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EFFECTS OF ACHA FARMING CHALLENGES ON FARMERS' SOCIO-ECONOMIC WELLBEING IN PLATEAU STATE, NIGERIA

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ABSTRACT

Acha is widely planted in Plateau State, Nigeria where it provides food, income and employment for many farmers. However, there are challenges associated with its cultivation which have implications on their socio-economic wellbeing. This study examined the effects that acha farming challenges have on the socio-economic wellbeing of acha farmers in Plateau State. The study population comprised all the registered acha farmers in two of the three agricultural zones in the state which are Plateau North and Plateau Central. Of the estimated 3,143 registered acha farmers in the study area according to Plateau Agricultural Development Programme (PADP), 400 acha farmers were randomly selected. The study adopted semi-structured questionnaire and Focus Group Discussion (FGD). Data were analysed with frequencies and percentages while the assumption was analyzed with the use of Pearson Product Moment Correlation (PPMC). Findings showed that the main pre-harvest challenges facing the farmers were lack of knowledge in planting space (88.4%), fertilization (81.8%), insufficient labour force and discouragement due to poor yield (66.8%). Social and economic wellbeing of the farmers mainly affected were social interaction (76.5%), participation in social gathering, ability to get married and income (73.6%). PPMC shows that pre-harvest challenges had inverse significant relationship with Social (r = -0.788) and economic (r = -0.023) wellbeing of the farmers. The study concluded that pre-harvest challenges of the farmers had negative effect on the social and economic wellbeing of the farmers. Thus, extension intervention to tackle the pre-harvest challenges of the farmers is needed in the study area.

Keywords: Labour force, poor yield, social interaction, social gathering, income

INTRODUCTION

Acha is widely grown in Nigeria, particularly in Plateau State, it provides food, income and employment for many farmers and their families. However, the sector is coping with a number of challenges that have an impact on its development, expansion with socioe-economic implications for the farmers and by association the state (Adebayo et al., 2019). Despite the crop's ancient heritage and widespread importance nutritionally and economically, analysis about its farming challenges in relation to the effects on the socio-economic wellbeing of its cultivators remain very scanty (Adejumo et al., 2019). Because of this, the farmers deserve to be supported by government in every necessary way to bosst acha production, contrary to this, acha farmers face obstacles along the value chain that have a significant impact on crop production, harvesting, transportion, storage, and marketing. Some of these difficulties include lack of mechanization, inputs, agro-chemicals among others. Lack of aid from any quarter to enable the farmers improve on their production resulted to low production, yield and sales since acha is the major crop produced in the area, the farmers socio-economic being is negatively affected as low income is generated to meet their life needs (Adeniji & Ogunjimi, 2017).

The disinterest in Acha farming, which might not be unconnected to its cultivation challenges, is gradually becoming a worrisome trend in Plateau State with farmers opting for the farming of other related crops such as wheat, sorghum and maize which are considered to be relatively less tedious to farm. Some studies have been carried out in recent time on Acha farming in Nigeria demonstrating the significance of the crop and the need to accord priority to its cultivation. For instance, Ndububa, Okonkwo, and Ndububa (2016) carried out research to determine whether fonio husk ash might be used as a pozzolana in concrete. Ayo & Ayo (2018) conducted a study on the sensory, physical, and chemical characteristics of biscuits made with an acha-oringa seed flour blend.

Despite these scientific enquiries bordering on Acha, little has been done on the empirical analysis of the consequences of Acha farming challenges which continue to pose considerable problem for both the agricultural sector and farmers' socio-economic wellbeing in Plateau State. Variability in yields and incomes are possible effects of farming challenges which is a threat to farmers' financial capacity, potentially leading to poverty, particularly in cases where farmers heavily depend on their harvest for sustenance (Adesina et al., 2021). Understanding the challenges faced by acha farmers and their impact on production is crucial as it will provide insights into the potential effects on local food and wellbeing. Acha's significance as sustenance and income source requires grasping farmers' challenges and production implications. Analyzing acha farmers' socio-economic wellbeing is essential for understanding livelihood dependence and overall community quality of life. The impact of acha farming on community development, education, and essential services is intertwined with its success or hurdles (Akubo et al., 2020).

