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WOMEN'S PARTICIPATION IN AGRICULTURAL COOPERATIVES AND ITS EFFECT ON INCOME AND EMPOWERMENT IN NIGERIA: A SYSTEMATIC REVIEW OF EMPIRICAL EVIDENCE

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Abstract

This review article synthesizes empirical evidence on the relationship between women's participation in agricultural cooperatives and outcomes relating to income and socio-economic empowerment in Nigeria. A total of 15 studies published between 2010 and 2025 were reviewed using PRISMA 2020 guidelines to examine how cooperative membership improves access to credit, inputs, extension services, markets, and decision-making power. Sourced from databases including Google Scholar, Scopus, Web of Science, ScienceDirect, and African Journals Online (AJOL), the literature reveals that cooperative membership significantly enhances women's economic performance, decision-making autonomy, and social capital compared to non-members. However, structural constraints such as patriarchal land tenure systems, unpaid care burdens, and limited executive representation persist. The review concludes that agricultural cooperatives remain vital instruments for gender equity and rural development in Nigeria, provided they are supported by structural legal and institutional reforms.

Keywords: Agricultural cooperatives, Economic empowerment, Income generation, Nigeria, Rural development, Women farmers.

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Introduction

Women constitute a substantial proportion of Nigeria's agricultural labor force and play critical roles in crop production, livestock management, food processing, storage, and marketing activities. Despite their significant contributions to agricultural production and household food security, women continue to face numerous socio-economic and institutional constraints that limit their productivity and welfare. These constraints include limited access to arable land, agricultural credit, extension services, improved technologies, productive inputs, and formal markets (Msimango & Oladele, 2013; Food and Agriculture Organization, 2011). Gender-based inequalities embedded in customary land tenure systems, socio-cultural norms, and discriminatory resource allocation practices further restrict women's participation in agricultural value chains and reduce their capacity to benefit from agricultural commercialization (World Bank, 2012).

Rural Nigerian women also experience specific forms of economic disempowerment that limit their ability to convert agricultural participation into independent and sustainable livelihoods. These include weak ownership and control of productive assets, particularly farmland, livestock, machinery, processing equipment, and financial assets; restricted access to formal credit because of limited collateral and documentation; and weaker access to improved inputs, extension, technology, storage, transport, and remunerative markets. These constraints are reinforced by unpaid domestic and care responsibilities, mobility restrictions, limited bargaining power within households, and gender norms that often place control over productive resources and major economic decisions outside women's direct authority.

The resulting asset gap is not only a question of ownership but also of control and productive use. Women may participate actively in farming, processing, and marketing while possessing fewer productive assets and less independent income than men, leaving them more exposed to price shocks, climate-related losses, indebtedness, and household economic insecurity. Income inequality is therefore reflected in differences in earnings, savings, access to finance, and the ability to reinvest in agricultural enterprises. These overlapping disadvantages help explain why increased participation in cooperatives may improve income or access to services without necessarily producing equivalent gains in asset accumulation, economic autonomy, or decision-making power.

In response to these challenges, agricultural cooperatives have emerged as important institutional mechanisms for promoting rural development, enhancing agricultural productivity, and improving the socio-economic well-being of women farmers. Cooperatives are voluntary, member-owned organizations established to meet the economic, social, and cultural needs of members through collective action and democratic governance (International Cooperative Alliance, 2023). By pooling resources, sharing risks, and facilitating collective bargaining, agricultural cooperatives enable smallholder farmers to overcome market imperfections and transaction costs that often hinder individual participation in agricultural markets (Damisa & Yohanna, 2007).

While a growing body of empirical literature evaluates the impact of agricultural cooperatives in Nigeria, existing research remains highly fragmented across state lines, specific crop enterprises, and disparate analytical frameworks (Awotide, 2012; Waheed et al., 2023; Nwosu, 2024; Nwankwo & Ugwueze, 2024; Adelakun et al., 2025). Previous studies often examine either financial welfare

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or decision-making agency in isolation, failing to systematically map the interconnected pathways between cooperative membership, income improvement, and long-term empowerment at a national level. The primary motivation for this systematic review is to synthesize these geographically dispersed empirical findings into a unified, national-level framework, establishing the consistency, scope, and underlying mechanisms of women's cooperative participation in Nigeria.

Conceptual and Theoretical Framework

This study is anchored in *Collective Action Theory* and *Kabeer's Gender Empowerment Framework*.

