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Influence of Social Capital on Income Activities of Rural Women Agripreneurs in Imo State, Nigeria

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ABSTRACT
This study analyzed the influence of social capital on income activities of rural women agripreneurs in Imo State, Nigeria. Multi stage sampling technique was adopted in data collection and 200 rural women agripreneurs belonging to social groups. The study employed the primary data which were collected with a structured questionnaire distributed to the respondents. Data were analysed using descriptive and inferential statistical tools. The respondents indicated strong agreement to the question statements on trust and solidarity ($\bar{x}$ = 3.75), norms and values ($\bar{x}$ = 4.00) and social cohesion and inclusion ($\bar{x}$ = 3.72). Their income activities consisted mainly of farming and farming related activities with a total income of N478,267.81. Farming alone accounted for the highest source (31.50%) of the households' average monthly income (N150,653.40). Age (10.0%), marital status (5.0%), educational level (5.0%), size of farmland (5.0%), primary occupation (10.0%), years of social group membership (10.0%) and daily feeding (1.0%) significantly determined their income activities, and social capital significantly had effect on the farm income of the rural women agripreneurs at 1.0% risk level. It was recommended that social group activities should be promoted in the area since the respondents indicated strong interest in them and they equally has strong influence on their income activities.

Key words: Social capital, income activities, rural women agripreneurs.

INTRODUCTION

Women agripreneurs, also refered to as women in agricultural entrepreneurship, are simply women that participate in total agricultural activities, who take the risks involved in effective utilization of human and material resources in a unique way to take advantage of the opportunity identified in their immediate environment through production of

goods and services (Emerhirhi *et al.,* 2017). These women accept challenging roles to meet their personal needs and become economically independent. A strong desire to do something positive is their inbuilt quality, and they are capable of contributing values to both family and social life. The core innovative area of such women is in agribuainess. Agribusiness entails the transformation of raw agricultural outputs into other forms of products with higher value and diversified utilities (Mbanasor *et al.,* 2010). Presently, across the world, women are found indulging in every line of business from provision of services to product; they make substantial contributions towards entrepreneurship development in Nigeria (Emerhirhi *et al.,* 2017).

Social capital is an attribute of an individual, a person's potential to activate and effectively mobilize a network of social connections based on mutual recognition of proximity in one's social space (Alexander *et al.,* 2013). It is the existence of a certain set of informal values or norms which is shared among members of a group which permits cooperation among them (Francis, 2010). It also involves various formal groups of women such as farmers' cooperatives, marketing cooperatives, processing cooperatives, annual women august meetings, etc., and in informal groups like homes, among relatives, market squares, farms, streams, milling stations, hospitals, etc. (Uhegbu and Okereke, 2006). It is the cooperation between individuals within their household and outside it to meet their everyday needs (Halpern, 2005; Igwe *et al.*, 2009).

Different studies have demonstrated that while most rural women are involved in farming activities such as livestock production, crop production and fish farming as their primary wellspring of livelihood or one distinct occupation which it considers primary and to which more labour and time are allocated relative to other activities, they additionally participated in diverse income yielding ventures (Adi, 2013), farming (Kanu *et al.,* 2016; Mazza, 2016), commerce (Madueke, 2013) and skilled non-farm activities (Bryceson, 2002; Mazza, 2016).

However, female agripreneurs in some parts of Nigeria are often underestimated and overlooked. They are often hindered because of family responsibilities, cultural barriers and religious beliefs. Amaka (2007) observed that Nigerian women are more vulnerable to poverty owing to a number of factors including absence of opportunities and autonomy, lack of access to economic resources (credit, land ownership and inheritance), lack of access to education and support services and minimal participation in the decision making processes within families and societies.

In spite of these, they still face a lot of economic hardship that has forced majority of them to remain perpetual small-scale producers and low-income earners (Igwe *et al.,* 2008). Ogwumike (2012) reported that two-third of work in the world were done by women, yet, women owned only ten percent of world's income and one tenth of the world's property. These are attributable to no access to innovative information, low productivity, post-harvest losses, poor agricultural produce prices, hence poor farm income, inadequate infrastructure, limited access to credit and other improved farm inputs and land (Nwaru and Iheke, 2014; Ojowu *et al.*, 2007).

Objectives of the study

The broad objective of this study was to analyse influence of social capital on income activities of rural women agripreneurs in Imo State, Nigeria. The specific objectives were to: describe the social capital status of the respondents, examine their income levels and

activities, ascertain determinants of their income activities, and determine social capital effects on their farm income.

