
IMPACT OF CO-OPERATIVE MEMBERSHIP ON THE SOCIOECONOMIC WELFARE OF CASSAVA PRODUCERS IN SOUTH EAST, NIGERIA

Itodo, Emeka Paul^{1,*}; Onyeze, Clementina Ngozi² & Okonkwo, Paul Chuks³
^{1,2,3}Department of Co-operative Economics and Management, South East University
of Science and Technology, South East, Nigeria

*Corresponding email address: itodoemeka21@gmail.com

Abstract

This study examined the impact of co-operative membership on the socioeconomic welfare of cassava producers in South East, Nigeria. A descriptive survey research design was employed, and data were collected from 324 randomly selected members of registered co-operative societies. A structured questionnaire was validated for content clarity, and its reliability was confirmed using Cronbach's Alpha ($\alpha = .82$), indicating high internal consistency. Data were analyzed using descriptive statistics and Chi-square (χ^2) tests at the 0.05 significance level. Findings revealed that co-operative participation significantly enhanced cassava producers' investment potential, pricing advantage, and market adaptability ($\chi^2 = 70.67, p < .05$). However, challenges such as limited capital, poor access to credit, and infrastructural deficits persisted ($\chi^2 = 38.89, p < .05$). The study concludes that co-operative membership positively influences the income and productivity of cassava farmers. Strengthened institutional support, accessible financing, and improved training programs are recommended to optimize co-operatives' developmental impact in the region. This research advances knowledge on co-operative participation impacts on cassava farmers' livelihoods and empowerment, while exposing structural limits influencing rural economic transformation in Nigeria.

Keywords: Co-operative membership, Cassava Producers, Rural Empowerment, Agricultural Productivity, Institutional Support.

AJCDT, Vol. 9 No. 1 (December, 2025), pp. 228 – 236, © 2025 Authors

INTRODUCTION

Cassava (*Manihot esculenta* Crantz) is a perennial shrub propagated vegetatively and widely grown across the lowland tropics for its starchy, enlarged roots. In 2018, global cassava production reached approximately 278 million metric tons, with Africa contributing about 61% of this total (FAO STAT, 2019). Nigeria alone accounted for roughly 42.5 million metric tons, representing 18% of worldwide output, and by 2018, its share had increased to 21.5% of global production. Projections indicate that by 2025,

Sub-Saharan Africa is expected to produce around 62% of the world's cassava (FAO STAT, 2019). In Africa, most cassava (88%) is consumed directly as food, with over half processed into various products (Oyewole & Eforuoku, 2019). Other uses, including animal feed and industrial purposes such as starch and ethanol, remain limited. In some regions, however, cassava is evolving from a subsistence staple into a commercially valuable and industrial crop (Reincke, Vilvert, Fasse, Graef, Sieber & Lana, 2018). Nigeria leads the globe in cassava production,

producing 57.64 million metric tons in 2015 alone, accounting for 37.3% of Africa's total and 20.8% of the global output. Despite this high volume, yields remain low, with a national average of 13.63 metric tons per hectare, well below the potential yield of 40 metric tons per hectare (Nnadozie, Ume, Isiocha & Njoku, 2015). Cassava farming in Nigeria is mainly carried out by smallholders using simple tools, with farm sizes averaging less than two hectares. Farmers rely on communal, inherited, or rented land, and limited access to capital and rural credit further constrains production (Oguntuase, Adebawale & Sanni, 2015). Traditional processing methods remain labor-intensive, though the adoption of improved technologies has started to reduce labor demands and processing time, encouraging higher output. Industrial use of cassava products, however, still constitutes less than 5% of production (Shittu, Alimi, Wahab, Sanni & Abass, 2016). Co-operative societies have emerged as key institutional mechanisms to address these challenges. Membership provides farmers with improved inputs, extension services, technical training, market information, and opportunities for collective bargaining, which enhance prices and reduce exploitation (Ojiagu & Onoh, 2017). These benefits improve production efficiency, buffer against market shocks, and strengthen household welfare, positioning co-operatives as important drivers of rural economic empowerment and development. Yet, significant obstacles remain. Farmers frequently contend with limited mechanization, poor road networks, insufficient storage and processing facilities, and occasional managerial inefficiencies within co-operatives, limiting their potential impact (Abdul-Rahaman & Abdulai, 2018). Broader structural issues such as land tenure