There is a scarcity of in-depth studies that specifically address the challenges faced by acha farmers in Plateau State and how these challenges intersect with the socio-economic wellbeing of the farmers. Prior research obviously overlooked acha intricacies, focusing more or less on other technical aspects. Research inadequacies exist in socio-economic dimensions, necessitating comprehensive examination of acha's impact on farmers' lives and communities. An imperative arises to bridge the knowledge gap by carrying out this study and consequently expanding understanding in the field.

The aim of this study is to analyze the acha farming challenges and socio-economic wellbeing of the farmers in Plateau State. The study further discussed the implications on the socio-economic wellbeing of the acha farmers due to the challenges they encounter along the value chain. Filling this knowledge gap is essential for a more holistic understanding of the challenges and opportunities related to acha farming in Plateau State and for providing a direction for the stimulation of effective strategies by policy makers and relevant agricultural bodies.

MATERIALS AND METHOD

A cross-sectional design was chosen for this study based on its effectiveness in collecting data on people's views, feelings, attitudes, and perceptions regarding various topics. The study area Plateau State is located in the North Central region of Nigeria. Plateau State is a state located between latitude 08.24'N, latitude 008.32' and longitude 010.38' East, with an area of 26,026 km^2.

The population of this study comprised all the registered acha farmers in two of the three agricultural zones in Plateau State. These two agricultural zones are Plateau North and Plateau Central with a total population of 4,197,315 (NPC Projection, 2021) of which an estimated 3,143 according to Plateau Agricultural Development Programme (PADP) are registered acha farmers. Of the population, only 400 acha farmers were randomly selected using Taro Yamane's formula.

The study adopted semi-structured questionnaire and Focus Group Discussion (FGD). The essence of the semi-structured questionnaire stems from the fact that the educational level of the majority of the respondents is low. Besides, it restricts respondents to limited options provided by the researcher for easy analysis, while Focus Group Discussion (FGD) on the other hand is considered based on its probing ability of gray areas that the questionnaire instrument of data collection might not be able to address.

Data were analyzed qualitatively and quantitatively. Specifically, objectives of the study were analyzed with simple frequencies and percentages while the assumption was analyzed with the use of Pearson Product Moment Correlation (PPMC). With regards to the qualitative analytical method, tape-recorded data gathered from the Focus Group Discussions were transcribed and important expressions and quotation by the respondents were reported verbatim to enrich the findings using thematic content.

RESULTS AND DISCUSSION

Table 1: Pre-Harvest Factors Affecting Acha Farming

Items	Frequency	Percentage (%=100)
Pest and disease	104	27.37
Lack of seed quality	108	28.42
Weed competition	28	7.37
Lack of knowledge in planting space	336	88.42
Poor soil quality	134	35.26
Water availability	144	36.84
Fertilization	311	81.84
Insufficient labour force	254	66.84
Invasive species	181	47.63
Poor weather condition	216	56.84
Planting time	113	29.74
Poor land preparation practices	160	42.11
Poor crop rotation	227	59.74
Discouragement due to poor yield	254	66.84

Source: Survey Field, 2022

Results in Table 1 showed the pre-harvest factors affecting acha farming in Plateau State. Findings showed that most 336 (88.42%) of the respondent indicated that lack of knowledge in planting space affect acha farming. A significant majority of the respondents expressed that lack of knowledge has a notable effect on their acha cultivation endeavours. In this context, planting space refers to the arrangement and density of acha plants within a given area which is a critical determinant of crop growth, resource utilization, and ultimately, yield. The respondents opined that a lack of knowledge in this aspect could impede healthy plant development. Planting without space can result in reduced airflow that is crucial for optimal growth and yield. This finding suggested that many farmers in Plateau State have limited access to formal agricultural education and training. This resulted in a lack of awareness about modern farming techniques, including proper plant spacing.