METHODOLOGY

The study area was Imo State. Imo is one of the 36 states that constitute the Nigerian federal structure. It is located in the South Eastern part of Nigeria with a total land mass of about 25289.40km (State Directorate of Land Survey and Urban Planning, 2006) and a population of about 5.4 million people (NPC, 2016). The rural women in the state majorly involve in agricultural activities such as planting, weeding, harvesting, processing and marketing for predominant income generation (Fabiyi and Akande, 2015). Onubuogu and Onyeneke (2012) indicated that about 69.9 percent of the working population in Imo State was engaged in agriculture, fishing and agriculturally based trade.

Sampling Procedure

Multi stage sampling technique was used in data selection. In the first stage, five Local Government Areas (LGAs) namely: Okigwe, Obowo, Ideato North, Ohaji/Egbema and Ezinihitte Mbaise were selected from the State. In the second stage, a random selection of two communities from each of the five selected local government areas, namely: Ugwuaku and Ezinachi from Okigwe LGA, Akokwa and Arondizuogu from Ideato North LGA, Umuakirika and Umunachi from Obowo LGA, Umuagwo and Mmahu-Egbema from Ohaji/Egbema LGA, and Itu and Obizi from Ezinihitte Mbaise LGA, were done to give a total of ten communities. In the third stage, from each of the ten selected communities, a random sampling of twenty rural women agripreneur was done to give a sample size of two hundred respondents for the study.

Data for the study were analyzed with the use of both descriptive such as frequency counts, mean scores, percentages and standard deviations; and multinomial logit regression.

Models specification

Information on social capital status of the respondents were measured using proxies as trust and solidarity, norms and values, and social cohesion and inclusion. This method was previously adopted by Maduka (2018). The proxies consisted of complex sub-dimensions, so that many sorts of questions were asked the respondents to gauge their levels of adjudgement. These were realised using a mean of scores obtained from a 5point Likert rating scale. The points in the scale were Strongly Agree (SA) (5 points), Agree (A) (4 points), undecided (UND) (3 points), Disagree (DA) (2 points) and Strongly Disagree (SDA) (1 point). A midpoint of 3.0, which was used in decision making, was obtained by adding 5, 4, 3, 2, and 1 and dividing by 5. Mean scores of 3.0 and above were adjudged in status while scores below 3.0 were adjudged not in status.

The multinomial logit regression model used in ascertaining determinants of choice of income activities of the respondents was specified thus:

$$\text{Pij} = \frac{e^{\beta j}\, X_i}{1+\sum_{k=0}^{j} e^{\beta k}\, X_i} \qquad (1)$$

P_{ij} = the probability of choosing among farming, trading, civil service or craftsmanship reduces to:

$$\text{Pij} = \frac{e^{\beta j}\, X_i}{1+\sum_{k=j}^{j} e^{\beta k}\, X_i} \qquad (2)$$

While the probability of being in the base outcome group was

$$Pi_o = \frac{1}{1+\sum_{k=0}^{3} e^{\beta k}\, X_i} \quad (3)$$

Where,
i =1,2.....10 variables;
K= 0,1,2,3 groups (number of choice of livelihood option in the choice set)
βj= a vector of parameter that relates Xi's (independent variables) to the probability of being in group j where there are j+1 groups.
e = random disturbance term and unobserved attributes of alternatives.
x = predictors of response probability specifies as
X_1 = Age (years)
X_2 = Marital status (married = 1, others = 0)
X_3 = Educational level (years)
X_4 = Size of farm land (hectares)
X_5 = Primary occupation (farming = 1, others = 0)
X_6 = Years of farming (years)
X_7 = Leisure activities (number of days per month indulged in)
X_8 = Contributions to social groups (amount in Naira)
X_9 = Years of group membership (years)
X_{10} = Daily feeding (number of times per day)

The simple regression model used to determine social capital effects on farm income of the respondents was given below. This model was previously used by Nze *et al.* (2018) and was specified as follows:
Y = F (X)
Where: Y = Farm income of the rural women agripreneurs (Naira)
X= Cash contributions to social groups (Naira).

RESULTS AND DISCUSSION

Social capital status of the rural women agripreneurs

Results in Table 1 showed the mean rating on social capital status of the respondents in the study area. Five item questions were designed to ascertain trust and solidarity and all the five variables were accepted by the benchmark of 3.0 used for decision. The variable "I can confide in most members of my group and will not be betrayed" had on the average the highest mean ($\bar{x}$ = 4.32), meaning that the respondents indicated strong agreement to the question statement, while the variable "In the case of disagreement among my group members, there is always peaceful resolution" had the least mean ($\bar{x}$ = 3.57), and this implied a slight reduction in the rate at which they resolved disagreement in comparism with other variables.