complications, climate variability, and inconsistent policies further undermine cassava farming's profitability and sustainability. As a result, despite the advantages offered by co-operatives, many farmers continue to struggle with low productivity and modest economic gains. In this context, the present study seeks to explore the benefits that cassava producers in South East gain through co-operative membership, as well as the persistent challenges they face. The study aims to provide evidence-based insights for policymakers, development practitioners, and other stakeholders to enhance co-operative effectiveness, strengthen farmers' livelihoods, and support sustainable growth in the cassava sector. The International Co-operative Alliance (1995) define a co-operative as "an autonomous association of persons unified voluntarily to meet their common economic, social and cultural needs and aspirations, through jointly owned and democratically controlled enterprises. Co-operative enterprises are member-owned organizations where benefits and responsibilities are shared. They are based on democratic principles, with each member having equal voting power regardless of investment (Novkovic & Miner, 2021). The co-operative model supports sustainable development by prioritizing long-term community and member benefits over short-term profits, thus fostering local job creation and economic resilience (Cheney *et al.*, 2019). Co-operatives emphasize ethical practices, social responsibility, and environmental care, contributing positively to society and the environment (Carini & Carpita, 2020). Ultimately, co-operatives represent a collaborative and fair business approach that values collective well-being and sustainable growth. Co-operative membership involves individuals voluntarily

uniting to pool resources and achieve shared economic and social goals. In agriculture, joining a co-operative can enhance farmers' access to markets, credit, and vital farm inputs, while boosting collective bargaining power and providing resilience against financial uncertainties. The advantages of co-operative membership are often described as the "co-operative effect," a term Chukwu (1990) used to capture the comparative gains individuals achieve by working together rather than alone. This effect extends beyond immediate benefits, reflecting measurable improvements in livelihoods before and after joining a co-operative. One critical aspect is the potential for investment: smallholder farmers frequently lack the scale and capital to acquire modern equipment, resulting in high costs and inefficiencies. Co-operatives allow members to pool resources, making such investments feasible. Savings and credit schemes within co-operatives also encourage thrift and provide affordable loans, supporting individual investment initiatives. Marketing co-operatives strengthen bargaining power by aggregating produce, reducing reliance on intermediaries, and securing better prices, while supply co-operatives lower costs through bulk procurement. Ojiagu and Onoh (2017) reported that membership in southeastern Nigerian co-operatives improved farmers' earnings by enhancing market access and negotiation capacity. Beyond economic gains, co-operatives increase visibility in formal financial and institutional systems, enabling previously excluded farmers to access credit and extension services. Additionally, co-operatives foster collective adaptability, as members share market intelligence, hire skilled personnel, and make joint investments, allowing for effective responses to changing market conditions. They also encourage

specialization, enabling individuals to concentrate on specific roles while leveraging group resources for complementary tasks, thereby enhancing overall efficiency and productivity. Despite the benefits of co-operative membership, cassava producers in South East and across Nigeria continue to face significant hurdles. Limited financial resources prevent many co-operatives from hiring skilled personnel, maintaining proper records, or adopting modern technologies. Access to credit is also constrained, as rural banks are hesitant to lend, and internal funds are often insufficient for larger operations. Additional challenges include scarcity of improved, disease-resistant cassava varieties, high labour and input costs, and restrictive land tenure arrangements that limit farm expansion. Post-harvest losses remain common due to inadequate storage, while weak market information leaves farmers vulnerable to exploitation and fluctuating prices. Pest and disease outbreaks further reduce yields and quality. Institutional support is inconsistent; government programs often fail to strengthen co-operatives effectively, while infrastructural deficits such as poor roads, unreliable electricity, and limited storage often hinder production, transportation, and market access. Together, these factors constrain the full potential of co-operatives, preventing smallholder cassava farmers from achieving sustainable growth.

Theoretical Framework: This study draws on Mancur Olson's Collective Action Theory (1965), which highlights the difficulties groups face in organizing to provide public goods. Olson argued that individuals often prefer to "free-ride" on the efforts of others rather than contribute, especially when group size makes coordination and monitoring difficult. The survival of any organization, therefore, depends on its ability to align and

advance the shared interests of its members; without this, collective efforts collapse or fail to generate meaningful outcomes. At the core of the theory is the collective action problem, where individuals recognize that they can benefit materially from withholding contributions, but if all adopt this strategy, the group fails and everyone is worse off. This tension creates a paradox: rational choices at the individual level can produce irrational outcomes for the group as a whole. Olson framed this as a social dilemma, in which private incentives undermine public goods provision. Two dynamics often discourage participation. First is the free-rider temptation, where individuals prefer to let others bear the costs of collective action. Second is the fear of inefficacy, where individuals doubt that their contributions will significantly impact the outcome. Classic examples include social movements, strikes, and demonstrations, where both motives for defection are present. The theory, therefore, provides a lens to understand why collective initiatives such as co-operative organizations, struggle to mobilize sustained participation unless mechanisms are developed to overcome these barriers.