The Table further indicated that majority of the respondents 311 (81.84%) agreed that fertilization is one of the key factors preventing the production of acha in the study area. Proper fertilization is essential for providing necessary nutrients to acha plants. Where there is inadequate or imbalanced fertilization, it leads to nutrient deficiencies and reduced yields. One of the female discussants made this expression:

> "Fertilizer prices vary widely, depending on the location and type of fertilizer. Our soil here is not always fertile, so we often utilize animal manure, such as poultry, pig, or cattle manure, to prepare the soil during the first rain. Aside from this manure, if you do not apply sufficient fertilizer, your acha crop will not yield well. In terms of last year, NPK fertilizers and Muriate of Potash (MOP) at the Riyom market used to cost around ₦31,000 per bag. People encounter difficulty purchasing up to five bags; at times, they prefer to buy just two bags due to budget constraints. However, managing with only two bags will result in poor farm performance. We typically apply fertilizer twice before the crops reach maturity" (FGD, 2022).

This implies that in Plateau State, Nigeria, most soils are not fertile for farming except fertilizer is applied. It was confirmed that the hilly terrain of Plateau State makes soils susceptible to erosion and degradation. Erosion usually removes the fertile topsoil layer, which contains nutrients necessary for crop growth. Fertilizers and organic matter from manures help restore soil structure, nutrients, and organic content. The findings revealed that certain crops, including rice, finger millet, acha, have specific nutrient requirements that exceed what is naturally present in the soil. In such cases, fertilizers and manures are essential to meet the nutrient demands of the crop and achieve higher yields. Fertilizer is applied twice before a crop is due for harvest. However, when the farmers do not have the financial strength to purchase fertilizer, it affects their plans of cultivating the crops. The survey conducted by the Government of Plateau State (Lalong, 2019) revealed that cereal crops were the most widely cultivated crop on the plateau, accounting for 34% of the total crop area. Root and tuber crops followed with 32% and 21%, respectively, followed by horticultural and forestry with 13% and 13%, respectively. Cereal crops cultivated on the plateau include maize, Sorghum, Millet, Acha and Rice. The LGA areas that grew the highest quantities of these crops (1st place) were Bassa (B/Ladi), Mikang (2nd place), Shendam (3rd place), Pankshin (4th place), Riyom (5th place), Wase (6th place), Jos East (7th place), Kanke (8th place), Kanam (9th place), Langtang (10th place) and Mangu (11th place). The percentage difference between the optimum yield and the yield achieved under farmers' conditions indicates that there is considerable potential for improvement in all crops grown on the plateau, particularly the main crops such as Acha, Maize, Rice, Irish potatoes and Yams. Unfortunately, the optimum yield was not achieved due to a lack of adequate land. Although, asserted that, fertilizers may also be used to increase the fonio yield.

The findings also revealed that insufficient labour force also formed one of the factors affecting acha farming during the pre-harvest regime with 254 (66.84%) respondents. From the responses, it can be deduced that acha farming is a crucial agricultural activity in Plateau State, contributing to both food security and economic growth. However, it's worth noting that agriculture, including acha farming, often relies on manual labour for activities such as tilling, planting, weeding, harvesting, and processing. The discussants mentioned few of the local government areas that usually have attacks from herdsmen that youths formed the labour force had departed to cities. Such areas included Bassa, B/Ladi, Bokkos, Riyom, and part of Mangu. In these areas, there are challenges with labour availability due to migration of youths to urban areas, changes in livelihood patterns and shifts in local economic activities respectively. A participant reiterated the challenge affecting acha farming during pre-harvest thus:

> "As you can see, most of our children who are young able youths who usually do the tilling of the soil have decided to stop. Some of them have even gone to local government or cities to learn hand work and some are back to school. The people that are around, charge very high that we cannot pay well. Sometimes you will pay people to cut the grasses and wait for long time looking for people to farm it but they do not come on time, the grasses will grow back again. Gaskiya, farming here is very hard for us now. Hiring tractor ma is very expensive. I remember two of us myself and my friend join ₦35,000 to pay tractor two years ago. The tractors too are not even good. If we farm ourselves, we don't finish quick and some of us farm in large quantity not just for our family food but to sell and make money to help our children and ourselves" (FGD, 2022).

