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Agripreneurs profile: A case study of farmers in Delta State oil and gas producing area

Williams I. I. Makinde

Faculty of Social Sciences, Department of Accounting, Western Delta University, Oghara, Delta State, Nigeria.

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Various government policies and programs initiated to address the challenges facing agriculture over the years have not met their objectives. This is evidenced by the volume of such policies and programs and the constant changes in their form. It is therefore important to identify the profile of Agripreneurs in the rural arears as a first step diagnoses of the challenges so that appropriate solutions can be provided. This is the reason behind this study. Using the case study of Dharmapuri farmers in Dharmapuri, Karimnagar district of Andhra Pradesh farmers in India; some features of Agripreneurs were identified. These and others were used to access the profile of Agripreneurs in this study. Case study approach was used because it is appropriate in an explorative inquiry such as this. The study indicates that the profile of Agripreneurs is very poor compared to the Dharmapuri farmers. This includes dependency on rain fed agriculture, poor access to government support, smaller farm size, and poor access to credit. This may account for the poor state of the sector and why government intervention has not had the desired effect in Nigeria. The study also indicates that components of the profile are interrelated. This creates a vicious circle of negative effect. Therefore, a holistic solution is needed to address them. The study also indicates that agriculture remains the occupation in the rural area and thus the major sector that can transform their economy.

Key words: Agriculture, agribusiness, agripreneurs, agripreneurs' profile.

INTRODUCTION

More than 70% of the population of Nigeria who live in rural areas are engaged in agriculture. The volatile Niger Delta region of Nigeria also have a majority of its population living in the rural area engaged in agricultural activities (Olaitan, 2016). The government has come up with various agricultural programmes meant to improve the lots of the rural farmers without success (Azende, 2011; Aberiejo et al., 2005; Oji-Okoro, 2011). The questions therefore of interest in this research are: Do we really know these farmers? Do we know their characteristics, their profile? Can we design effective agricultural policies without knowing the profile of the beneficiaries?

The oil and gas companies use high technology for their operations. Therefore, they employ few skilled labours. This leaves most of the youths in this area out of employment. This has created huge unemployment problem leading to restiveness, violence and agitations against the state (United Nations, 2011). Members of the communities can and should be weaned away from dependency syndrome to independence through Agripreneurship. To do this, we need to improve the

E-mail: williamsmakinde@yahoo.com.

current profile of Agripreneurs to enable government, the oil and gas companies, and for non-government organisations (NGOs) to come up with appropriate policies.

While fossil fuel (crude oil) has earned Nigeria huge income, it brought more misery than wealth to the Niger Delta Region (Stiglitz, 2005; United Nations, 20011; Ekpebu and Ukpong, 2013). Before the advent of crude oil, Nigeria's economy including the Niger Delta Region was based on agriculture. The lands have not disappeared. The need to go back to agriculture is not only for food security, but also to create employment for the growing population. In pre-oil economy, the Niger Delta region was dependent on agriculture specialising in Natural Rubber, Palm Oil, Root Crops and Fishery (Ekanem and Nwachukwu, 2015; Chima et al., 2016; Tamuno and Edoumekumo, 2012).

In a post-oil economy, agriculture will be a cheaper strategy in creating employment and hence poverty reduction. However, to use agriculture as a strategy, it must be made a business; an agribusiness (Nagalakshmi and Sudhakar, 2013). Thus, to encourage the youths especially unemployed graduates to embrace agriculture, the sector must witness a transformation from the current autarky agricultural process whose objectives is self-sufficiency in agricultural products into a business (Mahmoud, 1995). To do this by policy and program, we need to improve the profile of those currently engaged in farming for livelihood. This paper among others will identify the current profile of farmers in the study area; contribute to literature and policy formulation by stakeholders.

Conceptual definitions

Agriculture, agribusiness, agripreneur, and agripreneurship

These are three concepts that are often used interchangeably to describe the same phenomenon. While these are related, they have their different meanings and applications as subsequently shown.

Agriculture: Agriculture is a value or utilities creating activity. "*It is a production process that involve different stages of transformation in which a factor or set of factors are combined in such a way as to create a product or sets of products that could be traded in the market or used to satisfy some immediate needs*" (Mahmoud, 1995). The value or utility created may be classified into form, place, time and possession utility. The farmer creates form utility through the production of commodity (crop/livestock), place utility is created by moving the products to the market, time utility is created through storage which makes product available when needed in the future, possession utility is created through marketing by allowing transfer of title between persons. Farmers who are primarily involved in the creation of form utility are the actual producers, while others are service providers. In sub-Saharan Africa, farmers are mostly engaged in form and possession utilities (Makinde, 2015; Mahmoud, 1995).