Empirical Review: Olaosebikan, Abdulrazaq Owoade, Ogunade, Aina, Ilona, Muheebwa, Teeken, Iluebbey, Kulakow, Bakare and Parkes (2018) investigated gendered participation in biofortified cassava production in Oyo and Benue States using a mixed-methods approach. In Oyo, men dominated production due to stronger institutional networks and market access, whereas women, both young and adult were more active in processing and marketing in Benue, supported by consumer preferences. Challenges included limited labor availability, inadequate market infrastructure, high equipment costs, and insufficient

training. Adebayo (2018) explored smallholder farmers' access to formal credit in Kogi State using descriptive statistics and a double hurdle model. The study revealed that farm size, experience, and household income increased credit access, while age, education, and borrowing costs influenced the amount obtained. Barriers such as lack of collateral, bureaucratic delays, and unco-operative financial institution staff were highlighted. Solomon (2019) examined farmers' knowledge and practices regarding cassava disease management in Delta State. Surveys of 569 farmers analyzed with descriptive statistics and a binary logit model showed that farmers often relied on peers rather than extension services for information. Knowledge levels were shaped by age, education, farm size, and experience, yet adoption of disease control measures remained low. Anarah, Ezeano and Osuafor (2019) studied farmers' perceptions of climate variability in Anambra State using questionnaires and multiple regression. Most farmers were aware of changing climatic conditions and identified practices such as bush burning, intensive fertilizer use, deforestation, and land overuse as major contributors, all of which posed threats to cassava productivity.

METHODS

The study employed a descriptive survey research design to examine the socioeconomic benefits of co-operative membership among cassava producers in South East Nigeria. The population consisted of members of registered primary multipurpose co-operative societies. A total of 324 respondents were selected through simple random sampling from 26 co-operatives across the study area. Data were collected using a structured questionnaire designed to capture respondents'

demographic characteristics, co-operative participation patterns, and socioeconomic outcomes. The instrument was validated by subject-matter experts to ensure content relevance and clarity. Reliability was assessed through Cronbach's Alpha, yielding a coefficient of $\alpha = .82$, indicating good internal consistency. The dependent variables included measurable socioeconomic benefits such as investment potential, pricing advantages, and market adaptability. Independent variables included membership characteristics such as years of participation, type of co-operative, and access to co-operative resources. Data were analyzed using descriptive statistics (frequencies and percentages) and inferential statistics (Chi-square test) at the 0.05 level of significance. The Chi-square test statistic is expressed as follows:

$$\chi^2 = \sum \frac{(o-e)^2}{e}$$

Where:

O = Observed frequency

E = Expected frequency

The decision rule was to reject the null hypothesis (H_0) when the calculated χ^2 value exceeded the critical or table value; otherwise, the null hypothesis was not rejected.

RESULTS

Benefits of Cassava Producers through Co-operative Membership: Table 1 indicates that the most frequently cited benefits of co-operative membership include favorable pricing (29%) and increased market recognition (22%), followed by enhanced adaptability to market trends (18%) and improved investment opportunities (16%). Educational and training benefits, while acknowledged, were the least reported (6%).

Table 1 Benefits of Cassava Producers through Co-operative Membership

S/N	Variables	Frequency (n = 324)	Percentage (%)
1	Increased possibilities of investment	52	16
2	Price effects	94	29
3	Increased acceptability in economic circles	72	22
4	Increased adaptability to market trends	58	18
5	Increased possibilities of specialization	30	9
6	Educational and training effect	18	6
Total		324	100

Challenges Facing Cassava Producers in South East Nigeria: As shown in Table 2, inadequate capital (17%) and poor access to credit (15%) were identified as the most pressing constraints. Other key challenges

include unavailability of improved varieties (13%) and weak storage infrastructure (14%), all of which limit cassava producers' productivity and profitability.

Table 2 Challenges Facing Cassava Producers in South East Nigeria

S/N	Variables	Frequency (n = 324)	Percentage (%)
1	Inadequate capital	54	17

S/N	Variables	Frequency (n = 324)	Percentage (%)
2	Unavailability of improved variety	42	13
3	High cost of labour and planting materials	32	10

S/N	Variables	Frequency (n = 324)	Percentage (%)
4	Land tenure system	18	6
5	Inadequate access to credit	50	15
6	Inadequate storage facilities	44	14
7	Poor market information	38	11

Test of Hypotheses

Hypothesis 1 (H₀₁): There are no benefits accruable to cassava producers through co-operative membership in South East Nigeria. The Chi-square analysis ($\chi^2 = 70.67$, $df = 5$, $p < .05$) indicates a statistically significant relationship between co-operative membership and the benefits derived. Consequently, the null hypothesis (H₀₁) is rejected, confirming that co-operative participation has a significant positive effect on cassava producers' socioeconomic outcomes.

