Ogba, Rivers State

2. Mr. Edward N. Owudogu
   Ikwerre-Etche
   Rivers State

3. Mr. Henry S. Beresibo
   Buguma-Delga
   Rivers State

4. Mr. T. Bate
   Institute of Agricultural Research
   Onne-Otelga
   Rivers State

5. Mr. Victor J. Chuku (Farm Manager)
   Institute of Agricultural Research
   Onne-Otelga

BUTCHERS UNION OFFICIALS

1. Alhaji Fatai Adio
   Head Butcher & Financial Secretary
   Port Harcourt Main Abattoir

2. Alhaji Dandi Sani
   Assistant Chairman
   Butcher's Union
   Port Harcourt Main Abattoir

3. Alhaji Gabriel Edunro
   Chairman
   Butcher's Union
   Port Harcourt Main Abattoir

APPENDIX B

PRIMARY INSTRUMENT FOR DATA COLLECTION (SCHEDULE #1) AND INSTRUMENT DESIGNED FROM RESPONDENTS AS A FOLLOW-UP OF STAGE ONE OF DATA COLLECTION PROCESS (SCHEDULE #2)

OKLAHOMA STATE UNIVERSITY • STILLWATER

Department of Agricultural Education
(405) 624-5129

74078

May 13, 1982

Sir/Madam:

A graduate study is currently being conducted to draw on the knowledge and experience of opinion leaders and policy makers within the geographical region of the Niger Delta, with regards to cattle (beef, dairy or mixed) production. We need to know what you consider the most appropriate method, process or program of livestock production (modernization) which will be attractive to the youth of the Niger Delta area. Our long term goal is self-sufficiency in dairy and beef production in the area, while providing attractive career opportunities for the youth of the area through this vast unexploited industry.

Your position in the society makes you uniquely qualified to contribute an exclusive body of knowledge to this study. This is why we are asking your cooperation in filling out the attached questionnaire and mailing it at your earliest convenience. As soon as we receive your response, we shall proceed to compile a list of what you and others provided us. We shall then return the list to you for your final assessment and evaluation.

Thanks for your cooperation.

Yours sincerely,

Moses Yorama
Graduate Student
Oklahoma State University

Robert Terry
Professor and Head
Agricultural Education
Oklahoma State University

Please mail to the address nearest you.

Moses T. Yorama
Box 946
Port Harcourt
Rivers State

Moses T. Yorama
Ministry of Agriculture &
Natural Resources -
Veterinary Division
Secretariet Complex
Port Harcourt
Rivers State

Moses T. Yorama
Divisional Veterinary Office
Bon - Bolga
Rivers State

PERSONAL DATA

1.

a. Name _____
(NOTE: Your name can only be used as a reference in this study after your permission is obtained. All personal information will otherwise be treated confidentially.)

b. Age: 20-30 _____ 30-40 _____ 40-50 _____ Above 50 _____

c. Profession _____

d. Rank _____ Position in Employment _____

e. Previous agriculture-related job and position, if any _____
_____

2. Marital Status: Sex: M _____ F _____

a. Married _____ Single _____ Other _____

(If married, state number of children: Male _____ Female _____

b. Number of other dependents or relatives above the age of 15 years, who may seek your advice on the choice of a career _____

3.

a. How long (years) have you held your present position? _____

b. Employer _____

c. Place of employment _____
_____ (Name enterprise, if privately owned)

4. Please give answers to the following questions on the attached form, and answer the questions for beef or dairy, or both.

A. Briefly, what do you consider as the most appripriate method, process or program of beef or dairy production (modernization), which will be attractive to the youth of the Niger Delta Area?

B. What agency, institution, or group of individuals would you consider appropriate for developing and administering such a program?

C. What limitation(s), if any, makes it impractical presently to carry out what would otherwise be your best choice of a program, process or method?

The following might be possible examples:

a. Programs: National Youth Service Corps, Farmer Cooperatives, Young farmer organizations, etc.

b. Administrative agencies: The Ministry of Agriculture, universities, church organizations, etc.

c. Forseen limitations: Finance, manpower, technology, etc.

