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**MARKETING SURVEY OF RETAILERS, WHOLESALERS AND PRODUCERS OF RICE
IN UGWUEKE - NIGERIA**

A Research Topic
Presented to Business Division
Beirut University College

In Partial Fulfillment
of the Requirements for the Degree
Master of Science in Business

By
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March 10, 1989

BEIRUT UNIVERSITY COLLEGE

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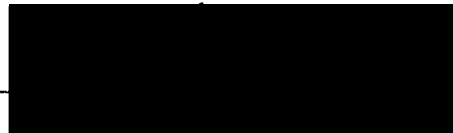
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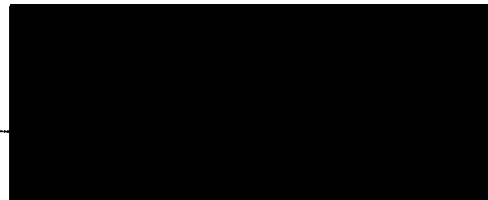
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**AN ABSTRACT OF THE RESEARCH OF
Mr. Jackson Ogbonna J. Anyim**

**Title:- Marketing Survey of retailers, wholesalers and producers
of rice in Ugwueke - Nigeria**

This study is a litmus test to the present Nigerian Government Structural Adjustment Program of 1986-88 (SAP) which lays much emphasis on the non-oil sector of the economy. The research was conducted to analyze the production and marketing system of rice in Ugwueke village with a view to ascertain the scope for improvement of the present marketing system. Thereby encouraging the production and the welfare of the rural populace.

Despite the fact that one of the objectives of the structural adjustment program was to encourage farming and marketing by providing necessary incentives to the farmers. It is surprising that rural, small-landholding have scant or no contact with mainstream rural development finance. However, large sums of money at low rates of interest have flowed to some rural elites. This includes some medium and large farmers under various agricultural development projects. But very little or nothing has gone to the small farmers.

Thus, the ultimate objective which a structural adjustment program sought, is creating a new economic order to ensure a better future for all Nigerians. The fact is that the past and present administration in Nigeria has been running an interdependent economic structure based on oil (monoproduct),

greed, and unregulated market forces and failure. The circulation of the national resources has been interrupted by short-term national and group selfishness.

As such we cannot continue to survive if the vast majority of the masses are denied a fair share in the marketing of their product. " This is our crisis and our opportunity." The production of rice could be increased by ensuring incentives to the farmers and the present marketing system could also be improved by providing marketing credit and storage facilities to rural people.

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CHAPTER I

INTRODUCTION

Nigeria is a country located at longitude 3 and 14 degrees East of Greenwich and latitude 4 and 14 degrees North of the equator. It occupies a total area of 923,773 square kilometers on the West African coast, and its estimated population is over 100 million. A recent report by the United Nations suggested that by the year 2025 Nigeria will be the fourth largest populated country in the world comprising about 250 ethnic groups of diverse heritages dating back 2000 years.

Twenty eight years ago on October 1, 1960, Nigeria became an independent state and it became a republic state in 1963. The official language in Nigeria is English, although this is sometimes mixed up with broken English in order to accommodate the illiterates in the transaction of business with non-tribal groups. In any case, each tribe has its own language according to the location occupied. For example, the major ethnic groups are the Ibos of the southeast, the Yorubas of the southwest, and the Hausas and Fulanis in the north of the country.

The government of Nigeria has witnessed a lot of changes in the political and economic arena. Sometimes these changes have been painful. For instance, the coup d'etat of January 15, 1966, gave way to the fall of the first republic. The counter coup d'etat of July 29, 1966, brought a tussle for supremacy which eventually led to 30 months of bitter civil war which ended on January 14, 1970. The second republic was born on October 1, 1979, when the mantle of leadership was vested to the civilian administration of elected

President Alhaji Shehu Shagari of disbanded National Party of Nigeria. Then, after four years of drift and graft, Nigeria's second republic was brought to an end when the military struck on the eve of December 31, 1983.

The collapse of second republic symbolized that Nigeria is yet to mature in terms of politics, as most political commentators had observed. The Nigerian government both past and present have always been overambitious in its development plans and thus projects, visible or non-visible, are ill-conceived and their costs hyperinflated by corrupt officials. As a result, the economic side of the country was full of fury. The fact remains that Nigeria has grown too fast in terms of development and has recently shrunk to nothing economywise. What was observed was that the "fortunate nation invited unfortunate for lunch with a golden spoon through its leaders."¹ The white collar treasury looters had ran unchecked in all official quarters because of the pursuit of personal and selfish interest.

It has become clear that Nigeria's present economic predicament is a dichotomy in nature. It is a dichotomy in the sense that corruption and neglect in agriculture is the base of the economic wreckage. Agro-business which had hitherto supported the foreign exchange earning enterprises went into a decline due to neglect. Faced with the economic and social pressures of 1975 many Nigerian farmers have either closed their farms or cut them down to a bare level because commerce has developed sharply as Nigeria became a dumping ground for oddities from all over the world .

The commerce syndrome gave the rapid development of the class of middlemen, dealers, "importers", "exporters" and "manufacturers representatives" were later hindered due to the lack of adequate raw materials and foreign exchange. Those engaged in Agro-business were lured to a few urban centres and thus there was a depletion of the available labour for agriculture. Nigeria became a chronic food importer and the import bill reached an unexpected and unprecedented figure of 8.2 billion Naira in 1978 (\$16.4 b).²

Therefore, this paper is inspired by huge importation of rice into Nigeria by the Nigerian government due to a downward trend of agricultural products, especially rice. Rice is one of the Nigerian staple foods which was introduced into the country after the Second World War. Ever since then, the rice industry in Nigeria has witness a lot of changes due to a certain policy adopted by the Nigeria government. Occasionally, rice has constituted a part of large studies on food and agricultural development in Nigeria. Yet, there is no comprehensive detailed study of the rice industry in a macro-level which discusses all aspects of production and marketing of this product in Ugwueke, Nigeria and the role of the middlemen in the process of marketing.

¹

The researchers footnote.

²

Pini, J., Jato, T. and Patrick, S.,: "The March to Recovery", New African Magazine, october, 1986.p.9.

It is the view of the author that the domestic marketing institution such as retailers, wholesalers and government parastatal and their influence on the prices received by the producers should be examined. Then, a general view of the aforementioned parameters will give us an idea of why the downward trend in agriculture is so rapid and the factors responsible for the growth or decline in production and importation. From this, a general profile of rice industry in Nigeria can be developed to make a reasonable recommendation as regards the situation.

GENERAL BACKGROUND

Ugwueke, where this research was conducted, is a village in the Imo State of Nigeria which is located between latitude 5 to 6 degrees north and longitude 7 to 8 degree east. It has a common boundary in the north with Akaeze, in the east with Item, in the west with Ezeukwu and in the south with Alayi. The village engages in most of its inter-trade with some of her neighbors. This village covers an area of approximately 379 square kilometers with about a quarter of million inhabitants. The land is a plain, swampy and fertile, with an annual rainfall of 203 cm to 254 cm and average temperature of 24 degree centigrade. The main occupation of the inhabitants is agriculture and 96 percent of the villagers are engaged in agriculture.

The source of raising capital in Ugwueke, like any other village in Nigeria, is only through their agricultural product. As a result, the vast situation of the majority of the farmers is not only bad in absolute terms, but it also compares increasingly unfavourably with urban people when the price of their product is very low. For instance, the trade relationship between rural and urban people in Nigeria has deteriorated by 65 percent³. As a result of this the rural poverty and agricultural backwardness has been compounded by the situation where the state's official imported product prices have been kept very low, precisely for those items produced and marketed by the villagers.

For instance, the importance of rice in Ugwueke and Nigeria as a whole cannot be overlooked due to the role in which the commodity has played in the dietary habits of Nigerians in general. In the past, rice in Nigeria, especially in the south, started as a food item for the elites, the Christian community and the urban population during festivities. In most southern households up to about the 1960s and beyond rice was often no more than the special Sunday food or food for special occasions such as a wedding, Christmas, New Year's, funeral ceremonies, etc.

However, today rice has ceased to be merely a luxury food and has become a necessity food for a significant proportion of the Nigerian population and the production of this product is mainly in the hands of rural people. When the Nigeria government decided to import rice in huge quantities, the price of rice became very

³

Editorial, Daily Times (The Independent Newspaper) Monday, October 14, 1985, p. 3.

low and those engaged in the production of this commodity were forced to abandon their farms. Then it became very clear that the position and role of peasantries to a very large extent are crucial factors contributing to the backwardness of agriculture in Nigeria.

NEED FOR THE STUDY

Rice is one of the cash crops produced in Ugwueke. It is cultivated by farmers on both a small and large scale, and most farmers generally sell their rice in the nearest rural markets immediately after harvesting. Thus, the seasonal overflow of the market with rice creates a glut in the price according to the invisible hands of demand and supply. As a result of lack of storage and credit facilities, the farmers have limited holding capacities and they are forced to sell their crops even if the price is extremely low. Apart from this, it has been reported in recent days that some rice importers have asked the middlemen and market association not to buy rice from a certain production center which has caused more additional economic hardship to some Agro-business men and women.⁴

In addition, the price of rice is subject to a wide range of variation and prices appear to vary from market to market between places in the same season. The retailers and wholesalers seem to be the sole beneficiary of the present conditions and the farmers feel denied of a fair return for their produce and invariably leads to agro-desertification.

⁴ Editorial, New Nigerian, october 21, 1988. p.5.

PURPOSE OF THE STUDY

The purpose of this research was to analyse the present marketing system of rice in Ugwueke, Imo State of Nigeria, with a view to ascertain the scope for improving the present production and marketing system. In order, to promote the production increase through self-promotion of agro-business industry as accorded top priority by the Nigeria government through its introduction of structural adjustment program (SAP) drawn up with the World Bank and IMF backing to account for the need to reduce dependence on oil revenues and food importation in general.

The specific objectives of this research were as follows:

1. To study the production and marketing of rice by the farmers and middlemen in Ugwueke.
2. To study the role of retailers and wholesalers in domestic marketing in Ugwueke village.
3. To study the attitude of farmers towards the government in the areas of credit, storage, transportation, extension education and price incentives.
4. To assess if the farmers in Ugwueke village feel that the price received from their produce is rewarding compared with their work .
5. To assess the problems of rice marketing and determine the scope for improvement in the marketing system.

GENERAL STATEMENT OF THE PROBLEM

Research on the present marketing system of rice in Ugwueke village in Nigeria will bring to light the share of prices the farmers received, the cost involved in marketing, and the marketing margins received by different intermediaries. This will be very helpful for a suitable price policy and to adopt appropriate measures by the government for the development of the rural life which in turn will improve the welfare of the society as a whole.

STATEMENT OF THE PROBLEM AND HYPOTHESES

The problems facing the farmers in their marketing are numerous. However, there are certain areas in this research to which due attention was given. For instance, what are the characteristics of the selected group of the middlemen and producers ?

2. How do the selected group of the farmers produce their rice?
3. How do the middlemen market their rice and to whom do they sell ?
4. What is the attitude of farmers towards the role of government in the areas such as credit, storage, transportation, etc.?
5. Do farmers perceive that they receive a fair return from their production and marketing ?

Within these contents, the presentation and discussion of the findings are organised in the following chapter.

HYPOTHESES

Ho: There is not a price discriminating variable between those who buy their rice from Orié market and those who do not.

H1: There is a price discriminating variable between those who buy their rice from Orié market and those who do not.

Ho: Secondly, there are price discriminating variables between those who sell their rice in Nkwo market and those who do not.

H1: There are not price discriminating variables between those who sell their rice in Nkwo market and those who do not.

These hypotheses are subject to be tested in this research, but the rationale behind their establishment are based on the fact that different buyers and sellers have a choice of market. As a result, it is the view of the researcher that certain attractive incentives, such as price, may be the driving motive.

LIMITATIONS OF THE STUDY

This study has a number of limitations. First, the study was confined to a particular village (especially at Amaba, Amaokayi, and Umungwere, all in Ugwueke) in Nigeria and its rural markets; hence the findings may not be considered adequately representative for the entire country because of the size, diversity, and geographical dispersion of the Nigerian domestic market.

Secondly, the limited memory capacity of the B.U.C. Business Division Computer Center has forced me to divide some of my data into two parts.

Finally, the research had been limited by finance because I made several, desperate efforts to obtain a grant to support this research and failed to receive any financial backing from any agency or organization that would have allowed me to travel out to collect the field data. I relied on my brother who represented me in this aspect. In addition, I depended on other intermediaries for collecting necessary information.

CHAPTER II

REVIEW OF LITERATURE

This chapter deals mainly with overview of what others have said about marketing. The available literature here is very myopic in nature in the sense that only the relevant topics are covered. The basic issues raised here are "What is marketing?" and "What role does it play in the economic development of a nation in general and that of Nigeria in particular?". Moreover, the role of government in marketing and economy was covered based on the framework of this research. Although, by all the logic of the situation, the marketing institutions in the less developed countries have made little or no impact on the economy of these countries.

DEFINITION AND ROLE OF MARKETING:

Marketing contribution to human life cannot be overlooked, nor overstated, because marketing has undergone different changes in its sphere. History tells us that ancient man started marketing in a different way, ranging from barter to modern marketing. The role of marketing and economic growth has become a tale of "twin kernel" which cannot be separated without inflicting damage to the other. For this reason, marketing has become one of the pillars or backbones of any business organization. Thus, the continuity and expansion of all forms of business partially lies in its ability to market its product. As a result, marketing experts and teachers

use different definitions of the term "Marketing".

According to Kotler "Marketing is human activity directed at satisfying needs and wants through exchange processes".¹ While Kohls and Uhl, on the other hand define marketing as the "performance of all business activities involved in the flow of goods and services from the point of initial agricultural production until they are in the hands of the ultimate consumer".² From these definitions, it is clear that "marketing is a school as well as an engine of distribution".³ Marketing teachers include in "Marketing" all "business activities involved in the flow of goods and services from production to consumption".⁴

In a broader view, agricultural marketing comprises all operations involved in the movement of food and raw materials from the farm to the final consumer. Agricultural marketing includes assembly, sorting, cleaning, grading, transporting, storage, packing, initial processing, looking for suppliers, looking for outlets, financing, taking the risk of holding produce until an outlet is found, adopting to consumers' tastes, informing them of

1

Kotler, Philip Marketing Management (Englewood Cliffs: Prentice-Hall, Inc., New Jersey, 1980), p.19.

2

Kohls, L. Richard and Joseph, N. Uhl, Marketing of Agricultural Product (New York: Macmillan Publishing Co., Inc., 1980), p.8.

3

Herrick, Bruce and Kindleberger, P. Charles, Economic Development (London: McGraw-Hill Book Company 1983), p.500.