Hypothesis 2 (H₀₂): There are no challenges facing cassava producers in South East Nigeria. Results of the Chi-square test ($\chi^2 = 38.89$, $df = 8$, $p < .05$) reveal a significant association between co-operative membership and challenges encountered by cassava producers. Hence, the null hypothesis (H₀₂) is rejected, affirming that cassava producers face multiple statistically significant challenges that constrain co-operative effectiveness.

DISCUSSIONS

The findings of this study present compelling quantitative evidence that participation in co-operatives markedly improves the economic well-being of cassava farmers in South East Nigeria ($\chi^2 = 70.67$, $p < .05$). Consistent with the first hypothesis, membership in co-operatives was found to enhance farmers' ability to invest, access markets, and negotiate better prices. This outcome echoes the

S/N	Variables	Frequency (n = 324)	Percentage (%)
8	Pests, diseases and weed interference	30	9
9	Lack of government support	16	5
Total		324	100

observations of Ojiagu and Onoh (2017), who reported that co-operative structures help smallholders strengthen their bargaining power through joint marketing and shared resources. Similarly, Agbo and Chidebelu (2010) noted that co-operatives remain central to sustaining rural livelihoods in agrarian communities. This study advances earlier work by providing statistical validation of the "co-operative effect" first introduced by Chukwu (1990). Moving beyond largely descriptive accounts, the results establish a significant empirical connection between co-operative membership and measurable economic gains. Shared access to inputs, collective marketing strategies, and participatory decision-making were found to foster resilience and economic stability among farmers. These outcomes align with Empowerment Theory, which frames co-operatives as vehicles of collective agency that help rural producers overcome market and information barriers. Despite these positive outcomes, the analysis also confirms that cassava producers still face structural and institutional constraints ($\chi^2 = 38.89$, $p < .05$). Limited credit access, weak infrastructure, inadequate capital, and a shortage of improved cassava varieties remain major obstacles. These findings mirror the conclusions of Abdul-Rahaman and Abdulai (2018) and Kuye (2015), who highlighted similar systemic challenges among smallholders in West Africa. However, the results differ slightly from Ojiako, Ezedinma, Okechukwu and Asumugha (2013), who

emphasized labor and land tenure as more critical, indicating that local policy and regional conditions shape the intensity of these constraints. Co-operative participation improves livelihoods but cannot fully offset structural deficiencies such as poor credit systems or limited institutional support. Addressing these persistent gaps requires complementary interventions, particularly in leadership training, infrastructure, and financial inclusion, to ensure equitable benefits for all members. Although the study provides valuable insights, certain limitations should be acknowledged. The cross-sectional design restricts causal inference over time, and the exclusion of non-members may have narrowed comparative perspectives. Moreover, uncontrollable external factors—such as price volatility and seasonal fluctuations, might have influenced the reported outcomes. Future studies employing longitudinal and mixed-method approaches are recommended to deepen understanding and validate these findings across broader contexts.

CONCLUSION

Participation in co-operatives markedly enhances the income, investment potential, and market reach of cassava producers across South East Nigeria. A steady pattern of improved livelihoods was observed, demonstrating the positive “co-operative effect,” which arises from shared access to farm inputs, training programs, and collective decision-making. However, persistent challenges such as inadequate financing, poor infrastructure, and weak institutional coordination continue to constrain these benefits. Strengthening financial inclusion through affordable credit, input support, and capacity development remains crucial. Likewise, improving rural infrastructure and co-operative governance, alongside sustained

research on long-term impacts, will promote inclusiveness and lasting agricultural growth. Future research should examine the long-term impact of co-operative participation through longitudinal and comparative approaches across diverse agricultural value chains. Scholars may also investigate how gender relations, youth engagement, and emerging digital tools influence co-operative performance and inclusiveness. Such studies would enrich understanding of modernization processes and guide more equitable integration of technology and social dynamics within Nigeria’s agricultural co-operative systems.

Ethical clearance: Ethical consent was sought and obtained from the participants used in this study. They were made to understand that the exercise was purely for academic purposes, and their participation was voluntary.

