

Housing Cooperatives and Sustainable Urban Development: A Systematic Review of Global Evidence and Implications for Nigeria.

**Ndubuisi Michael Odoanyanwu¹, Ernest Monday Ebomah², Chukwudi Joseph Okonkwo^{3*},
Nnamaka Ugochukwu Nzewi⁴, Jacinta Chinyere Nwangwu⁵, Grace Uzoamaka Manafa⁶,
Vitalis Maduabuchi Irouke⁷, Godson U. Taylor-Nwanegbo⁸, Ferdinand Odinaka
Ikwuemesi⁹, Hyginus Ifeanyichukwu Ivoke¹⁰**

¹ Department of Architecture, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.

Email: mn.odoanyanwu@unizik.edu.ng

² Department of Entrepreneurship and Business Innovation, Faculty of Management Sciences, University of Delta, Nigeria.

Email: ernest.ebomah@unidel.edu.ng

³ Department of Entrepreneurship Studies, Chukwuemeka Odumegwu Ojukwu University, Igbariam, Anambra State, Nigeria.

Email: jc.okonkwo@coou.edu.ng

⁴ Department of Architecture, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.

Email: nu.nzewi@unizik.edu.ng

⁵ Department of Entrepreneurship Studies, Chukwuemeka Odumegwu Ojukwu University, Anambra State, Nigeria.

Email: jc.nwangwu@coou.edu.ng

⁶ Department of Entrepreneurship Studies, Chukwuemeka Odumegwu Ojukwu University, Anambra State, Nigeria.

Email: gu.manafa@coou.edu.ng

⁷ Department of Architecture, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.

Email: vm.irouke@unizik.edu.ng

⁸ Department of Architecture, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.

Email: gu.taylor-nwanegbo@unizik.edu.ng

⁹ Department of Landscape Architecture, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.

Email: of.ikwueme@unizik.edu.ng

¹⁰ Department of Architecture, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.

Email: ih.ivoke@unizik.edu.ng

Corresponding Author:

Chukwudi Joseph Okonkwo

Department of Entrepreneurship Studies, Chukwuemeka Odumegwu Ojukwu University, Igbariam, Anambra State, Nigeria.

Email: jc.okonkwo@coou.edu.ng

Abstract

Rapid urbanization and growing housing deficit have underscored the urgency to scale up sustainable and inclusive housing delivery models. Housing cooperatives are a popular, community-led mechanism to increase housing accessibility, boost social cohesion and foster sustainable urban development. However, evidence of the impact of housing cooperatives has been fragmented and context-specific, with limited insight into their effects in developing countries like Nigeria. This study performs a systematic review of the global evidence of housing cooperatives in sustainable urban development, adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines. The study systematically searched the Scopus, Web of Science, ScienceDirect, JSTOR and Google Scholar databases and retrieved 342 records, from which 41 papers published between 2000 and 2024 satisfied our inclusion criteria. Thematic synthesis generated five key themes: affordability of housing, environmental sustainability, social inclusion and participatory governance, economic sustainability through resource mobilization, and constraints to implementation. Our findings demonstrate that housing cooperatives contribute to improved access to affordable housing via co-ownership and collective

finance; enable democratic participation and enhance social coherence; support environmentally friendly building practices; and build economic resilience. Nonetheless, policy deficiencies, insufficient finance, poor institutional capacity and governance challenges significantly limit their effectiveness, especially in developing country contexts. This review offers evidence of the potential of housing cooperatives in sustainable urbanization and recommends appropriate policy measures for incorporating cooperative housing into Nigeria's urbanization agenda...

Keywords: Housing cooperatives, Sustainable housing, Urban development, Collective action, Nigeria..

INTRODUCTION

Urbanization, particularly its rapid acceleration, stands out as a key characteristic of the 21st century's demographics and is taking its toll on housing systems, urban infrastructure, and environmental resources. Given global recognition of the importance of achieving Sustainable Development Goal 11, to ensure access to adequate, safe, affordable, and resilient housing for all and upgrading slums, innovative housing models which focus on promoting inclusive, ecologically sustainable and affordable communities need to be pursued (WCED, 1987; UN-Habitat, 2020). At the same time, the rapid rate of urbanization has also caused housing shortages, sprawl of informal settlements, environmental deterioration and increasing economic and social inequality (UN-Habitat, 2022). Traditional government-led housing provision methods have not been capable of meeting this ever-growing demand for adequate and affordable housing, while market-based mechanisms have, in many instances, produced unaffordable housing for the low- to middle-income segments of urban populations. Millions of urban residents therefore continue to live in insecure conditions, lacking proper access to basic services and amenities, and impeding sustainable urban development.

The international support for Sustainable Development Goal 11 to make cities inclusive, safe, resilient and sustainable underscores the urgent need for new models of housing provision that promote social inclusion, environmental sustainability and economic affordability (World Commission on Environment and Development [WCED], 1987; UN-Habitat, 2020).

