



Management Systems Framework for Addressing Farmers Constraints in Cross River State of Nigeria

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Abstract

In many rural areas of African countries, Nigeria included, agriculture is the core source of livelihood. In some areas, agricultural products are mainly for family consumption. Even though, some of the farmers aimed to extend their produce for both local and international markets. However, agriculture sector is characterized by many challenges, of both technical and non-technical nature, leading to its drastic decline in many African countries. This study was carried to gain deeper understanding of the challenges which causes the decline of agricultural produce. Based on the finding and our understanding, a Management Systems Framework was developed. The framework is intended to improve the agriculture sector in Cross River State of Nigeria. Data was gathered from the repository of the National productive Centre, Cross River State region. The data was interpretatively analyzed, and some of the findings include lack of accessibility to modern technical and social infrastructures, government's interest in crude oil at the expense of agriculture, and lack of basic facilities, such as water and roads.

1. Introduction

Statistically, about 70-75% of the population of Nigerians lives in rural areas, and over 80% of the rural dwellers are involved in agriculture and agriculture related activities. However, most of the farmers are peasant farmers, which have over 90% of the total farm holdings in Nigeria. These peasant farmers produce about 90% of the food that are consumed in Nigeria. Shanin (1984) defined peasants as small agricultural producers who mainly use simple implement and family labour to produce mostly for their consumption and for the fulfillment of obligations to political and economic power holders. Most peasants are found in rural communities in most societies, however, it is important to note that not all rural farmers are small scale or peasant farmers. Vänninen et al. (2009), argued that in the midst of all this, the conventional farmer's individual and socio-cultural identity is challenged.

In Cross River State there are many natural resources that support agricultural productivity in the State and Nigeria at large. Unfortunately, issues such as poverty, unemployment, malnutrition, diseases and illiteracy are found in the rural areas, where about 70% of the population lives on subsistence farming. These issues were among the challenges encountered by farmers in their quest to more productive. Of course, farmers' challenges are not peculiar to Nigerians farmers. Adu-Appiah et al (2013) identified four different challenges in cocoa farming in Ghana, which includes ranking of the products, credit facility, payment for purchases, and seasonal break in the cocoa cropping season.

According to Bdiya (1998), agriculture dominates the non-crude oil export sector of the Nigerian economy but that it had greatly declined with the increase in petroleum. That the first ten years after the country's Independence in 1960, agriculture share of the GDP has above 50%, but started to decline in the 70s with an all record low of only 21% in the early 80s.

Between 1960 and 1969, was characterized by minimal intervention of government in agriculture, due to the fact that agricultural sector earned most of the foreign exchange via export of cash crops. In recent years, government has shown more interest in farmers' activities. According to Mavunganidze et al (2013), significant initiatives have been undertaken to improve the livelihoods of smallholder farmers in southern Africa through conservation agriculture

From 1970 to 1984, the government involvement in agriculture activities drastically declined. This was attributed to oil boom in the country, causing an imbalance in the economy, as well as rapid mass rural-urban migration. However, Onyenkazi and Adeniji (2013), argued that agriculture remains the nation's main bedrock employing over 70% of the total population, mostly on a subsistence level. This has made the government to formulate guiding principle and policies for the agricultural activities in the country. According to Oluwasola et al (2008), it is unfortunate that the policies treated rural development and agricultural production independent of other sectors.

The shift to oil dependence had serious impact on rural areas, in the areas, such as food security. According to Onyenkazi and Adeniji (2013) assessment, the shift emphasizes and exposed the continued need for agricultural extension services as a means of improving agricultural productivity, increasing food security, promoting rural living standard and advancing agriculture as an engine of pro-poor economic growth.

From 1985 till date, the government has put in place several measures to boost agricultural development in Nigeria. Some of these measures focus more on private sector participation in agriculture. Oluwasola, et al (2008) argued that several policies and programme were established to improve the productivity and hence income earning potentials of farmers in the rural areas. It is therefore, obvious that successive governments have put in place several policies aimed at reversing the trends of low agricultural productivity in Nigeria.