4

Abbott, J. C., Marketing Problems and Improvement Programs (Rome: FAO United Nation 1958), p.7.

its availability and quality, presenting it in a convenient size and all other operations necessary for bringing goods from the producer to the final consumer.⁵

THE ROLE OF MARKETING IN AN ECONOMY:

The role of marketing in an economy cannot be overlooked. The collection and distribution of agricultural products particularly food, is an important mechanism for redistributing resources, wealth and power. The marketing of agricultural products can, therefore, be considered as a tool of development policy and an instrument for regulating and executing development processes.⁶

However, in many developing countries like Nigeria, market constraints are becoming increasingly problematic. The pluralistic and complex political, institutional, economic, social and operational issues concerning agricultural marketing have made it difficult to develop a general framework for understanding the performance of marketing systems in Nigeria. An efficient marketing system is of critical importance to a country under all conditions and at each stage in its national development. In the subsistence stage of development of a country, the market plays a modest role because a high proportion of all production is consumed on the farm where it is produced. However, as development proceeds, four changes cause a rapid increase in the importance of marketing.

⁵

Ibid. p.1-4.

⁶

Elz, D., Agricultural Marketing Strategy and Pricing Policy (Washington: 1818 H street, N.W 1987), p.132.

These changes can be enumerated as follows: First, commercialization accelerates; farmers sell a large proportion of what they produce. Commercialization expands partly because urbanization increases the size of off-farm market and partly because farmers become more specialized in production as they enter the market economy. Secondly, the rising income causes a particular growth in demand for secondary commodities such as fruits, milk, etc. Thirdly, rising income increases the demand for marketing services, and marketing charges become increasingly larger components of total consumer expenditures for agricultural products.⁷ Fourthly, the implications of urbanization trends and rural urban migration of food producer and marketer will force new market conditions under changing system of production. In so doing, creates both opportunities and problems. However, this is not a self-adjusting process, and measures may be needed to adjust the rate of urbanization to allow other socioeconomic objectives to be achieved.

Agricultural marketing and rural development are interdependent and policies covering a wide range of areas such as health care, education, transport, food and agriculture must be integrated. These expenditures can be lowered by increasing marketing efficiency.^e

⁷ Mellor, W. John, The Economics of Agricultural Development (New York: Cornell University Press 1970), p.331.

^e Ibid. p.331.

MARKETING AND GOVERNMENT ROLE IN DEVELOPING COUNTRIES

One of the fundamental tasks of any business firm wanting to apply the marketing concept of satisfying market requirements at a profit is to be "able to view the government role in a society which he is dealing with through the collective eyes of its policy"⁹. However, to be able to achieve this requires insight from social science, mostly dealing with the political and behavioral systems. Although, it is not my intention here to develop any insights in depth as regards behavioral sciences, but my objective here is to point out the needs for behavioral understanding in marketing because this concept is also relatively important in the analysis of information concerning marketing.

As a matter of fact, government policy and program implementation have a certain impact on domestic marketing. If these policies and program are economically negative in nature, then interference becomes inevitable to balance the imperfect marketing system generated out of market failure. The basic government role in domestic marketing has no close substitute. For example, seeing that the roads for transporting the goods is in a good condition, providing storage and warehousing for off-farm product which is an important element in marketing because storage plays a big role in stabilizing the price.

⁹

The researchers footnote.

For instance, the price of a product in some cases does not reflect the actual value or quality of such a product. Price and quality are recognised as important tactical and strategic variables in marketing. But in agricultural products time takes precedence over quality because there is a period or a gap between planting and harvesting. Apart from this, the role of government becomes relatively important in the area of price and quality with time. Furthermore, the domestic marketing institutions and their influences on the prices received by producers and paid by consumers has been studied in some of the less developed countries (LDC's) in Africa and Asia. Observations have shown that specific, spatial price spreads, intertemporal price gaps, and regional price differences do exist among different countries.¹⁰

The underlying causal factors for these difference, which then form the focus of corrective policies are very myopic in nature. The analysis of price spreads according to studies showed that farmers in Africa receive a smaller proportion of the price paid by final consumers of food grains than do farmers in other parts of the world.¹¹ Decomposition analysis of marketing margins showed that transport and associated marketing costs explain 39 percent of the difference in marketing margins between African and Asian countries.¹²

¹⁰

World Bank symposium, Agricultural Marketing Strategy and Pricing Policy, Washington D.C., U.S.A. (May 6-17 1985), p.12.

¹¹

Ibid. p.14.

¹²

Ibid. p.10.

African countries face a complicated dilemma in their infrastructure and marketing policies. The dualism between large farms and peasant farms in most African countries has generated a marketing problem. For instance, large farms tend to integrate production and marketing vertically. This leaves the small farm sector dependent on an extremely thin market which is not congenial for the growth of specialized marketing services. A thin market is also a very unstable market. In this case, government intervention becomes a natural phenomena in order to rectify the problem.¹³ Under the present economic situation facing African countries, public intervention in marketing may not be totally eliminated, but there is a general consciousness that need for gradual changes is eminent through selective intervention and marketing development.

AGRICULTURAL MARKETING IN LESS DEVELOPED COUNTRIES:

Agricultural marketing plays a significant role in making possible and encouraging increases in productivity and in moving farmers from subsistence farming, which is commonly prevailing in less developed countries (LDC's), to the commercial level. It also contributes to the general economy by adding value and generating employment. Agricultural marketing is greatly affected by population growth and urbanization, the rate of growth of

13

Herric, Bruce and Kindleberger, P. Charles, Economic Development (London: McGraw-Hill Book Company 1983), p.282.

agricultural production, and the stage of development of the general economy. Specific activities to improve agricultural marketing can be related to each of these development indicators.

In general four main groups of individuals influence the marketing system: Producers, Retailers, Wholesalers, and Planners (that is government) all with different goals.¹⁴ However, three major developments have influenced the market situation in the past and will continue to do so in future. These include expansion of the population, developments in production, and the large expansion in international agricultural trade. The alternatives for the betterment of agricultural marketing in Nigeria depends on the government recognition of the above points and playing an active role to its institutional prerequisites.

MARKETING POLICIES AND DEVELOPMENT:

Marketing policies in different parts of less developed countries (LDC's) differ and sometimes vary within the same country, and thus, create some discrepancies in the government role. For instance in certain countries, notably in Egypt, marketing of agricultural products follows two guided principles:

1. Public Cooperative Marketing System (PCMS).
2. Private Marketing System (PMS).

The marketing of rice in upper Egypt takes the form of public cooperative marketing system.¹⁵ In this case, the Ministry of Agriculture enacts laws to organize the marketing process of each

¹⁴

FAO, The Role of Middlemen in Agricultural Credits & Marketing
Rome : FAO of the United Nation & Near East and North Africa
Region Agriculture Credit Association Amman-Jordan 1981, p.6.

crop in every year in order to protect the farmers from the price fall and make their labour more rewarding. This makes the role of retailers and wholesalers semi-dormant in the sense that the government assumes full control of all aspects of agricultural marketing.

However, a typical structure of domestic food markets can be based on three networks according to World Bank study of 1987.¹⁵ These networks include ownership and form, transport, and storage. These functions are closely interwoven into the whole national economy and immensely contribute to the economic and social development of a country.

ESSENTIAL GOVERNMENT ROLE IN A MARKETING SYSTEM:

There are certain roles or activities that the government itself should undertake in the marketing system of a country. The government must maintain a system of currency in which both merchants and farmers have confidence. It should provide for legal enforcement of contracts. The government should also set and enforce quality or grade standards for major agricultural commodities. Moreover, government can assist in guiding commodities in the right quantities to the right place at the right time by assuring prompt and efficient postal service and telephone services between local and central markets. The

¹⁵ Ibid. p.6-8.

¹⁶

World Bank Symposium, Agricultural Marketing Strategy and Pricing Policy, Washington D.C., U.S.A. (May 6-17 1985), p.13.

government can provide an independent market information service in which public reports are made of shipments and receipts of commodities and prices being paid for them in important centres¹⁷.

The other functions of marketing such as transportation, buying and selling, storage, grading, processing, and operating a banking system which provides both facilities and credit for marketing may be performed by private, individual, government or cooperatives. However, care should be taken so that no part of the marketing system should become a monopoly of any one interest or organization without effective safeguards of the farmers interest.¹⁸

STORAGE AND MARKETING IN NIGERIA

One thing is to produce a good and another thing is to hold such goods until a suitable market outlet is found. Then, the issue became an inseparable, dichotomous function which can be separated. Observation has shown that the holding capacities of agricultural product in developing nations has suffered a series of setbacks. As a result, the excessive flooding of agricultural products during peak seasons became a common phenomena observed in these nations.

¹⁷

Mosher, A.T., Getting Agriculture Moving, (New York: Praeger Publishers 1966), p. 69-70.

¹⁸

Ibid. p. 70-72.

Storage and marketing agricultural products are areas that have suffered a great deal of neglect in Nigeria. As has been observed, marketing of food crops is beset by a number of problems. These problems are as follows:

1. Low producer prices for food crops and lack of assured market.

There is a large seasonal price variation for most food crops.

2. Poor storage facilities at both the producer and trader level resulting in large losses of food crops.
3. Inadequate credit for production and consumption has tended to restrict the marketing alternatives open to the farmers.
4. There are no uniform standards of weights and measures used in Nigeria.
5. Poor roads, poor transport and inadequate market information increase inefficiency in the marketing system.

Some of these problems will require more empirical investigation before a conclusion can be drawn regarding their severity. Available information suggests that they all deserve urgent attention. Up to date staple food marketing is almost exclusively confined to the private sector although some official purchase, storage, and distribution schemes are run in an effort

to relieve local shortages. A number of studies have concluded that performance within the marketing system is rather efficient and that exploitive practices of middlemen are probably being curbed by competition in individual markets. However, it is known that the effect of long-distance distribution costs is increased by higher proportion in the transportation system. This is why it is equally important for the government of Nigeria to enter the area of food storage, marketing, and distribution. The government must especially pay attention to storage at both the farm level and in the government central warehouses.

RICE IN THE NIGERIA ECONOMY

Rice is one of the agricultural cereals that has experienced the fastest relative growth in Nigeria considering the period of its introduction into the country. The local production of paddy rice which stood at less than 100,000 tons in the early 1960s increased to about 200,000 tons in 1967, and further to a little less than 600,000 tons in 1978. Then, subsequently there was a downward decline to less than 500,000 tons in 1983. In the same period, areas under cultivation rose from less than 150,000 hectares in the early 1960s to more than 200,000 hectares in 1978

and then subsequently declined to less than 300,000 hectares in 1983. Therefore, area under rice cultivation recorded a mean annual growth rate of 4.9 percent while total output was 17.2 percent. Despite the rapid growth in local production the demand for rice has so far outstripped its supplies.¹⁹ For instance, in the whole of West Africa, Nigeria was by 1983 the largest importer of rice. The Nigerian share of total West African imports rose 25 percent in rice and in value terms within the same period stood at about 60 percent of agricultural produce imported.²⁰ In other words, rice imports multiplied by more than 15 times between 1976 and 1979 and increased further by 50 percent within 1980 to 1983 (see Table 1).

¹⁹ Oni, S.A. and Ikpi, A.E., Rice Production and Marketing in Nigeria; An Economic Analysis (Ibadan Press WARDA, SD/79/17, 1979), p. 145.

²⁰

Ibid. p. 143.

Table 1.**Rice production and importation in Nigeria, 1970 - 1983.**

<u>Year</u>	<u>Domestic(tons)</u> <u>production</u>	<u>Importation</u> <u>tons</u>	<u>Total</u> <u>tons</u>	<u>Percent</u> <u>increase</u>	<u>Total import</u> <u>bill N million</u>
1970	345,000	1700	346,700	-	.14
1971	383,000	300	383,300	10.6	.05
1972	447,000	5,900	452,900	18.2	.99
1973	487,000	1,100	488,100	7.8	.27
1974	525,000	4,000	529,000	8.5	1.50
1975	515,000	6,700	521,700	-1.5	2.38
1976	534,000	45,000	579,000	11.0	20.14
1977	667,000	413,000	1,080,000	86.5	154.94
1978	695,000	770,000	1,465,000	35.6	194.76
1979	850,000	1,540,000	2,390,000	63.1	221.79
1980	600,000	1,620,000	2,220,000	-7.1	234.11
1981	590,000	1,900,000	2,490,000	12.2	245.20
1982	599,000	2,000,000	2,599,000	4.3	260.80
1983	560,000	2,100,000	2,660,000	2.3	300.40

Source: Federal Office of statistics and Federal Ministry of commerce Lagos.

Several factors constitute the observed phenomena in the above table. Over the decade, rice consumption in Nigeria grew at a high rate of 16.2 percent per annum, showing that demand was doubling every six years. Secondly, up to 1976, by far the largest part of this demand, varying between 91.6 and 92 percent was met from domestic production. Thirdly, within the single year 1976-

1977, demand made a dramatic jump almost doubling during that short period of time from about 580,000 tons to over one million tons.

For instance, most of this dramatic jump was largely accounted for by massive importation, which records 38.2, 52.6 and 64.4 percent in 1977, 1978 and 1979, respectively. While during the period 1976 to 1979, domestic production grew at an average rate of 13.75 percent per annum. However, from 1978 to 1983 importation outstripped domestic production by accounting for over half of the total supply.

There is an old adage which says that "a country that can not feed itself is not worthy to exist". So, there are several factors responsible for the growth in rice production and importation in Nigeria within the period under review. Among these are the increase in per capita demand for rice from 5.30 kgs per year in 1968/69 to 6.98 kgs per year in 1975 and further projected to 7.72 kgs per year and 9.00 kgs per year in 1980 and 1985, respectively.²¹ The increase in per capita rice consumption is related to the fact that rice seems to show a fairly significant income elasticity. For instance, as long as the income of most wage earners in Nigeria was relatively low with the present austerity measures and the price of rice relative to other staple food such as gari, beans, yams, etc. was high. Thus, demand for rice grew at a modestly rapid rate.

However, for the past few years, the price of rice relative to other staple foods, particularly gari, has been moving at a

relatively low margin. As a result, very large consumer groups like to eat rice because they could not afford other staple foods most of the time. The break-through of this marginal consumer group into the rice market constitutes perhaps the most important factor in the demand increase of rice from 1976. The year 1976 marks a significant year in the socioeconomic and geo-political history of Nigeria because it was the year that Nigeria was first split into 19 states and later 21 states in 1987.²² The creation of these states not only led to the creation of new employment opportunities which enhanced the level of income of the general population, but also acted as a development incentives to many parts of the country, some of which had been previously relatively ignored in the Nigerian development thrusts.

Another important factor in the rapid demand of rice was a result of the income increase. Thus, there is the general tendency for consumers to be more discriminatory in their choice of rice. The astronomical increase in rice importation can be ascribed to the fact that the increase in the consumer income has made the person to be more inclined to buy imported rice than the locally produced varieties.

In addition, the imported rice has a number of advantages over the domestic rice, particularly from the point of view of the working urban housewife and bachelors. For instance, the imported rice is cleaner and contains no stones or other impurities which

²¹Mafeni, B.O.W., "Federal Plan For Agricultural Development," The Nigeria Trade Journal, Vol. 22 No.4 (July 1986), p.26.