From the findings, the study showed that a significant respondents involved in acha farming across Plateau State. Insufficient labour force has impacted on various pre-harvest activities within the acha farming process. These activities include land preparation especially in clearing the grasses and tilling. The farmers complained that the shortage of labour result in delayed completion of these tasks. Furthermore, when the farmers do not have labour force on time, it impedes the timely execution of crucial activities, which might lead to post-harvest losses due to factors such as unfavorable weather conditions. The high cost of labour by few labourers have decreased in acha production. By implication, it has reduced agricultural productivity affecting the supply to local markets and other value chains. Mechanized farming practices are supposed to help mitigate the labour shortage by reducing the manual labour. However, the farmers lamented that they cannot afford to pay or hire a tractor from the State or at the local government to their village for large cultivation.

The findings of this study is similar to that of Diop et al. (2018) who studied fonio agricultural systems in Senegal using an ethnobotanical method. The authors' findings showed a decline in fonio cultivation, which was attributed primarily to lack of seeds (36%), laborious post-harvest processing (36%), the lack of interest among young people (21%) in favour of more productive species like pearl millet or sorghum. Similarly the findings of Akobundu (1987) supports the results of this study. Akobundu claimed that uncontrolled growth of Striga, a parasitic weed, on grain farms can reduce yields by 100%. Striga is a weed that competes with plants for resources such as water, nutrients, space, and light. It is a major problem in much of Africa and parts of Asia and is considered one of the most important weeds in cereal crops in Nigeria. In addition, Striga increases production costs in most grain fields, and crop yields are often significantly reduced as weed control by Striga is delayed due to labor competition during the early stages of crop growth.

Effects of Acha Farming Challenges on Farmers' Social- Economic Wellbeing

Table 2: Effects of acha farming challenges on farmers' social- economic wellbeing

Socio-economic Wellbeing	No of Frequency	Percentage (%=100)
Social Wellbeing		
Limits my social status	211	55.53
Limits my interaction	291	76.58
Limits my self-esteem	188	49.47
Limits my confidence	192	50.53
Limits my contributions in household matters	238	62.63
Limits my participation in group association	244	64.21
Limits my social gathering	280	73.68

Hinders community cohesion	197	51.84
Limits my access to healthcare services	264	69.47
Hinders ability to get married.	280	73.68
Reduces quality of life	200	52.63
Economic Wellbeing		
Limits farm income	280	73.68
Limits my financial independent	189	49.74
Limits access to quality education	245	64.47
Hinders my zeal in other skills	198	52.11
Lacks access to credit	268	70.53
Reduces food production	220	57.89

Table 2 revealed that a significant majority of the farmers, 291 (76.58) mentioned that their ability to interact with others is limited due to acha farming challenges. This indicated that these challenges are isolating them from social activities or networks. The responses showed that respondents in Plateau State indicated that the challenges associated with acha farming are isolating farmers from social activities or networks. For instance, one of the participants in the Focus Group Discussion said that, in Plateau State, where acha farming is their common occupation, community gatherings and social interactions play a crucial role in maintaining relationships, sharing knowledge, and building a sense of belonging. However, with this challenge, it disrupts their interactions. On the other hand, another discussant who is a seasoned acha farmer in Kuru of Jos South maintained that, due to recurring droughts and unpredictable weather patterns, her acha yields consistently fell short of her family's needs. As a result, she had to spend more time tending to her crops, often missing important community events and gatherings. The effect of acha farming challenges not only limited her interaction with fellow community members but also meant that she missed out on valuable information that her fellow women exchange. The discussant lamented that, usually neighbours and friends used to exchange farming tips and offer assistance during tiling, planting and harvesting seasons but the acha farming challenge has gradually drifted her apart. Consequently, she feels lonely and depressed. No wonder, a discussant in Vwang village asserted thus:

> "You see, interaction is very very good to everybody. Myself since I use to join people to move about, now that I don't use to move with them because in Vwang near Gyel village, some Fulani have many cows and they pursue many people to stop farming there. Thank God that is the situation is better than three years ago. Before my friend Gyang Bulus, during farming time he can gather people from his village to come and farm for me very well. I use to pay balance until I get all the money then we meet in the market I give him. But since people run away and leave here, him too is not there again. Now that I don't see him, I don't get labourers to farm for me like before. Many people here have challenge of workers. It is a big problem but my friend use to bring his people from his village and sleep in my house like two days to finish my acha farm" (FGD, 2022).

