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Feasibility of Adoption of Structured Grain Trading System in Ogun State, Nigeria

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Abstract

The study examined the feasibility of adoption of the structured grain trading system (SGTS) in Ogun State, Nigeria. It investigated the current grain trading system in the study area, identified policy and structural changes that needs review for successful adoption of structured grain trading system, investigated the perception of the people involved in the grain value chain, and identified the bottlenecks that may restrict efficiency of structured grain trading system. The population of the study covers mainly rice farmers, and other stake holders involved in rice value chain in Ogun State, who were selected using snowball technique. Questionnaires were used to obtain data from the respondents. Results from the study shows that the majority of the benefits derivable from using the structured grain trading system were not found in the present system of grain marketing; such as the use of warehousing receipt as collateral for loans. Conclusion drawn based on the perception of the stake-holders involved in rice value chain was that the structured grain trading system is highly preferred. The system can be implemented only if the infrastructures such as: roads, electricity, market information services, and standard storage structures are put in place.

Key words: Adoption, grains trading system, Nigeria.

Introduction

The current system of grain marketing in Nigeria, especially in rice and maize marketing is confronted with a myriad of bottlenecks that impede efficient and effective marketing, pricing, distribution, and export of grains. Chief among these challenges is the problem of low and varied supply of the products, occasioned by the seasonality of rainfall, and this manifest problems of low prices of the products as a result of glut or excess supply at peak seasons, high prices of grains during off-seasons, inability of farmers to continue production as a result of losses, thereby leading to low outputs in the subsequent seasons (source). The food marketing problems are evident when farmers (who are the primary producers and who reside mostly in rural areas) cannot get their produce to the market at the right time thereby incurring considerable postharvest losses. This perceived disadvantaged situation by farmers caused discouragement and leads to loss of interest in farming and consequently a reduction in food production.

The post-harvest policy of the Nigerian food security programme is cantered on three tier grain storage; Strategic Grain Reserve, Buffer Stock and On-farm storage. The On-farm Storage Programme is supposed to hold 85% of the grains required for food security (Olumeko, 2008). To achieve this, farm level storage is to be complimented with private sector storage stocks which include grain merchants and consumers (Talabi, 2008). According to Shelton (2007), the grain crop is a major investment that needed to be protected. Grain quality does not improve in storage, but the initial quality must be maintained. Ladele and Ayoola (2007) stated that, efficient food marketing system would reduce post-harvest losses, ensure adequate returns to farmers' investment and stimulate expansion in food production thereby enhancing the level of food security in Nigeria.

Food marketing is a very important but rather neglected aspect of agricultural development. Food /agricultural produce traders therefore need to critically embrace effective storage procedures in order to make their grain produce acceptable to consumers. In Nigeria, food marketing by farmers and farm families especially in the immediate post-harvest period usually has a high cost outlay (Babatunde and Oyatoye, 2005). These high costs outlayare so high that lowering the costs through efficient marketing system may be as important as increasing agricultural production, however, there have been several interventions by governments, development agencies and the private sectors on ways towards ameliorating this problem. The report of Technical Centre for Agriculture and Rural Cooperation (CTA) and Eastern Africa Grain Council (EAGC) (2014) exposed that, a structured trading system is one where farmers, traders, processors, millers, banks and others enter organized, regulated trading and financing arrangements. Such systems are not new in Africa: they are used for export commodities such as coffee. But they are still not common for staple grains. Structured trading systems are simple and have the following core components; Good postharvest management, reliable commercial storage and warehousing, efficient trade financing through warehouse receipt systems or collateral management and effective commodity exchanges. The systems also rely on several cross-cutting elements; grades and standards, market information and contracts (CTA and EAGC, 2014)

The current grain marketing system in Nigeria is faced with various challenges. Fafchamps, Gabre-Madhin and Minten (2003) noted that the major food grains (maize, cowpea and polished rice) constitute 80 – 90% of the per calorie consumption of Nigerians. Low level of domestic production, poor storage facilities and inconsistent trade policies has been found to be largely responsible for insufficient market supply of these commodities (Onu and Illiyasu, 2008). The marketing channels for these crops are rather complex as there are often too many intermediaries in the marketing chains. This causes high marketing margins and declined levels of consumer satisfaction. Generally, marketing is concerned with all stages of operation, which aid the movement of commodities from the farms to the consumers. These stages include assembling of goods, transportation, processing, grading and financing of all these activities. Ironically, agricultural marketing was an indication of consumer preferences through the prices they are prepared to pay. This in turn affects the production decision of farmers, as they are likely to produce crops which have high demand. This is of paramount importance to both farmers and markets, but also to policy makers. An efficient marketing system is

therefore desired so as to properly stimulate the nation's economy. To assess the market performance and determine the market efficiency, there is the need to estimate the market margins of the intermediaries, such as wholesalers and retailers. Studies have shown that the marketing margins are high for food crops in South Western Nigeria, as the prices paid by consumers are not commensurate with the level of satisfaction they derive from the consumption of these commodities.