This holistic conception of sustainable urban development goes beyond just providing housing units and encompasses equitable access to land, efficiency in the use of resources, conservation of the environment, resilience of infrastructure and effective and participative urban governance (Taiwo et al., 2012; UN-Habitat, 2020). The identified housing challenges have necessitated efforts by governments, international donors, and civic groups to explore alternative approaches to complement state and market modes of operation. Among the various alternatives available, the adoption of housing cooperatives as a community-based delivery model for providing housing affordability and promoting sustainable urban development has attracted significant attention internationally (Ugwa, et al., 2015; Czischke, 2018; Okafor, et al., 2024; Okonkwo et al., 2026a).

A housing cooperative is a voluntary, democratically governed organization through which individuals jointly acquire, finance, develop, own, and/or manage their homes on principles of mutual assistance, cooperation and solidarity (International Cooperative Alliance [ICA], 1995). Instead of speculative land market profit-driven outcomes, cooperative housing seeks to provide and maintain affordable housing options with secure tenure, and with democratic control and shared ownership, thereby strengthening both social capital and community resilience (Lang & Novy, 2014; Tummers, 2016). Different regional experiences have demonstrated the multidimensional impacts of housing cooperatives on sustainable urban development. In Latin America, the mutual-aid housing system, particularly the FUCVAM experience, illustrates the potential of combined collective labor, state assistance, and democratic governance to overcome the high costs of housing construction and enable access to decent housing.

However, despite the presence of several models of housing cooperative in Nigeria, the number of comprehensive integrated housing cooperatives that can play a significant role in the sustainable urban planning and development is still low (Ibem & Odum, 2011; Azeez & Mogaji-Allison, 2017). (Tummers, 2016; Czischke, 2018). Many other regions across the globe such as many regions across Asia and Africa have utilized housing cooperatives for slum upgrading, land access and the provision of affordable housing, through community savings and collective pooling of financial resources (World Habitat, 2016; Lines & Makau, 2018). The lessons from the housing cooperative approaches would be immensely beneficial to Nigeria who is also experiencing the fastest rate of urbanization that outpaced even the formal housing sector and characterized by increased cost of land, limited access to finance for mortgages, insufficient development of urban infrastructure and a failure of urban institutions, resulting into worsening urban housing deficits and informal settlements (Okafor et al., 2022; Nnoje, et al., 2025; Okeke, et al., 2026).

In spite of the existence of multiple housing cooperative models in Nigeria, few are fully integrated housing cooperatives capable of making meaningful impact in sustainable urban planning and development (Ibem & Odum, 2011; Azeez & Mogaji-Allison, 2017).

Nevertheless, collective land acquisition, shared housing financing arrangements and communal provision of infrastructure which have been observed in some areas show indications that cooperative models could possibly be widely replicated in Nigeria's urban development agenda. Urban development, according to the World Commission on Environment and Development (WCED, 1987), aims to promote an equitable, prosperous and environmentally sound urban habitat for the present generation, whilst safeguarding the planet's capacity to meet the needs of future generations. Housing sustainability basically translates to environmentally responsible production, resource- efficient usage, robust infrastructural development, equitable provision of accessible safe and adequate housing, public spaces, services and goods supported by a participatory governance and inclusive planning processes (Taiwo et al., 2012; Otaokpukpu, et al., 2017; Onwuka, et al., 2017; Ugwa, et al., 2020). The housing is therefore perceived not only as a physical form or a commodity, but a cornerstone of urban wellbeing, resilience, and socio- economic progress.

Housing cooperatives align well with these goals of sustainable urban development as they offer combined benefits of collective ownership, community-driven management, and long-term collective investment.

Housing cooperatives empower citizens to work together, share resources, invest jointly, make informed collective decisions, utilize resources more efficiently and develop their neighborhoods in an environmentally friendly and resilient manner, hence enhancing housing affordability, and the socio- economic resilience of urban areas (Lang & Novy, 2014; Tummers, 2016; Czischke, 2018). For these reasons, the interest among scholars and policymakers to investigate cooperative housing as a pivotal institutional framework that would simultaneously ensure the affordability, social equity, economic prosperity and environmental sustainability of our cities, has been growing. Although, there has been an expanding academic focus on affordable housing, collaborative housing, community land trusts, and the urban commons, there has not been enough synthesized knowledge regarding the overall contribution of housing cooperatives to the multidimensional sustainable urban development objectives (Ugwa and Okonkwo 2015; Otaokpukpu, et al., 2023; Okonkwo, et al., 2026b).

This gap is especially relevant for developing countries like Nigeria where cooperatives have played a long history as important socioeconomic institutions but evidence to guide policy regarding urban housing and development remain dispersed across academic disciplines and regions. A synthesis of global evidence is thus required to inform policy and practice about appropriate cooperative models for housing and sustainable development.