Agribusiness: This is the sector engaged in the manufacture and distribution of farm supplies (inputs), production operations on the farms (cultivation of crops and rearing of animals), storage, processing and distribution of farm commodities and items made from them (Mhlanga, 2010). These also include "commercial business in forestry and fisheries" (Mhlanga, 2010). Agribusiness can be categorized into four sub-systems: (i) Input delivery, (ii) Farming/Primary production of agricultural commodities including forestry, (iii) Post-harvest and processing, and (iv) Marketing and distribution (Mahmoud, 1995; Makinde, 2015). To qualify as agribusiness, the objective of the enterprise must be for commercial purpose, and its intermediate or final products must be taken to the market place for exchange for value (Mahmoud, 1985).

Agripreneurs: This is the product of two terms: Agriculture + Entrepreneur = Agripreneur. "An Agripreneur is one or entity whose main business is agriculture or agriculture-related activities" (Nagalakshmi and Sudhakar, 2013). Thus, an Agripreneur invest resources in agricultural activities with the hope of obtaining future benefits.

Agripreneurship: This concept describes a process. A process that may produce Agripreneurs. Nagalakshmi and Sudhakar (2013) quoted a definition which defined the term as, "*generally, sustainable, community-oriented, directly-marketed agriculture''*. Sustainable agriculture denotes a holistic, systems-oriented approach to farming that focuses on the inter-relationships of social, economic and environmental process (Nagalakshmi and Sudhakar, 2013).

RELATED LITERATURE

Most literature on agricultural economics deals with the relationship between agriculture and development (Sertoglu et al., 2017; Ahungwa et al., 2014; Ogbalubi and Wokocha, 2013). Some deal with challenges posed by agricultural practices like land tenure, farming system, farming technology, farming inputs, etc (Idoma and Isma'il, 2014; Tenaw et al., 2009). In recent writings, researchers have focused on government intervention in addressing the challenges facing agriculture as a development tool (Ogbalubi and Wokocha, 2013). Most of the studies on government intervention indicate a failure (Olaitan, 2006). However, little is known about the

nature or profile of the agricultural operators.

Contribution of agriculture to Nigeria's economic development

Majority of the Nigeria population who live in the rural and semi-rural areas are engaged in agricultural activities (Olaitan, 2006). While agriculture-led growth has helped in poverty reduction and economic transformation in many Asian countries through their agricultural revolution, same cannot be said of African countries including Nigeria (Diao et al., 2010). However, study indicates that 'agricultural growth is more pro-poor than industrial growth' because it involves the participation of the poor.

Oji-Okoro (2011) noted that, historical evidence indicates agricultural revolution pre-dated economic growth especially in developing countries (Jones and Woof, 1969; Oluwasanmi, 1966; Eicher and Witt, 1964). In Nigeria, agriculture contributed about 64% in the 1960s, 48% in the 1970s, 20% in the 1980s and 19% in 1985 (Ukeje, 2003). Agriculture can act as a catalyst for national economic growth through its effect on rural incomes and provision of resources for industrialisation.

In Nigeria, there is also no consensus on the nature or contribution of agriculture to economic growth. While some believe there is a positive causality relationship between the agricultural sector and the Nigeria economy (Izuchukwu, 2011; Dim and Ezenekwe, 2013; Oluwatoyese, 2013; Ahungwa et al., 2014), others found a negative relationship between agriculture and economic growth (Dim, 2013; Aggrey, 2009; Oluwatoyese and Applanidu, 2013).

Although there are debate on whether 'traditional development theories' can be applied, there is the recognition that in sub-Saharan Africa, "the agricultural sector has sufficient scale and growth-linkages to significantly influence aggregate growth" (Diao et al., 2010). It was also noted that in sub-Saharan Africa, majority of its citizens live in 'rural areas where poverty and deprivation are severe". Agriculture which is the major source of livelihood should be developed as a key development strategy.

Between 1960 and 1984, agriculture played a dominant role in Nigeria's GDP mostly due to the fact that the macro-economic policies of the government then was skewed to crop production (Anyanwu et al., 2013). This situation has significantly changed with the advent of crude oil production. However, research still indicates that agriculture is still making significant contribution to GDP especially in the rural area. Umaru and Zubairu (2012) in their analysis for the period 1960 to 2010 concluded that 'agriculture contributed higher than the petroleum sector, though both had a positive impact on economic growth and development of the economy'. Suleiman and Amunis (2010) who analysed the contribution of agriculture, petroleum and manufacturing sector, concluded that agriculture contributed more than the other two sectors to GDP. With respect to the return on foreign direct investment (FDI), Oji-Okoro (2011) reported that 1 unit of FDI in agriculture contributes 56.43 units in GDP which is higher than the other sectors of the economy.

