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Characterization of Various Dimensions of Social Capital in Rural Farm Households in Akwa Ibom State, Nigeria

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Abstract:
The research examined the social and economic attributes of rural farm households who are members of a social association in Akwa Ibom State, Nigeria. Additionally, the study analysed the dimensions of social capital within these farm households. A multi-stage sampling technique was utilized to choose 180 rural farm households within the research location. Descriptive statistics were employed to assess the study's objectives. The results indicated that the majority of the farmers were male, educated, fell within the active age group, married, and had an average household size of 7 members. The distribution of social capital dimensions varied across the socio-economic characteristics of the farm households. Male individuals displayed stronger social capital dimensions compared to the youth and female individuals. Based on the findings, it is suggested that farmers' groups and non-governmental organizations (NGOs) should be given priority when needs arose for the establishment of social associations for rural farm households in Akwa Ibom State.

Key Word*: Social capital, farmers, rural areas, social capital dimensions, Nigeria*

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I. Introduction

Social capital has emerged as a significant concept in the field of development, particularly in initiatives aimed at grassroots participation, empowerment, and poverty alleviation (Magson et al., 2014; Ibrahim et al., 2017). It encompasses social associations, networks, norms, and values that facilitate interactions among individuals and groups, ultimately enhancing their socioeconomic well-being (Olumuyiwa et al., 2014; Tengapoe et al., 2024). International organizations have enthusiastically embraced social capital as an alternative approach to government or market-driven strategies, with the World Bank even referring to it as "the missing link" in development (Grootaert, 1998). Despite ongoing debates regarding its definition and measurement, there is a consensus that social capital serves as a valuable asset in influencing poverty, well-being, and the effectiveness of people-oriented programs. According to Imandoust (2011) and Kehinde and Adeyemo (2020), mobilizing groups can significantly reduce the costs associated with delivering services to a larger number of individuals, thereby increasing the cost-effectiveness of outreach programs.

Social capital plays a crucial role in reducing poverty through various channels, both at the micro and macro levels. It influences the flow of valuable information to the poor, enabling them to make informed decisions and improve their circumstances. Additionally, social capital contributes to overall economic growth and facilitates income redistribution at the national level (Salman and Ekong, 2015; Tengapoe et al., 2024). Scholars such as Grootaert (2001), Qyen (2002), Busra et al., (2018), and Yunus et al., (2020) advocate for social capital as a key strategy for poverty reduction. However, the absence of suitable local institutions and the weakness of existing ones often marginalize the poor, preventing their active participation in decision-making processes that impact their well-being (Yusuf, 2008). The family, being the primary source of economic and social support for its members, serves as the foundation for generating social capital within the broader society (Yusuf, 2008). The concept of social capital varies depending on the researcher's focus and relevance to the study (Anzaku, 2009). It is considered an input in both household and national production functions, with significant implications for development policies and project designs. This implies that investments in human capital and physical infrastructure must be accompanied by institutional development to fully harness the benefits. In the context of poverty alleviation among farmers, promoting social interactions alongside the provision of agricultural resources like seeds and fertilizers may be necessary (Gao et al., 2019). Access to social capital empowers individuals to secure advantages through their membership in social networks or other social structures. Consequently, social capital is defined as the benefits that members of a social association derive, leading to a reduction in poverty levels or an improvement in their overall well-being. The dimensions of social capital serve as indicators or measures of its existence, determining the extent of benefits received by members and their level of participation within the association.

According to a study conducted by Somaratne et al. (2011), social capital has played a significant role in enhancing well-being. However, the prevalence of poverty and limited diversity in social relationships in rural areas are key factors that weaken the connection between social capital and well-being. According to Elgar et al., (2011), Nieminen et al., (2013) and Lee et al., (2023), individuals with higher levels of social capital are more likely to be employed, have stable housing, enjoy good health, and experience happiness. In fact, personal contacts and informal networks often play a crucial role in helping people find employment, as opposed to formal job advertisements (Stone and Hughes, 2003). Research conducted in Nigeria has shown that individuals living in poverty derive greater benefits from their membership in local associations (Okunmadewa et al., 2005).

