

HORIZONTAL LINKAGES AS DRIVERS OF ENTREPRENEURSHIP IN AGRIBUSINESS VALUE CHAINS: EVIDENCE FROM THE CASSAVA, YAM AND PLANTAIN VALUE CHAINS OF NIGERIA.

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ABSTRACT: *Empirical evidence shows that entrepreneurship in Nigerian agribusiness value chains is severely limited by lack of access to resources such as finances, inputs, policies, infrastructures, supporting services, and markets. Drawing from the resource-based theory of entrepreneurship and with a greater emphasis on the theory's view on social networks as an access route to other resources, the study aimed to find out if the availability of resources through membership of horizontal linkage groups impacts on entrepreneurship levels of farmers and processors in agribusiness value chains. The study employed multi-stage sampling techniques in selecting 600 farmers and processors operating in the cassava, yam and plantain value chains from the five top producing states of these crops in Nigeria. Primary data was gathered using a structured questionnaire and ordinal logistic regression was used to test the hypothesis. Findings show that though horizontal linkages are not very popular in these value chains, farmers and processors who belong to linkage groups have better access to input resources and show a higher level of entrepreneurship than those who do not.*

KEYWORDS: Agribusiness; Entrepreneurship; Upgrading; Horizontal Linkage; Value chain; Resources.

INTRODUCTION

The lack of entrepreneurship in any sector is considered a limitation to the development of that sector and the economy at large. It is believed that entrepreneurship in agribusiness value chains can promote social and economic development processes (Yumkella et al 2013). This is because the dynamic nature of agriculture offers a myriad of opportunities for entrepreneurship at different stages of any agribusiness value chain (Montpellier Panel, 2014). Entrepreneurship is viewed as an engine for growth for any sector, however, the rate at which entrepreneurship occurs in any sector is dependent on the availability and accessibility of resources whose presence or absence trigger or constrain entrepreneurship within the sector. Studies have revealed that entrepreneurship in Nigerian agricultural value chains just like that of many sub-Saharan African countries is severely limited by lack of access to resources. Onuoha (1994), Obeleagu (2000), Onah (2004), Onugu (2005), Ndubuisi (2004), Ihugba, Odii and Njoku (2013), Nwigbo & Okorie (2013), and Igbokwuwe, Essien & Agunna (2015) all cited lack of skills, lack of finances, limited knowledge and expertise, poor access to market information, scarcity of raw materials locally and lack of basic infrastructure as constraints to entrepreneurship in agricultural value chains of Nigeria.

Nigeria is the world's biggest producer of yam and cassava (FAOSTAT 2014) and the fifth biggest producer of plantain (FAO 2013) but is not counted among the exporters of these commodities nor the industrial products manufactured from them. Industrial users of cassava and yam products such as starch, adhesives, glucose, dextrin and others depend on imports for these products when it can be manufactured locally considering the comparative advantage Nigeria has in producing these commodities. This discrepancy has been linked to lack of entrepreneurship in these value chains. by Igbokwuwe, Essien & Agunna (2015). Processors and farmers who are majorly small-holders lack the needed resources to embark on new enterprises or expand old ones in these value chains and have therefore restricted themselves to primary processing of these commodities into locally consumed food products. Different strategies have been suggested by many authors on how value chain actors can minimize their lack of access to resources. Horizontal linkage groups are widely acknowledged as a means by which small farmers and processors can gain access to needed input resources. Considering that many farmers and processors in the yam, cassava and plantain value chains of Nigeria are small and face many constraints that limit their entrepreneurial ability, the need for linkages to input and output markets and non-market linkages in the agribusiness sector cannot be overemphasized. Mutura et al (2016) found that horizontal integration leads to higher income, better access to market channels and improved market participation of small-holders. Moustier (2010) states that horizontal linkages enable small-holders access to needed resources such as trainings to acquire new production / processing skills and knowledge, standardization of products and packaging. Ferres et al (2014) noted that small-holders acquire better negotiating powers from being members of horizontal groups which can improve their access to formal markets. According to marketlinks.org (2016), horizontal linkages improve farmers and processors access to resources and through this can promote economies of scale, reduce transaction costs, and contribute to increased efficiency and competitiveness of a value chain. All of these are considered prerequisites to increased entrepreneurship within a value chain. However, none of the studies looked at the possibility of horizontal linkages promoting entrepreneurship in agribusiness value chains through its ability to improve access to needed resources such as knowledge, access to inputs and markets, skills, training, and finances. entrepreneurship level of farmers and processors in agribusiness value chains.