From the above responses, it is cleared that the effects of acha farming challenge limited the interaction of acha farmers in Plateau State. The responses showed that in the study area, those who are unable to interact well with their co-farmers miss out valuable knowledge and information about farming techniques, pest control, crop varieties, and market trends. This is particularly to those who live in interior villages and practice their farming there. In the same vein, poor interaction in the study area has affected some farmers in having good labourers. This factors collectively affected acha's agricultural productivity, income, and overall socio-economic wellbeing in the study area. By implication, challenges facing acha farmers had negatively affected their network of relationships among people. Invariably, the institutions, relationship and norms that shape the quality and quantity of acha farmer's interaction in Plateau State is negatively affected and therefore, it also affects the social cohesion that societies need in order to function effectively.

Information on Table 2 also revealed that a significant portion of 238 (62.63%) respondents find their ability to contribute to household matters limited by acha farming challenges, potentially affected their roles and responsibilities within their families. Acha farmers in the study area feared that the challenges they face in acha farming have affected their ability to contribute to household matters due to the direct impact these challenges have on their income, resources, and well-being. No wonder, a discussant expressed thus:

> "Myself and my wife in this village use to farm acha in large quantity. Since we got married, we have been doing acha work very well. Now that we have six children, the three grown ones assist us as the work is very stressful. We were balanced and paying our children school fees and settling daily problems from the money we get from the produce. However, for two years, we faced too much rain here and it has disrupted our balance. As a result, we remove our two children from a secondary school that we pay ₦34,000 each making ₦68,000. The uncertainty we are facing makes us find it difficult to assist with household chores and childcare as expected" (FGD, 2022).

Regarding inability to participate in group association, 244(64.21%) respondents felt that it affected their involvement in community activities. This inability to participate in group associations has a profound effect on acha farmers' socio-economic well-being. Just like other States, in Plateau State also, community associations are vital for sharing knowledge, pooling resources, and providing social and emotional support for their development. The focus group with the participants showed that some of the acha farmer who were active member of a local farmers' association built strong relationships. The association made them popular because they participated in projects brought by the community. However, the findings on the other hand showed that some acha farmers are faced with series of challenges, including a severe pest infestation that resulted in significant crop losses. The financial strain caused by these challenges made it increasingly difficult for them to actively participate in the farmers' association. They no longer attend meetings

regularly, and found it challenging to contribute financially to the collective activities such as a street repair, community security. The participants maintained that these projects if supported by farmers in the communities will provide some form of benefits in cash, in kind, in comfort and social benefits as well.

The findings in Table 2 further showed that a substantial percentage of respondents, 280 (73.68%) are unable to participate in social gatherings. Social gatherings are events or occasions where people come together to interact, socialize, and engage in various activities. These gatherings serve as opportunities for individuals to connect with friends, family, colleagues, or acquaintances. Social gatherings can take many forms, and the choice of which to attend often depends on personal interests, preferences, and social circles. There are birthday parties, anniversary parties, women association, age group, Christmas and New Year's Eve), weddings, cultural festivals or events and religious gatherings. These are just a few examples of social gatherings in communities. Farming is often a financially demanding occupation with unpredictable income streams. Acha farmers in the study area struggle with limited disposable income due to expenses related to farming operations, such as purchasing seeds, fertilizers, equipment maintenance and the likes. This left them with little extra money for non-essential expenses like attending social gatherings. Farming income is often tied to the agricultural calendar, with most income generated during harvest seasons. During lean periods, such as the off-season or when crops fail due to weather or pest-related issues, acha farmers experience financial instability. This inability to engage in social activities has profound effects on farmers' socio-economic well-being.

The finding that 264 (69.47%) of respondents in Plateau State faced limitations in accessing healthcare services is indicative of a significant challenge in the study area. This issue has profound negative effect on the socio-economic well-being of acha farmers in the study area. From the interactions with the discussants, one of the primary reasons for their limited access to healthcare services in rural areas of Plateau State is the inadequate healthcare infrastructure.