This study thus provides a systematic review of the global literature on housing cooperatives and sustainable urban development. More specifically, the study seeks to:

1. Identify the structure and operation of housing cooperatives in diverse urban contexts.
2. Examine how housing cooperatives contribute to the environmental, social and economic aspects of sustainable urban development.
3. Identify key institutional, financial, technical and governance challenges that constrain the scale and effectiveness of housing cooperatives, and which are particularly relevant for Nigeria's sustainable urban development agenda.

Conceptual and Theoretical Framework

2.1 Conceptual Framework

Housing cooperatives have been recognized as institutional mechanisms that can be able to tackle multi-dimensional aspects of sustainable urban development through collective ownership, democratic governance and community participation. Unlike most conventional housing delivery systems which are dominated by government provision or market forces, the mechanism integrates economic, social and environmental goals in one organizational structure (Lang & Novy, 2014; Tummers, 2016).

The conceptual framework of this research presupposes that the contribution of housing cooperatives to sustainable urban development through some interconnecting processes is possible. First, governance of the cooperative form of housing delivery system enhances democratic participation, collective decision making and shared ownership of housing asset. Through this governance structure, housing cooperatives are able to improve housing affordability and access, increase social cohesion, enhance environmental stewardship and attain financial viability through sharing finance, and optimal use of resource thereby contributing to objectives such as inclusive city, resilient community, environmental sustainability, and equal access to urban resource (Czischke, 2018; Taiwo et al., 2012; UN-Habitat, 2020).

Therefore, housing cooperative is presented as a fundamental institutional arrangement through which governance mechanisms affects different aspects of sustainability that culminates in achieving sustainable urban development in this review. Figure 1 shows the conceptual framework guiding this systematic review.

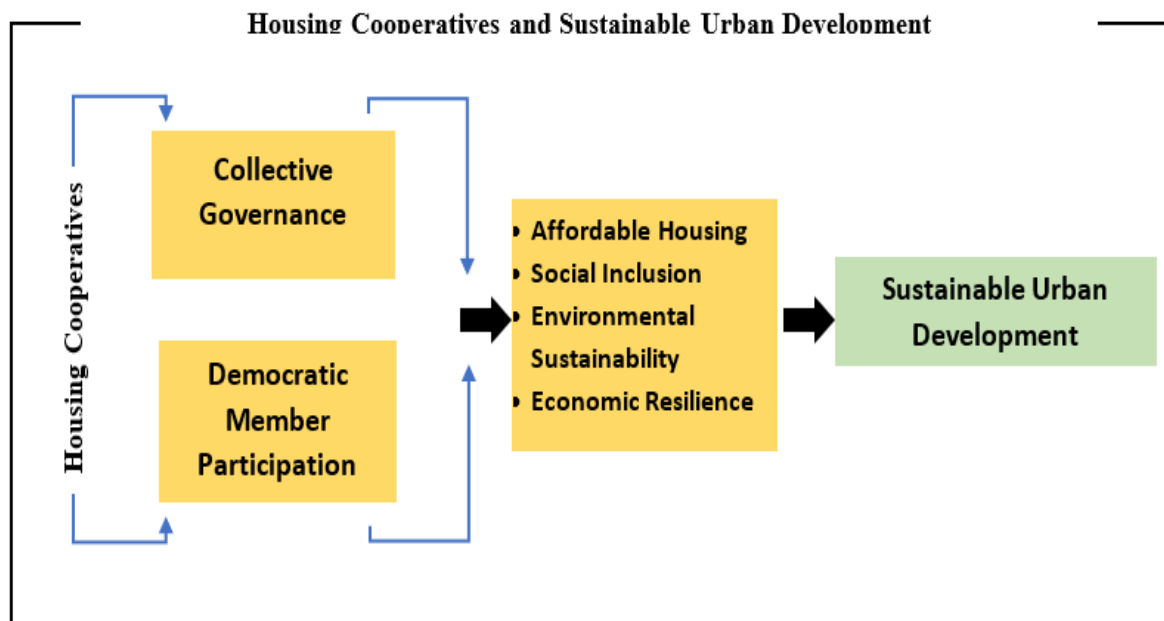


Figure 1. Conceptual Framework of Housing Cooperatives and Sustainable Urban Development.

Source: Author's conceptualization (2026).

It shows that housing cooperatives did not contribute directly to the goals of sustainable urban development but indirectly through participation, collective resource mobilization and community based decision making processes, these aspects bring about economic, social and environmental impacts which together lead to sustainable urban development.

2.2 Theoretical Framework

Three complementary theoretical approaches underpin the conceptual framework. These include: Collective Action Theory, the Urban Commons Framework and Sustainable Development Theory. Together, these theories articulate why housing cooperatives are able to deliver the sustainable urban development outcomes through collective organisation, shared governance, and long-term management of the urban resources.