Study Hypothesis

Availability of input resources through membership of farmers Associations/cooperatives impact on entrepreneurship levels in agribusiness value chains.

LITERATURE REVIEW

The Resource-Based Theory of Entrepreneurship

Access to resources and the right combination of them is crucial to the growth of any entrepreneurial endeavor (Desa and Basu 2013). The resource-based theory of entrepreneurship emphasizes the importance of resources and opines that a person's entrepreneurial ability is enhanced by access to resources (Davidson & Honing, 2003; Aldrich, 1999). The resource-based theory of entrepreneurship was developed from three classes of theory; financial capital, human capital and social capital theory (Alvarez & Busenitz, 2001). The financial capital theory suggests that people will likely exploit entrepreneurial opportunities if they have the financial

capital needed to acquire the required resources and set up new firms (Clausen, 2006) while the human capital theory believes that knowledge obtained from education and experiences of an individual is central to the recognition of entrepreneurial opportunities and subsequent exploitation of it (Gartner et al, 2005; Anderson & Miller, 2003). But Clausen (2006) argues that access to finances and knowledge is often not enough to lead to exploitation of entrepreneurial opportunities. The Social capital theory views the broader social network of individuals as a major contributor to their recognition and exploitation of entrepreneurial opportunities. Entrepreneurial opportunities might be recognized by an individual, but the lack of social network may limit the ability to turn the opportunity into a new business start-up or expand the existing business (Shane and Eckhardt 2003). This theory argues that social networks help in overcoming the problem of access to resources such as financial capital and knowledge capital as these can be accessed through social networks as is often the case with small-holder rural farmers cooperatives. The resource-based theory views entrepreneurship as the outcome of a complex and different combination of social, psychological, economic, and other factors without which entrepreneurship will be stifled (Anja 2013). Drawing from the resource-based theory of entrepreneurship and with a greater emphasis on the theory's view on social capital as an access route to other resources, the study sought to prove if the following hypothesis is true or not;

Linkages

It is believed that the transformation of any sector and economy through entrepreneurship is driven by the availability of resources which stimulates initiatives and behavioral changes that leads to upgrading in the value chain (Cole and Mitchell 2011). This is in line with Trienekens (2013) argument that upgrading cannot occur on its own except the value chain constraints are minimized to a large extent and the structure, governance form and the value-added in that chain affected and changed in a way that spurs on upgrading. One way which has been argued to stimulate change in the behavior of value chain actors is linkages or coordination among value chain actors. Horizontal and vertical linkages are the two dimensions of linkages recognized in the literature. According to Bolwig et al (2011), value chain upgrading depends on the development of these two forms of linkages.

The four typologies for upgrading strategies as developed by Humphrey and Schmitz (2002) are; Product upgrading (inventions, variations, and modifications or enhancement of the final product); process upgrading (improved efficiency through enhancement of production processes and distribution); functional upgrading (performing additional or new value chain functions e.g. farmers moving into primary and secondary processing) and inter-chain upgrading (introduction of value-adding processes from a different sector to come up with a new product or service). The upgrading activities are by nature entrepreneurial because they all involve value creation within an existing or a new enterprise and therefore will require that the actors have readily available and accessible resources to carry them out.

Several works of literature suggest horizontal and vertical linkages as forms of upgrading strategies that go beyond the conventional lists of upgrading strategies (Gibbon, 2001; Gibbon and Ponte, 2005; Ponte, 2009). Individually, they can stand alone as upgrading strategies while on the other hand, they can drive the emergence of other upgrading strategies in a value chain.