²²

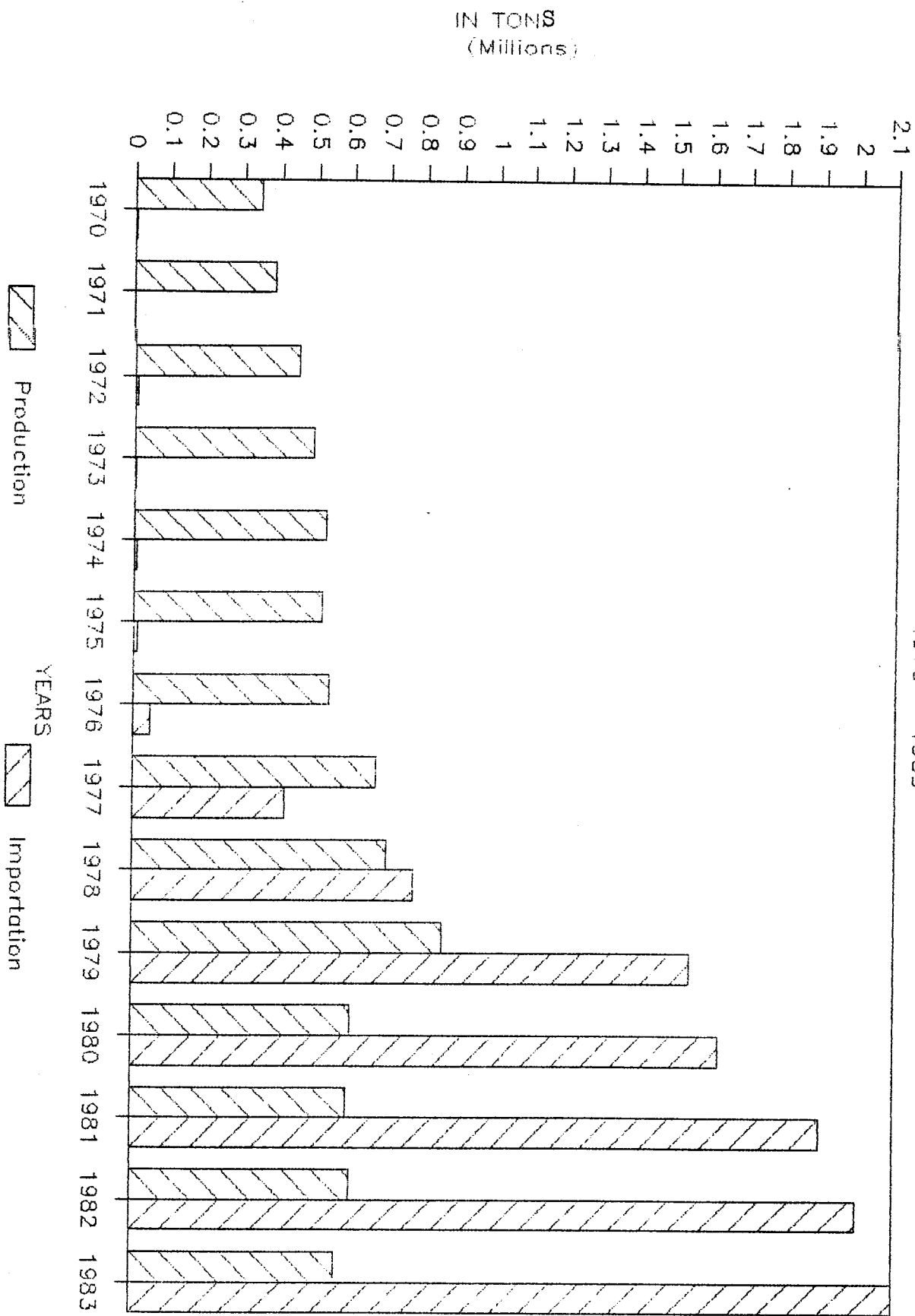
Editorial, New Nigerian, Sep. 12, 1987 p.3.

have to be picked patiently and followed by repeated washing before cooking.

It is also long-grained, cooks dry and fluffy, and does not smell. Thus, the widespread acceptability control that ensures cleanliness and freedom from stones and above all its presentation in standard packages gave it an edge over the domestic rice.

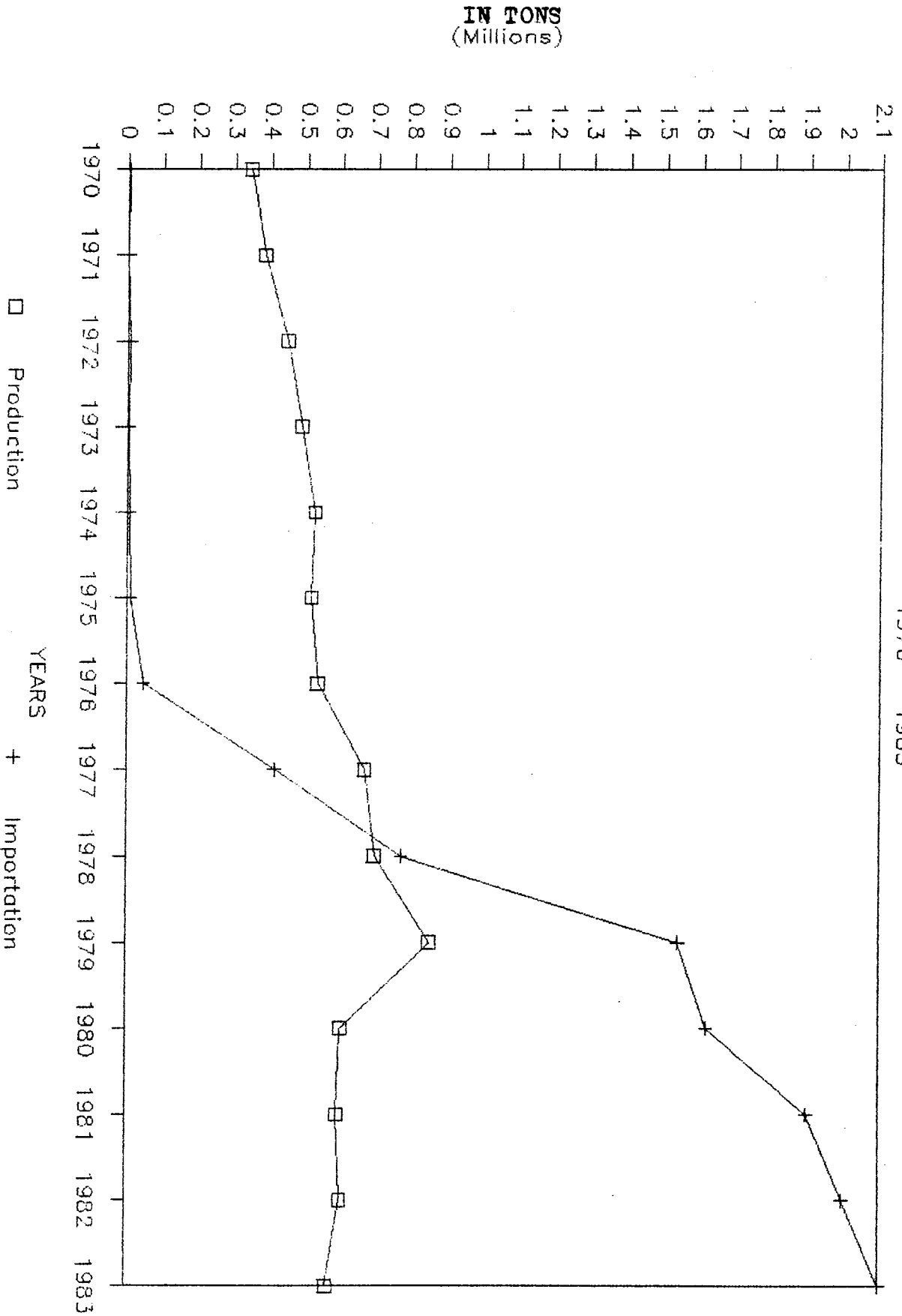
RICE PRODUCTION AND IMPORTATION

1970 - 1983



RICE PRODUCTION AND IMPORTATION

1970 - 1983



CHAPTER III

METHODOLOGY

This research was based on data collected in Ugwueke village in Nigeria. The administration of the questionnaire took the form of a two-phase synchronized method in the village. The first phase was that data was collected from three out of five communities that make up Ugwueke village because these are areas where rice production is basically carried out. The second phase was a general collection of the data from retailers and wholesalers in the Ugwueke markets as a whole. The study was based mainly on primary data collected, although secondary data was also used to supplement the research. The collected data was analyzed in terms of the set objectives.

SELECTION OF THE STUDY AREA

In the selection of the study area, I made a field trip and observation survey of this village as far back as 1980 and 1981. After a period of seven years, I was motivated to conduct research on the marketing system of rice in this village in the wake of dramatic events that have taken place in the Nigerian economy. In view of my previous field observation and in consultation with my family, who promised to assist me in any information whatsoever and data collection, I decided to select Ugwueke because of the reasons mentioned above. Access to valuable information without

fear or favour from anybody enabled me to complete this task.

Then, in early July, 1988, contacts were made on how to transform this dream into a living reality. I passed instruction to my brother who carried out a more detailed study about the production center of rice. In a subsequent reply the names of three out of five communities that make up Ugwueke village were given to the researcher. These three are (Amaba, Amaokayi and Umungwere) neighbouring communities, and are located at a distance of half, one and a half, and two kilometers respectively from each other. The names of the primary markets in the village are Orie, Afo, Nkwo and Eke.

THE POPULATION

In this research, market participation was examined in full detail. However, the main concentration areas were (a) rice producers, (b) retailers, (both residence and non-residence), and (c) wholesalers (both residence and non-residence).

THE SAMPLE

The ratio of sample used in this research were as follows: twenty rice producers were interviewed in Amaba; ten producers were interviewed in Amaokayi and ten in Umungwere. This ratio was based on the production concentration and does not constitute any discriminatory sampling. For instance, Amaba constituted half

of the producing populace whereas Umungwere and Amaokayi made up the remaining half. Then, ten residence retailers and wholesalers were interviewed because these are the only proportion available in the village. While thirty non-residence retailers and wholesalers were interviewed based on the proportion that each constitute in the marketing system.

QUESTIONNAIRE CONSTRUCTION AND ADMINISTRATION

Keeping in mind the aim and objectives of the study, a detailed and comprehensive set of questionnaires in respect to rice producers, retailers and wholesalers were prepared. The questionnaires were pre-tested through personal administration and necessary changes were made where applicable.

THE SELECTED VARIABLES AND THEIR MEASUREMENT

The parameters used in this research were divided into two parts. Part I (producers) and Part II (middlemen) of the instruments contain the items that are used to measure the independent and dependent variables. These items are questions selected from areas identified by a review of literature, informal discussion with fellow Nigerian students in Lebanon, logical basis, and my personal experience.

PART I.

Items one through three contain the areas that were identified as "General information".

Items 4 through 7 contain the areas that were identified as "Production of rice".

Items 8 through 14 contain an area that was identified as "Rice disposal".

Items 15 through 18 contain an area that was identified as "Transportation used by farmers for marketing".

Items 19 through 22 contain an area that was identified as "Storage of rice by farmers".

Items 23 through 25 contain an area that was identified as "Credit".

Items 26 through 29 contain an area that was identified as "Prices".

Items 30 through 31 contain an area that was identified as "Hedging" and finally items 32 through 34 contain an area that was identified as "Constraints".

PART II. Item one contains "General information".

Items 2 through 4 contain an area identified as "Purchasing activities".

Items 5,6,11 and 12 contain an area known as "Transportation activities for buying and selling".

Items 7 through 10 contain an area identified as "Selling activities".

Items 13 through 17 contain an area identified as "Storage".

Items 18 through 20 contain an area identified as "Pricing".

Items 21 through 23 contain an area identified as "Credit".

In order to gain simplicity in analyzing the data different coding schemes were used on the question.

For question 21 of Part II which consists of three items, each respondent received a composite score from the most appropriate answers ranging from 3 to 15 for his total response on the scale.

For questions 2,9,11,16,19 of Part II and 22 of Part I which consist of four items, each respondent received a composite score from the most appropriate answers ranging from 4 to 20 for his total response on the scale.

For questions 7 and 20 of Part II and questions 10 and 30 of Part I which consist of five items, each respondent received a composite score from the most appropriate answers ranging from 5 to 25 for his total response on the scale.

For questions 7,14,26,27,29,32 and 34 of Part I which consist of six items, each respondent received a composite score from the most appropriate answers ranging from 6 to 30 for his total response on the scale.

For question 25 of Part I which consists of seven items, each respondent received a composite score from the most appropriate answers ranging from 7 to 35 for his total response on the scale.

The codes that were used for these items are 5,4,3,2,1 for strongly agreed, agreed, undecided, disagreed and strongly disagreed, respectively. For the remaining questions, the codes that were used for recording the score range from zero to seven.

PILOT STUDY

In an effort to see how visible, effective and complying with pre-set objective this research would be, I conducted a pre-study on the issue involved. Here I administered the first sets of the questionnaire to eight different Nigerians living in Beirut who represent retailers and wholesalers because they have an idea about how their parents used to buy rice in Nigeria. None of these group members had any pre-knowledge that each of them received any questions.

Then, a second group of ten Nigerians were administered with a different questionnaire. These people produce rice in their area and thus represent producers. The data collected from these groups were fed into the computer via a database system and linked with a SPSS system. However, due to the system in which the pre-study data was collected, there was no strong correlation between the parameters to be tested.¹

COLLECTION OF DATA

The field data was collected by my brother who represented me during the period of November and December 1988. The collection of this data was not difficult on the part of producers because

¹ The researchers footnote.

the data was collected during the harvesting period of rice and the peak selling period as well. In this case, the respondents do not need to do too much thinking because all the information needed was at the tip of their fingers.

On the other hand, it was very difficult to collect data from the wholesalers and retailers because the seasonal buying is not yet over. In addition, most of them do not keep accurate records of the past purchases and have supplied the information from their memory. Apart from this, most of them were apprehensive of the study and its purpose, hence they became very skeptical.

CONCEPTUAL FRAMEWORK FOR DATA ANALYSIS

The collected data were carefully scrutinized, coded, and fed to computer via database III+ and linked with SPSS (Statistical Package for the Social Science) system. From them, output tabulations were made and analyzed. A number of tables were prepared on the basis of the specific objectives. The hypotheses were tested by using the regression variable and chi-square test of independence statistical techniques. Primarily the frequency and tabular techniques of analysis were followed in this study.

class because they cultivate 51 hectares and above. So it is not surprising from this observation, that this research constitute mainly a study of the marketing system of small farm holders in Ugwueke village. It is worth noting that the land holding techniques in most developing countries are very low due to family and different land tenure systems which operate in those countries.