(Youth is defined as anyone between the ages of 15 and 40 years.)

ANSWER FORM FOR ITEM 4

(A) List of alternative processes, programs, or methods of cattle production.	(B) Best possible administrative agency.	(C) Foreseen limitations, if any.
Beef Cattle		
Dairy Cattle		
Beef & Dairy Cattle		

5. A list of participants will be compiled and attached to the final draft of this study. Do you object to your name being included as having participated in tne design of this project? No _____ Yes _____

Box 946
Port Harcourt
Rivers State - Nigeria

July 8, 1982

Sir/Madam,

We want to express our gratitude for your willingness to participate in our study, and we are indebted to you for contributing to the final outcome of this research.

The following is a categorical compilation of the different processes, programs or methods of dairy and/or beef cattle production suggested by the participants as likely to be attractive to the Youth of the Niger Delta Area.

Assuming that all limitations or problems associated with the implementation of the "most appropriate method, process, or program can be overcome;

(A) Which of the following would you consider as most appropriate for dairy and/or beef cattle production in the Niger Delta area, which will be most attractive to the youth of the area, and

(B) What administrative agency would you consider as the most appropriate for executing such a program, process, or method of livestock production?

NOTE:

Indicate your first choice by writing (1) beside it, and use (2) for a second choice. When considering the most appropriate administrative agency, use the same numerals to denote your first and second choices, and you may choose from any column what agency you consider best for administering the program of your choice.

Suggested processes, methods, or programs or dairy, and/or beef cattle production	Suggested administrative agencies.
Private Commercial Production	a) Government b) Voluntary agency (F.A.O.) c) Farmer Cooperatives d) Special agency of Government e) Universities f) Ministry of Agriculture
Farmer Cooperatives	a) Universities b) Ministry of Agriculture c) Niger Delta Basin Development Authority d) Butchers' Union
Young Farmer Organizations, Clubs or "Revolutionary Farmers' Club."	a) Special administrative agency b) Secondary Schools c) Universities d) Research Colleges e) Ministry of Agriculture
Intensive and semi-intensive method of production	a) Universities b) Ministry of Agriculture c) Research Institutes d) Niger Delta Basin Development Authority
Experiment, research and commercial production	a) Research Institutes b) Universities c) Private enterprise

Cattle Ranching	a) Niger Delta Basin Development Authority b) Cooperative Societies c) Organized Professionals d) Ministry of Agriculture d) National Youth Service Corps f) Private Business
Corporations	Partnership with Government
Range and Feedlot Production	a) Niger Delta Basin Development Authority b) Village Scheme Cooperatives
Urban Dairies	a) Government b) Private Enterprise c) Cooperative Societies
National Youth Service Corps	a) Ministry of Agriculture b) Universities
Cattle Research Centers	a) Universities b) Ministry of Agriculture

Thanks for your kind cooperation.

Yours faithfully,

Moses T. Yorama

Name of Participant:

APPENDIX C

LETTERS AND OTHER CORRESPONDENCE RELATED TO THE STUDY

47.Isiokpo (Inaobasi) Street,
D/Line - Port Harcourt,
Rivers State,

June 22nd, 1982.

Hon. Commissioner for Agriculture,
Ministry of Agriculture,
Port Harcourt,
Rivers State.

Sir,

APPLICATION FOR A RESEARCH GRANT

I humbly apply for a special grant to enable me conduct my research aimed at designing a dairy or beef cattle production programme for the Niger Delta area, as further described in the attached letter and questionaire.

I am currently enrolled in a doctoral programme in Oklahoma State University, where I had earlier earned my Msc. Degree in Agricultural Extension, moreover,I am skilled in most management practices, and I am licenced to practice artificial insemination by the American Breeders Association (ABS).

My State Scholarship award expired in April of 1981 when I completed my MSc. degree programme. Unfortunately, I couldn't secure a Federal Government Scholarship, and I have had to grapple against all odds to get so far, I will require approximately three thousand naira to cover my transportation costs in and around the state and back to the U. S. A., as well as enable me write up and publish my study.