Table 1: Mean rating on social capital status of the respondents

Social capital status	SA	A	UND	DA	SDA	Total	Mean
Trust and Solidarity							
I can confide in most members of my group and will not be betrayed	108(540)	60(240)	20(60)	12(24)	0(0)	864	4.32
In my group, one has to be alert or someone is likely to take advantage of you	86(540)	72(288)	26(78)	16(32)	0(0)	828	4.14
In my group people generally do not trust each other in matters of lending and borrowing money.	56(280)	20(80)	100(300)	8(16)	16(16)	692	3.46
There is always consensus agreement in my group	72(360)	22(88)	24(72)	50(100)	32(32)	652	3.26
In the case of disagreement among my group members, there is always peaceful resolution	88(440)	30(120)	14(42)	44(88)	24(24)	714	3.57
Grand mean							**18.75**
Clustered mean							**3.75**
Norms and Values							
Members of my group have norms and values that regulate the conduct of members	70(350)	62(280)	42(126)	20(40)	6(6)	770	3.85
Offending members of my group are sanctioned appropriately without bias	60(300)	50(200)	60(180)	24(48)	6(6)	734	3.67
Whatever the group does to one person, it does to others	108(540)	60(240)	20(60)	12(24)	0(0)	864	4.32
Members of my group believe in each other and the oneness of the group	86(430)	72(288)	26(78)	16(32)	0(0)	828	4.14
Grand mean							**15.98**
Clustered mean							**4.00**
Social cohesion and inclusion							
There is a feeling of togetherness in our group	56(280)	20(80)	100(300)	8(16)	16(16)	692	3.46
Our differences (wealth, education, social status, religion, political affiliation) make us stronger	108(540)	60(240)	20(60)	12(24)	0(0)	864	4.32
Our differences (wealth, education, social status, religion, political affiliation) cause us problem	70(350)	42(168)	22(66)	42(84)	24(24)	692	3.46
I feel I am really a part of this group and will not want to leave it for another	102(510)	50(200)	30(90)	2(4)	16(16)	820	4.10
My group is very peaceful	68(340)	36(144)	26(78)	43(86)	27(27)	649	3.25
Grand mean							**18.59**
Clustered mean							**3.72**

Source: Field Survey, 2018. Benchmark = 3.0

The clustered mean which was 3.57 was above the benchmark of 3.0, and this implied that trust and solidarity existed among the group members. This findings was supported by Udeze (2009), and was also in line with Maduka (2018) who stated that there was moderate level of trust among age grade members in South-East Nigeria with a grand mean ($\bar{x}$= 3.27), and that the group members trusted each other and would confide in each other without fear of betrayal except in matters of borrowing and lending. She further stated that there was strong solidarity among the age grade members in the South-East Nigeria as shown by their grand mean ($\bar{x}$= 4.51). Gleenson (2015) stated that trust is a prerequisite for success in relationship and team work and the level of trust is directly proportional to productivity, performance and profitability, while Ibenacho (2006) opined that social groups are means of unity and solidarity.

For norms and values, all the four variable questions were accepted by the mean. The clustered mean ($\bar{x}$= 4.00) was above average, and implyed that norms and values of the groups were strictly adhere to by their members. Group members have norms and values that regulate the conduct of members ($\bar{x}$= 3.85), offending group members were sanctioned appropriately without bias ($\bar{x}$= 3.67), whatever the group does to one person, it does to others ($\bar{x}$= 4.32), and members of the groups believed in each other and the oneness of the groups ($\bar{x}$= 4.14). According to Ekong (2010) socialization and control made people behave in a manner that was predictable and conformed to established norms and values.

The result on the Table further showed a good level of social cohesion and inclusion among the respondents with a clustered mean ($\bar{x}$= 3.72). According to the Table all the five variables showed good status. The implication was that there were strong feelings on social cohesion and inclusion: there was feeling of togetherness in the groups ($\bar{x}$=3.46), members' differences (in terms of wealth, education, social status, religion, political affiliation) made them stronger ($\bar{x}$= 4.32), although, it equally caused them problem ($\bar{x}$= 3.46), yet, the group members had strong affinity and strongly felt they were really part of their group and will not want to leave it for another ($\bar{x}$= 4.10) because they believed their groups were very peaceful ($\bar{x}$= 3.25). This is in consonant with Maduka (2018) and Ekong (2010). According to Obuba (2008), group membership is a leveller for the rich and the poor members.