In Akwa Ibom State, the formation of groups is actively encouraged as a vital requirement for the poor to benefit from various poverty reduction programs implemented by the government. Members of these associations or groups in the state enjoy numerous advantages, including access to loans at reduced interest rates, free agricultural inputs, coordinated market sources, and savings mobilization, among others. The state has adopted a group intervention strategy as the primary approach to reach the vulnerable population residing in rural areas. For example, projects such as Fadama III additional finances, the Youth in Agriculture Program, the Accelerated Livestock and Fish Production Program (ALFIPP), community tractor leasing, input distribution, commercial rice production, and commercial palm oil production have all been implemented by the Akwa Ibom State government in collaboration with farm groups or cooperative groups as the main beneficiaries. Therefore, understanding the dynamics and characteristics of these groups in relation to social capital dimensions or indicators is crucial for achieving the objectives of these programs or projects. Given that most government agricultural initiatives are farmer-oriented, establishing such relationships would help define the intervention strategies while ensuring efficiency and sustainability of the programs. It is widely acknowledged that increasing access to social capital provides a broader opportunity for smallholder farmers who lack resources to enhance their well-being through intensified networking among themselves. Social capital is often regarded as a crucial element that is interconnected with other forms of capital and serves as a catalyst for socioeconomic growth and development (Craig et al., 2023). However, in order to effectively utilize social capital as a tool for development, it is essential to comprehend the specific characteristics of farmers in relation to the dimensions of social capital.

Numerous studies have explored the significant relationship between social capital and the specific characteristics of farmers. For example, Grootaert (1999) highlighted the growing recognition of the roles played by social capital in influencing the well-being of individuals, households, communities, and nations. Anzaku (2009) emphasized the importance of group formation for the poor to benefit from poverty reduction programs implemented by the government. Additionally, other authors (Olowe et al., 2017; Xiaoqiang et al., 2019; Ma et al., 2020; Kehinde et al., 2021; Silvert et al., 2022) have linked social capital with various characteristics of rural farmers. However, it is necessary to update the existing literature based on current realities. Furthermore, there is a scarcity of literature on social capital in the southern region of Nigeria, underscoring the need to support and expand the available research. Therefore, the present study was specifically designed to examine the socioeconomic characteristics of rural farm households and establish the relationship between these characteristics and certain dimensions of social capital.

II. Material And Methods

Study Area

The research was carried out in Akwa Ibom State, located in the southern region of Nigeria. In terms of governance, the State is divided into 31 Local Government Areas and encompasses 6 Agricultural Development Project (ADP) Zones, namely: Oron, Abak, Ikot Ekpene, Etinan, Eket, and Uyo (AKADEP, 2024). The climate in this region is tropical, characterized by two distinct seasons: the rainy season, which spans from April to October, and the dry season, which lasts from November to March. The annual precipitation ranges from 2000mm to 3000mm, and the average daily temperature is around 30°C. Due to this climatic pattern and the presence of fertile soil, the vegetation in Akwa Ibom State is highly suitable for cultivating a diverse range of food crops, including yam, rice, cassava, fluted pumpkin, cocoyam, okra, oil palm, and water leaf. Additionally, micro livestock such as poultry, pigs, goats, and sheep are commonly raised as supplementary sources of income. Agriculture serves as the backbone of the economy in this region.

Sample Size and Sampling Procedure

The study employed a multistage sampling technique to gather data. Initially, three out of the six Agricultural Development Project (ADP) Zones in Akwa Ibom State, namely Uyo, Ikot Ekpene, and Eket zones, were randomly selected in the first stage. Moving on to the second stage, two agricultural blocks were randomly chosen from each of the selected zones, resulting in a total of six agricultural blocks. Subsequently, three circles were randomly chosen from each of the selected blocks, amounting to a total of 18 circles. Within each circle, the executive members of each association were contacted to obtain a list of households affiliated with their respective associations. The study area consisted of six major associations, each comprising approximately 29 to 32

members. The list of members within each association served as the sampling frame, from which one-third of the households were selected for the study. Finally, in the last stage, ten households were purposively selected from each circle, resulting in a total of 180 respondents for the study. It is important to note that the selected respondents were individuals who belonged to at least one association and had farming as their primary occupation.