I am convinced that the present emphasis on agricultural production in the country will justify your treating my humble request as a priority case.

Thanks;

Yours faithfully,

Moses T. Yorama
Graduate Student.

RIVERS STATE UNIVERSITY OF SCIENCE AND TECHNOLOGY
PORT HARCOURT.

Telegrams: *RIVERSTECH*
Telephone:

PRIVATE MAIL BAG 5080,
PORT HARCOURT.

Your Ref:

Our Ref: RSUST/ACA/78/Vol.III/299

27th May, 1981

Mr. Moses Tombari Yorama,
c/o Department of Agricultural Education,
Oklahoma State University,
Stillwater, OK 74078,
United States of America.

Re: APPLICATION FOR SPONSORSHIP

This is to acknowledge receipt of your letter of the 28th April, 1981 requesting the University for a grant of ten thousand Naira (₦10,000.00) for a doctoral degree in agricultural education.

The Rivers State University of Science and Technology grants study fellowships on the following conditions:

1. for members of the staff who have put in two years of service with the University;

2. the needs of the departments and such departments usually recommend members of staff for study fellowship;

3. while members of staff who are granted study fellowship are paid their annual salaries, all prescribed fees and charges of the institution the member of staff attends, and the transport fares, to and from, the place of study, members of staff who enjoy study fellowship are bonded to the University.

These and some others are the conditions under which study fellowships are granted by the University.

C. A. Nelson-Ebimie.
for: Registrar

39-2 S. University Place
Stillwater, OK 74074
December 18, 1981

Mr. Melford E. Okilo, Governor
Rivers State of Nigeria
State House-Port Harcourt
Rivers State, NIGERIA

RE: Request for Assistance in Conducting Research in Dairy Production in the Niger Delta Area

Your Excellency:

I humbly request your assistance in conducting a research into the possibility of making the Niger Delta area self-sufficient in dairy production.

I am currently studying for a doctoral degree in Agricultural Extension Education at Oklahoma State University. My objective is to design a plan involving the universities, the Ministry of Agriculture, and cooperative organizations in the state, on one hand, and a U.S. land grand university on the other. I intend to conduct a feasibility survey in sample areas of the state to find out probable adaptation of dairy production techniques which have resulted in the success of the dairy industry in the U.S. Moreover, I need to interview current and prospective farmers, potential teachers of agriculture, university faculty and government officials whose decisions will influence the future of dairy production in the area. My interest in dairying in the Niger Delta stems from my undergraduate degree in livestock production and my study of the "Feasibility of Dairying in the Niger Delta Area" for an MS degree at this university.

My experience has been very unique, and this institution has provided me with every chance to be practically trained in the vital aspects of the dairy industry. Moreover, the university is currently engaged in agricultural production programs in other third world countries. I believe strongly that our new universities can use the assistance currently being extended from here to enhance agricultural research, education, and extension services in the Rivers State.

With your assistance, I can visit the Rivers state to collect the data I require for writing my dissertation. I am hoping that an expert in my field of study will accompany me during my study tour. He should be able to hold discussions with university officials and State and Federal officers responsible for agricultural production in the Niger Delta area. The assistance I request, therefore, falls within one of these areas of need:

1. Using your good offices to inform the various agencies of government and educational institutions that can contribute requisite information for my study.

2. Provision of transportation for me to and from Port Harcourt.

3. Provision of transportation for my guest during our travel in the Niger Delta area.

Forgive my importunity, but I couldn't think of any other place to present my case after the Rivers State University of Science and Technology turned down my request for a grant. The State Scholarship Award which covered my undergraduate and Masters degree expired since May 1981, and the Federal Scholarships may not be out in time to provide the financial needs of my mission. I am trying to use my department here at Oklahoma State to apply for the USAID Title XII assistance, which was designed to assist students with my aspirations. The latest I can visit Nigeria is June, 1982, otherwise, I cannot complete my study on schedule.