Collective Action Theory

Collective Action Theory explains why individuals with shared economic interests organize to overcome constraints that are difficult to address independently. In agricultural cooperatives, collective action enables women farmers to pool resources, reduce transaction costs, improve access to inputs and finance, share information, strengthen bargaining power, and pursue common market interests. The cooperative therefore provides an institutional mechanism through which individually constrained farmers can obtain collective benefits that may be difficult to secure through isolated action (Olson, 1965; Magasha et al., 2025).

Kabeer's Gender Empowerment Framework

Kabeer's Empowerment Framework (Kabeer, 1999) conceptualizes empowerment through three interrelated dimensions:

1. **Resources:** The material, human, and social assets that expand women's capacity to make meaningful choices (e.g., access to credit, land, inputs, information, markets, training, and social networks).
2. **Agency:** The ability to define goals, negotiate, make decisions, and act on choices (e.g., participation in cooperative governance, household decisions, marketing, and financial management).
3. **Achievements:** The well-being outcomes realized through agency (e.g., improvements in income, asset ownership, livelihood security, and overall social standing).

Taken together, the two perspectives provide the analytical logic for this review: collective organization can expand women's access to resources and bargaining opportunities, while empowerment depends on whether those expanded resources translate into agency and measurable achievements. This combined framework helps explain mixed evidence in the literature, particularly where increased access to credit or cooperative services has not resulted in corresponding gains in asset ownership or autonomous decision-making.

Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020)

This study employed a systematic literature review approach guided by the PRISMA 2020 framework (Page et al., 2021) to ensure transparency, rigor, and reproducibility in the identification, selection, and synthesis of relevant studies.

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Search Strategy

Literature was searched across Google Scholar, Scopus, Web of Science, ResearchGate, FAO Publications, World Bank Reports, International Labour Organization (ILO) publications, ScienceDirect, and AJOL. Search strings included:

- "Women agricultural cooperatives Nigeria"
- "Women farmers' cooperative participation"
- "Agricultural cooperatives and income Nigeria"
- "Women's empowerment through cooperatives Nigeria"
- "Female farmers and cooperative membership"

Inclusion and Eligibility Criteria

Studies were included if they were peer-reviewed empirical research or official development reports published between 2010 and 2025; focused on agricultural cooperatives in Nigeria; and reported on income, welfare, empowerment, decision-making, productivity, or livelihood outcomes among female farmers.

Exclusion Criteria

Studies were excluded if they focused on non-agricultural cooperatives, did not include women as a major study population, were purely theoretical without empirical evidence, were duplicate publications, or were not available in English.

Data Extraction and Synthesis

Relevant information was extracted from each selected study (author, year, study location, sample characteristics, analytical methods, key findings). The final qualitative synthesis comprised 15 Nigerian empirical studies published between 2010 and 2025.