Acknowledgements: The authors deeply appreciate the co-operative members in the study area, for their openness and valuable contributions to this research. Gratitude is also extended to the Enugu State Department of Co-operatives across the South East for their support in providing essential data and field access. Special thanks go to the faculty and mentors of the Department of Co-operative Economics and Management, Enugu State University of Science and Technology, whose insightful guidance and encouragement greatly enhanced the quality of this study.

REFERENCES

- Abdul-Rahaman, A. & Abdulai, A. (2018). Farmer groups, collective marketing and smallholder farm performance in rural Ghana. *Journal of Agribusiness in Developing and Emerging Economies*, 8(2): 213–234.

- Adebayo, C.O. (2018). Demand for formal credit among small scale cassava farmers in Kogi State, Nigeria: A double hurdle analysis. *Journal of Tropical Agriculture, Food, Environment and Extension*. 17(2): 45-50.
- Agbo, F.U. & Chidebelu, S.A.N.D. (2010). Socio-economic determinants of co-operative societies' membership in South East, Nigeria. *Nigerian Journal of Rural Sociology*, 11(1): 48–56.
- Anarah, S.E., Ezeano, C.I. & Osuafor, O.O. (2019). Perceived effects of climate variability on cassava production among small scale farmers in Anambra State, Nigeria. *Journal of Agricultural Studies*. 7(2): 43-57
- Carini C, Carpita M. (2020). The impact of co-operative enterprises on social and environmental sustainability. *Sustainability*, 12(4): 1447.
- Cheney G., Santa Maria, C. & Munoz, E. (2019). Co-operatives and community development: A comparative perspective. *Journal of Co-operative Organization and Management*, 7(1): 1-10.
- Chukwu, S.C. (1990). *Economics of the Co-operative Business Enterprise*, Marburg Consult for Self-Help. Marburg.
- FAO STAT. (2019). Cassava production statistics. <http://www.fao.org/faostat>
- International Co-operative Alliance (ICA) Congress (1995). *Centennial Congress and General Assembly*. Manchester, United Kingdom
- Kuye, O.O. (2015). Comparative analysis of constraints to cassava production by cassava farmer loan beneficiaries and loan non-beneficiaries in South-South Nigeria. *Global Journal of Agricultural Research*, 3(3): 38-52.
- Nnadozie, A.K.O., Ume, S.I., Isiocha, S. & Njoku, I.A. (2015). Nigerian cassava potentials in national economic development. *Science Journal of Business and Management*. 3(5-1): 47-49.
- Novkovic S, Miner K. (2022). Co-operative governance fit to purpose: Instrumental rationality and member engagement in large co-operatives. *Journal of Co-operative Studies*, 54(1): 5-18.
- Oguntase, A., Adebawale, R. & Sanni, L. (2015). CAVA 2 Nigeria Baseline Report.
- Ojiagu, A. & Onoh, J. (2017). Co-operative societies and smallholder agricultural development. *Nigerian Journal of Co-operative Studies*, 4(1): 22–35.
- Ojiako, I.A., Ezedinma, C., Okechukwu, R.U. & Asumugha, G.N. (2013). Spatial integration and price transmission in selected cassava products' markets in Nigeria: A Case of Gari. *World Applied Sciences Journal*. 22(9): 1373-1383
- Olaosebikan, O., Abdulrazaq, B., Owoade, D., Ogunade, A., Aina, O., Ilona, P., Muheebwa, A., Teeken, B., Iluebbey, P., Kulakow, P., Bakare, M. & Parkes, E. (2018). Gender-based constraints affecting biofortified cassava production, processing and marketing among men and women adopters in Oyo and Benue States, Nigeria. *Journal of Physiological and Molecular Plant Pathology*, 105: 17-27.
- Oyewole, M.F. & Eforuoku, F. (2019). Value addition on cassava waste among processors in Oyo State. Nigeria. *Journal of Agricultural Extension*. 23(3): 135-146.
- Reincke, K., Vilvert, E., Fasse, A., Graef, F., Sieber, S. & Lana, M.A. (2018). Key factors influencing food security of

-
- smallholder farmers in Tanzania and the role of cassava as a strategic crop. *Food Security*, 10(4): 911-924.
- Shittu, T.A., Alimi, B.A., Wahab, B., Sanni, L.O. & Abass, A.B. (2016). *Cassava flour and starch: Processing technology and utilization: Tropical Roots and Tubers, Production, processing and technology*. John Wiley and Sons Ltd.
- Solomon, O.E. (2019). Knowledge status and disease control practices of cassava farmers in Delta State, Nigeria: Implications for extension delivery. *Journal of Open Agriculture*, 4(1): 22-37.