Further, Asante (2003) noted that high transportation costs of farm produce from the farms to the market places occasioned by poor conditions of rural roads and poor storage facilities often lead to high market prices of food grains. These and many other factors hinder effective marketing of food grains. This study thus, examined the feasibility of adoption of the structured grain trading system in Ogun State, Nigeria with the following specific objectives:

1. to describe the demographic characteristics of respondents;
2. to investigate the current system of grain marketing adopted by respondents;
3. to identify the challenges that fraught current system adopted by respondents;
4. to compare the infrastructures and structural changes that needs review for successful adoption of the structured grain trading system;
5. to investigate respondents' preference of structured grain trading system; and
6. to identify the bottlenecks that may hinder adoption of structured grain trading system.

Methodology

The study was carried out in Ogun State, South-western, Nigeria. The State borders Lagos State to the south, Oyo and Osun states to the North, Ondo State to the east and the Republic of Benin to the west. Survey research design was used in obtaining perception of rice farmers, traders, retailers as well as millers and processors on the structured grain trading system. Also, a comparison of the structured grain trading system currently in place in Kenya, with the current system in Nigeria was carried out to identify the features of the structured trading system vis-à-vis the current system in Nigeria. The study population covers mainly rice farmers and other stake holders who are involved in the value chain of rice in Ogun State. A total of 120 questionnaires were administered in the following proportion to farmers (50%), retailers (10%), traders (10%) and processors/millers of rice (30%) in Ogun state. Rice was selected as the major grains for this research because of the high demand, large number of participants and the policy direction of the government on increased production towards self-sufficiency in food production. Ogun State was also purposively selected for this study, because of the state's comparative advantage in rice production in the south-west, coupled with the high demand for the products by the large population of the state as well as the marketing advantage of sharing border with Lagos State, the commercial and economic nerve-centre of Nigeria. Respondents were purposively selected in Lafenwa (10), Obada (20), Mokoloki (20), Wasimi (25), Ewekoro (25), and Oshiele (20) using "snowball technique.

Data for the study were collected from both primary and secondary sources. Structured interview schedule was utilized in gathering primary data. Descriptive statistics;

frequency tables, percentages and mean score were used to analyse information gathered.

Results and Discussion

Demographic Characteristics of Respondents

The demographic variables are described in Table 1. Respondents with age range between31-40 years (37.5%) were mostly traders, millers and retailers. Those between the age bracket of 41- 50 years (32.5%) and ages 51 and above (19.2%)were grains farmers, and respondents within ages 20-30 years (10.8%) were either millers or traders. More than half (58.3%) were male compared to female (41.7%). This explains that the majority of grain (rice) stakeholders are male. The majority of the respondents had only primary education (62.5%), and some had no education (19.2%) with secondary education having 18.3%. It was observed that a majority of the respondents were married (90%) while the rest were single. Therefore, the majority of the respondents that indicated to have been involved in the rice value chain from 31-40 years either started from the days of farming with their fathers or inheriting their fathers' business.

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Table 1: Demographic distribution of respondents

	Demographic characteristics	Percentage
1.	**Age (years)**	
2.	21-30	10.8
3.	31-40	37.5
4.	41-50	32.5
5.	51- and above	19.2
6.	**Sex**	
7.	Male	58.3
8.	Female	41.7
9.	**Educational background**	
10.	No formal education	19.2
11.	primary education	62.5
12.	secondary education	18.3
13.	**Marital status**	
14.	Single	10.0
15.	Married	90.0
16.	**Years of involvement in rice value chain**	
17.	1 – 10	44.2
18.	11 – 20	25.8
19.	21 – 30	23.3
20.	31 – 40	6.7
21.	**Role in rice value**	
22.	Farmer	36.7
23.	miller/processors	28.3
24.	Traders	30.0
25.	Retailer	5.0

Source: *Field survey, 2016.*

The Current Grain Trading System and Challenges

Table 2 indicates that all the respondents engage in either one type of post-harvest management practice or another; the majority (80.8%) engaging in processing (from threshing to drying), and others engaging in storing, grading, or packaging. Also, 53.3% process their grains in small scale (private) processing/milling centres as a result of unavailability of government processing centres, and 20% who were millers process themselves while others who were either traders or retailers buy processed grains. Also, respondents either store their grains at their homes (12.5%) which is not far from their farms or markets, on farm (1.7%) and or in their stores (49.2%) where people can buy from them, and those who do not engage in any form of storage (49.2%) are either millers who mill the grains or farmers who sell immediately after harvest. Sun drying is the only source relied upon for drying by the respondents, as it is the cheapest to use, and during the process foreign materials get into the grains. Most respondents bag their products before sale and others do not. Those who do not bag either sell in unit/small

quantity or sell just after harvest. Transportation of grains is done by chattering of vehicles and paying, or the customers will find their own means of transport on their own, as there are no stable means of transport of agricultural commodities. Respondents explained that the loans requirements of banks are not easy to meet, it is easier to access co-operative loans or better borrow from family and friends.