Table 2

Distribution of farmers according to the farm size

<u>Class</u>	<u>No. of farm</u>	<u>Percent</u>	<u>Cumulative percent</u>
Low (1-20)	21	52.5	52.5
Medium (21-50)	10	25.0	77.5
<u>High (51 & above)</u>	<u>9</u>	<u>22.5</u>	100.0
Total	40	100.00	

Production Intensity. The interval between production and performance of goods and services has a major impact in marketing. In most cases the price of goods and services are determined by the availability of such goods in marketing. The likeliness of customers for a particular product partially depends on the producer to meet the customers' need. For this reason, given the limited landholding few farmers have adopted the idea of dual production of rice in an effort to increase production and bridge the gap between production cycle to meet the customers' needs.

In this research, the production cycle range was observed to be 70 percent because 85 and 15 percent of the farmers produce rice once and twice in a year, respectively. In fact, this system leaves a long period of time between production and supply. Thus, a period of acute shortage of rice in the village, is created.

Table 3

Production cycle of rice producers

<u>Production</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative percent</u>
Once	34	85	85
<u>Twice</u>	<u>6</u>	<u>15</u>	100
Total	40	100	

Due to the rapidly changing commodity supply situation some farmers have specialized in doubling their production. They do this by starting earlier than schedule, use capital to hire more labor and irrigate their farm where necessary and reduce the production of other crops. These group of farmers are few because the source of capital availability in most villages is limited and sometimes only comes from the farmer's relatives living in the urban area. In view of the aforementioned and coupled with other factors such as birds and pest destruction, crop diversification, etc., most farmers cannot meet with dual production. A question was asked to those who cannot produce twice and their responses are tabulated below.

Table 4**Reasons for difficulties of producing more than once a year**

<u>Reasons</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Birds & pest destruction	34	30.6	30.6
Other crops to attain	33	29.7	60.3
Not enough capital	33	29.7	90.0
<u>Others</u>	<u>11</u>	<u>10.0</u>	100.0
Total	111	100.0	

From Table 4 it was obvious that the most common problem facing the farmers in this category is destruction from birds and pests, inadequate capital, and other crops to attain which constituted 90 percent of the problem. Then weather conditions, weeding, and irrigation systems were less severe problems and can be partially solved in the presence of capital availability.

Rice Consumption. The majority of the rice producers, produce for a marketing purpose. As a result there was a reduction in the quantity consumed in comparison with the quantity produced. However, the fraction consumed is substantial compared with the initial notion about the farmers' ability and attitudes to rice consumption. Table 5 shows that 70 percent of the sample consumed less than 10 to 20 percent of their production capacity which is substantial compared to their production.

Table 5**Quantity of rice consumed by farmers**

<u>Capacity</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative percent</u>
Less than 10-20%	28	70.0	70.0
From 20 - 40%	11	27.5	97.5
<u>From 50% & above</u>	<u>1</u>	<u>2.5</u>	100.0
Total	40	100.0	

MARKETING PERIOD, PLACE AND PREFERENCE

The marketing of agricultural product is quite different from manufactured goods because of the perishability of the former. For this reason, farmers have very limited holding periods between production and marketing. Among the most widely used marketing systems in agricultural produce is seasonal production. Thus, the farmers unknowingly apply the concept of the time value of money in their marketing : a dollar received at some future date has less value than a dollar received today. The distribution of farmers according to the marketing period of rice is shown in Table 6. Out of 40 farmers, 34 sell their rice immediately after production and 6 wait a little while after production before selling.

Table 6**Distribution of farmers according to their selling period**

<u>Sell immediately</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative percent</u>
Yes	34	85	85
<u>No</u>	<u>6</u>	<u>15</u>	100
Total	40	100	

Expediencies of the study have inevitably revealed further reason why most of the farmers sell their rice immediately after production. Actually it appears from the responses that most of them are confronted with natural and artificial barriers. For instance, 97.2 percent of them sell their product because of storage difficulties and to pay their debt assumed encountered from the farming.¹ Then, 2.8 percent sell their product because they perceived that the price offered to them was good (see Table 7).

Table 7

Reasons for immediate sale after production

<u>Reason</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Pay debt	34	48.6	48.6
Storage problem	34	48.6	97.2
<u>Good price</u>	<u>2</u>	<u>2.8</u>	100.0
Total	70	100	

Table 8 presents all the market options available to the producers. However, the choice of the market was not a factor that indicated the relative importance of price to the selling process because of the other variables such as seasonal production, importation of similar commodities etc. Nevertheless, most farmers interviewed in this research preferred to sell their rice at home or market at the best selling places since there is no price difference irrespective of where they sell the rice. The percentage responses were 9.5 and 90.5 percent in favour of home and market, respectively.

¹ The researchers footnote.

Table 8**Market preference of the farmers**

<u>Market</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Orie	35	42.2	42.2
Nkwo	27	32.5	74.7
Eke	20	24.1	98.8
<u>Afo</u>	<u>1</u>	<u>1.2</u>	100.0
Total	83	100	

As was shown in the above Table, 42.2 percent of the respondents expressed preference to sell at Orié market, 32.5 percent expressed they preferred Nkwo, 24.1 percent favoured Eke market, with only 1.2 percent preferring Afo. The reason behind boycotting Afo market was that Orié market meet before earlier in the week before Afo and most farmers use this market day to attend to other problems. As a result, the place of Afo market was taken over by Orié market and other farm activities. For this reason, two major markets preference by farmers emerged, namely Orié and Nkwo. It was observed that 95 percent of the marketing activities were carried out in these markets. Then leaving only 5 percent of the marketing activities to Eke and Afo markets (see Table 9).

Table 9**The best market place according to the farmers**

<u>Best market</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative percent</u>
Orie	20	50.0	50.0
Nkwo	18	45.0	95.0
Eke	1	2.5	97.5
<u>Afo</u>	<u>1</u>	<u>2.5</u>	100.0
Total	40	100	

Market Preference. Table 10 represents the percentage market preference of wholesalers and retailers regarding the purchase of rice in Ugwueke. It will be noted that majority of the middlemen in the sample purchase their rice from the Nkwo and Orié markets. The classification of "purchasing power" represents without exception those buying from the smallest to the largest.

Table 10

Market preference of the middlemen

<u>Market</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Orié	39	34.2	34.2
Nkwo	38	33.3	67.5
Eke	31	27.2	94.7
<u>Afo</u>	<u>6</u>	<u>5.3</u>	100.0
Total	114	100	

The market choice of the middlemen conformed with the best marketing place of the producers as was observed in Table 9. However, more middlemen preferred to buy their rice from Eke market than most of the producers willing to sell in this market. The middlemen on the other hand are not willing to offer a higher price to the producers in order to induce them to sell at Eke market because of the seasonality of the marketing. For this reason, both the producers and middlemen have made it a point in principle to be trading in Orié and Nkwo markets only.

Customer Preference. Further insight to whom the farmers preferred to sell their products revealed little difference between the choice of his target market. As Table 11 indicates,

34.6 percent of the farmers preferred to sell their rice directly to consumers. Whereas 65.4 percent preferred to sell their rice to middlemen, that is, wholesalers and retailers.

Table 11

Categories of customers available to farmers

<u>Type of customer</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Consumers	38	34.6	34.6
Retailers	36	32.7	67.3
<u>Wholesalers</u>	<u>36</u>	<u>32.7</u>	100.0
Total	110	100	

The respondents in this research are almost indifferent to their target market because there is no price difference offered by the different categories. This is commonly observed during the seasonal production. As such, the producer does not discriminate between the customers.

REGIONAL MARKETING AND HEDGING

Despite the fact that the middlemen are conforming with their buying activities within only two markets, they have several selling outlet both in kind and region. Table 12 shows that most of the bulk of the rice purchased by wholesalers and retailers is sold in different markets in different regions. However, approximately 36 percent of this product is disposed at Umuahia which is the highest spot market for the middlemen. The second market region in the absorption list is Uzuakoli, which takes 23 percent of the rice produced in Ugwueke. Aba, Alayi and Item are

the remaining selling region and according to the available information their percentages stood at 17.9, 12.8 and 10.3, respectively.

Table 12

Marketing outlet of the middlemen according to region

<u>Market region</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Umuahia	28	35.9	35.9
Uzuakoli	18	23.1	59.0
Aba	14	17.9	76.9
Alayi	10	12.8	89.7
<u>Item</u>	<u>8</u>	<u>10.3</u>	100.0
Total	78	100	

Further, the composition of consumption units revealed that 53.1 percent of the rice goes to the consumers directly. Then 38.8 and 6.1 percent were supplied to the secondary schools and universities respectively. Only 2 percent went to hospitals (see Table 13).

Table 13

Market segmentation according to consumption units by middlemen

<u>Consumption unit</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Direct consumer	26	53.1	53.1
Secondary school	19	38.8	91.9
University	3	6.1	98.0
<u>Hospital</u>	<u>1</u>	<u>2.0</u>	100.0
Total	49	100	

The supply to the hospital and universities by middlemen was very low because such institutions are under the direct control of the government. Secondly, only a few such institutions existed in the area where the research was conducted.

Market Hedging. Hedging as a way of marketing has in recent days been practised by different business organization. The respondent distribution indicated that 30 percent of the farmers have devised this method in marketing their product. Out of this 30 percent, 75 percent receive their payment before delivery while 25 percent preferred payment after delivery. However, prices are determined during the negotiation and the most common method adopted for such price determinations are through the numbers of the bidder and prevailing price, which constituted 35.3 and 32.4 percent, respectively. Other methods are through a self price policy and buyers' policy which constituted 23.5 and 8.8 percent, respectively.

Table 14

Factors affecting hedging price

<u>Factor</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Numbers of bidders	12	35.3	35.3
Prevailing price	11	32.4	67.7
Self price policy	8	23.5	91.2
<u>Buyers policy</u>	<u>3</u>	<u>8.8</u>	100.0
Total	44	100	

These are several factors attributing to the hedging system adopted by farmers. Some used this medium to raise more capital

and avert the high seasonal price slump. While some use it as problem-solving method. For instance, if the farmer is in need of money to meet an unexpected emergency need, he has to look for someone who is willing to buy his product yet unharvested. In this case, the price offered by the buyer is generally low and none of the factors indicated in Table 14 hold.

THE PRICING SYSTEM AND UNITS OF MEASUREMENT

The effect of price was obvious as one of the most contested issue of this research. As was observed from the respondents, the source of information about price is commonly derived from the local sellers, market, and buyers with the following percentages of 34.2, 34.2 and 31.6 respectively. Then, what factors among these variables determine the price of rice? This is a question to be answered in this research.

The present price determination distribution of Table 15 indicated that the price of rice is commonly determined by seasonal production, quantity of imported rice, buyers, market, and farmer. With the later constituting only 2.7 percent. The major price determinants are seasonal production and quantity of imported rice which shared about 26.8 percent each. These were followed by buyers and market which shared 24.2 and 19.5 percent, respectively. As was shown in table 6, most farmers sell their rice immediately after seasonal production. This indicated that the supply of rice during the season was high and inversely the price of this commodity at this period was relatively low.

Then invariably it is not surprising that the price of rice was low in the village as observed in Table 18. Moreover, among those middlemen interviewed about the best way of determining the purchase price of rice, it was observed that 33.6 and 32.8 percent of them favoured the market supply and demand, respectively. Whereas 26.9 and 6.7 percent favoured the prevailing price system and government control, respectively (see Table 17). The prevailing price system, market demand, and supply are nothing but seasonal production mechanism systems which are currently being used as a major yardstick for price determination.

Table 17

Best price adoption for purchasing

<u>Price system</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Market supply	40	33.6	33.6
Market demand	39	32.8	66.4
Prevailing price	32	26.9	93.3
<u>Govt. control</u>	<u>8</u>	<u>6.7</u>	100.0
Total	119	100	

In spite of all the variables in the current price determination mechanism, an evaluation of the buying price of the middlemen was conducted. The distribution of price paid by wholesalers and retailers in their buying activities can be seen from Table 18. It was observed that 50 percent of the middlemen agreed that the price paid during the seasonal purchase is low.

While 30 percent agreed that the price was fair and 15 percent accepted that the price paid during the seasonal buying was very low.

Table 18

Opinion of the middlemen towards price paid during seasonal buying

<u>Price</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative percent</u>
Very low	6	15	15
Low	20	50	65
Fair	12	30	95
High	2	5	100
<u>Very high</u>	<u>--</u>	<u>--</u>	100
Total	40	100	

There is a general feeling that the seasonal selling price (by producers) and buying price (by middlemen) is low. Thus, the dissatisfaction of farmers was observed in Tables 38 and 39. The confirmation of this was that among the middlemen interviewed in this research 62.8 and 34.9 percent of them carry their marketing on the basis of a self-employed and contract basis, respectively, with only 2.3 percent using a commission agent.

Selling Price Determination. There are many objectives behind the marketing functions carried by middlemen. For instance, 97.7 percent engaged in marketing of rice to make a profit from the market for their family living. While 2.3 percent engaged in

marketing to attain a profit in the form of a commission. As a result of this, each group has a parallel objective in regard to the selling price.

However, the concept of marketing remains the same irrespective of the selling price method adopted. Table 19 below represents the group system of price mechanism adopted. It was observed that most people based their selling price on the quality of their rice followed by expected profit and cost price (known as cost plus profit margin). Bids also have a significant role in selling price determination. The government role remains dormant as a result of free enterprise marketing system.

Table 19

Factors determining the selling price by the middlemen

<u>Price determinant</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Quality of rice	40	26.3	26.3
Expected profit	39	25.7	52.0
Cost price	39	25.7	77.7
Bids	32	21.0	98.7
<u>Government</u>	<u>2</u>	<u>1.3</u>	100.0
Total	152	100	

Unit of Measurement. It would interest us to know the units of measurement used by farmers and middlemen in their marketing. The current measuring units by the producers are cups and basin. These methods give a lot of room for discrepancies, manipulation, and cheating by either producers or middlemen.

Therefore, a system of standardizing the units of measurement for the best interest of both parties would solve the current problem.

On the other hand, the choice of units of measurement adopted by the middlemen varies from the target market group. For instance, those who supply their rice to the schools and hospitals preferred to use kilograms and bags as units of measurement. While most of those selling to the consumers directly preferred to use cups and kilograms as unit of measurement. Nevertheless, the majority of the middlemen preferred kilograms as unit of measurement.

Tables 20 and 21 below indicated the percentage preference of each unit.

Table 20

Units of measurement preference as observed

<u>Unit of measurement</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Kilograms	37	43.5	43.5
Cups	29	34.1	77.6
Bags	19	22.4	100.0
<u>Basin</u>	<u>0</u>	<u>0.0</u>	100.0
Total	85	100	

The choice of units of measurement for different categories of buying groups, was observed. The result indicated that most preferred to use the kilogram (50 percent) as measuring unit. The second ranking measuring units were bags (34 percent) followed by cups (16 percent). Consumers preferred to use cups and

kilograms. Whereas those buying in large quantities such as secondary schools, universities, and hospitals preferred kilograms and bags.