Horizontal linkages refer to the collaboration of value chain actors within a functional node to increase their competitiveness while vertical linkages refer to the collaboration of actors at different functional nodes of the value chain to enhance value chain competitiveness and development. Many authors have argued that the emergence of a vertically coordinated chain is dependent on the presence of effective horizontal linkages. According to Gibbon and Ponte (2005), collective actions at the same functional node are often a precondition for vertical coordination. Coles and Mitchell (2011) also agree that horizontal linkage is a prerequisite for vertical linkage and functional upgrading.

According to Trienekens (2013), the availability of resources and supporting infrastructures essentially promote value chain upgrading, therefore the absence of these forms the main constraints to entrepreneurship and value chain development. Trienekens opines that factors such as access to market information and markets, availability of resources and physical infrastructures, and existing institutions can pose as constraints for the emergence of a competitive value chain through entrepreneurship. This agrees with Porter (1990) statement that for value chains to be successful, supportive infrastructures and resources including finances, information, knowledge, and skills must be present. Horizontal linkages have been proven to be an avenue to increase access to these resources. Rosenkopf and Almeida (2003), postulates that the increased competitiveness that emanates in value chains from horizontal linkages drives innovation and upgrading, while the collaboration aids the achievement of scale and overcoming of shared limitations to pursue entrepreneurial opportunities.

The horizontal linkage can be in the form of informal functional linkages (Peer-to-peer learning arrangements), formal functional (farmers/processors associations, microcredit schemes), formal regulatory (industry associations), or formal economic linkages (cooperative unions and business groups). One of the ways the aims of horizontal linkages is achieved is through cost and risk sharing. Horizontal linkages pull together individuals' assets and dilute costs and risks (Cole & Mitchell 2011). One characteristic of all horizontal functional groups is that they offer fixed costs sharing to their members for activities such as processing and transport to markets. Another way horizontal linkage group achieves their aim is through generating economies of scale in both input and output markets through bulking. Bulking reduces costs and creates the ability for higher quality inputs to be purchased (Roy and Thorat, 2008, and Kumar 2009). Aims are also achieved through sharing of skills, information, and technology because horizontal linkages promote collective learning. No matter the type of the horizontal linkage or their aims, what is important to note according to Coles and Mitchell (2011) is that the creation of these linkages is driven by market forces and their aim is to address shared constraints in the value chain.

METHODOLOGY

The target population for the study were small to medium- scaled farmers and processors in the cassava and yam value chains of Nigeria. The study was carried out in five southern states of Nigeria namely; Ondo, Edo, Ogun, Delta, and Cross Rivers state. These are the five top producing states for cassava, yam, and plantain in the country according to the Nigerian Bureau of Statistics (NBS 2016). The study employed multistage sampling techniques in selecting the 600 participants for this study made up of farmers and processors of yam, cassava, and plantain

in these states. The five states were divided into agricultural zones made up of Local Government Areas (LGAs). Three LGAs were selected from different agricultural zones for each state according to their production outputs and each LGA represents a cluster. Two towns were then randomly selected from the LGAs and each town also represents a cluster. Twenty small-scale to medium-scale farmers and processors were randomly drawn from the 30 towns selected to be part of the sample. Primary data was gathered with the use of a structured questionnaire with mostly close-ended questions and a few open-ended questions. The questionnaire was divided into several sections. A section asked questions on whether the farmers/processors are members of any horizontal linkage group, what resources are accessed through the membership and if they are not members, the reasons why. Another section sought to find out how many of the farmers/processors engaged in an entrepreneurial venture in the past two years through the upgrading of either their products, processes or functions. The face-to-face survey strategy was used to administer the questionnaire to ease the primary data collection process. Out of the 600 questionnaires distributed, 92.6% response rate was recorded for the farmers and 97% for the processors. Collected data were analyzed quantitatively using descriptive statistics which include frequencies, percentages, mean statistics and standard deviation while logistic regression analysis was used to test the hypothesis.