Nature of Data Collected and Method of Data Collection

The study's data primarily originated from primary sources, gathered through field surveys utilizing a meticulously designed questionnaire aligned with the study's objectives. In cases where respondents were unable to read or write, individual interviews were arranged at their convenience. Questions were translated into the local language of each respondent. The data collection focused on households that had interactions with at least one social association. By implication, a respondent belongs to at least one social organization.

Dimensions of social capital

Specifically, the study utilized six dimensions of social capital to assess the social capital of the participants. These dimensions include the density of membership, heterogeneity index, meeting attendance index, cash contribution, labour contribution, and decision-making index (Balogun et al., 2011 and Balogun et al., 2018). The social capital dimensions are described as follows:

(a) **The Labour Contribution Index** is calculated based on the total number of days that farmers dedicate to working for their respective groups within a year.

(b) **The Decision Making Index** is determined by aggregating the subjective evaluations provided by households regarding their involvement in decision-making processes within the three most significant institutions to them. The average response across these three groups is then multiplied by 100 for each household.

(c)**The Heterogeneity Index** is assessed using twelve distinct criteria, including factors such as neighbourhood, kin group, occupation, economic status, religion, political affiliation, gender, age group, education level, cultural practices, beliefs, and trust, as outlined by Balogun et al. (2011). Each criterion is coded as 1 for a 'yes' response and 0 for a 'no' response, with a maximum score of 12 assigned to indicate the highest level of heterogeneity within each group.

(d) **The Membership Density Index** is determined by calculating the number of active farmers who are members of existing groups. The proportion of group membership per individual is calculated by dividing the total number of groups to which each farmer belongs by the total number of groups available in the study area.

(e) The Meeting Attendance Index is calculated by summing the attendance of household members at meetings and dividing this by the total number of scheduled meetings per year, expressed as a percentage.

(f) **The Cash Contribution Index** represents the total amount of membership dues paid annually by the farmer across all social groups to which they belong.

Analytical Techniques

The descriptive statistics (such as frequency and percentages) were used to characterize the various dimensions of social capital among farming households.

III. Results and Discussion

Social Characteristics of the Sampled Households

Table 1 presents the social characteristics of the households included in the sample. The results indicate that a significant number of individuals involved in social organizations were male. This observation can be attributed to the greater burden of responsibilities typically placed on men compared to women. In this region, it is culturally expected that household heads play a primary role in generating income for the household, although they may receive support from their spouses on occasion (Mussida and Patimo 2021; Zunaidi and Maghfiroh 2021). These findings align with the assertion made by NBS (2011) that, in terms of gender, a larger proportion of household heads who contribute to household income are men, and a higher percentage of them are economically active.

The majority of households fell within the age range of 41 to 60 years. The results indicate that a significant number of association members in Akwa Ibom State are relatively young and fall within the economically active age bracket. This suggests that most household heads involved in social associations are economically active and are likely to respond positively to interventions aimed at improving their economic status. Additionally, approximately 62 percent of the respondents were literate and possessed basic reading and writing skills. A notable 37.80 percent of association members had no formal education, which was expected given the rural setting of the study area. According to NBS (2005), rural populations are more likely to have no formal education compared to urban populations. The majority of educated respondents had completed their education at the secondary school level. In terms of marital status, 80.60 percent of the respondents were married. Ekong

(2003) highlighted the significance of marriage among rural Nigerians, not only for procreation and family continuity but also due to the important role women play as unpaid family labourers in some regions.

The high percentage of married respondents reflects the cultural, religious, and traditional values placed on marriage in Akwa Ibom State. The findings also revealed that 70.00 percent of respondents had household sizes ranging from 6 to 10 individuals, with an average household size of 7 members. This suggests that there is a surplus of labour available to assist in agricultural activities.