May I say in the final analysis, that I have followed your activities in the press since you were Commissioner of Education, and I love your revolutionary approach to bringing about change. I hope this explains my resolve to approach you on a personal basis, rather than walking through the long corridors of bureaucracy.

Thank for your kind understanding.

Yours Sincerely,

Moses T. Yorama

MY/sjm

Telephone 33344

GOVERNMENT HOUSE
P. M. B. 5350
PORT HARCOURT
RIVERS STATE, NIGERIA

Ref. No. CH/C/071/383.

19th January, 1982.

Mr. Moses T. Yorama,
39-2 S. University Place,
Stillwater, OK 74074,
U.S.A.

Dear Sir,

POST-GRADUATE AWARD

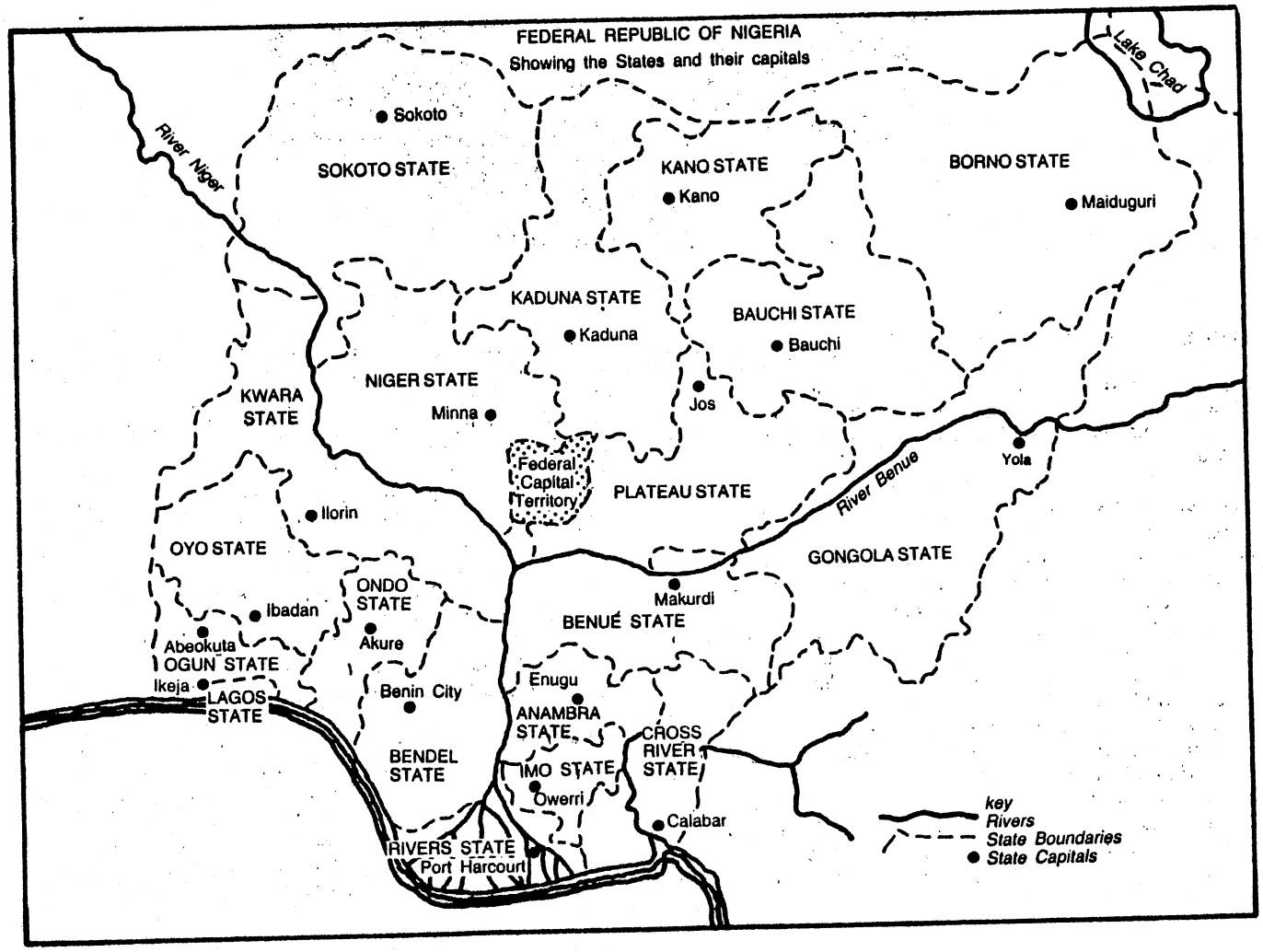
I am directed by His Excellency the Governor of Rivers State, Chief Melford Okilo, to acknowledge the receipt of your letter, dated 18th December, 1981, and to inform you that the Rivers State quota from Fed. Government for Post-Graduate Awards is never fully utilized. In fact, he says the yearly grant of N20,000.00 for last year was returned to the Rivers State Government. In the circumstance, you are requested to please apply direct to the Federal Government Scholarship Board.