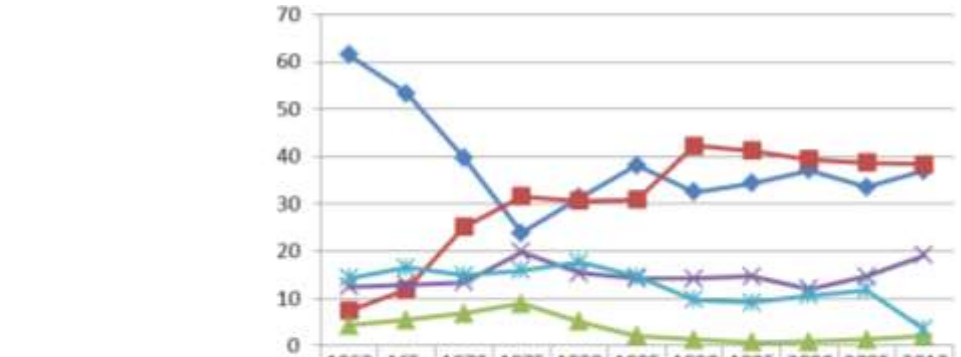
Figure 1 shows that the contribution of agriculture to GDP went on a spiral drop from 61.6% in 1960 to 23.8% in 1979 falling below industry's contribution. There was a slight recovery in 1989 at 8.12% compared to industry's 30.85%. Between 1990 and 2012, it went below industry contribution. This is due to the emphasis on petroleum production with little government attention to agriculture evidence from yearly budgetary provision (Ahungwa et al., 2014). However, the figure establishes the importance of agriculture to economic growth measured by GDP. In spite of this, we also noticed a steady decline over the years. The question is can we explain this only by lack of or poor government attitude or lip service as noted by many scholars (Downie, 2017; Flaherty and Abdullahi, 2014). Can this also be explained by the profile of farmers or agripreneurs?

Land tenure system and agripreneurs' profile

Land constitutes a major component of agribusiness. One of the factors that influence the profile of agripreneurs is the land tenure system. In Nigeria, land tenure is a major determinant of the nature and structure of agripreneurship. Food and Agricultural Organisation (FAO, 2005) defines land tenure as "the relationship, whether legally or customarily defined, among people, as individuals or groups, with respect to land. Land is used here to include natural resources such as water and trees. Land tenure systems determine who uses land in what volume and for how long. In a study carried out by Idoma and Isma'il (2013) in Agatu Local Government Area of Benue State, the authors noted the following:

1) The right of land ownership and its use involves lots of emotion. In Africa as in Benue, it 'has historical, cultural, social and spiritual importance to the community and individuals. This attachment makes its use for agriculture other than by its owners difficult. Where it is ceded to third parties, it is often for a short time and in small sizes. This makes investment by lease short term (Ukaejiofo, 2009).

2) While the World Bank Report (2010), puts the percentage of land under agriculture at 81.80% (Idoma and Isma'il, 2013), the land holding are highly fragmented. This is attributed to land tenure relationships which are diverse. Therefore, dealing in land for agricultural purposes is difficult. To ameliorate this, the government enacted the land use Act 1978, which vest ownership of all land in government through the governor of each state of the federation. In spite of the law, land



	1960-64	165-69	1970-74	1975-79	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-12
Agriculture-%	61.53	53.27	39.69	23.8	31.3	38.12	32.53	34.32	37.05	33.5	37.02
Industry-%	7.4	11.93	25.14	31.59	30.62	30.85	42.27	41.19	39.38	38.71	38.3
Building/Construction-%	4.32	5.41	6.83	8.85	5.13	2.13	1.33	0.75	0.88	1.36	2.14
Wholesale/Reatail Trade-%	12.48	12.93	13.44	19.8	15.3	14.24	14.17	14.6	12.03	14.66	19.095
Sevice-%	14.27	16.46	14.9	15.96	17.65	14.66	9.7	9.14	10.66	11.77	3.445

Figure 1. Relative contribution of agriculture to Nigeria's GDP.
Source: Data from Ahungwa et al. (2014).

tenure is still traditionally held. This "possesses a severe constraint of inalienability, insecurity of tenure, land fragmentation and atomization of holdings due to the customary laws of inheritance." This makes the agricultural system more subsistence (Adaji, 2000).

3) Rights to agricultural land 'eliminates the anxiety and uncertainty of ex-appropriation which encourages the farmer to make long term investment decisions'. External financing may be required for such decisions. Where farmers own land rights, such land can be used as collateral. Thus, there is a linkage between land tenure, land right, availability of finance and hence nature or profile of agripreneur (Platteau, 1993; Feder and Noronha, 1987; Tenaw et al., 2009).