Table 2 further showed that 280(73.68%) of the respondents noted that acha farming challenges hindered their ability to get married. This issue has an effect on the lives of acha farmers, impacting their social and economic prospects. A female participant made this statement:

> "Acha is very important for us. We farm plenty then pay wife dowry and cook acha on wedding that day to serve people. Like for wedding celebration, we can cook acha tuwo, gwote acha, acha puddy and kunu acha. We use to call it mpafu is like (cuscus). If you cook those things in your house for occasion, they will say you are a big person. Not only wedding but we use to harvest it September or October. So on Independence day, we use to cook and celebrate it with important soup called Mbwarak soup. Some people use to marry on that day because of that tuwo acha and mbwarak soup".

The above finding implied that, in the study area, acha farming holds immense importance in marriage and independent ceremonies. Acha farming enables families to accumulate wealth through abundant harvests, facilitating the payment of dowry during marriage ceremonies. Acha dishes prepared on wedding days symbolize abundance and hospitality, enhancing the celebration's significance. Acha-based dishes hold cultural and social importance. Preparing these dishes reflects tradition and showcases the host's status and generosity during special occasions like marriages and weddings. Harvested acha is a cornerstone of Independence Day celebrations and promotes unity within the community. The decline in acha farming as a result of its effect can weaken community bonds and shared traditions, leading to a loss of cultural identity.

Recounting the effect of acha farming challenges on socio-economic wellbeing of the farmers, 280 (73.68%) respondents maintained their farm income is limited by acha farming challenges, which has a direct impact on their financial stability. This section delved into a detailed discussion of these findings with a focus group discussion and provided practical illustration and effect acha farmers face in the various communities surveyed. The socio-economic consequences faced by acha farmers. Interestingly, a discussant in Jos South commented thus:

> "Like now, the acha without pounding is 250 per module and if they pound it, one module is 350 in the village and in the town is 450 per module. Acha full bag use to carry 100 or 120 measures and the money for one bag is 35,000 or 54,000 in Monday Market in our place but if new one come out, the price use to go down very well. In September and October new acha use to come out because of people are harvesting. But it can still give more profit like one bag in the village maybe like 50,000 for new acha. But if you have bad acha, to full a bag is not easy, you make little money after blowing it" (FGD, 2022).

From the findings presented above, the challenge of acha farming experienced by the farmers can lead to a significant reduction in yield. The farmers will be face with not only lower income but also the additional expenses incurred in trying to get better field for next cultivation. This situation can directly affect their financial stability as they have to navigate a lower income and increased costs, potentially leading to debt and economic hardship. In the nutshell, when farmers face continuous challenges in acha farming, it can lead to a cycle of poverty. Limited income and financial instability can make it difficult for farmers to invest in improving their farming practices or diversifying their income sources. This study was supported by Onuwa, Binuyo, Alamanjo, Dalla, Holi and Yitnoe (2022) who revealed that the estimated gross margin was N 26,727.5/ha; operating ratio (0.33), while the benefit-cost ratio was ₦2.05, implying that fonio production was relatively profitable in the study area.

Findings further indicated that 245(64.47%) respondents faced barriers in accessing quality education for their children. Access to quality education is a fundamental component of socio-economic development in any society. A majority of respondents in the study area reported facing barriers to providing quality education for their children, it signals a significant issue that needs attention. It is disheartening to harvest acha produce and see poor yield. One of the discussants lamented that, this due to acha farming challenges, the family's income is often insufficient to cover the costs associated with quality education for their children. The participant included the costs as school fees, uniforms, textbooks, and transportation for their kids. She frowned at her children attending lower-quality school but had no option due to the effect caused by acha farming challenge in her area. On the other hand, it was a discussant concluded that, in a family where children are unable to access quality education due to their parents' acha farming challenges, the children will grow up with limited aspirations beyond farming. This perpetuates the cycle of agricultural dependence, as they will not acquire the skills and knowledge needed to explore non-agricultural livelihoods. Consequently, they are more likely to continue the same acha farming practices, even in the face of

challenges, contributing to the persistence of socio-economic issues within their community. Conversely, a successful acha farmer has this to say:

> "We are not lazy here o. Life is very hard now school too increase school fees and everything is very very cost we know. In Mangun Halle here, we have been farming acha together with Irish potatoes, corn, millet, sweet-potatoes, maize and soya-beans to support our children in school. Like myself, I finish only secondary school then I marry but I have my three children in secondary schools in Angudil in Jos town and my first daughter is in School of Nursing Vom. If you sell and plan well, you can pay all school fees and rest. It will remain to buy other food that you don't have for children and pocket money. Allah, my wife is also supporting me with her adashe if she get to pay school fess sometimes" (FGD, 2022).

Assumption of the Study

H0: There is no significant relationship between challenges faced by acha farmers and their socio-economic wellbeing in Plateau State

Table 3: Challenges faced by acha farmer are correlated with social and economic wellbeing

Challenges affecting acha farmers	Pearson Correlation	Sig. (2-tailed)
Social wellbeing	- 0.788**	0.000
Economic wellbeing	- 0.023*	0.025

*, ** Indicates correlation is significant at the 0.05 and 0.01 level (2-tailed) respectively

Assumption 2 states that there is a correlation between the challenges faced by acha farmers and their socio-economic wellbeing in the study area. Table 3 displays the correlation coefficients between these two variables, challenges and socio-economic wellbeing, along with their respective significance levels. The Pearson Correlation coefficient between challenges and economic well-being is 0.032. This is a positive correlation, indicating that there is a very weak positive relationship between the challenges faced by acha farmers and their socio-economic well-being. The significance level (Sig. or p-value) is 0.025. Typically, a p-value below 0.05 is considered statistically significant. In this case, the p-value is slightly lower than 0.05 (specifically, 0.025). This suggests that the observed correlation between challenges and socio-economic well-being is statistically significant at the 0.05 significance level. Based on this data, there is a very weak but statistically significant positive correlation between the challenges faced by acha farmers and their socio-economic well-being in Plateau State. This implies that there is some association between the challenges they encounter in acha farming and their socio-economic status as the challenges faced by acha farmers' increase, there is a slight tendency for their socio-economic wellbeing to also increase.

The findings from the study provided valuable context to understand the practical implications of this correlation. The challenges faced by acha farmers have profound socio-economic implications. It was gathered that many respondents felt that these challenges negatively impacted their social standing within the community and farmers experienced restrictions in their interactions due to the constraints imposed by acha farming, including physical mobility. Moreover, the challenges had adverse effects on self-esteem and confidence, leading to reduced decision-making ability. Furthermore, the limitations extended to participation in group projects and social gatherings indicated a broad correlation between the challenges and socio-economic wellbeing of the acha farmers.

CONCLUSION

This study was conducted to investigate acha farming challenges and the socio-economic wellbeing of the farmers in Plateau State, Nigeria. The findings revealed that acha farmers faced a range of challenges along the value chain. These challenges are influenced by socio-demographic factors and farm attributes. Notably, a majority of respondents are female, indicating gender-specific dynamics in household income generation. The mix of experienced and new practitioners suggested diverse obstacles such as small-scale farming is prevalent, potentially impacting competitiveness and income distribution varies, with some facing financial constraints in the study area. Limited access to extension services also hindered best practices adoption and family involvement underscores the need for capacity-building. Membership in farmers' groups presented an opportunity for collective action and resource-sharing. Based on this conclusion, it is recommended that government and other organizations should encourage acha farmers to diversify their crop portfolio by cultivating complementary crops alongside acha. This approach will not only help alleviate the challenges faced but also provide additional income streams. Also, agricultural agencies and local cooperatives should provide training and support for integrated farming practices. Further, addressing constraints related to inadequate equipment, storage facilities, and access to credit is paramount. Initiatives that provide affordable access to modern farming tools, storage facilities, and credit facilities can significantly enhance the productivity and resilience of acha farmers. Government agencies, agricultural cooperatives, and NGOs should play a pivotal role in facilitating these resources.

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