PRISMA Flow Summary

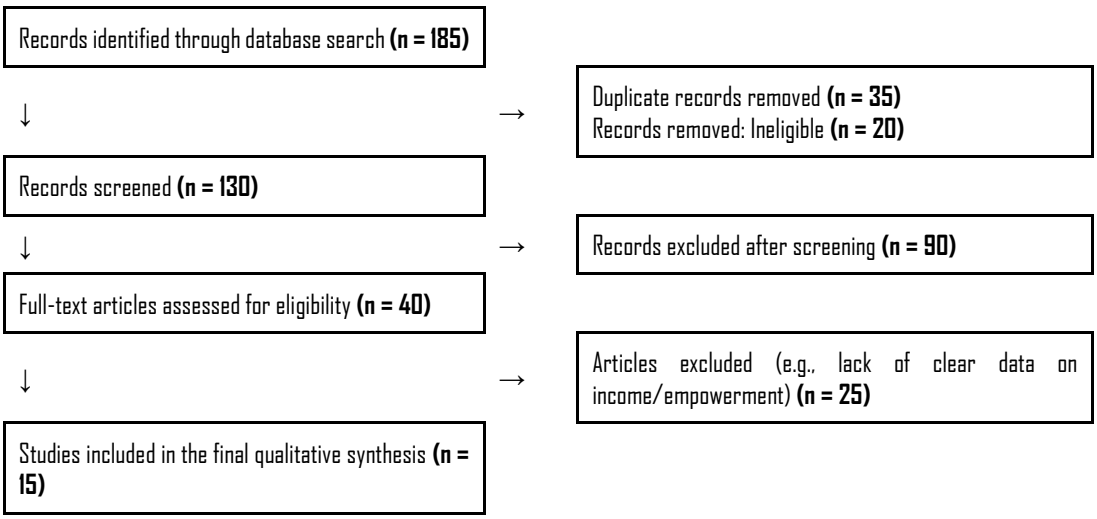

Figure 1: PRISMA Flow Diagram Data Summary

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- **Identification:** Records identified (n = 185); Duplicates removed (n = 35); Ineligible records removed (n = 20).
- **Screening:** Records screened (n = 130); Records excluded (n = 90).
- **Eligibility:** Full-text articles assessed (n = 40); Excluded with reasons (n = 25).
- **Inclusion:** Final studies included in qualitative synthesis (n = 15).

Income and Economic Performance

Evidence from Nigerian studies generally indicates that women's participation in agricultural cooperatives is associated with improved livelihood opportunities, income-related outcomes, access to productive services, and empowerment, although the magnitude and sustainability of these gains vary by location and cooperative performance. Awotide (2012) found that education, business experience, and cooperative type were significant determinants of women's participation in Ogun State. In Oyo State, Oyebamiji et al. (2020) reported higher mean income among women cooperators than non-cooperators, while Oyegbami (2019) documented contributions of cooperatives to vegetable production. Ezeokafor et al. (2021) linked cooperative activities with women's empowerment in Anambra State, while Adelakun et al. (2025) found that cooperative participation was significantly associated with welfare status among rural women in Osun State. These findings suggest that cooperatives can improve women's economic position through several pathways, including access to finance, productive resources, collective services, market opportunities, and social support.

This suggests that the economic benefits of cooperatives are context-dependent and influenced by the institutional environment in which they operate.

Economies of Scale

Collective access to agricultural inputs and services is an important pathway through which cooperatives can support women's productivity. Ominikari (2022) reported that women cooperative societies in Bayelsa State contributed through bulk purchase of inputs, subsidized agricultural materials, and access to machinery. Oyegbami (2019) similarly found that cooperative participation supported women vegetable farmers in Oyo State.

Collective Procurement and Market Power

Cooperatives also provide channels for collective marketing, information sharing, advocacy, and negotiation. Evidence from Nigerian studies shows that women's groups can strengthen access to advisory services and collective processing while improving their capacity to participate in agricultural value chains (Waheed et al., 2023; Okafor, Ngoka, & Obamuyi, 2023).

Financial Inclusion and Risk Mitigation

Financial inclusion is another recurrent benefit. Ik-Ugwoezuonu and Obodoechi (2023) found that access to credit was a major reason for women's cooperative participation in Enugu State, although access to finance did not automatically translate into sustainable asset ownership. Adelakun et al. (2025) similarly identified credit and thrift societies as an important form of

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women's cooperative participation in Osun State. Table 1 summarizes the 15 Nigerian empirical studies included in the review.

Table 1: Comparative Summary of Empirical Studies on Agricultural Cooperative Participation and Women's Socio-Economic Outcomes

Authors	Country / Study Area	Sample / Population	Methodology	Major Findings	Comparison with Other Studies	Implications for Women's Empowerment
Awotide (2012)	Yewa North, Ogun State	180 women	Two-stage sampling; descriptive statistics; Logit regression	Education, business experience and cooperative type significantly influenced participation; household pressure and inadequate funds were major constraints.	Shows that socio-economic characteristics shape cooperative participation, complementing later Nigerian evidence on participation barriers.	Improving women's education, finance and access to suitable cooperative forms can strengthen participation.
Oyegbami (2019)	Ibarapa North, Oyo State	120 women vegetable farmers	Multistage sampling; questionnaire/interview; descriptive statistics; chi-square	Cooperatives contributed to vegetable production and provided a platform for women farmers to access collective benefits and services.	Supports studies linking cooperative participation with production and livelihood improvement.	Collective services can strengthen productive capacity and women's livelihood opportunities.
Okonkwo, Onyeze & Ochiaka (2019)	Ohafia, Abia State	Rural women	Descriptive study; structured questionnaire	Cooperative societies were identified as mechanisms for improving the economic empowerment of rural women.	Consistent with later Abia studies and broader evidence on cooperative-based empowerment.	Cooperatives can provide a grassroots platform for economic participation and empowerment.
Oyebamiji et al. (2020)	Akinyele, Oyo State	96 rural women; cooperators and non-	Multistage sampling; descriptive statistics; t-test	Mean income was higher among cooperators (₦308,060)	Provides direct income-related evidence supporting the economic	Higher income and social interaction may