Farm-size vs. productivity and agripreneurs' profile

As earlier discussed in the reviewed literature on the relationship between land tenure system and agricultural land holdings which influence the agripreneurs' profile, however, there are studies in other economics that suggest the superiority of small size farm over larger farms in terms of productivity. If this is the case, we cannot therefore explain the fragmentation of farms due to land tenure system as course of low productivity.

Bhalla and Roy (1988) noted that historically the discovery of the concept of 'inverse relationship' (IR) between farm size and output started with the work of Chayanov (1923), 'The Theory of Peasant Economy' on Russian agriculture. This was followed by Sen (1962, 1966) on Indian agriculture before the Indian green revolution era which contradicted the findings of these two studies. This study and others that support it, state that productivity is inversely related to size of farm land. Therefore, the preference for small size farms can be explained by this relationship.

Ackah et al. (2014), note that the result of studies on farm size and productivity indicates a mix of positive and negative relationship. The study includes "Rwanda (Byeringiro and Reardon, 1996; Ali and Deininger, 2014), Malawi (Dorward, 1999; Holden and Fisher, 2013), Uganda (Carletto et al., 2011), Kenya (Muyanga and Jayne, 2014), Zambia (Kemhi, 2006), Madagascar (Barret et al., 2010) and Ghana (Ackah et al., 2014). The Ghanaian study indicated the importance of land size to productivity with higher productivity attributable to larger land size. Ghana and Nigeria share similar social-political environment. The Ghana situation may also apply to Nigeria.

Access to finance and agripreneurs' profile

Most agribusinesses in Nigeria operate at the subsistence or small/medium scale level. The reason for this feature is the absence of appropriate level of external finance. Other financing needs include working capital funds for financing operating expenses, funding capital expenditure needed for expansion in assets acquisition, research, etc (Harterich et al., 2010). Literature indicates that in Nigeria, external funding is not only inadequate but the funds available are incompatible with the nature of agribusiness. Agribusiness requires long term funds while those available from commercial banks are short term in nature (Makinde, 2015; OECD, 2006; Tagoe et al., 2005;

Murinde, 2009). The presence or absence of appropriate external financing to a large extent determines the profile of agribusiness in terms of size, farming system, stage in the agro-value chain, technology application, application of appropriate agronomic practices and hence productivity.

Effect of government intervention on the profile of agripreneurs

Worried about the poor state of the agricultural sector, the Federal Government of Nigeria has come up with various interventions to grow the sector and change its profile. These include the Agricultural Credit Guarantee Scheme, Nigeria Agriculture and Co-operative Bank, the Nigeria Incentive Risk Sharing Agricultural Lending (NIRSAL), etc. (Olaitan, 2006; CBN, 2012). The constant change in the intervention programmes indicates they were not meeting their objectives. One of the challenges may be that these programmes were designed for farmers the policy makers knew little about.

Profile of agripreneurs in some other economies

In this session, we review literature of Agripreneurs' profile of Dharmapuri farmers in Dharmapuri, Karimnagar District of Andhra Pradesh farmers in India (Nagalakshmi and Sudhakar, 2013):

1) 98% of the active age of 25 to 50 years was engaged in farming.
2) About 92% of the farmers are literate with degree holders accounting for about 60%. This definitely makes the application of technology and record keeping possible. Also increases capacity to access government support programme.
3) An average land holding of 2 to 8 ha at 74% allows for commercial farming. This allows for economy of scale production. Although, the concept of inverse relation (IR) exist in agriculture which assumes small size farmers are more productive; it depends on how small is small. To apply modern farming technology, the land size cannot be too small to be profitable. However, this report does not indicate whether the land is free hold or leasehold.
4) The average family size of farmers involved in agripreneurship is between small to medium (83%). This will put less family upkeep stress on the farmer's business income.
5) The percentage of the farmers engaged in production for commercial sales is 76% against those for possible subsistence at 24%. An agriculture activity can only be classified as agribusiness and its operator referred to as agripreneurs if it is producing for the market. This study indicates that the farmers are agribusiness entrepreneurs.
6) In marketing their products, 76% have direct access to buyers, 14% through middle men and 10% through agents. Direct access gives farmers more income, but also, means farmers may be responsible for storage, transportation and other marketing activities. This could be a challenge.
7) The percentage of commercial production above is supported by the type of crop engaged in by the farmers. 66% of the crops were commodity and specially crops.
8) Apart from land, another major input in agriculture is water. In this study, farmers have adequate access to water; 20% from river, 32% from water wells, 28% from canals and 20% defined as other sources. Access to water other than rain-fed agriculture allows for all year farming which increases the farmers' productivity and income.
9) The number of crops cultivated and the numbers of times (cropping cycle) is related to availability of water. This study indicates that about 74% had two to three crops or crop cycle in a year with only 16% doing one crop or crop cycle.
10) After land, water, another important necessary resource is finance. This study indicates 56% of respondents have access to external finance, 26% from self and 18% from friends and relatives. At the rural level, this appears encouraging and supportive to agripreneurship.
11) Closing associated with the above is the role of government in providing the financial support. Subsidiary from government came in the form of bank loan at 42%, low-cost seed at 30%, 18% for machinery and others, 10%. All of these accesses may also be linked to the relatively high education of the agripreneurs.
12) With reference to agronomic practices, 92% of this group apply fertilizer. Out of this 18% is natural and 46% is bio-degradable. This will affect yield positively without degrading the environment.
13) In terms of organisation, 86% of respondents belong to Agripreneur Associations. They had both financial and marketing support from the association. For rural based agripreneurs, access to government programmes is easier where each farmer can be reached through organised associations.