Collective Action Theory

Collective action theory was put forward by Olson (1965) and explains why groups of people will often work together voluntarily to achieve objectives that are difficult or impossible to attain alone. This explains how Collective action theory may also work for collective pooling for Affordable housing and much other part of sustainable urbanism (Ugwa & Okonkwo, 2015; Otaokpukpu & Okonkwo, 2023). A housing co-operative is an example of the Collective Action theory whereby a number of people can decide to work together and invest money, labour, expertise and their right to self-governance in a housing scheme and produce a safe and secure home collectively. By means of cooperative democracy, shared ownership and mutual accountability they may be able to surmount many of the problems (both institutional and financial) that any individual household would face in trying to buy and achieve affordable accommodation.

This explains how Collective Action Theory works for collective pooling for Affordable housing and many other parts of sustainable urbanism (Ugwa & Okonkwo, 2015; Otaokpukpu & Okonkwo, 2023).

Urban Commons Framework

The theory of commons governance, developed in an earlier study by Elinor Ostrom, is expanded in the Urban Commons framework, applying it to land, property, housing, and infrastructure within the city to include the provision and sustainable management of commons-oriented resources and amenities rather than considering them simply as public and/or private goods (Foster & Iaione, 2016). To successfully govern the urban commons, the framework emphasizes the critical roles of community participation, collaborative governance, and agreed upon governance structures and rules. With regard to housing cooperatives, collective control means that community members have actively participated in managing their housing schemes, neighborhood facilities and common infrastructure through the formulation of participatory processes, shared decision-making procedures and common rules and norms.

The governance systems in housing cooperatives are therefore essential for social inclusion, effective accountability, reduced conflict, and long-term commitment to their collective resources and surroundings

(Czischke, 2018; Lang & Novy, 2014). Consequently, the urban commons framework is suitable for exploring how collective housing enables inclusive, socially sustainable and resilient cities.

Sustainable Development Theory

Sustainable development theory stems from the report by the Brundtland Commission entitled *Our Common Future* (WCED, 1987), defining sustainable development as development which "meets the needs of the present without compromising the ability of future generations to meet their own needs." The theory is grounded in a balance between the economic, social and environmental dimensions of development, each onereinforcing the other. Housing cooperatives reflect this ideal by striving to provide both affordable housing, as well as democratic governance, social well-being, and environmental care.

Through collective finance, optimized land use, environmental friendly building practices, and democratic governance mechanisms, housing cooperatives can contribute to achievement of SD Goal 11 for inclusive, safe, resilient, and sustainable cities (UN-Habitat, 2020).

The sustainable development theory thus serves as a framework for evaluating how cooperative housing can contribute to sustainability in the long run irrespective of national context.

2.3 Integration of the Theories

The three theories explained above are complementary rather than being separate and autonomous. Collective Action theory can explain how the communities of housing cooperatives organize themselves, raise funds and work collectively towards solving housing issues. The Urban Commons Framework explains how shared urban resources, such as housing, can be managed sustainably through effective and participatory governance systems. Sustainable Development theory provides the wider perspective from which to evaluate the contributions of the housing cooperatives to social inclusion, financial resilience and environmental sustainability.

Collectively, the theories create a theoretical foundation that can help interpret the evidence from the reviewed literature and contribute to arguing that housing cooperatives are not just alternative service providers, but institutional mechanisms that promote inclusive governance and contribute to urban sustainability.

3. Methodology

3.1 Research Design

The present study utilized a systematic literature review (SLR) design approach in an attempt to synthesize the available evidence on how housing cooperatives contributes to sustainable urban development. This approach goes beyond narrative reviews in its systematic approach and structured process of identifying, selecting, appraising and synthesizing relevant literature, thereby reducing selection bias and leading to more rigorous and reliable research findings (Page et al., 2021).

The systematic review was carried out in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines, which establish globally recognized standards for conducting and reporting systematic reviews (Page et al., 2021). Following the PRISMA guideline steps allowed us to search and identify the literature efficiently, assess the eligibility of selected documents, perform final selection and ensure the quality of evidence included.

3.2 Review Objectives and Research Questions

The following objectives guided the conduct of the review; to systematically review housing cooperative models reported in diverse urban contexts. To investigate the contribution of housing cooperatives to environmental, social, and economic dimensions of sustainable urban development. To identify the major challenges, whether institutional, financial, technical or governance in nature, that limit the viability and scaling up of housing cooperative projects.

Based on these objectives, this review addressed the following research questions:

What are the dominant models of housing cooperatives documented in the literature?
To what extent do housing cooperatives foster various aspects of sustainable urban development?
What are the primary implementation constraints and barriers for housing cooperatives?