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Authors	Country / Study Area	Sample / Population	Methodology	Major Findings	Comparison with Other Studies	Implications for Women's Empowerment
		cooperators		than non-cooperators (₦83,630); participation also supported food security and interpersonal relationships.	pathway reported in other Nigerian studies.	strengthen women's household economic position.
Obianefo, Osuafor & Ng'ombe (2021)	Southeast Nigeria	Women agricultural cooperative members	Cross-sectional survey; structural equation modelling	Economic, cultural, institutional and management factors constrained women's access to technology, land, credit, extension and infrastructure.	Adds a critical constraints perspective to studies reporting positive cooperative outcomes.	Empowerment requires removal of structural barriers, not membership alone.
Ezeokafor, Nwankwo & Onuoha (2021)	Anambra State	Women cooperative participants	Empirical socio-economic assessment	Cooperative activities were associated with women's empowerment and improved socio-economic participation.	Supports evidence from Kwara, Abia and Osun while reinforcing the importance of context.	Cooperative participation can strengthen economic and social agency.
Ominikari (2022)	Ogbia, Bayelsa State	100 female farmers	Multistage sampling; questionnaire; descriptive statistics; ANOVA	Women cooperatives contributed through bulk input purchase, subsidized agricultural materials, machinery access and	Extends the income literature by identifying concrete service-delivery mechanisms.	Affordable inputs and shared machinery can increase women's productive capacity.

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Authors	Country / Study Area	Sample / Population	Methodology	Major Findings	Comparison with Other Studies	Implications for Women's Empowerment
				other livelihood-support activities.		
Okafor & Ngene (2023)	Ogbaru, Anambra State	122 valid respondents from 10 women cooperatives	Questionnaire; descriptive analysis; regression	Women cooperative activities had a significant effect on food security; credit and input support were important channels.	Complements income and livelihood studies by demonstrating a household food-security pathway.	Cooperative credit and input mobilization can improve household welfare.
Ik-Ugwoezuonu & Obodoechi (2023)	Enugu State	Women cooperative members	Survey; descriptive and inferential analysis	Credit access was a major motivation for membership, but sustainable asset ownership and long-term socio-economic inclusion remained limited.	Qualifies positive income/credit findings by showing that financial access does not automatically create durable empowerment.	Policies should link cooperative finance with asset accumulation and decision-making capacity.
Izuchukwu, Okoye & Umeh (2023)	Nigeria	Cooperative members	Empirical assessment of capacity building and farm-asset sustainability	Capacity building and cooperative participation were linked to issues of farm-asset sustainability and women's productive capacity.	Complements studies emphasizing the resource dimension of empowerment.	Training and asset sustainability are necessary for translating participation into lasting gains.
Waheed et al. (2023)	Kwara State	219 women farmers	Multistage sampling; questionnaire; descriptive and inferential statistics	Cooperatives provided advisory, advocacy, collective processing and skill-	Shows that empowerment is multidimensional and that service access may not	Cooperative programmes should explicitly target economic as well as

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Authors	Country / Study Area	Sample / Population	Methodology	Major Findings	Comparison with Other Studies	Implications for Women's Empowerment
				acquisition services; psychological empowerment was stronger than economic empowerment.	translate equally across dimensions.	psychological and social empowerment.
Okafor, Ngoka & Obamuyi (2023)	Southeast Nigeria	399 women cooperative members	Multistage random sampling; structured questionnaire	Socio-economic characteristics of women cooperative members influenced their use of agricultural extension services.	Complements studies identifying extension access as a key cooperative benefit.	Improved extension access can strengthen women's knowledge, productivity and agency.
Nwosu (2024)	Isiala Ngwa LGA, Abia State	Women respondents	Descriptive research design; structured questionnaire	Cooperative societies provided a platform for women's empowerment and rural development participation.	Consistent with Okonkwo et al. (2019) and Ezeokafor et al. (2021) on empowerment pathways.	Cooperatives can serve as grassroots institutions for women's participation in rural development.
Ettah et al. (2024)	Cross River State	Rural women farmers	Empirical participation/determinants assessment	The study examined determinants and constraints of rural women's membership and participation in agricultural cooperatives.	Extends the geographic evidence beyond the South-East and South-West concentration noted in the review.	Understanding participation barriers is essential for inclusive cooperative policy.
Adelakun, Odebode & Fabunmi (2025)	Osun State	160 registered women cooperators	Multistage sampling; descriptive, chi-square, correlation and t-test	Most respondents reported improved welfare after cooperative participation;	Provides recent evidence consistent with positive livelihood effects while	Cooperative participation can improve welfare when supported by training, accountable