Table 2: Analysis of the current grain trading system in Ogun State

Items	Percentage
Types of post-harvest management practiced	15.8
Storage of grains in silos	80.8
Processing of grains into other forms	3.3
Grading and packaging	
Processing of grains	
Self-processing	20.0
Small-scale processors (private)	53.3
Others	26.7
Storage of grains	
At home	12.5
On farm	1.7
I don't store my grains	49.2
My store	36.7
Drying of grains	
Sun-drying	69.2
Mill	4.2
Milled grain	26.7
Pre-sales packaging of products	
I bag my products	62.5
I don't bag my product	12.5
I sell in units	25.0
Sources of grains disposal	
Processors	2.5
Millers	1.7
Wholesalers	36.7
Farmers	0.8
Consumers	51.7
Packages	6.7
Means of grains transportation	
I make use of transporting vehicle	9.2
I chatter vehicles and pay them to	10.0
transport for me	50.8
My customers transport themselves	28.3
I don't transport my commodities	1.7
head porterage	
Loan accessibility	
Yes, there are many	46.7
Yes, but they are few	53.3

Source: Field survey, 2016.

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Comparison of Kenya and Nigeria Facilities for the adoption SGTS

The infrastructure and structures needed for adoption of SGTS were compared between Kenya and Nigeria as shown in Table 3. It was deduced that transport services are available in Nigeria and Kenya; this will assist in easy conveyance of the grains. Market information services; extension education required by the system is slightly available in Nigeria but lot still has to be done in terms of information on prices, product planning, sales timing, improved marketing practices, group marketing, etc. Commercial banks are available in Nigeria as well as in Kenya where the system has been successfully practiced and they accept warehouse receipts as collateral. Standard storage structures required for the system is partially present in Nigeria as those present are either abandoned or not in use.

Table 3: Comparison of Nigeria and Kenya grains facilities

Infrastructural Facilities	Kenya	Nigeria
Transport services	Available	Available
Market information services	Available	Slightly available
Commercial banks	Present	Present
Insurance companies	Present	Present
Roads	Good	Fair
Electricity	Stable	Unstable
Water supply	Stable	Stable
Structures		
Warehouse	Available	Rarely available
Standard storage structures	Available	Slightly available

Source: *Field survey, (2016) and Focus Africa (2016)**,***

Respondents Preference of Structured grain trading systems

Table 4 shows that good post-harvest management (2.89), privately run ware housing (2.38), financial institutions that accepts warehousing receipts as collateral for loan disbursement (2.85,) standardized price monitoring system (2.78) and standardized products suitable for exports as found in the structure grain trading (2.82) were highly preferred.

Table 4: **Respondents' preference for structured grain trading systems**

Items	Mean	Standard deviation
Good post-harvest management	2.89	0.312
Financial institution that accept warehouse receipt a collateral for loan	2.85	0.359
Standardize products suitable for export	2.82	0.449
Standardized price monitoring system	2.78	0.414
Privately or publicly run warehousing system	2.38	0.595

Source: *Field Survey, 2016*

Bottlenecks to Adoption of Structured Grain Trading Systems

The possible bottle necks that may hinder the adoption of structured grain trading system as suggested by the respondents were: bad roads, electricity, location or the distance, high cost or price when compared to the present cost, co-operation among the people involved, co-ordination, corruption, conformity and compliance by the rules by everyone involved and lack of information about the system. The cost involved in using the system as compared to the other system has the highest percentage of 29.7%, which means that for the stakeholders to be able to adopt the structured grain trading the cost must not be higher than the way they operate at present. With corruption and distance each having 18.06% respectively, respondents are confident of the system assisting the current marketing of grains but opine corruption may turn the grain to regrets. Bad roads may also hinder the adoption of the system as people may prefer the current system.

Table 5: Perceived bottlenecks to adoption of structured grain trading system

S/n	Items	Percentage
1.	Bad roads	12.2
2.	Electricity	3.2
3.	Location distance	18.0
4.	Price	29.7
5.	Cooperation	3.2
6.	Coordination	2.6
7.	Corruption	18.0
8.	Incompetency	1.9
9.	Conformity	5.1
10.	Awareness/information	5.8

Source: *Field survey, 2016.*

Conclusion and Recommendations

The structured grain trading system when compared to the current system of grain handling and marketing in Nigeria is far better as it will save farmers from the stress of postharvest, marketing and sourcing for money to continue production, and therefore face production squarely. Standardization of the system would position the produce for both domestic and international standards. Educational programmes through extension services should be enhanced to aid market information dissemination. Investment on roads and other rural infrastructure should be given top priority by all tiers of government. Decision makers/Government should target the existing and future policies with a view to improving grain business; such policies should be well implemented

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