The aforementioned study will form our reference point in this study. This is because the profile reveals critical features needed to have a successful agricultural programme.

METHODOLOGY

Sampling procedure, data collection and analysis

This study makes use of both primary and secondary data. The primary data were collected through a structured questionnaire administered to a group of small to medium scale farmers in the study area. Questionnaire was administered on 200 respondents over a period of six months; March to August, 2018. The samples were randomly selected from different farmers' corporative in the 19 LGA. This was divided into two equal batches of 100 each. The first batch was collected and analysed. The second batch was also

randomly selected and analysed. The analysis of the second batch indicated data saturation with answers becoming repetitive of the first batch. Therefore, there was no need to expand the sample size at this exploratory stage. Hejase et al. (2012) contend that informed objective decisions are based on facts and numbers, real, realistic and timely information. Furthermore, according to Hajase and Hajase (2013), 'descriptive statistics deal with describing a collection of data by condensing the amounts of data into simple representative numerical quantities of plots that can provide a better understanding of the collected data'. Therefore, as an exploratory study, descriptive statistics were used including simple percentages and graphs to analyse the primary data with Microsoft Excel software.

Secondary data were collected from Central Bank of Nigeria (CBN) bulletins and Nigerian Bureau of Statistics (NBS) publications, Journals, Graduate study Papers, Thesis, Dissertations, and internet sources. The data captured information on the characteristics of rural agripreneurs. This is based on Nagalakshmi and Sudhakar's (2013) study of farmers in Dharmapuri, Karimnagar District of Andhra Pradesh in India. India is noted to have had a successful agricultural revolution in the 1970s to 1990s which increased agricultural output significantly (Ogbalubi and Wokocha, 2013).

It should be noted that this methodology has limitations. The opinions expressed by respondents in their answers to questionnaires may have been affected by the political social-economic and environmental conditions in the Niger Delta Region in Nigeria. The bias of the researcher, a sole researcher may not also be ignored. He too is a product of the region. The sample site was limited to 200 and confined to the 19 out of the 25 Local Government Area of Delta State, Nigeria.

Study area

The study focuses on the crude oil and natural gas producing or impacted 19 Local Government Areas (LGAs) out of the 25 LGAs in Delta State, Nigeria. The 19 LGAs are: Warri North, Ethiope West, Sapale, Okpe, Warri South, Uvwie, Warri South West, Ughelli South, Bomadi, Burutu, Pani, Isoko South, Ughelli North, Udu, Isoko North, Ethiope East, Ndokwa West, Ndokwa East, and Ukwani. These LGA have been defined in the 'Delta State Oil Mineral Producing and Impacted Development Area Commission law, Delta State Oil Mineral Area Development Commission – DESOPADEC Amendment ACT (2015). As shown in Figure 2, it lies within the mangrove forest of Nigeria. The choice of this area is that it fits into the reason for this study stated under the introduction.

Prior to the advent of crude oil and natural gas production in Nigeria, the study area depended on agriculture. Major crops were food crops such as cassava, yam, plantain, fruits, fish and commodity crops; natural rubber, timber, oil palm products, raffia palm for alcoholic products, etc (Ekanem and Nwachukwu, 2015). Although most of the land especially water bodies have been destroyed by oil and gas exploration, there still exist a reasonable size of land including water bodies that can be used for agriculture.

RESULTS AND DISCUSSION

Farm size

The average farm size is 1.2 ha (56% in Table1: 9). As indicated earlier, farm size has a relationship with productivity. Small farm size does not support mechanisation as investment in machine requires large scale farming. Therefore, this profile indicates low productivity.

Title to land

Land holding is 77% annual rental, 22% freehold and 4% long term lease (Table 1: 11). Weak title to land reduces access to external finance, investment in mechanisation. For example, Table 1: 16 indicates 11% mechanisation. These mean low productivity and poor income to farmers.