Findings and Discussions

Profile of sampled farmers and processors

	Farmers			Processors		
	Frequency	Percent	Valid %	Frequency	Percent	Valid %
Value chains						
Yam	86	30.9	30.9	75	25.8	25.8
Cassava	122	43.9	43.9	164	56.4	56.4
Plantain	89	32.0	32.0	77	26.5	26.5
Total	297	100	100	291	100	100
Scale of operations						
Micro	63	22.7	23.2	83	28.5	29.7
Small-scale	112	40.3	41.3	159	56.9	57
Medium scale	96	34.5	35.4	37	13.2	13.3
Total	271	97.5	100	279	95.9	100
Years of experience						
1-3	67	24.1	24.7	59	20.3	21.1
4-7	66	23.7	24.3	76	26.1	27.2
8-12	54	19.4	20	59	20.3	21.1
Above 12	84	30.0	31	86	29.6	30.7
Total	271	97.4	100	280	96.2	100

Table 1: Value chain Profile of Sampled Farmers and Processors

The scale of operations for the participants ranges from micro to medium-scale. Given the fragmented nature of land ownership in Nigeria, for the farmers, micro was operationally

defined as less than 2 plots of land, small-scale between 2-10 acres of land and medium-scaled between 10- 25 acres of land. For the processor, micro was operationally defined as having less than 2 employees, small-scaled as having between 2-10 employees and medium-scaled as having between 10-25 employees. 41.5% and 35.4% of the farmers are small -scale and medium-scale respectively and only 23.2% farm on plots less than 2 acres and are micro-scaled. 57% of the processors run small-scale processing outfits, 13.3% are medium scaled while 29.7% run cottage processing units. It can be said that small-scale farms and processing firms dominate the sector. A good percentage of both the farmers (75.4%) and processors (79%) have more than five years of experience as actors in their different value chains and therefore can be said to have a reasonable wealth of knowledge on farming and processing practices respectively.

Membership of linkage groups

Are you a member of farmers/processors association or co-operatives?			Frequency	Percent %	Valid percent%
	Farmers	Yes		114	41.7
No			163	57.9	58.1
Total			277	99.6	100
Processors	Yes		104	35.8	35.3
	No		187	64.2	64.7
	Total		291	100	100

Table 2: Percentage of farmers and processors who are members of any horizontal linkage group

The use of linkage group to access scarce input resources is not popular with many of the farmers and processors in these value chains. 58.1% of the farmers and 64.7% of the processors are not members of any association or cooperative. This implies that farmers and processors in the yam, cassava and plantain value chains of Nigeria do not find linkage groups attractive or useful to them. They do not fully appreciate the benefits to one for being a member of a linkage group. A lower percentage of processors than farmers are members of any group and this shows that processors are less likely to join groups than farmers. This could be because many of the processors have better access to resources than the farmers due to their stage of operation in the value chain. It can also be also implied from the findings that the existing organization is weak in improving members access to resources and this is the reason why many are not attracted to join in. This is not surprising as findings also indicate that the resources available to farmers and processors for being members of a farmer association or co-operative are severely limited.

Reasons for not belonging to linkage groups.

Reasons	Farmers			Processors		
	Number of times code applied	% of total responses (n = 160)	% of total respondents (n = 163)	Number of times code applied	% of total responses (n = 168)	% of total respondents (n = 187)
Not aware of any	67	41.9	41.1	94	56.0	50.3
None in my area	33	20.6	20.2	31	18.5	16.6
Not up to standard	43	26.9	26.4	34	20.2	18.2
Lack of cooperation	13	8.1	7.9	10	6.0	5.3
Lack of trust	11	6.9	6.7	5	3.0	2.7
Not large scale	3	1.9	1.8	3	1.8	1.6
Lack of finances	5	3.1	3.0	15	8.9	8.0
No benefits	5	3.1	3.0	4	2.4	2.1
Not interested	39	24.4	23.9	24	14.3	12.8
Not available	3	1.9	1.8	1	0.6	0.5

Table 3: Reasons for not being a member of an association or a co-operative.