Table 1: Distribution of respondents based on selected socio-economic characteristics

	Frequency	Percentage	Mean
Sex of Household Heads			
Male	108	60.00	Binary
Female	72	40.00	
Total	**180**	**100.00**	
Age of Household Heads (in years)			
21– 40	32	17.80	**47.5**
41– 60	130	72.20	
61– 80	18	10.00	
Total	**180**	**100.00**	
Formal Education of Household Heads			
No Formal Education	68	37.80	
Primary Education	24	13.30	**11.8**
Secondary Education	60	33.30	
Tertiary Education	28	15.60	
Total	**180**	**100.00**	
Marital Status of Household Heads			
Single	3	1.70	
Married	145	80.60	Dummy
Divorced	8	4.40	
Separated	6	3.30	
Widow/Widower	18	10.00	
Total	**180**	**100.00**	
Household Size (number)			
1– 5	48	26.70	
6 –10	126	70.00	7.00
11–15	6	3.30	
Total	**180**	**100.00**	

Source: Field Survey (2022).

The larger household sizes align with Akpan et al., (2023a) and Akpan et al., (2023b) who noted that agricultural production in the region is labour-intensive, and larger households can provide family labour at a lower cost. The size of households is an important factor in acquiring extensive land holdings in rural communities of Akwa Ibom State (Akankpo, 2005), as family labour plays a crucial role in farm activities. The initial step taken by the average farmer is to utilize all available family labour before considering hiring additional labour, as this helps to minimize production costs. The amount of family labour that can be utilized is typically influenced by the marital status of the farming household, as highlighted by Akpan et al., (2023c). This finding is consistent with the observations made by Olayide et al. (1980), who noted that rural communities often rely on the family as the primary source of labour for peasant holdings due to their larger family sizes. Additionally, Edet and Etim, (2013) and Nkanta et al., (2022a) observed that a significant number of rural households in Africa have larger family members, which serves as an advantage in meeting the labour requirements of farmers. However, it is important to note that household heads with larger family members may face challenges in terms of consumption costs.

Distribution of respondents based on farm specific characteristics

The results in Table 2 and 3 show the distribution of household heads based on farm specific characteristics. The result indicates that a greater percentage of the respondents had been into farming between 11 and 20 years. It could be concluded that farming is not new and is a major occupation in the study area. In line

with Edet and Etim (2014) and Akpan et al., (2022), farmers with many years of farming experience are more willing to change, especially to adopt current and recommended practices by extension agents. These more experienced farmers were likely to take risks in adopting new production practices. Farming experience generally correlates with acquisition of improved skills in agricultural production.

Table 2: Distribution of Respondents based on Farm Specific Characteristics

Farm Specific Characteristics	Frequency	Percentage	**Mean**
Farming Experience (in years)			
1-10	40	22.20	15.00
11-20	115	63.90	
21-30	25	13.90	
Total	180	100.00	
Farm size (in hectares)			
> 1	50	27.80	1.50
1.1-2	81	45.00	
2.1-3	42	23.30	
3.1-4	7	3.90	
Total	180	100.00	
Mean Annual Farm Income (in naira)			
1,000 – 30,000	19	10.60	66,700.00
30,001 – 60,000	50	27.80	
60,001 – 90,000	65	36.10	
90,001 – 120,000	31	17.20	
120,001 – 150,000	15	8.30	
Total	180	100.00	
Annual income obtained from being a member of association (naira)			
1,000 – 30,000	67	37.20	51,233.00
30,001 – 60,000	36	20.00	
60,001 – 90,000	45	25.00	
90,001 – 120,000	23	12.80	
121,001 – 150,000	9	5.00	
Total	180	100.00	
Non- Farm Income			
Earned	130	72.20	Dummy
Did not Earn	50	27.80	
Total	180	100.00	

Source: Field Survey (2022)

