Rural Economics and Development

Effects of Contract Farming Scheme on Cassava Production Enterprise in Oyo State, Nigeria

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Abstract

There are indications that the domestic demand for cassava particularly as staple food may in no time outweigh that of the industrial sector, except contract and non-contract farming entrepreneurs operate within the framework of sustainable agriculture. The study thus examines the effects of contract farming scheme on cassava production in Oyo State, Nigeria. Multistage sampling technique was used. Oyo and Ibadan/Ibarapa zones were randomly selected from the four Agricultural Development Projects (ADPs) in Oyo State. From the 307 registered farmers under the contract farming arrangement in the selected zones, 20% (62) were randomly selected, while equal number were selected from the list of their non-contract counterparts in two of the four agricultural zones of the state. Data were subjected to descriptive and inferential statistics. Average farm size was 14.56 ± 3.43 and 2.14 ± 0.43 acres for Contract and non-contract farmers respectively with respective average output of 6 and 5.4 tonnes per acre. Majority financed the farm through loan as average distance from home to farm is 5.88km. Hired labour was prominent for farm operations and land for farming is through the community.Contract and non-contract farmers differed significantly in their level of production enterprise (t=19.219, p=0.000). Promotion of contract farming through a well laid out agricultural extension outreach will ensure constant and consistent growth in the agricultural sector and consequently alleviate poverty among rural household in Oyo State.

Keywords:*Contract farming, Cassava production enterprise, Access to input, Market*

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Introduction

Cassava is one of the major staple food crops in Nigeria and Africa generally. Akoroda and Terri (2004) reported that cassava was considered by the rural household as their most important food crop. It is consumed in various processed forms such as *garri*, chips/flour, fermented paste and starch (Anuebunwa *et al.*, 1998; Akoroda, 2010). Some of the inherent characteristics which

makes cassava (as a food crop) attractive especially to small scale farmers in Nigeria are its multiplicity of end users and rich carbohydrate content especially starch (Akoroda and Terri, 2004). Nigeria is currently the largest producer of cassava in the world with an annual output of over 36 million tonnes of tuberous roots. This figure is a third more than production in Brazil and almost double the production of Indonesia, Thailand, the Democratic Republic of Congo, Ghana, Madagascar, Mozambique, Tanzania and Uganda (FAO 2004).

Despite these huge potentials associated with cassava production in the country, most of the farmers involved in the production were not getting in returns a good income from their produce due to various production factors, such as cost of weeding, bush clearing, cassava cuttings, and labor as well as fertilizer application. Thus, the government over the years has facilitated different programs which include National Accelerated Food production program, Operation Feed the Nation, presidential initiative on cassava production in 2006, the Agricultural Development Projects and National Agricultural Research System in collaboration with the International Institute of Tropical Agriculture and other agricultural research centres were established to boost cassava production. Large scale planting material multiplication and distribution facilitated by the IFAD assisted cassava multiplication program was also executed and this metamorphosed into the Root and Tuber Expansion Programme (RTEP). The overall goal of these intervention efforts is to stimulate production and supply adequate food and raw material for local and export market, consequently, qualities of rural farmer's lives will be improved while conserving the natural resource base of the country.

Currently, the emphasis on the agricultural sector is geared towards developing the concept of new agriculture and one of the significant factors is the development of entrepreneurial farmers whereby the farmers themselves are supposed to be involved in proactive, initiative taking innovative and dynamic business activities. In doing so, the new agriculture will have the capacity of developing competitive agric-business as a mechanism to market products. Lately, the concept of contract farming had obtained a favourable response among policy makers, development planners, extension agents and researchers as one of the modern farming methods that could develop agric-entrepreneurs and to overcome the difficulties faced by the agriculture sector. Contract farming according to Singh (2005) is defined as a system whereby farmers or primary producers supply agriculture or horticulture produce under advance contracts, the essence of such arrangements being a commitment to provide an agricultural commodity of a type, at a specified time, price and in specified quantity to a known buyer. There are different types of contract farming based on the model being used. Mansur et al. (2009) states that in general, there are five types of contract farming models comprising of the centralized model whereby it is a vertical coordination where the sponsor purchases the crop from farmers and processes and markets the product; the nucleus estate model whereby the sponsor of the project owns and manages a plantation; the multipartite model whereby it involves government; statutory bodies and private bodies participating jointly together. In the informal model, it is run basically by individual, entrepreneurs or small companies who make simple, informal production contracts with farmers on a seasonal basis. The intermediary model has formal subcontracting by companies to

intermediaries (collectors, farmer groups, NGOs) and intermediaries have their own (informal) agreement with farmers.