Based on the introduction, summation provided above, the research goal was formulated. The goal of the research was to develop a framework that could be used to addressing the constraints towards farmers' productivity. In order to develop such a framework, the challenges and constraint need to be understood. This led to the research question: what

are factors affecting farm produce in Cross River State of Nigeria. For the purposes of data collection, the research question was divided into two: (1) what are the human factors, which influences farm produce in Cross River State? And (2) what are the non-human factors that impacts farm produce in Cross River State?

2. Methodology

The data that was used in the paper was, with permission, obtained from the National Productive Centre (NPC), Cross River State of Nigeria. Cross River State is one of Nigerian 36 States. It is situated in the southern part of the country. About 4 million live in the State. The NPC offices in Cross River State have 101 employees. The organization (NPC) was established in 1984.

The data that is used in this paper was collected by the offices of the NPC, over a period of three years. Both the qualitative and quantitative methods were used in the collection of the data. Seaman (2011) further asserts that the use of variety of data collection methods in a research or project provide the researcher with the advantage of obtaining a more detailed picture of the phenomena under study. We do subscribe multiple methods of data collection, if explicitly determined by the goal and objectives of the study or project. O'Leary (2004) argued that one method is not inherently better than another.

The interpretivism approach was employed in the analysis of the data. The approach was selected mainly because of the qualitative and the objective of the paper, which is to develop a framework that could be used to addressing the constraints towards farmers' productivity.

The analysis of the data was carried out, in answering the research questions: what are the human factors which influences productivity of framers in Cross River State? What are the non-human factors which influences productivity of framers in Cross River State?

3. Constraining Factors Affecting Farmers Productivity

Agricultural productivity is defined as the index of the total farm output to the value of the total input used in the production process. Productivity is not simply the level of production, it is the production level that is compared to the amount of inputs, such as land, water, seeds, fertilizers, agro-chemicals and labour that are used. It is a ratio between output and input (Alabi 1978, ARP, 1988).

According to a report by Central Bank of Nigeria Report, the growth in agricultural output in 1998 was lower than the average attained in the preceding five years. This might not be unconnected with the constraints affecting farmers in Nigeria, Cross River State inclusive. However, these are some of the major constraints militating against farmers' productivity in Cross River State. These were examined through the research questions:

As analyzed and presented below in this section, factors affecting farmers' productivity in Cross River State of Nigeria are both human and non-human. The human and non-human factors influences, and depend on each other to make a difference in farming activities in the State. As a result, it is difficult or impossible to separate both human and non-human factors in the activities of farming, within the context of this study.

The dependence of human and non-human actors is neither new nor unique to the farming environment. In an information systems study, as shown in Figure 1, Iyamu (2013) explicitly and comprehensively explored and assesses the implications of the relationship between human and non-human actor in a phenomena. One of the conclusions of the study was that the interplay between human and non-human actors determines the production and reproduction of events, overtime and space.