Table 21

Buying groups and unit of measurement preference

<u>Buying group</u>	<u>Unit of measurement</u>	<u>Score</u>	<u>Percent</u>	<u>Cum. percent</u>
Consumers	Kilogram & Cups	66	32.35	32.35
Sec. Schools	Kilogram & Bags	46	22.55	54.90
Universities	Kilogram & Bags	46	22.55	77.45
Hospitals	<u>Kilogram & Bags</u>	<u>46</u>	<u>22.55</u>	100.00
	Total	204	100	

STORAGE SYSTEM

The farmer respondents indicated that 92.5 percent do not store their products, while 7.5 percent do. Even from the storing group, it was further revealed that most of them stored their rice for a short period of time. Table 22 shows the storage distribution of this group of farmers.

Table 22

Storage period of some group of farmers

<u>Time</u>	<u>Score</u>	<u>Percent</u>	<u>Cum. Percent</u>
1 - 4 weeks	13	35.1	35.1
5 - 8 weeks	11	29.7	64.8
9 - 12 weeks	5	13.5	78.3
13 - 16 weeks	3	8.1	86.4
17 - 20 weeks	5	13.5	99.9
<u>More than 20 weeks</u>	<u>0</u>	<u>0.0</u>	100.0
Total	37	100	

Approximately 65 percent of the farmers store their rice from one to eight weeks from the time it was harvested. Whereas 21.6 percent of them store their rice up to sixteen weeks from the harvest date and 13.5 percent store their product up to twentieth week. Observation indicated that the respondents' reasons for the short period of storage stem from their indebtedness (as was indicated in Table 7) and storage difficulties (as shown in Table 23.)

From Table 23, the immediate problems facing farmers as regard to storage are rodents and a lack of warehouses which constituted about 83.3 percent. The remaining 16.7 percent had problems of weevil infestation and holding costs. The severity of these problems are commonly felt on the rice reserved for seeding in the next farming. For instance, out of 40 respondents, 60 percent of them reserved less than 10 percent of their total production for the next season's seeding, whereas 37.5 percent reserved less than 20 percent for the same purpose, and only 2.5 percent reserved more than 20 percent of their produce.

Table 23

Problems facing farmers in their storage system

<u>Problem</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Rats and mouse	37	47.4	47.4
Lack of warehouses	28	35.9	83.3
Holding costs	11	14.1	97.4
<u>Weevils</u>	<u>2</u>	<u>2.6</u>	100.0
Total	78	100	

So, retrospect to table 2 there is clear evidence that all the lower class farmers reserved less than 10 percent of their total production for seeding purposes. In addition, three farmers (7.5 percent) among the middle class reserved also less than 10 percent of their production for seeding purposes. Then, fifteen farmers from both middle and high class farmers reserved less than 20 percent of their production for seeding. Only one high-class farmer reserved more than 20 percent of his production for seeding purposes.

Storage system by middlemen. The most commonly observed storage facilities used by middlemen in their marketing is the warehouse. Some of them who lack warehouse space store their rice at home and with relatives. Table 24 shows storage system adopted by different middlemen.

Table 24

Storage system used by middlemen

<u>Storage system</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative percent</u>
Warehouse	28	70	70
House	10	25	95
<u>Relative</u>	<u>2</u>	<u>5</u>	100
Total	40	100	

It was observed that 70 percent of the middlemen store their rice in the warehouse. Whereas 25 and 5 percent store their rice at home or with relative, respectively. The period of storage varies with the marketing system used by different middlemen.

The overall observation indicated that the rice storage does not last very long as shown in Table 25 below.

Table 25

Storage period for the middlemen

<u>Storage period</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative percent</u>
1 - 4 weeks	4	10.0	10.0
5 - 8 weeks	14	35.0	45.0
9 - 12 weeks	8	20.0	65.0
13 - 16 weeks	8	20.0	85.0
17 - 20 weeks	5	12.5	97.5
<u>More than 20 weeks</u>	<u>1</u>	<u>2.5</u>	100.0
Total	40	100	

The holding period of the product by middlemen was short because most of them recognized the fact that keeping their rice very long will meet the new seasonal produce. Secondly, the climate and weather condition vary within the country. Thirdly, there is the possibility that the imported rice may pose a challenge and market may fall. For these reasons, most of the middlemen preferred to sell at earliest date possible rather than to take risk of holding out for longer period.

The observations in Table 25 indicate that most of the middlemen preferred to store their rice for a maximum period of eight weeks. Another reason behind this was attributed to the high cost of storage (see Table 26). The cost here does not

include the holding risk which cannot be quantified.

Table 26

Respondents of middlemen to different storage cost

<u>Storage cost</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative percent</u>
Very high	3	7.5	7.5
High	28	70.0	77.5
Fair	2	5.0	82.5
Low	4	10.0	92.5
<u>Very low</u>	<u>3</u>	<u>7.5</u>	100.0
Total	40	100	

Apart from the cost, the long time holding of hulled rice indicated a high degree of risk because of weevil and mouse ramifications (see Table 27). For this reason, the middlemen preferred a short holding period.

Table 27

Respondents of the middlemen to storage problem

<u>Storage problem</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Mouse	38	42.3	42.3
Cost	31	34.4	76.7
Weevil	18	20.0	96.7
<u>Heat wave</u>	<u>3</u>	<u>3.3</u>	100.0
Total	90	100	

The figures above showed different phases and degrees of problems facing middlemen in their product storage. Mouse and cost constituted about 76.7 percent of the problem. The overview

of the present storage systems was rated as fair by 62.5 percent as can be seen from Table 28.

Table 28

Overview of the present storage system

<u>Present storage</u>	<u>No</u>	<u>Percent</u>	<u>Cumulative percent</u>
Excellent	---	---	---
Very good	1	2.5	2.5
Good	9	22.5	25.0
Fair	25	62.5	87.5
Poor	5	12.5	100.0
<u>Very poor</u>	<u>---</u>	<u>---</u>	100.0
Total	40	100	

TRANSPORTATION SYSTEM

An analysis of the physical distribution of rice by the farmer indicated that 55 percent of them use transportation while 45 percent do not need transportation for their marketing. The commonly available transportation mechanisms used are humans, trucks and buses and the costs are paid by the farmers themselves.

Table 29

Different transportation medium available to the farmers

<u>Transportation medium</u>	<u>Score</u>	<u>Percent</u>	<u>Cum. percent</u>
Human	3	13.6	13.6
Trucks	9	40.9	54.5
<u>Buses</u>	<u>10</u>	<u>45.5</u>	100.0
Total	22	100	

Further insight to the market cost analysis revealed that those who use transport for their marketing are the medium and large producers. Few in this group use human transport as means of creating jobs for the unemployed since all their markets are within the vicinity. The cost of transportation for the producers was generally assumed normal because of the nearness of the market and alternatives open to them such as the use of human transport. The middlemen who live outside the village have no choice other than to bargain hard with the transport owner about the cost of transportation (see Table 32).

The medium of transport used by most middlemen after purchasing is trucks. Approximately 77.5 percent use trucks, while 10 percent use buses, and 12.5 percent use human labor as a means of transportation (see Table 30). It was further revealed that those using human labor as means of transport are mostly wholesalers and retailers in the village.

Table 30

Transportation channels used for purchasing by middlemen

<u>Type of transport</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative percent</u>
Train	--	--	--
Buses	4	10.0	10.0
Human	5	12.5	22.5
<u>Truck</u>	<u>31</u>	<u>77.7</u>	100.0
Total	40	100	

The middlemen do not use train in their buying activities because there are no train services in the area. Secondly, the use of buses as means of transporting their goods is limited by the capacity of the bus and roughness of the road. As a result, only a few buses operate in this area. So, the only viable channel of transportation after buying is trucks. These trucks can load as many bags of rice as possible and the cost paid for each bag comparative to the transportation cost of selling is high (see Tables 32 and 33).

Transport Channel for Selling. On the other hand, Table 31 shows that the transportation channel used in selling rice by middlemen differs from those used in purchasing the rice. In the observed sample there was a clear indication that the trend of events changed. The percentage of those that used trucks and buses stood at 42.5 and 46.6 respectively. While those using human transport was 10.9 percent. This phenomena contradicted Table 30 by huge margin of 35 percent against trucks and 36.6 percent in favour of buses.

Table 31

Transportation channels for selling by middlemen

<u>Type of transport</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Train	--	--	--
Human	8	10.9	10.9
Truck	31	42.5	53.4
<u>Buses</u>	<u>34</u>	<u>46.6</u>	100.0
Total	73	100	

The use of trains in selling rice by middlemen was rejected, despite the fact that train services are available to the middlemen living outside the village. The reason for this may be due to the time difference between the train operation and the market itself. For instance, the seller (middlemen) may wish to be in the market by 9.00 a.m. and the train services may only be available at 10.00 a.m. As a result he or she may decide to join another medium of transportation in order to be there on time.

Overview of Transportation Cost. Table 32 revealed that 27.5 and 57.5 percent of the middlemen studied indicated or perceived that the transportation costs was very high while 12.5 and 2.5 percent perceived that the transportation costs for buying was fair and low respectively.

Table 32

Attitude of middlemen towards transportation cost for purchasing

<u>Transport cost</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative percent</u>
Very high	11	27.5	27.5
High	23	57.5	85.0
Fair	5	12.5	97.5
Low	1	2.5	100.0
<u>Very low</u>	<u>---</u>	<u>---</u>	100.0
Total	40	100	

The opposite side of the coin indicated almost the same story. Most of the middlemen believed that the cost of transportation in selling their rice is high because 65 percent of

the people interviewed agreed on this. Whereas 17.5 and 10 percent agreed that the cost of transportation is fair and low, respectively, as can be seen from Table 33. This is nothing but clear confirmation of the previously observed phenomena.

Table 33

Attitude of the middlemen towards transportation cost for selling

<u>Transportation cost</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative percent</u>
Very high	2	5.0	5.0
High	26	65.0	70.0
Fair	7	17.5	87.5
Low	4	10.0	97.5
<u>Very low</u>	<u>1</u>	<u>2.5</u>	100.0
Total	40	100	

One common phenomena of Tables 32 and 33 was that transportation cost of middlemen in both buying and selling was high. This perception may be right considering the following points. First, the rural roads are bad in most cases and only few motor vehicles can ply the road. Secondly, considering the real price paid for a bag of rice in the village market and the transportation cost paid for this same bag, it may appear expensive. In view of these facts, it is not surprising to hear middlemen commenting that the price paid for transportation is high.

CREDIT REQUIREMENT AND LENDING INSTITUTION

The problem of the credit availability to the farmers was approached from a different dimension by asking the farmers if

they receive help from an individual, organization, or government. The general response on this issue showed that only 7.5 percent of the respondents received credit in the form of money from an individual or organization. The remaining 92.5 percent do not receive any kind of credit (see Table 34).

Table 34

Respondents of farmers to credit availability

<u>Response</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative percent</u>
Yes	3	7.5	7.5
<u>No</u>	<u>37</u>	<u>92.5</u>	100.0
Total	40	100	

Further analysis of the data reveals that the 7.5 percent who gave a favourable response showed the following as the best sources of credit availability: relatives, friends, and cooperative societies. Whereas, agricultural, cooperative and commercial banks have a small role to play. Table 35 indicates the best source of borrowing of each farmer by percentage share.

Observation indicated that most farmers preferred to borrow from their relatives, friends, and cooperative societies according to percentage specified below. The word cooperative society used here should not mislead the reader. A cooperative society means either an age group coming together for common goals and objectives or a group of people having something in common such as contributing money monthly or weekly to help any member in need.

Table 35

Source of borrowing available to the farmers

<u>Lending institution</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Government	--	--	--
Commercial bank	1	1.1	1.1
Cooperative bank	2	2.2	3.3
Agricultural bank	4	4.5	7.8
Cooperative society	18	20.0	27.8
Friends	28	31.1	58.9
<u>Relatives</u>	<u>34</u>	<u>41.1</u>	100.0
Total	90	100	

From Table 35 it is clear that the banks are not playing an important role as a source of credit because most farmers cannot meet the collateral security set by the banks. In the past, land used to serve as part of collateral security for obtaining loans from the banks. However, in view of the Land Use Act of 1978 in Nigeria, bankers recognize only developed land as good security for bank lending. The word developed land means land with buildings, installations, economic trees, and cash crops thereon. Under this land use act of 1978 it became clear that all interests in land were converted to a right of occupancy which can either be statutory for land in an urban area or customary for land in the rural areas. This means that in a case of compulsory acquisition or revocation by the government of the right of occupancy, compensation for bare land is limited to an amount equal to rent, if any, paid by the occupier during the year in which the right of

occupancy was revoked.²

For this reason, it has become problematic for small and medium farmers to meet the requirement of banks for lending. In addition, there is no bank operating in Ugwueke currently. It means that those who borrow from banks do so outside the village.

On the part of middlemen, it was generally observed that there is a need for credit for rice marketing and this is needed for purchasing, storage and transportation according to the following percentages 42.5, 33 and 24.5, respectively (see Table 36).

Table 36

Major area of credit requirement for rice marketing

<u>Major area</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Transportation	23	24.5	24.5
Storage	31	33.0	57.5
<u>Purchasing</u>	<u>40</u>	<u>42.5</u>	100.0
Total	94	100	

The source of this credit was mainly from three lending institutions, namely banks, cooperative societies, and relatives. Each constituted the following percentage lending capacity 35, 45 and 20, respectively. Further analysis revealed that 50 percent of the middlemen would like to borrow from the banks; whereas only 35 percent of them were successful. Out of this 50 percent, 35 percent of them preferred to borrow from

² Adekanye, Femi: Security for Bank Lending in Nigeria, The Nigerian Banker (Nigerian Institute of Bankers Vol.7 No. 1 1987).p.17.

an Agricultural bank which for the time being rendering no function as a result of Federal government inability to meet the foreign exchange problem. However, the high rate of borrowing from the banks by middlemen was due to the fact that 75 percent of them reside outside the village and were able to meet bank requirements.

MARKETING CONSTRAINTS AND DISSATISFACTION

Marketing constraints cannot be ruled out in marketing because of their form, phase and gravity. However, the commonly observed constraints in marketing are credit availability for expansion, limited holding capacity of farm land, transportation and competition which sometimes leads to price differentiation.

For these reasons, the respondents in this research agreed that most of the aforementioned constraints affect their marketing. However, a close look at some of the issues showed that trade unions and competition from imported rice were among the leading problems facing the marketers. Observation shows that these two issues constituted about 41.46 percent. The issue of trade unions and imported rice from abroad have recently attracted wide publicity.

The second issue on the constraints facing the marketers here, according to the distribution, was availability of credit facilities which constituted about 19.69 percent. This was followed by storage and price fluctuation which constituted about 18.65 percent each. The popular feeling and response among the farmers was that transportation was not a major problem facing them in their marketing as can be seen from Table 37.

