Analysis of Grains Distribution Pattern and its Accessibility in some selected Markets of Katsina State, Nigeria

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ABSTRACT

This study was conducted in some selected markets of Katsina State. The Primary Data used were obtained using Structured Questionnaires administered to 120 Grain distributors / marketers in the study area. Descriptive Statistics was used to analyze the data. The result showed that 63% of the Grain Distributors / marketers were between 15 – 35 years, it also pointed that 95% of them were males and 80% were married. Most of the distributors / marketers (68%) had a family size of 1 and 10, findings also showed that 55% of the respondents had acquired both Qur'anic and Adult education. The major mode of transportation used to convey grains was Motorcar / Lorries. The major crop (grain) supplied to the respective markets was maize. The yield market channels accessible to distributors were both (i.e. rural assemblers, Wholesalers and Retailers). Also the average distance covered by the distributors to the markets was 209 km. Distance, availability of transport and poor road conditions were identified as the major constraints being faced by the distributors / marketers in the study area.

Keywords: Grains, Distribution, Pattern, Accessibility, Markets, Katsina, Nigeria

I. INTRODUCTION

Food supply deficit in Nigeria has been a source of worry for the major stakeholders (including the farm producers, government, marketers/distributors and consumers) in agricultural production and distribution chain over the past decades. Nwajuiba, (2013) however noted that food insecurity situation could be chronic, seasonal, or temporal. It could occur at the household, regional or eve at the national level. It had however, been established that the majority of the undernourished people reside in developing economies, including Nigeria. To overcome food insecurity challenges, there is therefore the need for food availability, food accessibility and food utilization. Food insecurity in Nigeria had often been linked to poverty, corruption, environmental degradation, barriers to trade and commerce and low level of education, among others (Idiku et al., 2012).

One of the most disturbing problems is that there is a yield gap; the gap between actual yields on farmers' fields and potential yields realizable from available agricultural research results. In maize, for instance, it was reported that while the potential yield is at least two tonnes/ha, the actual yields average around 1.191 tonnes/ha, giving a yield gap of at least 0.809 tonnes/ha.

It was added that in rice, while the potential yield is up to 2.919 tonnes/ha, the actual yields average around 1.351 tonnes/ha, giving a yield gap of at least 0.648 tonnes/ha. It must be noted that policy constraint is at the center of the yield gap in most of the staple and industrial crops. For example, while the technology portfolio may be full of viable new varieties, agricultural extension has been weak, or agricultural pricing policies have been unfavorable (Akanni, 2013). Human need and rapid growth contribute greatly to the need of motorized transportation system; so that it will move (distribute) commodities to where it is needed most. Thus, commodities are what people use for their daily basic needs in order to quench their curiosity. The purpose of any transport system is to move the passengers and freight point A (origin) to point B (destination) (Elkana, 2010).

Distribution is the channel where goods are been transferred and distributed for the purpose of consumption. Distribution system brings about information synergy, and it helps to improve the service, and also address on how to go about the distribution breakage (i.e. Guarantee and Warrantee). The distribution of goods is based on the channels which the goods flows, because Transport access is complementary service to the availability of other goods

and services, such as economic advantage, health care and education. Thus, while the distribution channels make it possible to the parties to have the product that was being produced at point A, and to improve economic opportunities by reducing the cost of transportation. If the cost of conveying the product is reduced, this in-turn can lead to lower price for product and consumer goods. A spatial extension of the channels, can also lead to low cost of production and consumption of goods, higher distribution level of socioeconomic activities.

Grains products in Katsina State are one of the major commodities that attract high demand and supply for both the rural and urban communities. The Katsina urban environment normally gets its supply from the various rural markets located in several Local Government Areas of the state. While the rural environments normally source these products from the farms where it's been harvested. The aim of this study is to analyze the Grains Distribution Pattern and its Accessibility in some selected markets of Katsina State and the specific objectives are: To identify the Socio-economic characteristics of the respondents, to identify the periodic markets and transportation of grains in the study area, to evaluate the Quantity purchased per week and goods carried by different modes and to identify the constraints associated with the distribution of grains in the study area.