Despite the glaring potentials associated with contract farming, cassava production enterprise in Oyo state is being faced with myriads of problems. Nweke *et al*., (2002), Alfred (2006) and Firro (2006) identified cost of bush clearing, tilling of heavily wooded farmland, the planting of cassava sticks, fertilizer and fertilizer application, weeding and cost of labor as the main constraints to cassava production enterprise. It is against this background that this study examines the effect of contract farming scheme on cassava production enterprise in Oyo state, Nigeria by attempting to provide answer to the following research questions: What are the farm characteristics of the farmers in the study area?What are the benefits accruable to contract and non-contract farmers that are engaged in cassava production? The study will also want to test if significant difference exists in the level of benefits derived from cassava production enterprise among contract and non-contract farmers.

2. Methodology

2.1 *Study area*

The study was carried out in Oyo State. Oyo State is located between the latitude $7^{o}\ 8^{1}$ and $9^{0}\ 10^{1}$ in the South-West geopolitical zone of Nigeria, Oyo State was one of the three States carved out of the former Western State of Nigeria in 1976. Oyo State consists of 33 Local Government Areas. Oyo State covers approximately an area of 28,454 square kilometers and is ranked 14th by size, it is bounded in the south by Ogun State, in the north by Kwara State, in the west it is partly bounded by Ogun State and partly by the Republic of Benin, while in the East by Osun State. The main occupation is farming. The climate in the State favours the cultivation of crops like Maize, Yam, Cassava, Millet, Rice, Plantain, Cocoa tree, Palm tree and Cashew

2.2 *Data collection*

Multistage sampling technique was used to select the cassava farmers used for this study. There are four Agricultural Development Programme (ADPs) zones in Oyo State, which are Ibadan/Ibarapa Zone, Oyo Zone, Saki Zone, and Ogbomoso zone in the state. Oyo zone and Ibadan/Ibarapa were randomly selected. Oyo zone has 148 registered cassava contract farmers while Ibadan/Ibarapa zone has 159 cassava contract farmers. This gives a total of 307 respondents out of which 20% (62) was selected for the study. The list of the farmers was obtained from the register of farmers in Allied Atlantic distilleries limited situated at Ota in Ogun State. The company is into the production of ethanol from cassava and the extension unit of the company, which operate both in Ogun State and Oyo state. The list of non-contract farmers was randomly selected from Saki and Ogbomoso zones that were registered with agricultural development programme offices in the zone for the purpose of equal sampling. In all, sample size of 124 respondents was used for the study.

4. Results and discussion

4.1 *Farm characteristics of cassava farmers*

Table 1 presents the farm characteristics of cassava farmers in the study area. The table shows that the average farm size was 14.56 ± 3.43 and 2.14 ± 0.43 acres for contract and non-contract farmers respectively. The output of the contract farmers was 6 tonnes/acre while that of non-contract farmers was 5.4 tonnes/acre. On finance, the result reveals that 46.7% of the farm finance of the contract

farmers were got through contribution, 1.7% from grant, 25.0% from loan and 26.6% from self while the non-contract farmers had 21.0% from contribution, 19.4% from grant, 58.1% from loan and 1.6% from self. Also, on the distance from home to their farms, the mean distance of the contract farmer's farm away from home was 3.17km while the non-contract farmer's farm was 5.88km. This implies that the respondents who were contract farmers were close to their farms and can carry out other farming activities better than the non-contract farmers. In terms of means of transportation, 75.8% of the contract farmers' used truck, 3.2% self, 9.7% used bicycle, 4.8% used tricycle and 6.5% used trailer as a means of transportation while the non-contract farmers' used truck (71%), bicycle (12.9%), self (3.2%) and tricycle (12.9%) for their means of transportation. The study also reveals that majority (79.9%) of contract farmers practiced mixed farming, while a few practiced sole cropping (17.1%), rotational farming (1.6%) and others (1.6%).Similarly, majority (82.3%)of the non-contract farmers of practiced mixed cropping, while only a few practicing rotational cropping (1.6%), sole cropping (17.7%) and others (1.6%).