Access to external finance

While farmers are 100% banked (Table 1: 20), only 1% has access to short term facility (Table 1: 30). No farmer has bank facility for business expansion (0% in Table1: 28). This agrees with the opinion of Harterich et al. (2010). Poor access to finance creates a vicious circle of low investment in farm input to low productivity to low income to low investment, etc.

Agricultural value chain

Farming which involves the production of primary products account for 70%, processing alone 14% and farming plus processing 12% (Table 1: 10). This indicates little value addition to primary products. Apart from storage challenge faced by primary product producers, income from sales of such products is usually low.

Essential production inputs:

To work the land effectively and efficiently, the farmer needs four inputs; water, machine, fertilizer and money. In this study, water through irrigation is 0% (Table 1: 15), mechanization is 11% (Table 1: 16), fertilizer application is 12% (Table 1: 17) and access to finance is 0% (Table 1: 30). These poor percentages have negative effect on productivity and income.

Crop type

Food crop for direct consumption with minimum processing accounts for 84%, and commodity crop that requires processing into intermediate products account for 16% (Table 1: 8). Commodities such as natural rubber and palm oil which were the major cash crop in the study area have disappeared from agripreneurs cropping activity. Commodity crop generates more income including foreign exchange than food crops.

Farmer's organisation

As stated earlier, it was noted that farmers can be accessed better when they belong to organised groups.

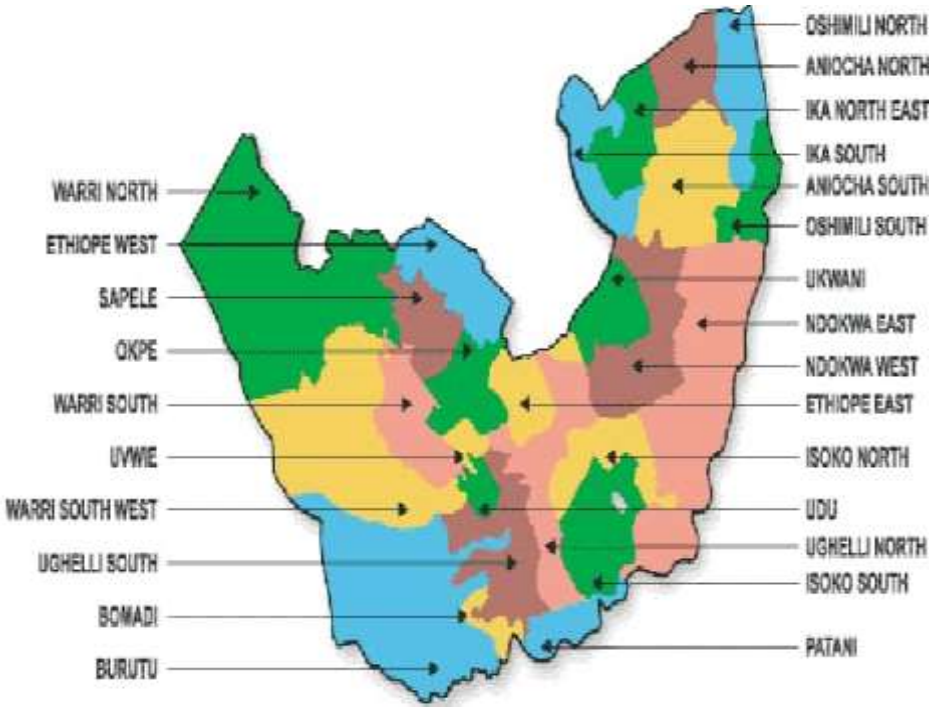


Figure 2. Map of Delta State Nigeria showing Local Government Area.
Source: https://www.researchgate.net>figure.

Table 1: 20 indicates 96% of farmers belong to farmers group. However, only 8% (Table 1: 22) have access to government assistance. This indicates poor communication between government and rural farmers.

Purpose of production

About 90% of farm produce are for consumption by the family with only 10% taken to the market (Table 1: 12). This agrees with the autarky agricultural production process referred to by Mahmoud (1985, 1995). This implies that agriculture at the rural is yet to be taken as a business.

Agribusiness income range

It was noted earlier, the various government policies met to improve the lots of the rural farmers have not been successful. In Table 1: 18, 12% of the farmers earn about N300,000.00 per annum. This is below the minimum wage. Though 77% earn N750,000.00 on the average per annum, this is not enough to sustain a family size of 4 t0 6 (Table 1: 4). Therefore, little fund is left to sustain the business.

Dharmapuri farmers' profile vs this study's profile

Like Nigeria, India has an agrarian rural economy. The choice of Dharmapuri famers compares in this study that they faced the same challenges of lack of finance, absence of government assistance, poor input and low farm productivity, etc. However, when Dharmapuri famers got organised into self-help corporative, their profile got improved as noted in Table 1: 31.