II. METHODS AND MATERIALS

2.1 The Study Area
Katsina State was carved out of Kaduna State on September 23rd, 1987 by the then regime of General Badamasi Babangida. It is made up of two emirates which feature prominently in the establishment of the seven Hausa Kingdoms. Katsina State covers an area of 23,938 sq km and it is located between latitudes 11º08'N and 22'N and longitudes 6º52'E and 9º20'E. The State is bordered by Niger Republic to the North, Jigawa and Kano States to the East, Kaduna State to the South and Zamfara State to the West. The State is made up of 34 Local Government Areas with a population of 6,639,352 (Garba, 2013).

2.2 Sampling Procedure

The study was conducted in some selected Local Government Areas of Katsina State. Six Local Government Areas were chosen from the three senatorial zones of the state, namely Katsina Central, Katsina North and Katsina South senatorial zones. The Local Government Areas are Charanchi and Jibia (Katsina Central), Mai'adua and Mashi (Katsina North) Dandume and Kafur (Katsina South). They were purposively selected because of the high intensity of grains distribution and marketing in the areas. A proportionate sampling technique was used to select the distributors. A total of 120 respondents were chosen and this gave a total of 120 respondents as the sample size of the study.

2.3 Data analysis

All the objectives were achieved using simple descriptive statistics.

III. RESULT AND DISCUSSIONS

Table 1. Socio Economic Characteristics of Grain Distributors

Parameter	Frequency	Percentage
Age		
15 – 25	38	37.5
26 – 35	44	25.0
36 – 45	24	17.5
46 and above	14	20.0
Total	**120**	**100**
Sex		
Male	110	95.0
Female	10	5.0
Total	**120**	**100**

Marital Status		
Married	121	80.0
Single	19	20.0
Total	**120**	**100**
Family Size		
1 – 5	22	37.5
6 – 10	20	30.0
11 – 15	24	22.5
16 and above	54	10.0
Total	**120**	**100**
Educational Level		
Qur'anic	48	32.5
Adult	8	22.5
Primary	30	20.0
Secondary	28	17.5
Tertiary	6	7.5
Total	**120**	**100**

Source: Field Survey, 2017

Table 1 revealed that 63% of the grains distributors fall within the age range of 15-35 years. This implied that majority of distributors of grains in the areas were youth. Mustapha, (2015) analyzed Rice Farmers' Access to Output Market and Profit Efficiency in Kano State, Nigeria. The study revealed that the average age of 38 years obtained for the rice farmers indicates that they were still in their active productive years which could lead to low level of profit inefficiency and this youthful age positively influence the respondents participation in rice access to output market outlet. The study also revealed that youthful age can impact the adoption of improved agricultural practices. This study also revealed that 95% of the grains distributors were males. This indicates that females' participation is very low compared to their male counterparts. This is probably due to the fact that men are the bread winners of most families in the study area. They therefore, have to get engaged in income generating activities to raise money in order to provide for their families. This tallied with the findings of Shiaka, (2015) in her study, Analysis of Spatial Pattern of Grains and Vegetables Retailing in Urban Zaria, Kaduna State, Nigeria. The result revealed that greater population of the marketers of grains and vegetables products are mainly males, this was due to the cultural practice in the study area (females are mostly in doors and the male engage in economic activities to meet the family needs in a system known as Purdah). The Result also showed that 95% of the grains distributors were married. This is due to the fact that culture and religion emphasizes on early marriage in the study areas. The study also revealed that

68% of the grains distributors had a family size that ranged from 1 – 10. This tallied with findings of Mustapha, (2015). The study revealed that majority of the farmers (87%) had household size that ranged from 1-10 persons in their family. The maximum family size observed was 32 persons with a minimum of 1 person and average of 6 persons .This implies that the farmers in the study area might have advantage of family labour availability if many household members participate in farm activities. However, the implication of large household size is that it will increase household consumption expenditure which would compete with production for limited financial resources within the household.

On the level of education 55% of the grains distributors have acquired Qur'anic and adult education. This is in compliance with the findings of Mustapha, (2015). The study revealed that about 65% of rice farmers had no formal education, about 12% of the respondents had only primary education, and 7% had secondary education while about 16% had tertiary education. However, altogether about 65% of the farmers had no formal education. Illiteracy is believed to have a negative implication on efficient use of productive resources and adoption of farm innovation. This indicates that the farmers" educational level is low.

Table 2. Mode of Transportation

Parameter	Frequency	Percentage
Motorcar / Lorry	51	**42.5**

Motorcycle	34	**28.3**	**Total**	**120**	**100**
Bicycles	10	**8.3**			
Animals	20	**16.7**			
Trekking	5	**4.2**			

Table 2 revealed that most of the respondents use Motorcars / Lorries to distribute grains to the markets and other places. The reason to this was that this mode of transportation allows for the fast conveyance of goods and services over long distance.