4.2 Benefits accruable to contract and non-contract farmers

An assessment of the benefits accruable to both the contract and no-contract farmers' reveals that big disparity exists in the benefits accruable from cassava enterprises in the study area. Table2 show that about 95.1% of contract farmers experienced increase in their farm size while smaller proportion (66.1%) of their non-contract counterparts experienced increased farm size over the past few years. Furthermore, the study revealed that the contract farmers experienced increases in the income (88.7%), inputs (80.6%) and production (95.2%) over and above their non-contract counterparts. This implies that access to income, which was made available through the contractual agreement in the cassava contract farming scheme had been translate effectively into improved production and income. This is expected to improve the overall standard of living of the participants in the cassava contract scheme. The study further reveals that cassava contract farming scheme had been able to increase access to specific inputs such as cassava cuttings, and funding among the contract farmers as compared to their non-contract counterparts. This however, reasonably translates into improved starch content of cassava as well as improved access to markets. Also, the study revealed that a large number of the contract farmers experienced improved knowledge on cassava production. This suggests that the in-built agricultural extension component of cassava contract scheme may be more effective than the public/government agricultural extension services available to their non-contract counterparts.

Table 1: Farm characteristics of contract and non-contract cassava farmers

Farm characteristics	Contract	Non-contract
Farm size (Average acrea)	14.56 ± 3.43	2.14 ± 0.43
Output (Average tonnes/acre)	6	5.4
Source of farm finance (%)		
Contribution	46.7	21
Grant	1.7	19.4
Loan	25	58.1
Self	26.7	1.6
Distance of farm from home(km)	3.17	5.88
Means of transportation (%)		
Truck	75.8	71
Self	3.2	3.2
Bicycle	9.7	12.9
Tricycle	4.8	12.9
Trailer	6.8	
Farming system (%)		
Mixed farming	79	82.3
Rotational	1.6	
Sole farming	17.7	16.1
Others	1.6	1.6
Market source (%)		
Agro allied	93.5	13.1
Farm gate	-	4.9
Local market	1.6	80.3
Others	4.8	1.6
Labour employed (%)		
Self	4.8	-
Family	19.4	14.8
Hired labor	74.2	67.2
Hired machine	1.6	18.0
Land tenure system (%)		
Inheritance	16.1	43.3
Leasehold	9.7	15.0
Communal	58.1	14.7
Purchase	16.1	27.0

To further ascertain if there were significant differences in the benefits accruing to both contract and non-contract farmers a student t-test was used. Results of the analysis on Table 3 indicate that there was significant difference in the benefits accruable among contract and non-contract farmers in the study area. From the result it was observed that the average level of benefits available to contract farmers was 9.85 ± 1.21 while that of non-contract farmers was 4.32 ± 1.31. Consequently we therefore reject the null hypothesis that states there is no significant difference in the benefits accruable to contract and non-contract farmers. This further implies that the contract-faring scheme positively impacted production enterprise of cassava farmers under the scheme than non-contract farmers.

Table 2: Distribution of contract and non-contract farmers by benefit accruable

Benefits	Contract farming (%)	Non-contract farming (%)
Increased farm size	95.1	66.1
Increased income	88.7	25.8
Increased inputs	80.6	40.3
Improved knowledge	72.6	71
Increased production	95.2	54.8
Improved quality of starch content	72.6	80.6
Improved access to market	98.4	64.3
Improved fund	88.7	59.7
Access to improved cassava cutting	80.6	72.6

Table 3: Test of accruable benefit difference among contract and non-contract farmers

Variable	N	Mean	St. deviation	T	Df	P
Contract	62	9.85	1.21	9.219	63.422	0.000
Non-contract	62	4.32	1.31			

5. Conclusion

The study concludes that the contract farming scheme was effective as this had positive effect on the enterprise characteristics of the participating farmers, especially when compared to the non-participants. This is reflected in larger farm size and higher output level among the contract farmers than others. Higher level of income recorded among the contract farmers can also be attributed to the availability of ready markets for cassava outputs through the agro-allied firms, while

non-contract farmers made use of the open markets. This is because open market as point of sale often force cassava outputs to go rotten and so command very low market prices, and thereby, leading to reduced level of profits among the non-contract farmers. The study also concludes that the contract scheme has benefitted the participants in terms of improved knowledge of farm practices, increased productivity, and increased access to the market as well as improved profit. This has placed the participants above their non-contract counterparts in terms of over-all standard of living. To further improve the scheme it is recommended as follows:

i. More farmers should be incorporated into the cassava contract farming scheme of the agro-allied industries, such that opportunities will increase both in terms of number of farmers reached as well as increased cassava supply to the participating firm.
ii. More agro-based industries should be encouraged to go into contract farming scheme with a view to guaranteeing market for cassava outputs and guaranteed supply on the part of the farmers and firms respectively,
iii. Some areas of challenges with respect to fulfilling the contractual agreement should be looked into with a view to correcting them such that the benefits accruable will cut across all the benefiting farmers.

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