3.3 Search Strategy

An exhaustive literature search was carried out across five prominent academic databases. These databases cover multidisciplinary literature related to housing, urban development, sustainability and cooperative sector. They include: Scopus, Web of Science, ScienceDirect, JSTOR, and Google Scholar. The searches were conducted between April and June 2025 and they considered literature published between January 2000 and December 2024. A broad combination of keywords and Boolean operators (AND, OR) and truncation symbols was used to broaden the search strategy and capture all potentially relevant articles; ("housing cooperative*" OR "cooperative housing") AND ("sustainable urban development" OR "urban sustainability" OR "sustainable housing"). Additional keywords used; participatory planning, urban commons, collective housing, affordable housing, and community-led housing. The reference lists of all eligible retrieved papers were searched manually (snowballing) in an effort to capture any additional publications not identified in the initial search strategy

Table 1. Databases Included in the Literature Search

Database	Coverage
Scopus	Multidisciplinary peer-reviewed literature
Web of Science	High-impact multidisciplinary journals
ScienceDirect	Built environment, planning and sustainability
JSTOR	Urban studies and social science literature
Google Scholar	Supplementary academic literature and policy reports

Source: *Author's conceptualization (2026)*.

3.4 Eligibility Criteria

Prior to the search for literature, clear eligibility and exclusion criteria were devised in order to facilitate consistency and reduce bias during study selection.

Inclusion Criteria

Studies were selected if they:

were published from 2000-2024.

were in the form of peer-reviewed academic journal articles, books, chapters in academic books, or credible policy reports.

related to housing cooperatives, co-operative housing, community housing, housing led by residents, sustainable housing, urban sustainability, collaborative housing, and participatory planning and urban commons.

were published in the English language.

provided adequate information about the methods and contained enough empirical evidence and conceptual grounding relevant to the purposes of the review.

Exclusion Criteria

Studies were excluded if they:

exclusively focussed on rural co-operatives.

addressed agriculture, financial co-operatives, consumer, producer, without a component relating to housing.

were solely editorials, commentaries, opinion articles, reports of conference presentations, or newspaper articles.

lacked sufficient methodological details.

appeared as duplicates throughout the process.

3.5 Study Selection Process

The study selection was carried out using the four-phase PRISMA approach: identification, screening, eligibility, and inclusion (Page et al., 2021). Initial search of databases produced 342 records. After 55 duplicates were removed, 287 records remained and were screened based on titles and abstracts. Two hundred and thirteen records were removed that did not meet the criteria of the review. 74 articles were screened in full-text for eligibility against the inclusion criteria. 33 of these were removed due to inadequate relevance to housing co-operatives or sustainable urban development, resulting in 41 studies being included in the final thematic synthesis. The process is visually represented in Figure 2 below.