Respondents who are not members of any linkage group were asked to give reasons why. This was an open-ended question, so the answers provided were coded and categorized into the themes as they emerged. The major reasons given by the respondents for not belonging to any group is that they are not aware of any or that there is none in their area. 41.1% of farmers and 50.3% of processors are not member of any association because they are not aware of them or the benefits, they bring to them 20.2% of farmers and 16.6% of processors are not members because there is none in their area Other reasons given include; lack of trust and cooperation, no benefits, lack of finances to pay the dues, no standards and lack of interest in the associations. Lack of co-operation and lack of trust in the groups were also cited by 7.9% and 6.7% of the farmers and 5.3% and 2.7% of the processors respectively. The citing of lack of trust and cooperation as reasons by the respondents agree with McNulty & Oparinde (2015) and PIND (2011) who both cited poor coordination among value chain actors and lack of trust, as a major linkage constraint. 26.4% of farmers and 18.2% of processors are not members because they do not consider the associations to be up to desired standards. Some others believe that only large-scale players should belong to these group as this reason was given by 1.8% of the farmers and 1.6% of the processors. 3% of the farmers and 8% of the processors gave lack of the finances to join these groups and pay dues as a reason for not belonging to any group. 3% of

the farmers and 2.1% of the processors are not members because they do not benefit anything from being members. 23.9% of the farmers are simply not interested in being part of any group, likewise 12.8% of the processors while 1.8% of the farmers and 0.5% of the processors claim they are not members of any group because they are not always available.

What this finding implies is that while some farmers and processors cannot afford to belong to any linkage group either due to lack of finances, time, proximity to the group or simply lack interest, many also do not see the need for belonging to any due to poor standards, lack of trust and poor coordination and lack of benefits. Nevertheless, a higher percentage of farmers and processors who are members of linkage groups were found to have upgraded their products, process or functions in the past 3 years.

Resources accessed through linkage groups.

Resources	Accessed	Farmers (N=114)		Processors (104)	
Bulk purchase of inputs (seeds, fertilizer, agrochemicals, others)	Yes	57	50	41	39.4
	No	57	50	63	60.6
Access to processing equipment and facilities	Yes	29	25.4	18	17.3
	No	85	74.5	86	82.7
Collective learning (sharing of skills, innovation, and technology)	Yes	14	12.2	15	14.4
	No	100	87.8	89	85.6
Collective marketing of outputs	Yes	39	34.2		
	No	75	65.8		
Access to financial loans and credits	Yes	53	46.5	65	62.5
	No	61	53.5	39	37.5
Access to training and technical support services	Yes	20	17.5	27	26.0
	No	94	82.5	77	74.0
Access to market and information	Yes	54	47.3	41	39.4
	No	60	52.7	63	50.6
Act as governance body to ensure compliance with standards	Yes	33	28.9	27	26.0
	No	81	71.1	77	74.0

Table 4: Resources accessed through membership of a farmer's association or co-operative

For those who are members of a group or association, the study sought to find out what resources they can access by being a member of a linkage group and if their ability to access resources through the group plays a role in them becoming entrepreneurial. Bulk purchase of inputs is the biggest benefit for farmers who are members of a group as it has the highest percentage of farmers (50%) stating it as a benefit for belonging to the linkage group. This is followed by access to market and information with 47.3%, access to loans and credit with 46.5% and collective marketing of outputs with 34.2% stating them as benefits for belonging to a group. These are followed by access governance and promoting standards with 28.9% and access to equipment with 25.4% stating them as benefits. Collective learning of skills and access to training and support services are the least benefits farmers get from linkage groups as

less than 17.5% and 12,2% of the farmers stated them respectively as benefits for belonging to a group. For the processors, the biggest benefit for belonging to a linkage group is access to financial loans and credits. More than 60% of the processors who are members of a group stated it as a benefit. This is followed by access to raw materials and access to market and information. These are then followed by access to training and technical support and the fact that the group acts as a governance body for the members. Access to processing equipment and collective learning are the least benefit processors get from being a member of a linkage group.