Table 37

Tabular distribution of constraints facing the farmers

<u>Constraint</u>	<u>Score</u>	<u>Percent</u>	<u>Cumulative percent</u>
Transportation	3	1.55	1.55
Storage	36	18.65	20.20
Price fluctuation	36	18.65	38.85
Credit availability	38	19.69	58.54
Imported rice	40	20.73	79.27
<u>Trade union</u>	<u>40</u>	<u>20.73</u>	100.0
Total	193	100	

The provision of credit and storage facilities here would increase output and price stabilization thereby solving the price fluctuation. Whereas, controlling the activities of trade unions and competition from imported rice would encourage investment on farms. In fact, due to the marketing place of the farmers, which is village markets, there were no transportation problems, but for the middlemen this is a big problem.

Marketing dissatisfaction: From the above variable degrees of constraints facing the marketing of rice, it was observed that most of the respondents were dissatisfied. Further responses of the farmers indicated that 77.5 percent of them were generally dissatisfied over the issue of the reward they received in marketing. Only 22.5 percent of them were satisfied with their marketing system (see table 38). Insight into the problem

indicated that those farmers who felt dissatisfied about their marketing activities sell almost all their rice during the peak selling season. This is done because of lack of storage facilities, settlement of debt, (see Table 7) and family problems such as health, education, and marriages.

Table 38

Farmers overall attitude towards satisfaction received in marketing their product

<u>Satisfied</u>	<u>No.</u>	<u>Percent</u>	<u>Cumulative percent</u>
Yes	9	22.5	22.5
<u>No</u>	<u>31</u>	<u>77.5</u>	100.0
Total	40	100	

This feeling of discontent arises from the inability to generate a high revenue from their marketing. Table 39 shows the distribution of the negative feelings toward their marketing.

Table 39

Reasons for dissatisfaction by farmer

<u>Reasons</u>	<u>Score</u>	<u>Percent</u>	<u>Cum. percent</u>
Lack of incentives	31	17.1	17.1
Neglect from govt.	31	17.1	34.2
Low income	30	16.6	50.8
Low selling price	30	16.6	67.4
No extension program	30	16.6	84.0
<u>No adequate saving</u>	<u>29</u>	<u>16.0</u>	100.0
Total	180	100	

Thus, lack of incentives and a feeling of neglect from the government seem to have a narrow edge (17.1 percent each) over low income, low price, and no extension programs which constituted 16.6 percent each. Finally, no adequate saving from their marketing activities constituted 16 percent.

The issue of incentives and neglect are interwoven and it is common phenomena in Nigeria that rural area which constitute 70 percent of the country's population were neglected. In most cases, any development of villages lies on the coming to power of sons and daughters of such a locality. If not, the development of rural areas heavily depended on the community efforts. Thus, it is not surprising that these farmers feel neglected. On the other hand, low income is a ramification of low product price and directly proportional to inadequate savings. So, it is not surprising that these three items shared almost the same proportion.

As for extension education to the farmers, this has not been observed in this village over the past decade. For this reason, most of the research conducted in some of the research centers such as the Umudike Agricultural Research Center (UARC) and the International Institute of Tropical Agriculture (IITA) and their findings, recommendations, etc., were not reaching this village. The few changes in the farming system are due to information coming from the farmer's relatives or friends who travelled outside the village. In this case, these people act as an opinion leaders for the farmers.³

³ The researchers footnote.

HYPOTHESIS TESTING

In testing the hypotheses of this research, the researcher used the chi-square test. The chi-square test is used here as a test of independence that can be applied to a contingency table with a cross classification depicting two variables in attribute form. The hypothesis here is that there is no price discriminating variables between those who buy their rice from Orié market and those who do not. In this case, if the calculated value of chi-square is greater than the tabulated value, the null hypothesis is accepted.

For the first hypothesis, it was observed that the number of wholesalers and retailers who buy their rice in Orié market was thirty-four (34). Six (6) of them do not buy from Orié market. Furthermore, it was revealed that out of the 34 that buy from Orié market that one (1) of them agreed that the price is high; while the remaining thirty-three (33) agreed that the price is low. On the other hand, out of six (6) who do not buy from Orié market, one (1) of them agreed that the price was high and the remaining five (5) agreed that the price was low.

CHI-SQUARE TEST

Table 40

**The relationship between buying motives and market price
assessment**

OBSERVED

	Yes	No	Total
High price	1	1	2
Low price	33	5	38
Total	34	6	40

From the computations done based on the observations shown in Table 40, the Chi-square (χ^2) computed was 2.02: whereas the statistical table Chi-square (χ^2) at 5 percent significant level (alfa) is 3.84. Thus, the null hypothesis (H_0) is rejected and our alternative hypothesis (H_1) is accepted. This means that there is price discriminating variable between those who buy their rice from Ori market and those who do not.

For second hypothesis testing:- The observation made was that 18 (eighteen) rice producers preferred Nkwo market as the best selling market. Whereas 22 (twentytwo) rice producers preferred to sell their rice in other markets. Among those respondents who preferred Nkwo market, three of them agreed that the market determines the price of rice while the remaining fifteen agreed that other variables are responsible for price determination.

On the other hand, out of those twenty-two who preferred to sell their rice in other markets, four of them agreed that markets determines the price. The remaining eighteen agreed that other variables are responsible for price determination.

CHI-SQUARE TEST:

Table 41

The relationship between selling intention and market price determination

OBSERVED			
	Yes	No	Total
Market price agreed	3	4	7
Market price disagreed	15	18	33
Total	18	22	40

Similarly, the null hypothesis (H_0) of the second hypothesis was rejected because computation of Chi-square (χ^2) gave the value as 15.6×10^{-3} and the statistical table value at 5 percent significant level (alpha) is 3.84. It means that there is no price discriminating variable between those who sell their rice in Nkwo market and those who do not. This implies that irrespective of the market choice of the farmers within the village the price received remains the same.

Based on the result of the first hypothesis, one may ask: Is there a relationship between the dependent variable (buying intention) and the independent variable (market price)? The buying intention was broken down into Yes and No and the price level was broken into high and low. I wanted to see if the majority of those who buy from Orié market are induced or motivated by the low price in this market. A similar observation was made of those who do not buy to see if they are affected by the high price.

Following the same sense of rationality, I also observed the relationship between dependent variable (market selling preference of producers) and the independent variable (price). The market preference by the producers was also broken down into Yes and No. The price determination was broken into market price, agreed and disagreed. I wanted to see if those who sell in Nkwo market are motivated by a better price and if those who do not sell do so because there is no price difference irrespective of the market.

REGRESSION AND CORRELATION ANALYSIS

A study of table 40 and 41 was carried further by running a regression analysis and the results show that there is no relationship existing between the two variables. For instance, the correlation coefficient (r) of the first hypothesis is 0.225. This indicated that there is a very weak linear correlation between market buying motive and price. This statement was further proved by the coefficient of determination (r^2) which showed the proportion of the total variance of the dependent variable that was explained by the regression line. Therefore, only 5 percent of the total variance of the dependent variable has been explained by the line of regression. That is, the 5 percent of variation in market (Orie) was due to price.

$$R = 0.225$$

$$R^2 = 0.05$$

$$F = 2.02$$

$$\text{Signif } F = 0.163$$

$$Y_b = 0.5 + 0.368P$$

In taking the dependent variable (buying motive) as a function of the independent variable (price), I had a very weak relationship between the variables.

For the second hypothesis, the correlation coefficient (r) is 0.019. It also indicated an extremely weak linear correlation between the market selling preference and the market price determination. The coefficient of determination (r^2) was 3.6×10^{-4}

dependent variable was explained by the line of regression. That is a 0.04 percent variation in Nkwo market was due to the market price.

$$R = 0.019$$

$$R^2 = 3.6 \times 10^{-4}$$

$$F = 0.44$$

$$\text{Signif } F = 0.15$$

$$Y_S = 0.36 + 0.12P$$

Also taking the dependent variable (selling intention) as a function of the independent variable (market price). I found a low relationship between the variables. Therefore, there is a price discriminating variable for buying motives as was stated by the first hypothesis. In an attempt to answer this question I tested the relationship between buying motives and seasonal prices by running another regression.

It was observed that there is a relationship between buying behaviour and seasonal price. This was indicated by correlation coefficient(r) which is 0.887. Thus, indicating a very strong linear correlation between buying motives and seasonal price. Furthermore, it was proved by the coefficient of determination(r^2) which is 0.787. This indicates that 78.7 percent of the total variance of buying motives has been explained by seasonal price.

$$R = 0.887$$

$$R^2 = 0.787$$

$$F = 20.0$$

$$\text{Signif } F = 0.00$$

$$Y = 2.0 + 0.65S$$

Therefore, buying motives at Orié market are induced by the seasonal price offered because there is a very strong relationship between the dependent variable (buying motive) and the independent variable (seasonal price).

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATION

This study investigated small farm and medium farm holders and their marketing system in Ugwueke village. The farmers produce their rice for a marketing purpose; although they consume about 10 percent of their production which is relatively high compared to the total output. This percentage includes the rice reserved for seeding purposes. Thus, this study contradicted the initial belief of low rice consumption among the rural populace in Nigeria.

The marketing activities were generally done during the seasonal harvesting. For instance, 85 percent of the producers sell their rice during the harvesting period in the rural markets. Unlike farmers in developed countries, they have three general marketing alternatives for the grain: (a) feed to on-farm livestock or sell to other farmers for feed; (b) sell to the commercial market at harvest; and (c) store on-farm or off-farm for later sale. Out of the three alternatives open to farmers in the developed nations only one was possible in this study area. This is sell to the market at harvest. This indicates the backwardness of the developing nation in the agricultural marketing system. Although few farmers practice market hedging, it does not off-set the marketing imbalances of the developing nation.

The price of rice is subject to many factors such as seasonal production, importation, buyers, etc. For instance, during the harvesting season the price of rice was observed to be at the lowest level in the village. After the harvesting period, the price of rice continues to rise, although, based on the quantity of imported rice. For example, the finding of the hypothesis indicated that there are price discriminating variables between the buying behavior at Orié market and other markets. This variable was found to be the seasonal production. As long as the production is high, the price will be low for that season. Secondly, there were no price discriminating variables between selling at any particular village market as the second hypothesis indicated. Thus, irrespective of the market choice of the farmers in the village, it does not change the price received; the price remains low.

The farmers interviewed in this research tend to equate aid with outright gifts, financial loans, free use of equipment, or suggested practices which bear substantial immediate return. When such expectations inevitably do not come or sometimes come from relatives this sets the stage for the farmers evaluation of the government institution as failing to be helpful.

Thus, a widespread and deeply felt dissatisfaction was commonly observed. About 77.5 percent of the farmers under present natural and socio-economic circumstances are dissatisfied. There is little real knowledge of the government Extension Services in

the village. This shows a feeling that the government has no interest in the small land holders and peasant farmers. For example, the research conducted in Umudike Agricultural Center (UAC) and International Institute of Tropical Agriculture (IITA) and their findings as regard to rice production has made little or no impact in the rural villages.

The role of middlemen (wholesalers and retailers) have remained the same in the marketing of rice in Ugwueke. They acted as a storehouse by buying from the farmers who have little or no storage systems. They have utilised this opportunity to make a high profit compared to the margin of urban price received by the farmers. However, the middlemen faces one major problem which is transportation as a result of the bad roads to the village.

Generally, there are four crucial factors in motivating marketing and farmers in the studied area: (a) convincing demonstrations of relevant and feasible methods for expanding farm output; (b) wide dissemination of information in clear and understandable terms; (c) government-sponsored loans and credit; and (d) dependable markets which pay reasonable prices for farm products.

The Land Use Act of 1978 in Nigeria did not change the land holding capacity of individual much because almost all the land in the Federation had been acquired before this period. What it did do, was to reduce the dependence on land as collateral for bank lending.

In the past, it used to be quality of a product's and usefulness for its purpose. Now, marketing consists of asking people to examine what they do and see if they could do it better. So, there is a need or feeling that agricultural marketing in Nigeria should be improved for the betterment of the general public and that of rural people in particular.

CONCLUSION

In a developing nation like Nigeria which has more than 70 percent of her population in the rural areas, the success of any government depends on the impact on the welfare of the rural masses. As long as this sector remains in abject poverty as a result of low earning from their farming then the whole economy still remains in a mess.

It is disheartening that three years after the FOA report on "Agricultural Pricing Policies" criticized the policies of developing nations and that of Africa in particular, for attempting to keep food prices low for urban dwellers at the expense of rural farmers that this phenomena is still prevailing. This research revealed that 77.5 percent of farmers felt dissatisfied with their marketing system as a result of a poor pricing mechanism. This policy has led to low rates of agricultural growth in Nigeria and forced the peasants to flee to towns, where they have swelled the ranks of the unemployed.

The era of the oil economy is over. This is time for action and a positive step has to be taken as regards Agro-business and marketing institutions. The idea of farmers marketing all their produce during the harvesting period was observed as a common phenomena. This has given the marketing intermediaries (wholesalers and retailers) an opportunity to earn reasonable profit margins during the harvesting. They earned high profit margins during pre-harvesting and post-harvesting period. The Nigerian government should shift the base of agricultural marketing and thereby redress the negative effects on trade policies.

RECOMMENDATION

After careful consideration of the marketing system of rice in Ugwueke village in Nigeria, it is my view that the following recommendations and measures have to be taken by the Nigerian government for long-term national interest.

1. The government of Nigeria should introduce price incentives to farmers in order to ensure that the farmers receive a fair share of urban retail prices for their produce. There is often large difference between producer and consumer prices. Therefore, the government of Nigeria should adopt pricing policies which encourage agricultural production. The trick here is to raise agricultural prices to stimulate more production without causing widespread hardship and protest among the urban poor.

2. The Nigerian government should introduce marketing information centers in all rural parts which should see to the seasonal pricing of crops. Secondly, standardized measuring units should be enforced all over the rural community in the federation. The idea of different parts of the country using different weight system should be abolished.

3. The current ban on massive food imports which the present Military government has instituted should remain in effect because it will encourage local farmers and give room for stimulating farm investments.

4. The government should provide guaranteed markets for farmers by placing primary emphasis on rural roads and market development to raise competitiveness in the rural market. Thus, the present Nigerian Commodity Boards activities should be expanded to accommodate more agricultural product in their purchases. So far only six agricultural products are covered: Cocoa, Groundnuts, Palm- Kernels, Cotton, Bennisseed and Rubber.

5. Appropriate financial and institutional support should be provided to the Agricultural and Commerce sector. For instance, the activities of the Agricultural Cooperative Bank and Nigerian Bank for Commerce have been rendered non-functioning by the Federal government of Nigeria since 1986.

6. There should be a sustaining, aggressive, rural, infrastructure development program as a foundation for agricultural development and rural market. There is an age-long discriminatory policy in development between the rural and the urban sectors. This also has been responsible for the population drift to the urban areas.

Against this background a multi-dimensional approach to a Nigerian rural development policy is needed.

7. The farmers should be encouraged in adopting research findings by introducing agricultural extension programs to all the rural areas in Nigeria. For instance, most Nigerian farmers do not use improved seed varieties and modern planting equipment. So, this requires launching on-farm adaptive trials, from selected key staple foods in different farming localities to identify those varieties best suited to those areas.