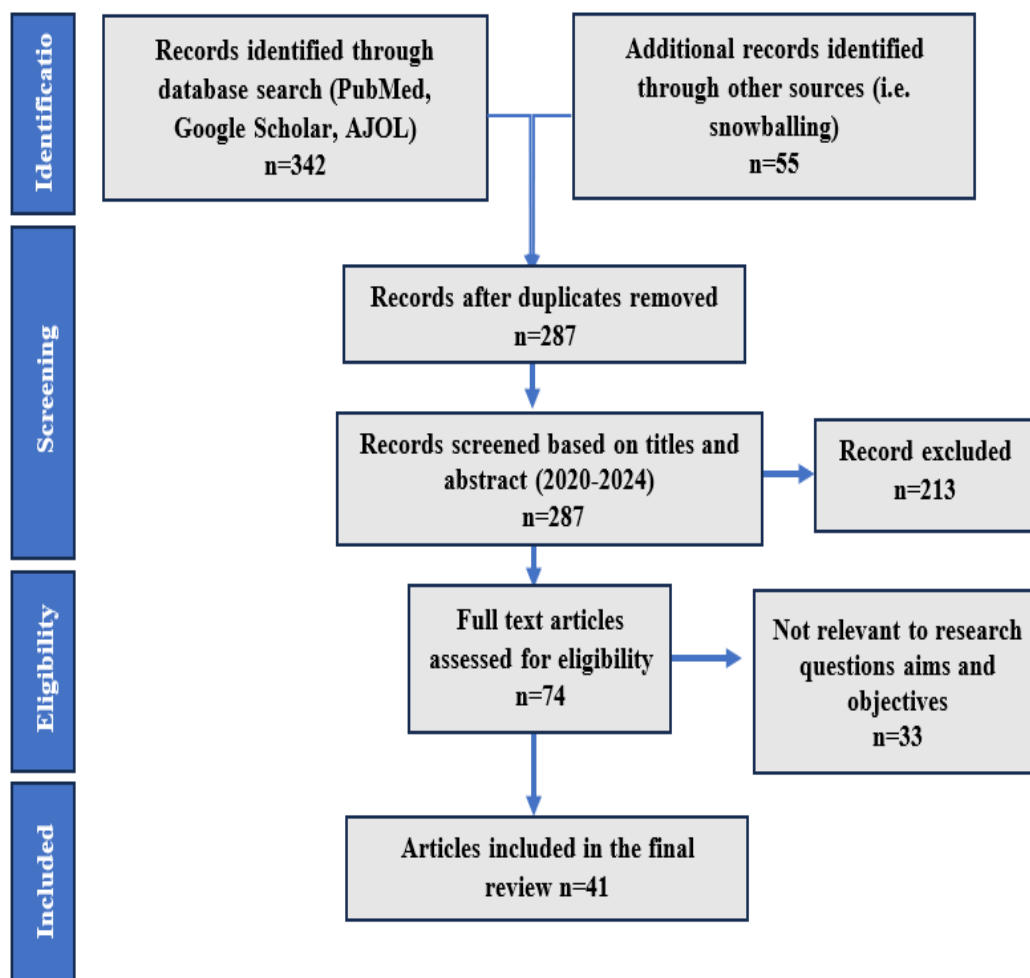


Figure 1: PRISMA flow chart

3.6 Quality Assessment

To support the validity of the review, the methodological quality of all identified studies was critically appraised based on previously determined criteria, drawn from standards applied in systematic reviews. The quality criteria utilized are detailed below. All studies were assessed on whether they demonstrated clear objectives, a valid design, transparent methods of data collection and analysis, credible results, and overall relevance to the review topic.

Table 2. Quality Assessment Criteria

Criterion	Assessment
Clearly stated research objectives	Assessed
Appropriate research design	Assessed
Transparent methodology	Assessed
Credible findings	Assessed
Relevant to review objectives	Assessed

Source: *Author's conceptualization (2026).*

3.7 Data Extraction

A standard data extraction framework was created and used for all selected studies in order to ensure consistence. Details collected for each study are listed below:

Table 3. Data Extraction Framework

Variable	Description
Author(s)	Study authors
Year	Publication year
Country	Study location
Study design	Research methodology
Housing model	Cooperative housing approach
Sustainability outcomes	Social, economic and environmental findings
Implementation barriers	Financial, legal, governance and technical constraints
Policy implications	Recommendations for practice

Source: *Author's conceptualization (2026).*

3.8 Data Analysis

A thematic synthesis approach was applied to the literature, drawing on the method proposed by Thomas and Harden (2008). This technique allows the combination of evidence from both qualitative and quantitative literature into clear analytical themes, without sacrificing the individual context of each study.

Data were analysed in three phases: first, relevant data were extracted and coded according to the aims of the review. Secondly, similar codes were grouped together into descriptive categories. Thirdly, these descriptive categories were developed into overarching analytical themes, which explored the means by which housing cooperatives could contribute to sustainable urban development, as well as how this process might be encouraged.

4. Results and Discussion

Forty-one studies published between 2000 and 2024 in Africa, Europe, Asia and Latin America were synthesized to understand the contributions of housing cooperatives to sustainable urban development. Despite institutional and socio-economic diversity in various contexts, there is remarkable convergence in the contributions reported in the literature. Five major themes emerged from the thematic synthesis, representing key areas through which housing cooperatives contribute to sustainable urban development: Housing affordability, Environmental sustainability, Social inclusion and participatory governance, Economic sustainability and Implementation barriers. The themes collectively articulate how housing cooperatives can contribute to sustainable urban development and highlight the contextual limitations particularly for Nigeria.

4.1 Housing Cooperatives and Housing Affordability

Housing affordability emerged as the most extensively documented contribution of housing cooperatives in the literature reviewed. Conventional housing market processes which often driven by private investment and land speculation render housing unaffordable to low and middle-income groups. Unlike such housing systems, cooperative housing allow its members to pooled financial resources collectively to purchase land, design, and construct homes at a lower cost through the principles of democratic ownership and collective responsibility (ICA, 1995; Lang & Novy, 2014; Tummers, 2016).

Latin America is a repository of successful and affordable cooperative housing schemes. For instance, the Uruguayan Federation of Mutual-Aid Housing Cooperatives (FUCVAM) is a prime example where members provide mutual labor and receive support from the state in terms of financing to construct and provide affordable quality housing to lower-income segments of society (World Habitat, 2016; Shah, 2018). Similarly, the Kenyan National Cooperative Housing Union (NACHU) employs cooperative savings mobilization, micro-finance, and technical assistance for housing provision for the urban poor (Lines & Makau, 2018).

Even within the Nigerian context, some efforts toward increasing housing affordability through cooperatives have been reported. Ibem and Odum (2011) indicated that the NEPA District Cooperative Thrift and Loan Association in Enugu has enabled its members to jointly acquire urban land that would have been outside their reach if it were not for collective efforts. Azeez and Mogaji-Allison (2017) also confirmed that in Lagos, cooperative societies have fostered the affordability of housing through pooled savings and by reducing costs incurred from various activities in the land and housing acquisition processes.

These findings generally imply that housing cooperatives can enhance housing affordability by reducing land costs, pooling of funds, eliminating intermediary speculative value, and increasing housing tenure security.

These qualities make cooperative housing a crucial instrument for addressing housing needs in developing nations like Nigeria where access to mortgage finance is often severely limited for many urban residents.