Majority of the farm household heads cultivated accumulatively between 1.1 and 2.0 hectares. Only few respondents had or cultivate above 2 hectares. This result implies that a greater number of the respondents owned small size of land. Some respondents cultivated up to 2.0 hectares, and few, 3 hectares because of association land acquired at a reduced cost. This may be attributed to the land tenure system prevalent in the area which encourages small holdings. This result therefore justifies that farmers in the area are really small scale farmers. Akpan et al., (2022) and Udo et al., (2023) stated that majority of the Nigerian farmers are small scaled. The small scale cultivation may constrain the quantity of farmers' output. This result is also in line with the findings of Nwosu (2000), who asserted that even though most of agricultural productions are done by farmers in the rural areas; most of them are poor and landless agricultural workers. Small portion of land available for cultivation increases poverty level. Earlier findings by Okoro and Umoh (2007) asserted that higher profit could be made when more lands are brought under cultivation than on a limited portion of farm land. The result also show that majority of the household heads earned between ₦61, 000 and ₦90, 000 from farm income within a year. The income depended on the hectares of land cultivated. Very few earned between ₦120, 000 and ₦150, 000 because of the small area cultivated. Akpan et al., (2019); Akpan et al., (2016a); Akpan et al., (2016b), in their studies of the nature of rural poverty, and Akankpo (2005) found out that the major components of poverty is low income, followed by low level of education which hinder the rural households in achieving their aims in production.

Apart from their farm income, additional income derived from the association was as a result of group work, contracts and other paid labour. Sometimes, the association got jobs from people. The money obtained from the jobs was usually shared among members who participated. As indicated, majority obtained from ₦1, 000 to ₦30,000. This assisted in poverty reduction. Findings also show that majority (72.20%) of the respondents earned income from activities other than farming.

Table 3: Distribution of respondents based on farm specific characteristics continue

Farm Specific Characteristics	Frequency	Percentage	Mean
Loan Obtained from Association within a year (₦)			
1,000 – 30,000	30	46.70	
30,001– 60,000	57	11.70	
61,001– 90,000	20	11.11	100,000.00
91,001– 120,000	63	35.00	
121,001–150,000	10	5.60	
Total	**180**	**100.00**	
Interest Amount Paid on Loan (₦)			
1,000 – 5,000	47	26.10	
5,001 – 10,000	122	67.80	10.00
10,001 – 15,000	11	6.10	
Total	**180**	**100.00**	
Access to Extension Services (Binary)			
Yes	135	75.00	
No	45	25.00	Dummy
Total	**180**	**100.00**	
Regularity of Visits of Extension Agents (Binary)			
Weekly	0	0.00	
Monthly	75	55.60	Binary
Yearly	50	37.00	
Very Rare	10	7.40	
Total	135	100.00	

Source: Field Survey (2022)

This improved their standard of living. This off-farm income came from salary of paid employment for the educated ones, rent from land, trading, carpentry etc. This agrees with Nagler and Naudé (2017), that a greater percentage of rural income in sub-Saharan Africa is derived from non-farm sources. The results further revealed that, all the respondents obtained loan from their different associations though the amount of loan obtained varied. The loan assisted them in starting or increasing their businesses which led to increase in income and reduction in poverty. From the results, 67.80 percent paid between ₦6,000 and ₦10,000 as interest on loan. Compared to banks and other informal sources of loan, the interest amount was at a lower rate. This is one of the major benefits of members in association. A greater percentage of the farming households have access to extension services and this might be attributed to the fact that it is easier for the extension agents to visit them as a group than individuals. It is easy for the group leaders to raise alarm for defaulting extension agents, thereby increasing their efficiencies. With this level of extension agents' visits, respondents were taught and shown different innovations which imparted positively on their productivity. The implication is that though the local people are neglected in most cases by the extension agents (Akankpo 2005), it is less applicable to farmers organized as group or associations.

Distribution of Household Members based on Number of Associations Involved

The result in Table 4 shows the distribution of household members' based on the number of social associations involved. From the result, the majority of household heads were members of cooperative society followed by farming group.