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Authors	Country / Study Area	Sample / Population	Methodology	Major Findings	Comparison with Other Studies	Implications for Women's Empowerment
				participation, cooperative experience and benefits were significantly related to welfare status.	identifying loan diversion and weak government support as constraints.	finance and institutional support.

Source: Authors' compilation from the 15 Nigerian empirical studies reviewed (2012–2025).
Note: The final empirical synthesis is restricted to Nigerian studies published between 2010 and 2025, consistent with the stated eligibility criteria.

Empowerment Outcomes

Empowerment outcomes in the Nigerian literature are multidimensional. Waheed et al. (2023) found that cooperative societies provided advisory, advocacy, collective processing, and skill-acquisition services to women farmers in Kwara State, although economic empowerment remained weaker than psychological empowerment. Nwosu (2024) likewise reported that cooperative societies provided a platform for women's participation in rural development in Abia State. Ezeokafor et al. (2021) found evidence of women's empowerment associated with cooperative activities in Anambra State. At the same time, Ik-Ugwoezuonu and Obodoechi (2023) caution that access to credit and participation in cooperative activities do not automatically guarantee sustainable control over productive assets or autonomous decision-making. This distinction is important for interpreting cooperative membership as empowerment: participation can expand resources and opportunities without necessarily producing equal gains in agency and achievements.

Enhanced Decision-Making Autonomy

Nigerian evidence also points to the importance of leadership and participation in governance. Studies of women's cooperative participation in Kwara, Anambra, Enugu, and Southeast Nigeria indicate that cooperative structures can provide opportunities for advocacy, decision-making, social inclusion, and access to services, but women's leadership and influence remain constrained by institutional and socio-cultural factors (Ezeokafor et al., 2021; Obianefo et al., 2021; Waheed et al., 2023).

Building Social Capital

Cooperative participation can expand women's social and professional networks and improve access to agricultural information and extension support. Okafor, Ngoka, and Obamuyi (2023) found that socio-economic characteristics of women cooperative members influenced their use of

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agricultural extension services in Southeast Nigeria, while Waheed et al. (2023) reported strong roles for advisory and advocacy services in women's cooperative empowerment in Kwara State.

Methodological, Geographical, and Analytical Gaps

1. **Methodological Gaps:** Existing studies rely heavily on cross-sectional surveys and descriptive statistics. Longitudinal panel designs and counterfactual methods are absent, making it difficult to evaluate long-term causal impacts.
2. **Geographical Gaps:** Empirical evidence is concentrated in specific South-East and South-West states (e.g., Anambra, Enugu, Kwara, Abia, Ogun, Osun). Northern geopolitical zones remain severely under-represented.
3. **Analytical Gaps:** Few studies combine income, asset ownership, control over revenue, leadership agency, and household bargaining power within a single integrated framework.

Constraints and Limitations

Women's participation remains constrained by domestic care burdens, limited access to finance and productive assets, cultural expectations, and institutional barriers. Obianefo et al. (2021) identified cultural, economic, institutional, and management constraints affecting women in agricultural cooperatives in Southeast Nigeria, while Ik-Ugwoezuonu and Obodoechi (2023) highlighted the limits of credit access when it is not accompanied by sustainable asset accumulation. These findings reinforce the need to interpret cooperative membership alongside the wider institutional environment.

Conclusion

Available evidence strongly supports the proposition that agricultural cooperatives serve as vital conduits for women's income growth and empowerment in Nigeria. By facilitating resource access and providing platforms for collective voice, cooperatives mitigate female farmers' structural disadvantages. However, economic gains do not automatically produce long-term agency without structural interventions.

Recommendations

1. **Gender-Sensitive Extension:** Develop extension training tailored to women's roles in value-added processing and commercial marketing.
2. **Land Tenure Reform:** Strengthen legal frameworks to allow female cooperative groups to register land titles collectively for farm expansion and financial collateral.
3. **Governance Quotas:** Encourage cooperative registries to enforce executive leadership quotas for women to promote inclusive decision-making.

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