4.2 Environmental Sustainability Outcomes

The empirical evidence from the reviewed literature uniformly indicates that housing cooperatives contribute positively towards environmental sustainability in urban areas by supporting resource efficient housing, promoting climate resilience and the development of sustainable environments. While the core function of cooperative housing may be to provide decent shelter, many have successfully integrated innovative design and

management practices to minimise their environmental footprints and build robust, liveable and climate resilient environments.

In Europe, particularly within Germany and the Netherlands, numerous Baugruppen and collaborative housing initiatives have demonstrated innovative approaches in integrating low-carbon construction, environmentally sound materials, energy-efficient designs and climate-resilient infrastructure into cooperative housing projects (Tummers, 2016; Czischke, 2018). Previous work on eco-housing by Haraldsson et al. (2001) clearly shows the contribution of collective housing to reductions in household energy use and other resource efficiency improvements through good building design.

Case study data from developing countries similarly indicates that it's possible to bring positive environmental effects by building homes in groups. For instance, the McClymont et al (2019) case provides a case of cooperative housing improving flood resilience and drainage on a community level. Similarly, a study by Magdy et al (2020) presents that within the RetroFit Homes project, the collective participation resulted in the delivery of environmental retrofitting measures.

From the Nigerian context, the adoption of local building materials, climate-appropriateness housing design and the leverage of collective action towards environmental dimension of urbanisation and construction cost reduction was indicated by researchers such as Taiwo et al (2012) and Azeez and Mogaji-Allison (2017).

Furthermore, the reconstruction project of Ngarannam in Borno state of Nigeria showcased the success of climate-resilient design coupled with solar energy technology and rainwater harvesting to address cultural and environmental requirements of the locality (Elorduy, 2023). All the findings presented suggest that housing cooperatives can serve as the space and avenue for the adoption of environmentally sound and sustainable housing approaches to improving the urban environment.

4.3 Social Inclusion and Participatory Governance

Both social inclusion and democratic forms of governance are defining and interrelated characteristic of housing cooperatives and these traits permeate all stages and layers of interaction from the planning, finance and management and maintenance processes for the entire housing unit.

Across almost all studies reviewed, cooperative housing has provided residents the space to directly participate in the decision-making processes and collective management of their homes and neighborhoods, leading to improved social cohesion, trust and accountability in housing delivery (Lang & Novy, 2014; Czischke, 2018).

In Asia, the Baan Mankong Program in Thailand for instance demonstrates the successful use of community savings mobilization, collective decision-making and support from the government to support slum dwellers to upgrade housing while retaining their social networks and cohesion (World Habitat, 2016; Roberts & Kanaley, 2006). Likewise, community-based housing organisations in Kenya and South Africa have enhanced collective decision-making, collective action and community participation in shaping their physical and social environments and improving their tenure security (Lines & Makau, 2018; Huchzermeyer, 2011).

Similarly, within Nigeria, cooperative housing has fostered increased social cohesion and participatory governance in the housing sector. Ugwu (2018) argued that housing cooperatives like the Shell Cooperative Investment and Thrift Society facilitate members' access to affordable housing and welfare through democratic decision-making. In a similar vein, Agbola and Alabi (2000) concluded that by involving its members in the design and planning of the housing project, the Ikota Housing Cooperative minimized conflicts associated with housing development and improved community acceptance of the final housing outcomes. Therefore, participatory governance, it could be argued, is not merely an operational principle, but rather a mechanism through which housing cooperatives ensure social inclusion and equitable participation in shaping urban outcomes.

4.4 Economic Sustainability and Collective Resource Mobilization

Another significant outcome identified within cooperative housing systems was economic sustainability. Cooperative organizations contribute to greater economic sustainability through members' pooling of savings, sharing investment risk, access to collective credit and the reduction in the cost of housing construction (ICA, 1995; Lang & Novy, 2014). The combination of such financial mechanisms makes the housing projects more sustainable over the long-run and helps low to middle-income households afford to live in their houses.

Evidence from several international case studies show how collective finance leads to substantial cost reduction in housing construction and provides better housing maintenance over time.

For instance, The FUCVAM model combines member's labour with public funds to significantly reduce development costs while maintaining high standards of housing quality (World Habitat, 2016; Shah, 2018). Financing mechanisms of this kind have been reported from countries in Kenya, Uruguay and several Asian cooperative housing programmes where through revolving funds and collective saving, cooperative housing has been developed sustainably (Lines & Makau, 2018; Roberts & Kanaley, 2006). Nigerian studies further highlight that housing cooperatives assist members in acquiring land, minimize transaction costs and are instrumental in the mobilization of collective funds for housing development and infrastructure (Ibem & Odum, 2011; Ekundayo

& Keffi, 2018). As a result of their pooled resources and collective ownership, housing cooperatives are less reliant on commercial mortgage finance thereby opening up the formal housing markets to low-income groups. This suggests that in addition to enabling housing provision, cooperative housing offers a means to greater economic sustainability through the mobilization of collective resources.