In all, apart from processors access to finances, none of the resources provided by these groups have more than 50% of the farmers and processors gaining access to them through being a member. This implies that many of the associations/co-operatives do not necessarily improve the ability of farmers to access these needed resources. This finding is further proven with some of the processors and farmers who are not members of linkage groups stated lack of benefits as a reason for not being members.

Test of Hypothesis

	Member of farmers/processors association or co-operatives?	Did you upgrade in the last 3 years?			
		Upgraded		Did not upgrade	
		Frequency	Percent	Frequency	Percent
Farmers	Member (N = 114)	92	80.7	22	19.3
	Non-member (163)	78	47.8	85	52.1
Processors	Member (N = 104)	86	82.7	18	17.3
	Non-member (N = 186)	63	33.9	123	66.1

Table 5; Cross-tabulation of upgrading by farmers and processors with their membership of an association/ cooperatives.

80.7% of farmers who are members of linkage groups upgraded either their product, process or functions in the past 3 years and 82.7% of processors who are members also upgraded. Only 47.8 of farmers who are not members of any group upgraded while 33.9 of processors who are non- members of any linkage group upgraded. To prove if membership of a linkage group has a bearing on farmers and processors becoming entrepreneurial, the null hypotheses were tested using ordinal regression logistic.

Availability of resources was the independent variable and was operationally defined as whether participants are members of farmers' association /co-operatives and the services they provide. If they are not a member, they are coded as 0. If they are a member, they are coded according to the number of services provided to them. If only one service is provided, they get a code of 1, for two services they get 2, for three services they get 3. Level of entrepreneurship was the dependent variable and was operationally defined according to questions on the upgrading of products, upgrading of processes and upgrading of functions (new firm offering new product). Participants were coded according to the number of the above they said yes to. If they said yes to three, they get coded as 3; if they said yes to only two, they get coded as 2;

if they said yes to only one they get coded as 1, and if they said yes to none they get coded as 0.

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B)	95% Wald Confidence Interval for Exp(B)	
			Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
Threshold [Level_of_ entrepreneurship =,00]	-.077	.1441	-.359	.206	.284	1	.594	.926	.698	1.228
[Level_of_ entrepreneurship =1,00]	.395	.1458	.110	.681	7.360	1	.007	1.485	1.116	1.976
[Level_of_ entrepreneurship =2,00]	.797	.1521	.498	1.095	27.427	1	.000	2.218	1.646	2.988
Availability_Resources_Farmers Association (Scale)	.466	.0794	.310	.621	34.390	1	.000	1.593	1.364	1.861
	1 ^a									

Table 6; Availability and right combination of resources do not impact on farmers level of entrepreneurship.

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B)	95% Wald Confidence Interval for Exp(B)	
			Lower	Upper	Wald Chi-Square	Df	Sig.		Lower	Upper
Threshold [Level_of_ entrepreneurship=,00]	-.020	.1376	-.290	.250	.022	1	.883	.980	.748	1.283
[Level_of_ entrepreneurship=1,00]	.467	.1404	.191	.742	11.048	1	.001	1.595	1.211	2.100
[Level_of_ entrepreneurship=2,00]	.776	.1454	.491	1.061	28.510	1	.000	2.174	1.635	2.891
Availability_Resources_Cooperative (Scale)	.557	.1137	.334	.780	24.006	1	.000	1.745	1.397	2.181
	1 ^a									

Table 7; Availability and right combination of resources do not impact on processors level of entrepreneurship.

Results from the hypothesis testing for the farmers showed that an increase in the availability of resources due to being part of a farmer's association/ co-operative was associated with an increase in the odds of showing a higher level of entrepreneurship, with an odds ratio of 1.593 (95% CI, 1.364 to 1.861), Wald $\chi^2(1) = 34.390, p < 0.05$. This means that a one unit increase

in the number of resources available due to being part of a farmer's linkage group resulted in the odds of showing a higher level of entrepreneurship increasing 1.593 times. Stated simply, the more resources participants had available due to their membership in a farmer's organization, the more likely they were to show a higher level of entrepreneurship. The null hypothesis was rejected for the farmers and the hypothesis accepted. The availability of input resources was associated with a higher level of entrepreneurship for the farmers.