Table 4: Distribution of household members based on number of associations involved

Associations	Household Heads		Spouse		Other Members		Total Frequency	Total Percentage
	Frequency	%	Frequency	%	Frequency	%		
Community Based Association	54	18.9	3	2.9	1	2.3	58	13.4
Gender Association	46	16.1	30	28.8	4	9.1	80	18.5
Age Group Association	7	2.5	5	4.8	15	34.1	27	6.2
Cooperative Society	78	27.4	35	33.7	5	11.4	118	27.3
Farming Group*	61	21.4	25	24.0	17	38,6	103	23.8
NGO	39	13.7	6	5.8	2	4.5	47	10.9
Total	285	100.0	104	100.0	44	100.0	433	100.0

Source: Field Survey (2022). Note: Household Heads belonged to more than one association

The household heads who were members of age-grade or cadre related association were few. Other members of the household recorded the highest percentage of 34.10% in age group based association. In all, majority of households were members of cooperative society, followed by farming group, community based association, gender based association and the NGOs. Babatunde *et al.* (2008) reported that farmers that belong to organizations have strong financial muscles to attract incentives from government to increase their income capacity. Farmers' groups tend to ensure that members achieve satisfaction at all times.

Cross Tabulation of Social Capital Dimensions against Sex of Household Heads

The result in Table 5 shows the average of six dimensions of social capital based on the sex of the household heads. The fining implies that, in terms of density of membership, the male respondents had higher values of social capital dimensions (64.56%), while the female respondents had only 35.44%. Social capital dimensions values were also higher in male respondents in terms of heterogeneity index (56.67%), meeting attendance index (73.22%), cash contribution (₦14,930) and decision making index (60%) than female respondents with heterogeneity index, meeting attendance index, cash contribution and decision making index of 53.33%, 61.27%, ₦13,496 and 53.33% respectively.

Table 5: Distribution of social capital dimensions according to sex of household heads

Average Social Capital Dimensions	Sex of Household Heads	
	Male	Female
Density of Membership in Association (%)	64.56	35.44
Heterogeneity Index of Members (%)	56.67	53.33
Meeting attendance Index of Members (%)	73.22	61.27
Cash Contribution to the Association (naira)	14,930	13,496
Labour Contribution to the Association (days)	114.37	127.27
Decision Making Index in the Association (%)	60.00	53.33

Source: Field Survey (2022).

Generally, it is seen that the dimensions of social capital of the male respondents have higher values except in labour contribution in which the female headed households have higher value of labour contributed indicated by 114.37 days for males and 127.27 for females. The higher social capital values for men may not be unconnected with the fact that in the study area, men are often involves cash crops farming in addition to other crops cultivated by both sexes. This necessitated their belonging to more associations in order to promote their businesses. The survey by NBS (2006) revealed that men dominated in decision making processes. The sex of the individual can influence the type and quality of work carried out by the individual as well as the type of crops cultivated. This may likely be due to the fact that men are capable of doing more tedious work which is usually associated with farming than females. Moreover, Akpan et al., (2023a) and Nkanta et al., (2022b) asserted that adult male farmers carry out agricultural activities that are labour demanding, while female farmers carry out less labour demanding activities. The higher social capital value of female headed households in labour contribution may be due to the fact that in almost all types of crop production except cash crops, women perform more production activities than men. This is supported by the findings of Udofia (2010), who asserted that the female gender provides 60.00% of labour while the male gender accounts for 40.00% requirement in home gardens. This result also conforms to earlier findings *by* Adebayo and Worth (2024), *who* reported that women especially from small and marginal farming families perform over 60.00% of non-farm activities in sub-Saharan Africa. Rural women tend to suffer far more than rural men. In addition and according to Adebayo and Worth (2024), women in Nigeria support the bulk of agricultural activities. Over 90 percent of economically active women engaged in one form of agricultural production or the other. The results also support the findings by Ironkwe and Asumugha (2007) which showed that the male farmers exhibits dominance in the performance of only two of cassava production activities viz; land clearing and mounding/ ridging while the female farmers were dominantly involved in several production activities viz; cutting of planting materials, planting, weeding, harvesting, haulage/ transportation, processing and marketing. Jirgi et al., (2022), asserted that women comprise a major driving force in the economic and social fabric of rural South Africa with major responsibilities in agricultural and non-agricultural business enterprises. Akankpo (2005) is also in line with these findings in terms of female gender dominance in labour. In their survey, they reported that the male gender exhibits dominance in the performance of only one out of ten production practices in maize. The female gender exhibits dominance in seven production practices, while two are usually performed by both sexes.