8. The farmers should be encouraged to form a normal cooperative society in their product marketing.

9. Finally, further research is required in rice production and marketing in Nigeria, particularly in villages which are far away from urban city markets. A study to assess the role of wholesalers and retailers in agricultural products marketing is recommended.

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APPENDIX AQuestionnaire used for retailers and wholesalersINTERVIEW SCHEDULE FOR RETAILERS AND WHOLESALERSGENERAL INFORMATION

1. Name of respondent.....

PURCHASING ACTIVITIES

2. I buy my rice from the following markets:-	SA	A	U	D	SD
(a) Eke Market	()	()	()	()	()
(b) Orié Market	()	()	()	()	()
(c) Afo Market	()	()	()	()	()
(d) Nkwo Market	()	()	()	()	()

3. How many bags of rice do you normally buy per season?.....

4. How can you access the price of a bag of rice paid during the season?

- (a) very high ()
 (b) high ()
 (c) fair ()
 (d) low ()
 (e) very low ()

TRANSPORTATION ACTIVITIES FOR PURCHASING

5. How do you transport your rice ?

- (a) by train ()
 (b) by truck ()
 (c) by buses ()
 (d) by human ()

6. The cost of transporting a bag of rice is ?

- (a) very high ()
 (b) high ()
 (c) fair ()
 (d) low ()
 (e) very low ()

SELLING ACTIVITIES

7. The best market for selling rice is:	SA	A	U	D	SD
(a) Aba	()	()	()	()	()
(b) Alayi	()	()	()	()	()
(c) Item	()	()	()	()	()
(d) Umuahia	()	()	()	()	()
(e) Unuakohulu	()	()	()	()	()

8. I supply my rice to ?

- (a) Local consumers ()
 (b) Secondary schools ()
 (c) Universities ()
 (d) Hospitals ()
 (e) Government Agency ()
 (f) Industries and firm ()
 (g) Cooperatives ()

- | | SA | A | U | D | SD |
|--|-----|-----|-----|-----|-----|
| 9. The best units of measurement that should be used in selling rice is: | | | | | |
| (a) Cups | () | () | () | () | () |
| (b) Basins | () | () | () | () | () |
| (c) Kilograms | () | () | () | () | () |
| (d) Bags | () | () | () | () | () |

10. On what basis do you sell your rice ?
- (a) On contract basis ()
- (b) On commission basis ()
- (c) On profit basis ()

TRANSPORT ACTIVITIES FOR SELLING

- | | SA | A | U | D | SD |
|---|-----|-----|-----|-----|-----|
| 11. The best way to transport rice while selling is ? | | | | | |
| (a) by train | () | () | () | () | () |
| (b) by truck | () | () | () | () | () |
| (c) by buses | () | () | () | () | () |
| (d) by human | () | () | () | () | () |

12. Which of the following is applicable to the transporting a bag of rice:
- (a) very high ()
- (b) high ()
- (c) fair ()
- (d) low ()
- (e) very low ()

STORAGE

13. Where do you store your rice ? (a) at home ()
- (b) at warehouse ()
- (c) at government storage ()
- (d) with relatives ()
- (e) with friends ()
14. For how long do you normally store your rice ?
- (a) 1 - 4 weeks ()
- (b) 5 - 8 weeks ()
- (c) 9 - 12 weeks ()
- (d) 13 - 16 weeks ()
- (e) 17 - 20 weeks ()
- (f) more than 20 weeks ()
15. The cost of storage per bag is:
- (a) very high ()
- (b) high ()
- (c) fair ()
- (d) low ()
- (e) very low ()

16. The worst thing I face in storing my rice is ?
- | | SA | A | U | D | SD |
|---------------|-----|-----|-----|-----|-----|
| (a) Weevils | () | () | () | () | () |
| (b) Cost | () | () | () | () | () |
| (c) Mouse | () | () | () | () | () |
| (d) Heat wave | () | () | () | () | () |

17. How can you evaluate your present storage system:

- (a) Excellent ()
 (b) Very good ()
 (c) Good ()
 (d) Fair ()
 (e) Poor ()
 (f) Very poor ()

PRICING

18. The present price mechanism for buying rice is based on:

- (a) Numbers of sellers ()
 (b) Numbers of buyers ()
 (c) Government control ()
 (d) Inflation rate ()
 (e) Seasonal production ()

19. The best way to determine the purchasing price is?
- | | SA | A | U | D | SD |
|--------------------------------|-----|-----|-----|-----|-----|
| (a) By Market supply | () | () | () | () | () |
| (b) By Market demand | () | () | () | () | () |
| (c) By Government control | () | () | () | () | () |
| (d) By Prevailing market price | () | () | () | () | () |

20. The selling price of rice is commonly determined by:
- | | SA | A | U | D | SD |
|---------------------|-----|-----|-----|-----|-----|
| (a) Quality of rice | () | () | () | () | () |
| (b) Expected profit | () | () | () | () | () |
| (c) Cost Price | () | () | () | () | () |
| (d) Government | () | () | () | () | () |
| (e) Bids | () | () | () | () | () |

CREDITS

21. Credit is extremely needed in marketing rice because of:
- | | SA | A | U | D | SD |
|--------------------|-----|-----|-----|-----|-----|
| (a) Storage | () | () | () | () | () |
| (b) Transportation | () | () | () | () | () |
| (c) Purchasing | () | () | () | () | () |

22. The current source of my borrowing is:

- (a) Friends ()
 (b) Relatives ()
 (c) Money lender ()
 (d) Government ()
 (e) Commercial Bank ()
 (f) Cooperative Society ()
 (g) Agricultural Bank ()

23. The best place to borrow is ?

- (a) Commercial Banks ()
- (b) Cooperative Society ()
- (c) Government ()
- (d) Money lender ()
- (e) Agricultural Bank ()
- (f) Relatives ()
- (g) Friends ()

APPENDIX BQuestionnaire used for producersINTERVIEW SCHEDULERICE PRODUCERS (FARMERS)GENERAL INFORMATION

1. Name of the respondent.....
2. Total land under cultivation in hectares.....
3. Land under rice cultivation in hectares.....

PRODUCTION OF RICE

4. How many bags of rice did you produce last year?.....
5. How many times do you produce rice in a year?
 - (a) Once in a year ()
 - (b) Twice in a year ()
6. The best way to produce rice more than once a year is:
 - (a) By hiring more labor ()
 - (b) By using more capital ()
 - (c) By reducing production of other crops ()
 - (d) By using irrigation system ()
 - (e) By starting earlier than schedule ()
7. It is hard to produce rice more than once a year because:

	SA	A	U	D	SD
(a) There is no enough capital	()	()	()	()	()
(b) There is no irrigation system	()	()	()	()	()
(c) There is other crops to attain	()	()	()	()	()
(d) Of weeding	()	()	()	()	()
(e) Of weather condition	()	()	()	()	()
(f) Of birds and pest distruction	()	()	()	()	()

DISPOSAL OF RICE

8. What percentage of rice do you use for consumption?
 - (a) Less than 10% ()
 - (b) Between 10% - 20% ()
 - (c) Between 20% - 30% ()
 - (d) Between 30% - 40% ()
 - (e) Between 40% - 50% ()
 - (f) Between 50% - 60% ()
 - (g) Between 60% - 70% ()
 - (h) More than 70% ()
9. Do you sell your rice immediately after production?
 - (a) Yes ()
 - (b) No ()

10. I sell my rice immediately after production because:
- | | SA | A | U | D | SD |
|------------------------------------|-----|-----|-----|-----|-----|
| (a) To pay my debts | () | () | () | () | () |
| (b) To benefit from good price | () | () | () | () | () |
| (c) Due to low transportation cost | () | () | () | () | () |
| (d) Of storage difficulties | () | () | () | () | () |
| (e) Of bad weather | () | () | () | () | () |
11. The best place for selling rice is:
- (a) Home ()
 (b) Farm ()
 (c) Market ()
12. Where do you sell your rice?
- (a) Eke market ()
 (b) Orié market ()
 (c) Afo market ()
 (d) Nkwo market ()
13. The best market for selling rice is:
- (a) Eke Market ()
 (b) Orié Market ()
 (c) Afo Market ()
 (d) Nkwo Market ()
14. I sell my rice to:
- | | SA | A | U | D | SD |
|--------------------------|-----|-----|-----|-----|-----|
| (a) Consumers | () | () | () | () | () |
| (b) Retailers | () | () | () | () | () |
| (c) Wholesalers | () | () | () | () | () |
| (d) Cooperative society | () | () | () | () | () |
| (e) Government agency | () | () | () | () | () |
| (f) Industries and firms | () | () | () | () | () |

TRANSPORTATION MECHANISM USED BY FARMERS FOR RICE MARKETING

15. Do you use transport for marketing your rice?
- (a) Yes ()
 (b) No ()
16. If Yes, what kind of transportation do you generally use?
- (a) Human ()
 (b) Truck ()
 (c) Buses ()
 (d) Animals ()
17. What is the transportation cost per bag of rice.....
 in kobo.
18. Who pays the transportation cost?
- (a) Government ()
 (b) Farmers (sellers) ()
 (c) Buyers ()
 (d) Coperative society ()

STORAGE OF RICE BY FARMERS

19. Do you store your rice?
 (a) Yes ()
 (b) No ()
20. If Yes, How long?
 (a) 1 - 4 weeks ()
 (b) 5 - 8 weeks ()
 (c) 9 - 12 weeks ()
 (d) 13 - 16 weeks ()
 (e) 17 - 20 weeks ()
 (f) More than 20 weeks ()
21. What percentage of your production is generally reserved for seeds purpose in your next season farming?
 (a) Zero but less than 10% ()
 (b) 10 but less than 20% ()
 (c) 20% but less than 30% ()
22. The problem facing me in my rice storage is:
- | | SA | A | U | D | SD |
|--------------------|-----|-----|-----|-----|-----|
| (a) Weevils | () | () | () | () | () |
| (b) Rats and Mouse | () | () | () | () | () |
| (c) Warehouse | () | () | () | () | () |
| (d) Holding Cost | () | () | () | () | () |
- CREDIT
23. Do you receive some kind of help from individual, organization or government in producing rice?
 (a) Yes ()
 (b) No ()
24. If Yes, What kind of help?
 (a) Tractors ()
 (b) Money ()
 (c) Transportation ()
 (d) Storage facilities ()
 (e) Rice seeds ()
25. The best source of borrowing for rice cultivation is:
- | | SA | A | U | D | SD |
|-------------------------|-----|-----|-----|-----|-----|
| (a) Agricultural bank | () | () | () | () | () |
| (b) Cooperative bank | () | () | () | () | () |
| (c) Cooperative Society | () | () | () | () | () |
| (d) Commercial Bank | () | () | () | () | () |
| (e) Government | () | () | () | () | () |
| (f) Friends | () | () | () | () | () |
| (g) Relatives | () | () | () | () | () |

- PRICES
26. The current price determination of rice is based on:
- | | SA | A | U | D | SD |
|-------------------------------|-----|-----|-----|-----|-----|
| (a) Farmers | () | () | () | () | () |
| (b) Buyers | () | () | () | () | () |
| (c) Government | () | () | () | () | () |
| (d) Markets | () | () | () | () | () |
| (e) Season production | () | () | () | () | () |
| (f) Quantity of rice imported | () | () | () | () | () |
27. Where do you get your price from?
- | | SA | A | U | D | SD |
|----------------------------|-----|-----|-----|-----|-----|
| (a) From radio | () | () | () | () | () |
| (b) From local sellers | () | () | () | () | () |
| (c) From buyers | () | () | () | () | () |
| (d) From the market | () | () | () | () | () |
| (e) From government agency | () | () | () | () | () |
| (f) From Cooperatives | () | () | () | () | () |
28. Do you receive a fair return from your rice production?
- (a) Yes ()
- (b) No ()
29. IF No, Why?
- | | SA | A | U | D | SD |
|---|-----|-----|-----|-----|-----|
| (a) Because of high transportation cost | () | () | () | () | () |
| (b) Because government control the system | () | () | () | () | () |
| (c) Because farmers don't receive subsidies from the government | () | () | () | () | () |
| (d) Because supply of rice exceeds demand | () | () | () | () | () |
| (e) Because of high quality of imported rice | () | () | () | () | () |
| (f) Because there is no organised system of marketing | () | () | () | () | () |
- HEDGING
30. If you sell on a contract for delivery at some future time answer the following questions:
- How do you determine the price
- | | SA | A | U | D | SD |
|--------------------------------|-----|-----|-----|-----|-----|
| (a) Through prevailing price | () | () | () | () | () |
| (b) Through self price policy | () | () | () | () | () |
| (c) Through buyers policy | () | () | () | () | () |
| (d) Through government policy | () | () | () | () | () |
| (e) Through numbers of bidders | () | () | () | () | () |
31. When do you actually receive payment for such selling?
- (a) Before delivery ()
- (b) After delivery ()

CONSTRAINTS

- | | | SA | A | U | D | SD |
|-----|--|-----|-----|-----|-----|-----|
| 32. | What kind of difficulties do you face in marketing your rice? | | | | | |
| | (a) Transportation problem | () | () | () | () | () |
| | (b) Availability of credit facilities | () | () | () | () | () |
| | (c) Storage problem | () | () | () | () | () |
| | (d) Price fluctuation problem | () | () | () | () | () |
| | (e) Competition from imported rice | () | () | () | () | () |
| | (f) Trade Union problem | () | () | () | () | () |
| 33. | In the whole, do you feel rewarded in your production and marketing of rice? | | | | | |
| | (a) Yes () | | | | | |
| | (b) No () | | | | | |
| 34 | If No, Why? | SA | A | U | D | SD |
| | (a) Because of low income generated from our work | () | () | () | () | () |
| | (b) Because there is no enough saving from season to season | () | () | () | () | () |
| | (c) Because the government neglected our activities | () | () | () | () | () |
| | (d) Because the incentives received is very low compare to others | () | () | () | () | () |
| | (e) Because no extension program to assist our work | () | () | () | () | () |
| | (f) Because the price of our product is very low | () | () | () | () | () |