For the processors, an increase in the availability of resources due to being part of a linkage group was associated with an increase in the odds of showing a higher level of entrepreneurship, with an odds ratio of 1.745 (95% CI, 1.397 to 2.181), Wald $\chi^2(1) = 24.006$, $p < 0.05$. This means that a one unit increase in the number of resources available due to being part of a cooperative resulted in the odds of showing a higher level of entrepreneurship increasing 1.745 times. Stated simply, the more resources respondents had available due to their membership in a cooperative/ association, the more likely they were to show a higher level of entrepreneurship. The null hypothesis is rejected for the processors. The availability of resources was associated with a higher level of entrepreneurship for the processors.

What is evident from the findings is that the role of the social capital in the form of linkages in accessing scarce resources and promoting entrepreneurship can be said to be true when it comes to farmers and processors in these value chains. This finding proves the resource based-theory of entrepreneurship to be true.

Implications to Research and Practice

Findings indicate that horizontal linkages are not popular with the farmers and processors in the value chains in this study. The implications of this is that a smaller number of farmers and processors can access needed resources through linkage groups. With horizontal linkages having been proven to be a precursor to vertical linkages (Gibbon and Ponte 2005; Coles and Mitchell 2011), it follows that this in turn limits the emergence of vertical linkage groups in these value chains. There is a need for the development of policies and programmes that promotes the emergence of horizontal linkages in these value chains. The presence of effective horizontal linkages will enable the emergence of vertical linkages between industrial users of cassava, yam and plantain products and farmers/ processors. This will reduce the dependence on imports for secondary industrial cassava, yam and plantain products, hence contributing to the reduction of the import bill. Nigeria has the capacity to meet both the domestic food needs and industrial needs of these products, being the biggest producer of yam and cassava in the world and the biggest producer of plantain in Africa. The development of horizontal linkages amongst farmers/ processors and possible emergence of vertical linkages between industrial users and farmers/ processors through it will trigger a demand pull that will see more people becoming more entrepreneurial in the production of these crops and processing into primary and secondary products.

It is recommended that government develop policies that drive the recognition of horizontal linkage groups by financial institutions and other service providers. The recognition of these linkage groups as formal organizations by financial lending institutions and other businesses will not only improve the farmers and processors access to financial loans, credits, and other

support services but will attract many to join the groups and benefit from easier access to other resources which can promote the level of entrepreneurship in the sector.

It is acknowledged that membership of horizontal linkage does not always translate to better access to resources and this can be demotivating to members. To sustain linkages, expected returns to the members must be achieved. Therefore, it is recommended that linkages be formed not just to improve access to resources but to address other issues in the value chain. It is proven in this study that linkages can provide the motivation for upgrading by the farmers and processors. This can occur through risk and cost sharing, collective learning, better access to knowledge and support services and enhanced management capacity, not just through improving access to resources.

CONCLUSION

Horizontal linkages are a vital mechanism that can be used to drive entrepreneurship in a value chain as they can afford many small to medium scale farmers and processors access to resources on a sustainable basis. Horizontal linkages can provide opportunities for upgrading for farmers and processor through knowledge sharing, risk and cost sharing, improved management capacity and improved access to support services. This is evidenced by the findings from this study. It can be concluded that horizontal linkages do not only help improve small players access to resources but also serves as countervailing powers to big business as they promote entrepreneurship levels in agribusiness value chains.

Future Research

There is need for further research to analyze the value chains under study and their markets. The market environment determines how (or if) linkages occur and policies to promote horizontal linkages are unlikely to be successful when the overall environment is not conducive. The level of coordination and trust amongst value chain members, value chain governance processes, safety, and security issues all make up a market environment and all play a role. Therefore, there is a need to analyze these value chains, their markets and the local culture in the areas they operate in to find out why linkage groups are not popular with the farmers and processors. There is also a need to analyze these value chains to come up with the appropriate structures for linkages that will aid the realization of economies of scale and minimization of risk and costs for the members.

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