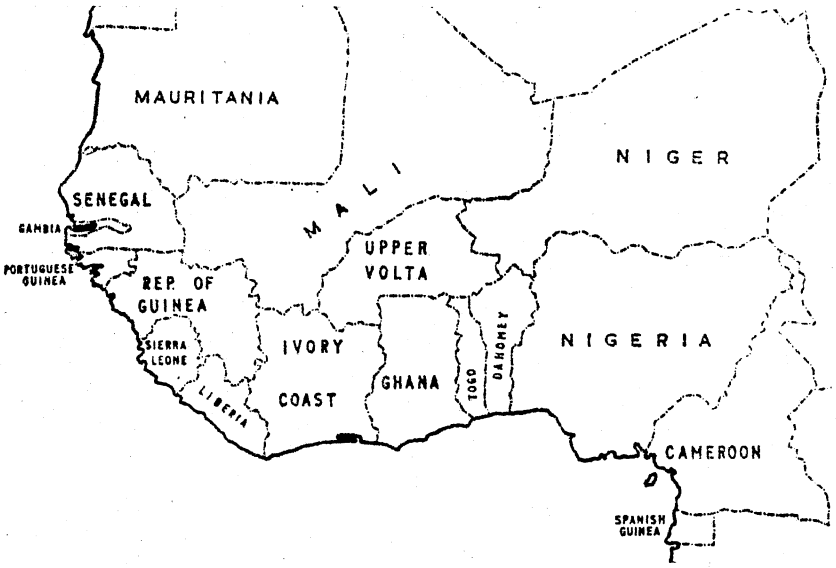
Yours faithfully,

K. I. Kemmer (Mrs.)
for: Chief of Personal Staff

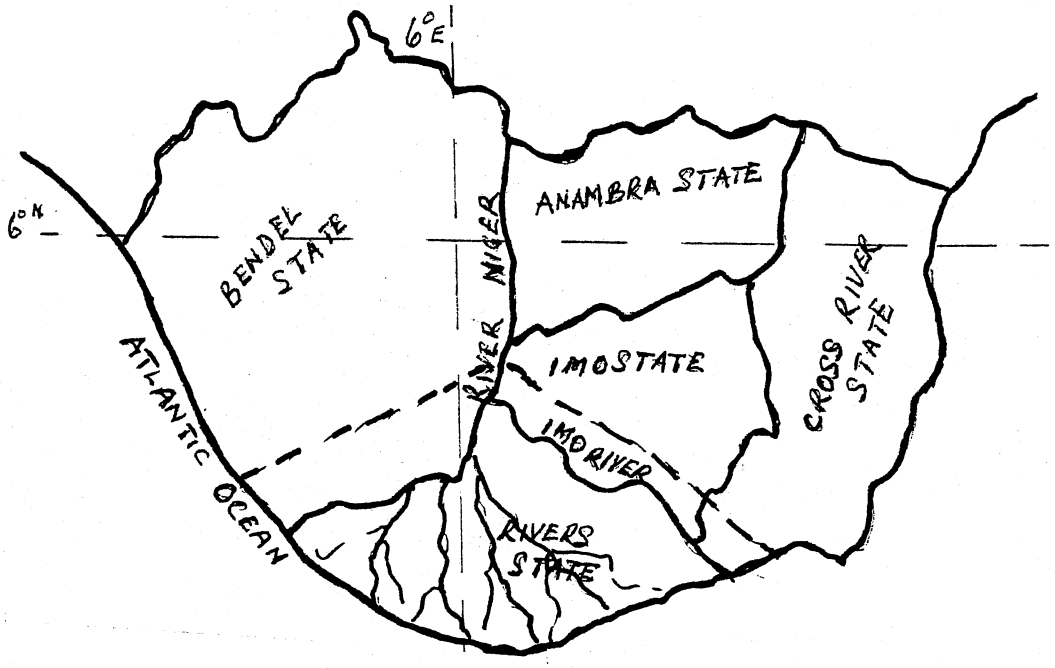
APPENDIX D

MAPS


FEDERAL REPUBLIC OF NIGERIA
Showing the States and their capitals
Lake Chad
River Niger
Sokoto
SOKOTO STATE
KANO STATE
Kano
BORNO STATE
Maiduguri
KADUNA STATE
Kaduna
BAUCHI STATE
Bauchi
NIGER STATE
Minna
Jos
KWARA STATE
Federal Capital Territory
PLATEAU STATE
River Benue
Yola
Ilorin
OYO STATE
GONGOLA STATE
ONDO STATE
Makurdi
Ibadan
BENUE STATE
Akure
Abeokuta
OGUN STATE
Enugu
Ikeja
LAGOS STATE
Benin City
ANAMBRA STATE
CROSS RIVER STATE
BENDEL STATE
IMO STATE
Owerri
Calabar
RIVERS STATE
Port Harcourt
key
Rivers
State Boundaries
State Capitals



Map of West Africa



Sketch of the States Surrounding the Niger Delta Area

VITA

Moses TomBari Yorama

Candidate for the Degree of

Doctor of Education

Thesis: DESIGNING A DAIRY/BEEF CATTLE PRODUCTION PROGRAM, ATTRACTIVE TO THE YOUTH OF THE NIGER DELTA AREA OF NIGERIA

Major Field: Agricultural Education

Biographical:

Personal Data: Born in Deeyor, Gokana, in the Bori Division of the Rivers State of Nigeria, on July 17, 1948, to Dukori, Nelson, and Kobaa, Sarah, Yorama.