Cross Tabulation of Social Capital Dimensions against Age of Household Heads

The result in Table 6 shows the distribution of social capital dimensions according to age of household heads. The result reveals that those within the economically active age group had highest values of percentage of membership (58.25%), heterogeneity index (61.67%), meeting attendance index (67.48%), cash contribution (₦17, 101.50) and labour contribution (127.27 days). The higher values of social capital dimensions of respondents within the age bracket of 41 - 60 years implies that respondents in this age bracket are still very vibrant and active at work. Those within 21-40 years of age had density of membership, heterogeneity index, meeting attendance index, cash contribution and labour contribution of 30.88%, 51.67%, 47.40%, ₦11722.50 and 100.03 days respectively while those between 61 and 80 years of age had the afore-mentioned dimensions values of 10.88%, 55.00%, 36.61%, ₦12,400.00 and 73.47 days respectively. In support of the findings, Akankpo (2005) reported that farmers in association are more active in their active age brackets, hence, age affects the productivity of the farmers. Higher heterogeneity index implies diversity in terms of income group, beliefs, culture, religion, etc. The increase in decision making index as household heads grow older implies that they had enough experience to contribute positively to the associations in terms of decisions.

Table 6: Distribution of Social Capital Dimensions according to Age of Household Heads

Average Social Capital Dimensions	**Age of Household Heads (Years)**		
	21– 40	**41– 60**	**61– 80**
Density of Membership in Association (%)	30.88	58.25	10.88
Heterogeneity index of Members (%)	51.67	61.67	55.00
Meeting attendance index of Members (%)	47.40	67.48	36.61
Cash contribution to the Association (naira)	11,722.50	17,101.50	12,400.00
Labour contribution to the Association (days)	100.03	127.27	73.47
Decision making index in the Association (%)	33.33	65.00	75.00

Source: Field Survey (2022).

Cross tabulation of social capital dimensions according to years of formal education

The result in Table 7 presents the distribution of social capital dimensions according to years of formal education. From the findings, the heterogeneity index, cash contribution and decision making index seem to increase as the level of education of household heads increases. The implication of this result is that as the level of education is increased, household heads were able to acclimatize to different cultures, religion, beliefs, etc. as 65 percent of those between 13 and 18 years indicate high level of heterogeneity.

Also, this may result in their ability to earn money from paid employment. This is so because most of the educated headed households might have been engaged in non-farming activities. The significance of education was reported by Amaza (2000), who stressed that the level of education (years of schooling) helps farmers to use production information efficiently. As a more educated person acquires more information, he becomes a better producer. According to him, such farmer will tend to have relatively better output and income. As noted by IFPRI (2005), education encourages movement into more remunerative non-farm employment, helping to increase household incomes. In support of this, Ndiyo (2008) recommended that social policies should target the promotion of education and social capital.

Table 7: Distribution of Social Capital Dimensions according to Years of Formal Education

Average Social Capital Dimensions	Years of Education of Household Heads			
	No Formal Education	1– 6	7–12	13–18
Density of membership in Asso. (%)	24.56	14.39	39.30	21.75
Heterogeneity index of Members (%)	48.33	58.33	61.67	65.00
Meeting attendance index of Members	60.89	58.02	57.55	55.59
Cash contribution to Association (naira)	11,096.00	15,562.50	17,260.50	19,464.50
Labour contribution.to Asso. (days)	126.80	99.93	113.33	117.50
Decision making index in Asso. (%)	46.67	48.33	56.67	66.67

Source: Field Survey (2022).