Conclusion

From this study, it can be inferred that the current poor profile of agripreneurs at the small-scale level in the rural area is a factor in the poor state of agribusiness. This poor profile creates a vicious circle of poor farm income, poor farm investment, poor farm income, etc. This is in contrast to the effect of a better profile shown in the study of Dharmapuri farmers India.

RECOMMENDATIONS

To address the issue of poor agripreneurship profile noted in this study, the following were recommended:

1) The lands use Act 1978 needs to be reviewed to address the current challenge of land acquisition for agricultural purpose. This should include women's right to land since they make a substantial percentage of rural farmers (40% in Table 1: 1).
2) This practice of rain-fed agriculture can be addressed

Table 1. Socio-Economic Characteristics of Farmers (N = 199)

S/No.	Socio-Economic Characteristics		No. of Respondents	Percentage
1	**Sex distribution**			
	Male		121	61
	Female		78	40
2	**Age distribution**			
	18 – 30		20	10
	31 – 60		174	87
	> 60		6	3
3	**Field of study**			
	Agriculture		64	32
	Engineering		1	1
	Sciences		1	1
	Others		4	2
	None		130	65
4	**Family Size**			
	0 – 3		66	33
	4 – 6		107	54
	> 6		27	14
5	**Level of Education**			
	Primary		36	18
	Secondary		104	52
	Tertiary		60	30
6	**Share of personal income**			
	Agribusiness		190	95
	Non agribusiness		10	5
	Both		0	0
7	**Motivation**			
	Unemployment		32	16
	Inheritance		10	5
	Interest		149	75
	Retiree		9	5
8	**Crop Type**	**Gestation**	**No. of Respondent**	**Percentage**
	Food	≤ 1 year	168	84
	Commodity	≥ 1 year	32	16
9	**Farm size**			
	> 1 Hectare		30	15
	1 – 2 Hectares		112	66
	3 -5 Hectares		24	12
	> 5 Hectares		34	17
10	**Agribusiness value chain**			
	A. Farming		149	75
	B. Processing		28	14
	C. A + B		23	12
	D. Marketing		0	0
	E. A + D		0	9
11	**Land Holding**			
	Freely held		43	22

Table 1. Contd.

	Annual rent		153	77
	Long lease		4	02
12	**Purpose of production**			
	Consumption		180	90
	Sales		20	10
13	**Sources of labour**			
	Self + family		179	90
	Hired		21	11
14	**Number of staff**			
	1 – 5		168	84
	6 – 10		13	6
	11 – 20		19	10
15	**Water sources**			
	A. Rain-fed		200	100
	B. Irrigation		0	0
	A + B		0	0
16	**Application of technology**			
	Mechanized		24	12
	Manual		176	88
17	**Use of fertilizer**			
	Applying		24	12
	Do not apply		176	88
18	**Agribusiness income range @ N360/$**			
	Range/year (N'000)	**Mean N'000**	**$**	**Number/(%)**
	100 – 500	300	833	23 (12%)
	501 – 1000	750	2, 085	153 (77%)
	1000 1,500	1,501	3, 472	17 (8.5%)
	> 1, 501	1, 501	4, 863	7 (3.5%)
19	**Farming circle**			
	1 per year		170	85
	2 times per year		29	15
	> 2 times per year		1	1
20	**Membership of association(s)**			
	Agricultural		192	96
	Credit		0	0
	Marketing		0	0
	None		8	4
21	**Sales channels**			
	Wholesalers		198	99
	Retailers		2	1
22	**Technical Assistance**			
	Government		15	8
	Large farms		11	6
	Association		23	12
	Non-governmental Organization (NGO)		146	73
	None		5	3

Table 1. Contd.

23	**Period in Business**			
	Year	**Number of years**	**Number**	**Percentage**
	1970 to date	> 49	1	1
	1981 to date	> 39	3	2
	1991 to date	> 29	19	10
		> 19	148	74
		> 09	29	15
24	**Labour costs**			
	Self		3	2
	Family		3	2
	Hired		194	97
25	**Sources of finance (Start-up)**			
	Savings		183	92
	Family and Friends		3	2
	Association		14	7
	Bank		0	0
	Government		0	0
26	**Working capital**			
	Retained earnings		186	93
	Family		1	1
	Association		13	7
	Bank		0	0
	Government		0	0
27	**Business practices (Book-keeping)**			
	A. Sales		22	11
	B. Cost		3	2
	C. Profit		170	85
	D. A + B + C		5	3
28	**Growth Financed by**			
	Retained		184	92
	Family and Friends		1	1
	Association		15	8
	Bank		0	0
	Government		0	0
29	**Banking status**			
	Banked		200	100
	Unbanked		0	0
30	**Banking Facility**			
	Short Term		1	1
	Long Term		0	0
	None		200	100

Sources: Author

through the use of water bodies that exist in the study area for irrigation required for all year farming.