Table 3: Quantity of Bags of Grains Distributed (100kg)

Name of Markets	Type of Commodity (100Kg)					Ttl	Mean
	Maize	Millet	Rice	Sorg	Bean		
Charanchi	987	243	245	360	259	2094	418.8
Jibia	620	139	188	223	237	1407	281.4
Dandume	2250	143	1390	1950	530	6263	1252.6
Kafur	750	780	143	243	256	2172	434.4
Mai'adua	600	760	132	224	789	2505	501.0
Mashi	760	124	102	324	213	1523	304.6
Total	5967	2189	1955	3324	2284		

Table 3 revealed that there are similarities in the type of grains presented for sale in the six (6) markets. However, the quantity of bags for particular grains i.e. Maize, Millet and Sorghum varies. From the study it could be observed that maize is the major crop distributed to all the selected markets. Ndaghu et al, (2015) reported that Maize is a major cereal and one of the most important food crops in Nigeria. It is one of the major crops grown in Katsina State. Its genetic content has made it the most widely cultivated crop in the country, from the wet evergreen climate of the forest zone, to the dry ecology of the Sudan savanna. Being photoperiod insensitive, it can be grown anytime of the year giving greater flexibility to fit into different cropping patterns. The distribution of grains in the study area could be determined by some factors which include distance of the markets (i.e. the distance travelled before bringing the grains to the market), demand (this in other words refers to how much is required at a time and in total) and purchasing power (money)

Table 4 Yield market Channels accessible

Channel Markets	Frequency	Percent
Rural Assembler	40	33.3
Wholesalers	20	16.7
Retailers	10	8.3
Both Channels	50	41.7
Total	120	100

The result from Table 4 revealed that about 42% of the grain distributors sold their produce to both channels. This contradicts the findings of Mustapha (2015). The study revealed that 85% of the farmers sold their produce to the rural assemblers.

Table 5: Average Distance covered by Traders to the Market

Name of the Market	Location of the Market	Average Distance covered (km)
Charanchi	Charanchi	130
Jibia	Jibia	209
Dandume	Dandume	120
Kafur	Kafur	165
Mai'adua	Mai'adua	123

Mashi	Mashi	140

Source: Field Survey, 2017

Table 5 showed the location of the markets and the distance travelled by the distributors from home to the markets. All the sampled markets were located at their Local Government headquarters. The Highest distance covered by the distributors from their respective homes to the markets was 209 kilometers. The distance to the output market is an important factor since the interaction of the farmers with the output market is crucial in making information available. Long distances to the market can be a disincentive to farmers who want to commercialize. Mustapha (2015) opined that distance to market significantly influence the choice of market by rice farmers in the study area. This is because distance enables the farmers to choose from alternative market outlet that will maximize his profit through reduction in transportation cost. The negative signs will lead to a reduction in the odds in favor of the farmers choosing a distance market outlet due to its cost implication.

Table 6: Constraints to Grains Distribution

Parameter	Frequency	Percentage
Availability of Transport	20	16.7
Poor Road Condition	19	15.8
Distance	20	33.7
Cost of Travelling	15	12.5
Inadequate Capital	13	10.8
Type of Commodity	15	12.5
Total	120	100

Source: Field Survey, 2017

Table 6 revealed that 34% of the respondents attributed distance as one of the major constraint that hinders the distribution of grains in the study area. The result is consistent with the findings of Mustapha, (2015) who pronounced that distance to market significantly influence choice of an individual farmers/marketers in terms of transportation of produce to available market outlet. It also revealed that 17% attributed transportation as one of the major constraints that affects grains distribution to the market. Ilu, (2015) reported that other constraints mentioned by the millers include lack of access to credit, poor and inadequate storage facilities, lack of adequate supply of paddy and high cost of labour and transportation. One of the problems observed was the use of volume, such as bags instead of weights (kg or tonnes).

IV. CONCLUSION

Based on the findings of this study, it could be concluded that majority of the marketers are young and able bodied individuals. Distribution of grains in the study area is also dominated by males and majority of them have not acquired formal education. Also the major crop or grain supplied to both markets was Maize. However, the grain distributors in the study area were faced with some problems which include distance, transportation, poor road condition and inadequate capital.

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