The increase in decision making index with the level of education is in line with Yusuf (2008) who asserted that the ability to make informed decisions in local level institutions is directly related to the level of education. Nwaru (2005), Oyekale and Okunmadewa (2008) saw education as being of utmost importance in any attempt to enhance farmers' capabilities to understand and accept information in economic activities which will lead to increased agricultural productivity. With increase in agricultural production, poverty will therefore be

reduced. Meeting attendance index is highest in those without formal education. The reason might be because most of them did not have other paid employment and readily attended meetings thereby contributed more to labour during the associations work days

Cross Tabulation of Social Capital Dimensions according to Marital Status

Similarly results in Table 8 presents the assessment of marital status of farming household heads based on social capital dimensions. Household heads who were married had higher values of social capital in all its dimensions indicated by 78.95% for density of membership, 65.00% for heterogeneity index, 61.73% for meeting attendance index, ₦18,341.00 for cash contribution, 105.69 days for labour contribution and 71.67% for decision making index.

Table 8: Social capital dimensions and marital status of household heads

Social Capital Dimension	Marital Status of Household Heads				
	Single	Married	Divorced	Separated	Widowed
Density of membership (%)	4.26	78.95	4.91 ,	3.51	8.42
Heterogeneity index (%)	58.33	65.00	56.67	56.27	60.00
Meeting attendance index (%)	60.05	61.73	49.60	55.8	57.78
Cash contribution (naira)	12,161.50	18,341.00	11,169.50	12,065.50	13,607.50
Labour contribution (days)	98.17	105.69	40.03	51.97	37.33
Decision making index (%)	58.33	71.67	66.67	63.33	53.33

Source: Field Survey (2022).

This means in terms of percentage of membership, their spouses were also members of associations and there was the tendency for them to have more hands to contribute in farming operations. It could also be inferred that being a member of association was taken as a serious business in the area and for responsible people.

Cross tabulation of social capital dimensions based on household size

The results presented in Table 9 reveal the distribution of social capital dimensions according to household size of the respondents. The results show that household size of 1–5 persons contributed ₦19.172.75, while household size of 6 –10 persons contributed ₦l4, 811.00 and household size of 11– 15 persons contributed only ₦9,173.00. For labour contributions being highest for household heads with household size greater than ten, it could be asserted from the result that with large household size, there was the tendency for more labour.

Table 9: Distribution of social capital dimensions based on household size

Average Social Capital Dimensions	**Household Size**		
	1–5	**6–10**	**11–15**
Density of membership in Association (%)	25.26	66.67	8.07
Heterogeneity index of Members (%)	53.33	61.67	65.00
Meeting attendance index of Members (%)	64.08	60.12	51.48
Cash contribution to Association (Naira)	19,172.75	14.811.00	9,173.00
Labour contribution.to Association (Days)	96.20	133.07	137.33
Decision making index in Association (%)	76.67	71.67	66.67

Source: Field Survey (2022).

Density of membership was highest for household size of 6 –10 persons indicated by 66.67% while it was 25.26% and 8.07% for household size of 1–5 and 11–15 persons respectively. The higher the household size, the higher the heterogeneity index indicated by 53.33%, 61.67% and 65.00% for household size of 1– 5, 6 –10 and 11–15 respectively. In terms of meeting attendance index, cash contribution and decision making index, values of social capital dimensions tend to decrease with increase in household size, whereas labour contribution increase with increase in household size.

IV. Conclusion

Understanding the social structures and the different dimensions of social capital and their connection to certain attributes of farm households is crucial in the region. The expected outcomes of government, NGOs, and other stakeholders' intervention programs in the agricultural sector are influenced by the nature of relationships between social capital dimension and farm households' characteristics. By categorizing farming households into homogeneous groups based on social capital formation and dimensions, the inherent qualities necessary for the

sustainable implementation of farmer-oriented programs in Akwa Ibom State are revealed. The findings highlight the necessity for a comprehensive agricultural program design that takes into account the composite characteristics of farm households. While the obtained results are specific to the area, the cultural, religious, and social behaviours of the people are the primary factors determining the relationship between farm household characteristics and various dimensions of social capital. It is recommended that women and youth be fully mobilized through effective policies and programs to benefit from social capital in Akwa Ibom State. Additionally, cooperatives and farming groups emerge as the most prominent social organizations among farmers in the region, thus promoting these sources of social capital among farm households and communities in the state is essential.

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