Income activities of the rural women agripreneurs

Table 2 showed the income activities of the respondents. The resondents indicated seventeen income activities with farming alone accounting for the highest (31.50%) income activity with an average monthly income of N150,653.40. It was followed by trading on farm produce which accounted for 38.5% income activity with an average monthly income of N 42,129.87. Trading on off-farm produce was the third income activity (18.0%) with an average monthly income of N15,277.78, while business center was the least income activity among the women with an average monthly income of N7000. The implication is that the income activities of the rural women agripreneurs in Imo State consisted mainly of farming and farming related activities and less of non-farm activities which were in industries, businesses and services. This result is expected because farming is the major source of income for most rural households in Nigeria and it constituted their major occupation (Nze et al., 2018; Kanu et al., 2016; Madueke, 2013; Nze, 2016; Mazza, 2016 and Nwakwasi et al., 2016). This is in tandem with Nwachukwu (2014) who posited that the agricultural sector provides a livelihood for about 90% of the rural population

Table 2: Distribution of income activities of the respondents

Income activities	Frequency*	Percentage*	Rank	Mean	Std. Dev.	Monthly Income Levels (₦) Min.	Max.
Farming	161	80.5	1st	150,653.40	183767.2	0	1200000
Trading on farm produce	77	38.5	2nd	42,129.87	74039.17	2,000	400,000
Trading off-farm produce	36	18.0	3rd	15,277.78	11,190.84	4,000	69,000
Broom making	23	11.5	4th	4260.87	4089.536	1000	15000
Civil service	22	11.0	5th	73,681.82	140,529.10	20,000	700,000
Firewood gathering & selling	19	9.5	6th	5210.536	3552.477	2000	14000
Mushroom gathering & selling	17	8.5	7th	3352.941	6400.109	500	28000
Snail picking & selling	17	8.5	7th	3676.471	3056.454	1500	10000
Food vendor	11	5.5	9th	55,545.55	90899.24	2000	301,000
Hair dressing/making	10	5.0	10th	14,300	12,046.67	1,000	30,000
Fashion designing	7	3.5	11th	17,428.57	11,900.38	3,000	30,000
Basket weaving and selling	7	3.5	11th	4000	1936.492	1500	6000
Store keepers	6	3.0	13th	38,000	3098.387	34,000	40,000
Fast food/restaurant	5	2.5	14th	32,000	13,038.40	10,000	40,000
Pottery	4	2.0	15th	6750	3774.917	500	28,000
Bead making	4	2.0	15th	5000	2708.013	1000	7,000
Business Centre	3	1.5	17th	7000	6928.203	3000	15000

Source: Field survey; 2018. *Multiple responses

Determinants of income activities of the rural women agripreneurs

The multinomial logit analysis result on determinants of income activities of the rural women agripreneurs in the study area is shown in Table 3. The categorically distributed dependent variables were farming, trading on farm produce and civil service, with a given independent category variable of craftmanship as the base category which was compared with the estimated coefficient. The likelihood ratio statistics as indicated by $\chi 2$ statistics (79.44) was highly significant at 1.0%, suggesting the model had a strong explanatory power. Age (10.0%), marital status (5.0%), educational level (5.0%), size of farmland (5.0%), primary occupation (10.0%), years of social group membership (10.0%) and daily feeding (1.0%) significantly determined income activities of the respondnets.

Table 3: MNL regression result on determinants of income activities of the rural women agripreneurs

Variables	Farming (1)		Trading on farm produce (2)		Civil service (3)	
	Coefficient	Z-value	Coefficient	Z-value	Coefficient	Z-value
Age	-0.0017	-0.07	-0.0353	-1.72*	-0.01	-0.43
Marital status	-0.4685	-0.9	-0.8621	-1.99**	-0.94	-1.85*
Educational level	0.1525	2.28**	0.0472	0.98	0.152	2.40**
Size of farm land	-1.1661	-1.99**	-0.483	-1.65*	-0.262	-0.91
Primary occupation	0.4614	0.57	1.9518	1.79*	-0.9	-1.41
Years of farming	-0.0217	-0.39	-0.0466	-1.04	0.0643	1.24
Leisure activities	-0.2613	-1.05	-0.0478	-0.27	0.1891	0.95
Contributions to social group	0.6055	0.69	1.3495	1.59	1.5022	1.31
Years of group membership	0.224	0.99	0.3288	1.82*	0.0729	0.35
Daily feeding	-1.7736	-3.68***	0.2569	0.79	0.9281	2.33**
Constant	0.4537	0.21	-3.2557	-1.63*	-6.049	-2.81**
LR Chi^2 (30)	79.44***					
Prob > Chi^2	0					
Pseudo R^2	0.1612					
Log likelihood	-206.73					
Number of observations	200					