3) Majority of the agripreneurs in this study are engaged in the production of primary products which generate low income. There is the need to encourage the re-introduction of natural rubber and cocoa which were common commodity crops in this area.

4) Most farming operation is done manually. This may account for the relatively small sizes of farms cultivated. Government needs to introduce the use of modern

Table 2. Comparison of findings in this study with Dharmapuri farmer's profile in India

S/N	Features	Dharmapuri Farmers (%)	This Study % (Table 1)	Comment
1	Age 25 to 60	98	87 [Table 1(2)]	This is comparatively close. However, Nigeria's lower case of 30 years is higher. This indicates less young people are entering agribusiness compared to India with 25 years lower case. Furthermore, most of the farmers were illiterate (64% without any form of education) Table 1(3). The highest qualification of most respondents (52%) was secondary education [Table1(5)]
2	Family Size (Small to Medium)	83	33 [Table 1(4)]	Nigeria's family size in this category is 33% indicating a larger family size. This puts a high family upkeep pressure on the business income. This is not the case with the Indian farmer.
3	Level of education (with Degree)	60	30 [Table 1(3)]	With higher level of education among Indian Agripreneurs they have more capacity to keep records, apply technology and better agronomic practices. They are also easier to deal with by banks and government than Nigerians farmers who are relatively illiterates.
4	Farm size (2 to 8 hectares)	72	18 [Table 1(9)]	At 72% the Indian farmers fared better compared with this study's land size of 17%. Even with inverse relation farm-size productivity postulation in section 3.3 above, agribusiness at the farm level requires some level of size to make investment in infrastructure feasible.
5	Motivation	75	149 (Table 1(7)	At 75% in Nigeria, most of the farmers who ventured into Farming were motivated by interest rather than as means of employment and livelihood and they earn more than 95% of their income from the business [Table 1(6)].
6	Control of Distribution Channel	76	1 [Table 1(21)]	At 99% Nigeria's agripreneurs are at the mercy of middle men (wholesalers) compared to India farmers that have 76% control over this value chain. This may result to lower income for the Nigerian farmer.
7	Commodity vs Food Crop	66	16 [Table 1(8)]	India farmer's produces export commodity crop at 66%, while Nigeria Farmers do only 32%. Commodity crop commands higher income.
8	Water sources other than rain	80	0 [Table 1(15)]	One of the challenges facing Nigeria farmers in this study is the practice of rain-fed agriculture. While Indian farmers have access to other sources of water at 80%.
9	More than one crop circle	74	0 [Table 1(19)]	Nigeria's agriculture dependence on rainfall can only allow for one crop and one farming circle. The Indian farmer with multiple sources of water, can farm different crops all year round. Dependence on one crop could mean zero income in the event of crop failure for the Nigerian farmer.

Table 2. Comparison

10	Access to External Finance	74	9 [Table 1(25)]	At 9% Nigeria farmers does not compare with Indians' 74% in access to external finance. With this Nigerian farmer faces challenges of operations; poor or no investment in modern technology for farming and processing, packaging, preservation and other activities that will enhance the value of the farm produce. This creates a circle low productivity, low income, more rural poverty, etc.
11	Membership of Agricultural Association	86	96 [Table 1(20)]	One feature where the two groups compare favourably is their membership of association. However, the utilization of this in terms of access to government support and possibly access to finance is higher with the Indian farmers than Nigerian farmers.
12	Fertilizer Application	92	12 [Table 1[17)]	Nigerian farmers have 12% application of fertilizer compared to Indian farmers (92%). Productivity among Nigerian farmers will be comparatively lower.
13	Access to Government Support	98	8 [Table 1(22)]	With all the agribusiness support programmes by the government of Nigeria (session 3.5) only 8% of participants reported government support compared to Indian farmers (98%). This is one of the reasons why we need to study the Nigerian farmers profiles to enable policy makers apply the right programme.

Sources: Nagalakshmi and Sudhakar (2013); and Survey in Delta State March – August 2018

farming technology. This will also encourage the involvement of young people especially educated youth into farming as a business.

5) This study agrees with previous studies on the poor access of agribusiness at the small and medium scale level to external finance. Government should create policies that encourage the financial institutions to make affordable and relevant financial support to farmers.

LIMITATIONS

The opinions expressed by respondents in the answers to the questionnaires may have been affected by the social-economic and environmental conditions in the Niger Delta Region in Nigeria. The bias of the researcher, a sole researcher may not also be ignored. He too is a product of the region. The sample was limited to 200 and confined to the 19 crude oil-bearing area out of the 25 Local Government Area of Delta State. The study result may change with the inclusion of the none oil-bearing areas.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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