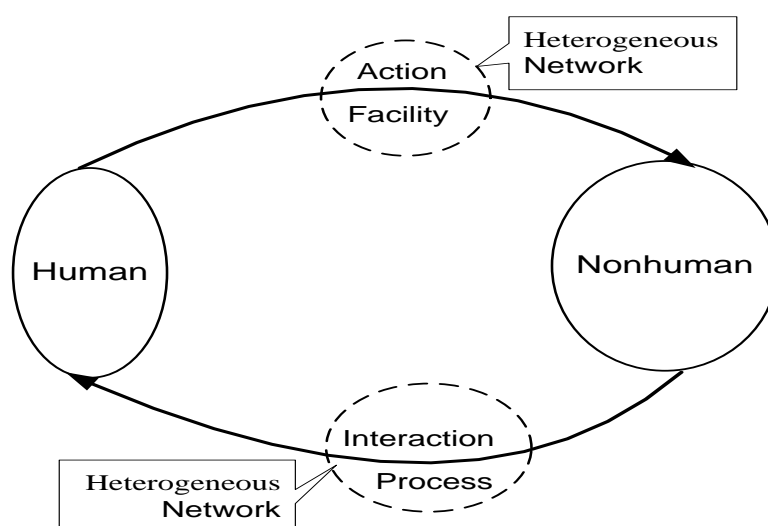


Figure 1: Human and nonhuman symmetric interplay (Iyamu, 2013)

Productivity is enacted by human and non-human, and it is the effective and efficient use of available resources to produce and reproduce quality goods and services to the delight of the consumers.

What are the human factors which influences productivity of framers in Cross River State?

Based on the analysis, the critical factors, manifesting of human actions which affects farmers' productivity in the State include lack of accessibility, marketing and lack of education:

i. Lack of Accessibility

One of the critical factors affecting the productivity of farmers in the state is lack of accessibility to essentials, which include land, credit facility, and materials. The lack of accessibility essential commodities is a manifestation of human actions. The actions are both indented and unintended, but they do have consequences to the farmers and the consumers.

Land is an essentially important to the farmers. Unfortunately, land ownership in Cross River State is complex. In some parts of the State, it is owned by inheritance, and in others, it belongs to the community. In both the South and Central Senatorial districts of the State, land is a deficient factor to the farmers. What is even more challenging is that majority of the land owners are not farmers. As a result of the challenges, there exist, over the years, communal clashes in some communities at the beginning of farming seasons. Even when land is available, some farmers find it difficult or impossible to access it through acquisition or rental, due to their lack of affordability.

Many farmers in the State are challenged in accessing credit facility from financial institutions. The study revealed three main causes: lack of availability of credit, in some cases; some farmers do not have the know-how, in accessing credit facility when it is available; and cultural belief to the concept loan. As at the time of this study, there was system that is dedicated and regulates credit facility for farmers, at both rural and urban communities. Also, the farmers are not trained or educated enough on how to access credit facility. As a result, there was often negative and suspicious connotation towards credit facility. The factor is cultural belief. Some of the farmers are culturally inclined to belief that is taboo, and it is an indication of laziness. Unfortunately, majority of the farmers are challenged in trying to grow and become more productive, due to lack of affordability of essential items and materials, such as fertilizers, pesticides, and herbicides.

Most of the farmers do not have access to items and materials such as fertilizers, pesticides, herbicides and improved seedlings, to improving their mechanized farming productivity. From the survey that was conducted by Agriculture and Rural Productivity Department of National Productivity Centre, Cross River State Office in 1998, it was revealed that 98% of the respondents in Calabar Zone of the State had no access to pesticides; 90% did not access to herbicides, and only 55% made use of fertilizers. These percentages were influenced different factors which include high prices associated to the materials, late supply, insufficient supply, and lack of information on the type of fertilizers. Also, 90% of the farmers had no access to improved seedlings. But where these inputs are available, farmers buy them from urban centres at exorbitant prices. In addition due to the attitude of some farmers or cultural beliefs, most of them do not accept to use mechanizing items. This this hinders the quality and productivity of their farming.

ii. Marketing

Marketing is vital to farmers. It is an assessment of their profession and individual capability. Also, marketing of farm produce increases competition, and encourages farmers to do more. Otherwise, some farmers finds themselves in the state of disillusion, as we have empirically revealed in this study. According to a 1998 report by the Agriculture and Rural Productivity Department (ARP) of Nigeria, market for farming produce is poorly developed in most rural communities. The report attributed this to poor access roads or long distance to the highway roads.

The consequence of lack or poor marketing includes absence of competitive prices, high cost of transportation, and spoilage of farm produce due to delayed evacuation and damages on the roads. The extortion on the road by various law enforcement Agents also have negative impact on poor marketing of farm produce.