Source: Field Survey; 2018. *, **, *** denotes 10%, 5% and 1% statistically significant levels respectively. Base category = Craftsmanship

The coefficient of age (-0.0353) was negative for trading on farm produce, implying that a unit increase in age of the respondents was associated with the likelihood of not choosing trading on farm produce as a better income activity. This could imply that older rural women agripreneus were less involved in trading on farm produce, meaning that as they get older, they became constrained by energy needed for the business. This attributed to craftsmanship being a traditional livelihood option of the rural dwellers, hence, the dominance of craftsmanship in the area; but more specifically, it has been noted that there is tendency for younger people to pursue multiple livelihood activities in rural areas of Nigeria (Chukwuezi, 2001, Bryceson, 2002 and Maegher, 2001).

Marital status had negative coefficients for trading on farm produce (-0.8621) and civil service (-1.85) and was statistically significant at 5.0% for trading on farm produce and

10.0% for civil service. This implied that the more the respondents got married the less their chances of getting involved in craftsmanship. They were likely to venture into other more income yielding activities outside crafmanship. Marital status can influence the role and responsibilities as well as occupational lives of members and their families (Akinbode, 2013). Nwaru and Iheke (2014) stated that marital status create a conducive environment for good training, development of personal integrity and entrepreneurship.

Educational level had positive coefficients for farming (0.1525) and civil service (0.152) and was statistically significance at 5.0% level of probability for both. This means that a unit increase in the educational level led to a chance of choosing craftsmanship as source of income. This agreed with Adi (2007) which identified education as one of the determinants of livelihood strategy in Eastern Nigeria.

The coefficients of size of farm land were negative for both farming (-1.1661) (significant at 10.0% level) and trading on farm produce (-1.65*) (significanr at 5.0%); implying that a unit increase in size of farm lands of the respondents was associated with a decrease in their likelihood choice for craftsmanship. Primary occupation was positive and significant at 10.0% level of probability for trading on farm produce, indicating that increase in trading on farm produce increased the respondnets' likelihood of choosing crafmanship as livelihood income.

Years of membership was positive for trading on farm produce and significant at 10.0%, implying that a unit increase in years of membership of the respondents was associated with the increase in likelihood of choosing craftsmanship income. Increased years of membership increased the opportunities of the respondents to group benefits required craftsmanship (Okeke, 2018).

Daily feeding was negative for farming and significant at 1.0%, implying that a unit increase in daily feeding led to a decrease in probability of choosing craftsmanship for income. Daily feeding was on the other hand positive for civil service and significant at 5.0%, implying that a unit increase in daily feeding led to an increase in probability of choosing craftsmanship. This means that daily feeding had a strong influence in the probability of either chosing or rejecting craftsmanship as income activity among the respondents.

Social capital effect on farm income of the respondents

Table 4: Simple linear regression result on Social capital effect on farm income of the respondents

Variables	Coefficient	Stand. Error	T-value
Constant	8726.159	1353.350	6.448***
Social capital	0. 013	0.004	3.581***
R^2	0.247		
R^{-2}	0.061		
F-ratio	12.826***		

Source: Field Survey; 2018. *, **, *** denotes 10%, 5% and 1% statistical significant levels respectively.

The result of the social capital effects on farm income of the respondents was shown in Table 4. The F-ratio of 12.826*** signifies that the model was statistically significant at 1% level. Social capital was positive and statistically significant at 1.0% probability level.This

means that involment in social groups increased their farm income. The implication is that social capital encouraged farming, hence, more farm income (Nze *et al.*, 2018).

CONCLUSION AND RECOMMENDATION

Age, marital status, educational level, size of farmland, primary occupation, years of social group membership and daily feeding significantly determined their income activities, and social capital also has influence on their farm income. It was recommended that the respondents need to diversify into non-farm income-generating activities such as baking and confectionery business, to mention but a few, in order not to lag behind in the modern age income generating activities.

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