Education: Receiver Higher National Certification in Agriculture from the Leather Research Institute of Nigeria, Samanu, Zaria, in June, 1975. Received Bachelor of Science in Agriculture degree from Oklahoma State University in December, 1979; completed a Master of Science degree in Agricultural Extension Education at Oklahoma State University, 1981. Completed requirements for Doctor of Education degree in Agricultural Education in May, 1983.

Professional Experience: Meat inspector, Rivers State Ministry of Agriculture, 1970-77. Certified by the American Breeders' Service as an Artificial Insemination Management Specialist in March, 1982.

Awards: Overall best student of L.E.R.I.N. Zaria, 1975 graduating class; Academic Achievement Award from Oklahoma State University Minority Students' Program in 1979; Certificate of Appreciation from the Oklahoma State University Nigerian Students' Union for Outstanding Contributions in 1979; Dean's Honor Roll, 1977-79, College of Agriculture, Oklahoma State University; Outstanding Leadership Development award by the Future Farmers of America in October, 1981.

Leadership Activities: President, Deeyor Progressive Union, Port Harcourt Branch, 1975-76; President, Deeyor Students' Union, 1973-75; Nigerian Representative and Senator, Afro-American

Society, Oklahoma State University, 1979-80; Vice-President, Nigerian Students' Union, Oklahoma State University, 1980-81; Secretary, African Students' Christian Fellowship, Oklahoma State University, 1980-81.