Disseminating of improved farm technology without improved organization of the marketing strategy, results to very low prices or even indisposed surpluses which may so lead to disillusion of the farmers. This discourages the farmers from planning for increased production. The study also revealed that this one of the primary factors why some farmers produce only for their family consumption. This has serious implication for agricultural productivity in Nigeria.

iii. Education

Majority of the farmers in Cross River State are not educated, meaning that they did not attain High School education. As a result they can hardly read and write, making it difficult for them to assess and understand how to make use of some mechanized items, for their farming. Some of the farmers had expected the government to provide a certain level of education, just enough for their farming activities. Unfortunately, farmers' education is not given priority attention. This could be attributed to the fact that the Cross River State Agricultural Development Project is not properly funded to provide the necessary extension services to farmers in the State. Some of the implications of the farmers' poor education are: (1) the farmers cannot keep proper record (such as accounting record and infrastructure use) of their farming activities; and (2) they find it difficult to accept modern ways of farming. The poor education within the farming sector in the State could also be attributed to the youths' attitude towards farming.

Education is not only lacking among the farmers, also to the youths who are potential farmers. In Cross River State, young people are no longer interested in agriculture and agric-related activities. This trend started in the mid 2000s. Due to the lack of education about farming to the youths, they find difficult to understand the value and career inspiration in the profession. If this trend is allowed to continue the agricultural sector will be faced with ageing population with resultant decrease in productivity. Youths declining interest in farming has major impact in the State and the Country in general. Thus, it will be difficult or impossible to transfer skill and knowledge. As a result the State and the Country at large will suffer from agricultural self sustainability.

What are the non-human factors which influences productivity of framers in Cross River State?

As revealed by this study, some of the non-human factors which impact farming activities in Cross State of Nigeria include tools for mechanized farming, social infrastructures, and storage facilities:

i. Lack of Mechanization Tools

According to the record of National Productivity Centre (NPC) of 2013, majority of the farmers have no access to farm mechanization. This is due to the high cost of the mechanization tools. As a result, most farmers continue to depend on manual and crude methods in their farming activities. Due to lack of modern farm implement, farmers' productivity has become increasingly crude, making farm work highly labour intensive.

The lack of mechanization tools lead to major constraints, during planting and harvesting of farm produce, as work force are the main dependence, which are not sufficiently available. Also, post harvest, mechanization tools are still needed. Thus, causes wastages and losses of farm produce. And the post-harvest losses constitute lack of storage facilities, post harvest pest and diseases, and lack of reliable transportation system. As a result, there is a general fall in price of farm produce, year-in year-out. This problem has serious implication for farmers' productivity in the State.

ii. Social Infrastructures

Farmers in Cross River State of Nigeria are generally challenged with social infrastructures in their farming activities. This is linked to the fact that majority of them reside in rural areas of the State. Most of the rural areas that produce the agricultural produce which are consumed in the urban areas do not have access to social (some basic) infrastructures, such as roads, electricity, and water. This encourages rural to urban migration by mostly the youths, who would had been interested and more productive in farming.

In Cross River State, there is no system that could be used in the identification of farmers. As a result, there is no credible file or system we do not have the actual identity and records of the real farmers. This poses critical problems, such as, impersonation of farmers, credible distribution of subsidies and inputs to farmers, and record of actual returns. As revealed in this study, there were instances, where civil servants, including politicians posed as farmers to deny the actual farmers access to credit facilities in the State. This has serious implication for farmers' productivity, as the target groups are never reached.

iii. Storage Facilities

Storage facilities, such as warehouse, and other techniques for preservation are required for farm produce. This is a challenge for farmers in Cross State of Nigeria. As a result, some of the farmers make use of their residential homes for storage of grains. This is often not hygienic. Also, the capacity is often not enough to store the produce.