APPENDIX C

DATA BASE RECORD

Record#	Y126	Y127	Y129	Y129	Y130	Y131	Y132	Y132	Y134	Y135	Y136	Y137	Y139	Y139	Y140	Y141	Y142
1	24	2	4	3	5	5	5	0	2	24	4	4	4	4	4	4	193
2	25	2	4	5	5	4	5	0	2	29	5	5	5	5	5	4	99
3	24	2	4	5	4	4	5	0	2	25	2	3	5	5	5	5	107
4	24	1	4	5	5	4	5	0	2	23	4	4	5	5	5	5	150
5	24	2	4	5	4	4	5	0	2	26	4	5	5	4	4	4	62
6	24	2	4	5	4	4	5	0	2	29	5	5	5	5	4	4	40
7	25	2	5	5	4	4	5	0	2	24	4	4	4	4	4	4	60
8	23	2	3	5	5	4	4	0	2	27	4	5	5	4	4	5	140
9	25	2	4	5	4	5	5	0	2	28	4	5	5	5	5	4	138
10	28	4	5	5	4	5	5	0	2	25	4	5	4	5	5	2	200
11	25	2	5	5	4	5	4	0	2	27	4	4	4	5	5	5	70
12	24	2	4	5	5	4	4	0	2	29	4	4	5	5	5	5	55
13	20	2	4	4	1	5	4	0	2	28	4	4	5	5	5	5	180
14	22	2	4	4	4	4	4	0	2	28	4	4	5	5	5	5	60
15	25	2	4	5	5	4	4	0	2	28	4	4	5	5	5	5	150
16	23	2	4	4	3	5	5	0	2	28	4	4	5	5	5	5	80
17	24	2	4	5	4	5	4	0	2	27	4	5	4	5	4	5	45
18	25	3	5	5	4	4	4	0	2	29	5	4	5	5	4	4	35
19	22	2	4	4	2	5	5	0	2	26	4	4	4	5	5	5	28
20	24	2	4	5	4	4	4	0	2	27	4	4	4	5	5	5	90
21	25	2	4	5	4	5	5	0	2	25	4	4	4	4	4	4	32
22	25	3	4	5	4	4	4	0	2	29	5	5	5	5	4	4	55
23	25	3	4	5	5	4	4	0	2	26	4	4	4	4	5	5	35
24	25	2	4	5	4	5	5	0	2	26	4	4	4	4	5	5	40
25	21	2	1	5	5	4	4	0	2	26	4	4	4	4	5	5	25
26	23	1	4	5	4	5	4	0	2	26	4	4	4	4	5	5	19
27	24	2	4	5	4	5	4	0	2	27	4	5	4	5	4	5	100
28	26	4	4	5	5	4	4	1	0	0	0	0	0	0	0	0	68
29	24	1	4	4	5	5	5	1	0	0	0	0	0	0	0	0	38
30	25	2	5	4	4	4	5	1	0	0	0	0	0	0	0	0	19
31	27	5	4	5	4	4	5	0	2	27	4	4	4	5	5	5	38
32	23	2	4	5	4	4	4	1	0	0	0	0	0	0	0	0	30
33	26	2	4	5	5	5	5	1	0	0	0	0	0	0	0	0	18
34	24	1	4	4	5	5	5	0	2	27	4	4	4	5	5	5	38
35	21	2	4	3	4	4	4	1	0	0	0	0	0	0	0	0	20
36	23	1	4	4	5	4	4	0	2	24	4	4	4	5	5	5	162
37	22	1	4	5	4	4	4	0	2	29	5	5	5	5	4	4	120
38	21	2	4	2	3	5	5	1	0	0	0	0	0	0	0	0	45
39	25	2	4	4	5	5	5	1	0	0	0	0	0	0	0	0	189
40	22	1	4	3	4	5	5	1	0	0	0	0	0	0	0	0	216

The above shows the data base record for producers

1 83 70 1932012205 0000000004000010145222410031204000420455222100300190020002000000000 82222020000002022255232434551934442210 0000000184333502
2 89 70 991000000244452450200000101642253003123020021545222104000 8002001010000002013254202000001922224522243454181445220224234555 00000000
3 96 47 1070212304 000000000040000101542153003100400041825522210030020000200101000000031225420200000192241145202414541514251210 0000000174422502
4 89 60 1501000002052422502000001015511530031200100021555222100300 900200100004900201535430200000202251145232434551614441210 0000000 00000000
5 56 31 6210000020425225030000010155124300312040200215552221040001200200100200000201425430200000192251144212433541824442210 00000001844432510
6 40 15 4010000022535225030000010154225200312040004184442221000201600200100200002016354402000002022255214422542034542210 0000000 00000000
7 70 25 60100000214352250300000101652252003120400041844422210030015502001000300002016354402000002022255202423541824442210 0000000 00000000
8 80 35 1401000002052512502000001017523521031204020018444222100020150020010003000020143542020000020222552242551714442210 00000000174332510
9 50 35 1381000002042522503000001016532420031204020019455221003001700200100030000201435420200000202122355202432542034452210 00000000154222510
10 90 50 200100000205242250200000101552152003004000421555222100020180020010100000201625541002000265424352224254202545220221214554 00000000
11 40 15 70100000019524215100000001015512430031000000418444222020000 0000010100000100164552020000022543223319231454192545210222234454 00000000
12 85 35 55100000019424315100000001014412520030204020020455222020000 0000010100000100112522020000024524324420242354192445220223235454 00000000
13 95 60 18010000002052422502000001017522530031204000418444222100020120020010100000020142552020000022225224254192445220219114454 00000000
14 55 30 60100000020524225100000001017522530031200020021555222020000 0000010020000100164552020000020222522420243254202544220223234545204520510
15 85 85 150100000021424251000000010154225200312040004185451121803001700200100200001001645520200000202252224202432541824442210 0000000194442510
16 50 20 800202005 00000001000000010175424200312000200154441110400010002000200000010016522020000020225222434541824442210 0000000194442510
17 30 15 4510000001822423510000000101542252003020400042155522210002015002001010000001011252202000002423534522342454182444220220222545 00000000
18 30 10 35100000019424225100000001016422530030200020019544222020000 0000002000000100 822220200000202222552234245419244522022224545 00000000
19 20 10 2810000002245422510000000101442242100000000001552222020000 0000010020000100132524020000020222255204322541824442210 0000000 00000000
20 65 40 90100000020524225020000001016522520030204000419544222100020170020010100000020142552020000020223224523424551924452210 0000000 00000000
21 35 15 3210000002042525030000001016422530030204020020455222020000 000001002000002015355202000002022225521242454192445220223224555 00000000
22 15 10 550202305 0000000020000000101652252003120402001844422210030014002001002000020132542020000021224224521242454191435330221214554 00000000
23 25 15 351000000204252502000000101552251103020402002155522210002018002001010000002013254202000002322525521242454182444220221214545174422510
24 45 15 4010000002042525020000001015422520031004000418544222100020160020010100000020153544020000021225224224245519244522022224545174422510
25 35 15 2510000002042525020000001015422520030200020018444222020000 00000101000001001125220200000200000055232435541824442210 0000000 00000000
26 8 5 19100000024445245020000001014422420030200020016542122020000 00000100200001001425420200000172211254242455161424320223225455 00000000
27 40 25 1001000000204252502000000101642253003020400042155522210002018002001000300019014254302000002122522325242555191545220222214555 00000000
28 25 10 680212005 00000000030000001017452420031204000420455222100300160020010020000100142543020000017222222543434552015453210 00000000182443502
29 13 10 38100000022425350200000002 8212120031200020018444222020000 000001000040010014254410020001822421252224345418144452210 0000000 00000000
30 8 5 181000000215342251000000002 8222110030200020018544221020000 0000010000050100132443020000017115113525442555193545110 0000000 00000000
31 10 10 38100000017532115020000001015522420030204000420020554321020000 0000010020000100142543020000019222224521233454191545220221214455 00000000
32 18 8 301000000194351150200000001012222220030204000419544222020000 0000010000000100142543020000020224223522242552024443310 0000000 00000000
33 15 5 18100000022435325020000001016522430030202000419433333020000 000001000005010014154402000001422222222434541714442210 0000000 00000000
34 30 10 38100000022435425020000001016522430030204000418444222020000 0000010100000100111523020000022333334223424541714442210 0000000 00000000
35 10 5 2010000002445350000050000210222220030200020012522111020000 0000010000050100 92511020000010111222213432541714442210 0000000 00000000
36 93 54 16210000022435425003000001016422530031204020018555111020000 00000100030001001425440200000172221145222424551714442210 0000000 00000000
37 84 66 12010000002143522502000000101442242003120402002055221020000 0000010000400100110544020000014111114520143354171444220220124454 00000000
38105 15 451000000224254250004000002 5111111000004000417533222020000 000001000005010015235202000001111111152243325519244452210 0000000 00000000
39 83 73 18910000002043521502000000101642253003020400041825522210030018902001010000010014255202000002224225523434551714442210 0000000 00000000
40114 89 2160212305 000000000300000010144221430030204020018555111100020180020010020000100 92223020000019124155203413541714442210 0000000164322510

The above shows the data base record for producers as a continuation.

APPENDIX DSPSS PROGRAM

```

SET PRINT=ON.
DATA LIST FIXED/Y 1 X1 2 X2 3 X3 4 X4 5 X5 6 X6 7.
VAR LABELS Y 'SELLERS'/X1 'FARMER'/X2 'BUYER'/X3 'GOVT'/X4 'MARKET'/X5 'SEASO
/X6 'IMPORT'.
VALUE LABELS Y 0 'NOT SELL' 1 'SELL'/X1 0 'NOT FARM' 1 'FARM'/X2 0 'NOTBUYER'
1 'BUYER'/X3 0 'NOT GOVT' 1 'GOVT'/X4 0 'NOT MKT' 1 'MKT'.

```

```

BEGIN DATA

```

```

1010111
0010111
1010111
0010111
0010011
1110011
1010011
0010111
0010011
1010111
1000111
0010011
1010111
0010111
1010011
0010111

```

 Ins-Caps

ANYI

```

0010111
1010111
0010111
0100011
1010111
0010111
0010111
0010111
1010111
0010111
0010111
1010111
1010111
0010111
0110111
0000111
1010111
1010111
1010111
0010011
0010111
0010011
1100011

```

 Ins-Caps

APPENDIX E

40 cases are written to the uncompressed active file.

This procedure was completed at 9:20:21

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SPSS/PC+

* * * * MULTIPLE REGRESSION * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. Y BUYERS

Beginning Block Number 1. Method: Enter

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* * * * MULTIPLE REGRESSION * * * *

Equation Number 1 Dependent Variable.. Y BUYERS

Variable(s) Entered on Step Number

1.. X PRICES

Multiple R .22487
R Square .05057
Adjusted R Square .02558
Standard Error .35696

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.25789	.25789
Residual	38	4.84211	.12742

F = 2.02391 Signif F = .1630

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* * * * MULTIPLE REGRESSION * * * *

Equation Number 1 Dependent Variable.. Y BUYERS

----- Variables in the Equation -----

Variable	B	SE B	Beta	T	Sig T
X	.36842	.25897	.22487	1.423	.1630
(Constant)	.50000	.25241		1.981	.0549

End Block Number 1 All requested variables entered.

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SPSS/PC+

* * * * MULTIPLE REGRESSION * * * *

Equation Number 1 Dependent Variable.. Y BUYERS

APPENDIX F

LINKAGE OF SPSS AND DATA BASE

```

SET PRINT = ON.
SET MORE = ON.
IGTA LIST FILE= 'JACK.DAT' X1 1-2 X2 3-4 X3 5-6 X5 7-8 X9 10 X7 11 X8 12
X3 13 X10 14 X11 15 X12 16 X13 17 18 X14 19 X15 20 X16 21 X17 22 X18 23
X19 24 X20 25 X21 26 X22 27 X23 28 X24 29 30 31 X25 32 X27 33 X28 34
X29 35 X30 36 X31 37 X32 38-39 X33 40 X34 41 X35 42 X36 43 X37 44 X38 45
X39 46 X40 47 X41 48 X42 49 X43 50 X44 51 X45 52 X46 53 X47 54 X48 55 X49 56
X50 57 X51 58-59 X52 60 61 X54 62 X55 63 X56 64 X57 65 X58 66 X59 67 X59 68
X60 69 X61 70 X62 71-72 X63 73 X64 74 X65 75 76 77 X68 78-79 X69 80.

1 9531 31010021522251000101552435101454513161000001000015424501555411542315 60
211245 801010041523154100001122510011443233161000010000112245101544251544223130
310244 10010003175145410000111346101175211161000001000013224301344551634531100
4 7412112100103122314210000111215200111215410000010000310335101554151543215 70
511254 8101004174225410000122154001157113301000001000217425101344231353221110
61054120010100214522410000134351004 813410900000010041754113132315154222100
711452 8010001317435231000012134001122032301000010000001344510154425152314140
812054 2210010414522410100015425410013752230000011000001 91110165241542315110
0 0000 00000000 0000000000 00000000 0000000000000000 000000 00000 00000 000000 00
211245 801010041523154100001123510011443231010000100000412245101544251544223130
310244 1001000317514541000011115401011352141010000010000132245101344551634531100

```

```

310244 10010000317514341000011115401011352141010000010000310224501844551634531100
4 74121121001031223142100001121536011132154101000010000310225101354131543215 70
511254 81010041742254106001221548011554423101000001000212425101344231353221110
610541200101002145224110000134351001 61421310100000100413542201333251545222130
711452 60100010174352010000122154001124423101000100000315445201544251552314140
612354 221001041452241010001542341001435230000011000001 411101655241542315110
0 0000 00000000 0000000000 00000000 000000000000000000 000000 00000 00000 000000 00
VAR LABELS X1 'SERIALNO' X2 'TOTALMKT' X3 'EKEMKT' X4 'AFOMKT' X5 'NIMOMKT' /
X6 'BAGSEBUY' X7 'FAIRPRI' X8 'TRAIN' X9 'TRUCK' X10 'BUSES' X11 'HUMAN' X12 /
'TRANSCOG' X13 'TOTSMKT' X14 'ABEMKT' X15 'PLATMKT' X16 'ITEMMKT' X17 /
'UMUMKT' X18 'UZUMKT' X19 'LOCACON' X20 'SEESCHL' X21 'UNIVER' X22 'HOSPTA' /
X23 'GOVT' X24 'TOTUNIT' X25 'CUPS' X26 'BASINS' X27 'KILOGRA' X28 'BAGS' /
X29 'COMBASIS' X30 'COMBASIS' X31 'PERGAIN' X32 'TOTSTRAS' X33 'TTRAIN' /
X34 'TTRUCK' X35 'TEUSES' X36 'THUMAN' X37 'TRASSELL' X38 'STORAGE' X39 /
'HOME' X40 'WAREHOUSE' X41 'RELATIVE' X42 'FRIGIDS' X43 'OTSTORE' X44 /
'LE4MKS' X45 'LE8MKS' X46 'LE12M' X47 'LL' X48 'LE20MKS' X49 'MCOMKS' /
X50 'STOCCOST' X51 'TOTMOEST' X52 'WEEVILLE' X53 'COST' X54 'MOUSE' X55 'HTMA' /
X56 'OTHERS' X57 'TOFRICE' X58 'MFTSUFL' X59 'MKTDD' X60 'GOVTCONT' X61 'PREV' /
X62 'TOSFRIC' X63 'CUSFRIC' X64 'RETAIL' X65 'FARMERS' X66 'GOVTPRI' X67 /
'BIDS' X68 'TOCNEED' X69 'CREDISTO'
VALUE LABELS 5 'STRONGLY AGREED' 4 'AGREED' 3 'UNDECIDE' 2 'DISAGREE' 1 'STRONG
DISAGREE' / 1 'YES' / 0 'NO'.
LIST VAR = ALL.

```