Facilities for storage are a major constraining factor for farmers in Cross River State. As at the time of this study, it is difficult or impossible for farmers in the State to store their produce. As a result, they produce for immediate (or as soon possible) consumption, to avoid wastage. Also, the lack for storage facilities deprives the farmers from controlling the prices of their products. As a result of lack of proper storage facilities a lot of waste is recorded annually by farmers and this affects their productivity.

4. Management System Framework

The primary aim of this paper was develop a Management System Framework (MSF), which could be used to addressing some constraints militating against farmers' productivity in Cross River State. Although the problems facing farmers in the State are numerous, some of the critical factors include infrastructures, education, accessibility to mechanization, accessibility to credit facility, coordination of farmers' activities. Based on our analysis of the empirical that we gathered from the National Productivity Centre (NPC), we developed a management System, as shown in Figure 1 below. The MSF is aimed at mitigating and reducing the challenges that are encountered by farmers in Cross River State, in order to enhance the productivity of their produce.

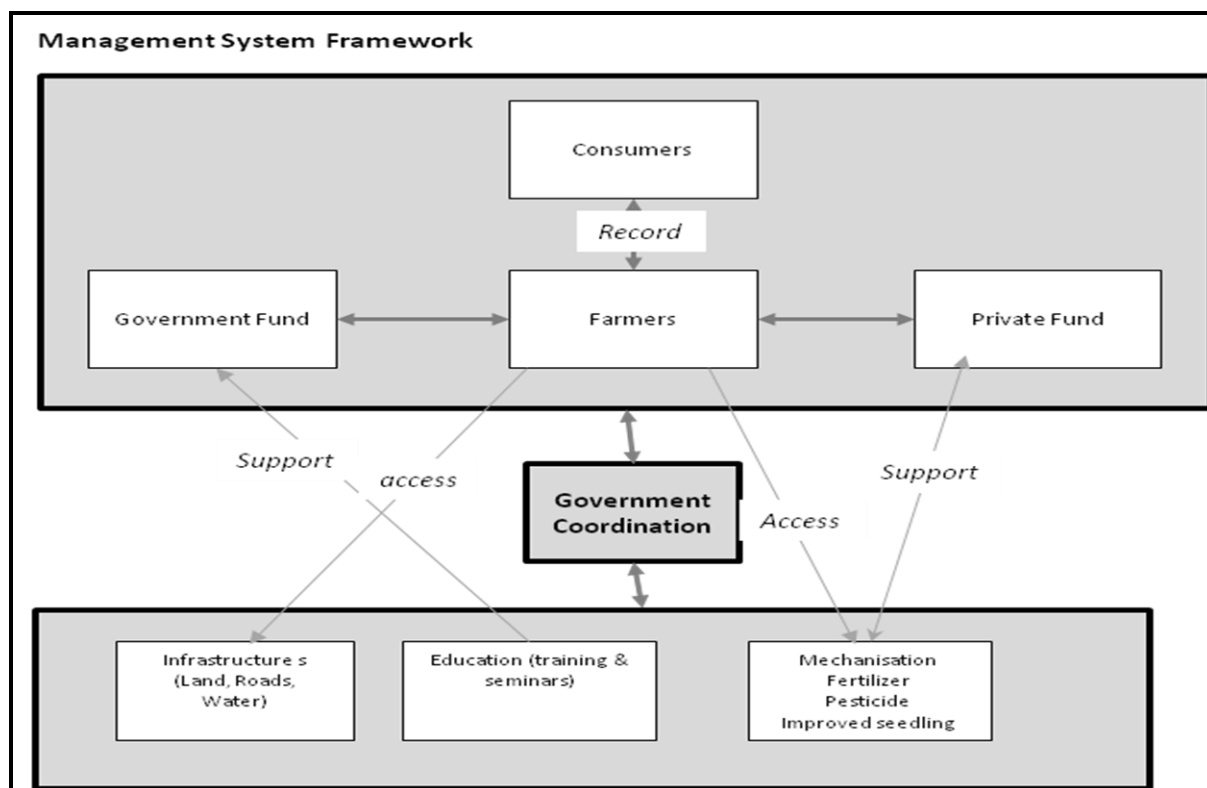


Figure 2: Management System Framework for Farmers Constraints

The MSF is discussed as follows:

- i. In addressing the problem of insufficient land for farming in the central senatorial district of Cross River State, an arrangement should be made with the people of the Northern senatorial district, to allow farmers to use their land to farm for a token on lease. This practice is already in practice in some parts of Nigeria, such as Edo State, where Delta State indigenes are allowed to farm in Edo State on lease. This must be captured in the coordinating system, as provided by the framework.
- ii. Farmers need to be educated and encouraged on how to access credit facilities in the State. A system is required to help addressing the bottleneck and the issues, such as collateral, in order to enable the farmers to access available funding facilities, from both the government and private sectors. Also, farmers need re-orientation, through seminars to help them to change their attitude towards access to loan. The current Agricultural Credit Facilities made available by the Federal Government is one of such opportunity that the farmers are unclear of how to access.
- iii. The farmers need to be trained and encouraged on how to make use of fertilizers, pesticides, herbicides, and improved seedlings. They should be provided information on acquisition and utilization of these inputs at affordable prices to enhance their productivity. In the absence of fertilizers farmers should be taught and encourage on how to use manure, which is available and cheap to produce.
- iv. The role of mechanization in increasing farmers' productivity is of paramount importance to the economy. Government should assist farmers hire farm equipment at affordable rate. This is why the Federal Government should restore NALDA i.e. Nigeria Agricultural Land and Development Agency to assist in this direction, as this will encourage farmers to increase their farm holdings; with reduced labour.
- v. Farmers should be assisted by Government to overcome the problem of harvesting and post harvest losses. They should be provided modern storage facilities to surmount this constraint. Farmers should also be encouraged to form cooperative societies in order to pull resources together to solve common problems that require high financial resources that individual cannot solve.
- vi. Marketing and transportation strategies are required in help and motivate famers in the State. These should be well developed by the government to encourage farmers to produce more for societal consumption. Government should make allocation for unforeseen consequences in the sudden fall in prices of agricultural products in buying the surplus from farmers like it is done in several countries.
- vii. Provision of social amenities and support is of vital importance to the farmers' productivity. The Cross River State Government, through its coordination will be in better position to understand this plight, and develop a mechanism to address the challenges. Otherwise, youths lack of interest in farming, as well their migration urban areas will continue to increase.
- viii. In addition to the farmers, the youths also need to be re-oriented, to change their present attitude towards agriculture. There is a need to understand agriculture as a critical business, which is vital for the economy of the country. The ADP and other Agents should also be motivated to continue to educate the farmers on regular bases, to enable them accept the modern method of farming in the State.
- ix. Above all, the rural farmers should be identified and documented by the State Government, so that well intention of giving them inputs get to them to increase their output/productivity. This is very important; otherwise these

resources will be used by corrupt officials to the detriment of farmers. The National Productivity Centre should be approached for assistance in this direction.

5. Conclusion

This paper revealed that among the rural population in Nigeria, and Cross River State in particular, agriculture is the major source of their livelihood. Unfortunately, the agriculture sector is challenged by many factors as revealed in this study. Studies have shown that these rural farmers that are mostly peasant farmers produce 80-90% of our food requirement in Nigeria.

The peasant farmers in Cross River State like any other group have their peculiar constraints affecting their productivity. This paper explored and identified some of these constraints, as well as highlighted the way forward, at mitigating them, to enhance their productivity.

The Management System Framework presented in this paper is aimed to help with control, management, validation, checks and balances. This will bring sanity and security to the farmers, as well the funds providers. Through this, many of the youths will begin to understand the seriousness and vital role of farming, in the State.

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