4.5 Barriers to Implementation

Despite the benefits associated with housing cooperatives, significant barriers to implementation are commonly observed in both developed and developing countries. A review of literature reveals five main categories of barriers encountered in housing cooperative initiatives: Policy and Legal Barriers Many studies identified that housing cooperatives development has been hindered by several policy and legal obstacles such as weak legal status of co-operative housing ownership, lack of clarity of land ownership systems, restrictive zoning and planning laws and slow approval procedures particularly in countries such as Nigeria, Kenya and Egypt (Huchzermeyer, 2011; Sims & Abd-El Fattah, 2016; Azeez & Mogaji-Allison, 2017). Financial Constraints Constraints on housing cooperatives are found in access to affordable and adequate financing and credit.

Lack of government subventions, limited loan facilities from institutions, high land acquisition costs and insufficient public and institutional financial support mechanisms has constrained the growth of co-operative housing in many developing countries (Bredenoord, 2017; Adegun & Olusoga, 2019; Ijaiya et al., 2020). Technical and Institutional Capacity Constraints many housing cooperative organisations lack professional skills of Architects, Planners and Engineers to design and implement projects and access technical support. Lack of adequate external support in terms of professional guidance for long-term management and sustainability has also been reported in South Africa, Colombia and Nigeria, and various studies have highlighted the need for strong collaboration between cooperatives, university departments and government institutions (Huchzermeyer, 2011; Odoanyanwu et al., 2017; Urazn-Bonells et al., 2024).

Governance and Leadership Constraints The ineffectiveness and weaknesses in the functioning of housing cooperatives have also been linked to poor governance structure.

This includes weak mechanisms of accountability, poor financial transparency, leadership conflict, dominance of a few elite and lack of meaningful member participation and engagement in decision-making (McClymont et al., 2019). Gender and Social Inclusion Issues A number of studies have also brought to light issues of gender and social inclusion barriers in housing cooperatives. In some cases, women and other marginalized and vulnerable groups such as tenants are excluded or underrepresented in leadership positions despite cooperative principles being based on democratic participation and equal opportunity (Bastida et al., 2020). In summary, this review has identified a number of common barriers hindering the effectiveness of housing cooperative housing such as policy and legal hindrances, limited financial capacity, lack of technical skills and poor institutional governance and inclusion practices.

Table 4 Synthesis of Selected Findings from the Systematic Review

Theme	Main Findings	Representative Studies
Housing affordability	Collective ownership, reduced construction costs, improved land access	Tummers (2016); Ibem & Odum (2011); Lines & Makau (2018)
Environmental sustainability	Energy-efficient housing, climate resilience, green construction	Haraldsson et al. (2001); McClymont et al. (2019); Taiwo et al. (2012)
Social inclusion	Democratic governance, community participation, social cohesion	Lang & Novy (2014); Czischke (2018); Ugwu (2018)
Economic sustainability	Shared financing, pooled savings, reduced transaction costs	World Habitat (2016); Ekundayo & Keffi (2018)
Implementation barriers	Legal, financial, governance, technical and institutional constraints	Huchzermeyer (2011); Bredenoord (2017); Adegun & Olusoga (2019)

Source: *Author's conceptualization (2026).*

5. Conclusion, Policy Implications and Recommendations

5.1 Conclusion

This systematic review synthesized evidence from 41 studies examining the contribution of housing cooperatives to sustainable urban development across Africa, Asia, Europe and Latin America. This review shows that housing

cooperatives are not merely alternative providers of housing, but rather community-based institutional arrangements that can promote affordable housing, environmental sustainability, social inclusion and economic resilience through democratic governance and collective resource mobilization. While the modes of operation may vary across countries, the evidence consistently points to the fact that housing cooperatives enhance community engagement, provide better access to secure housing, encourage optimal utilization of land and financial resources, and support environmentally conscious urban development (Lang & Novy, 2014; Tummers, 2016; Czischke, 2018).

The review also shows that the level of sustainability outcomes in housing cooperatives is highly dependent on the existence of enabling institutional environments. Where such environments with supportive policies and legislation, affordable cooperative finance, technical assistance, and open and fair governance processes, are in place, the success of housing cooperatives in building a resilient and inclusive housing sector have been more significant. Conversely, weak legal recognition, insufficient financing facilities, limited institutional capacity, and deficient governance structures continue to inhibit the effectiveness and scale of cooperative housing projects, especially in developing economies (Bredenoord, 2017; Huchzermeyer, 2011; Adegun & Olusoga, 2019).

The finding of this review are particularly relevant to Nigeria, where housing cooperatives have a long tradition within the country's social and economic systems, yet their integration into national urban housing policy is still minimal. The global evidence captured by this systematic review confirms that housing cooperatives can play an instrumental role in complementing existing public and private sector provision of housing, with particular reference to affordability, community participation, and environmentally responsible urban development. This involves reforms which put housing co-operatives on the agenda as part of the policy-making, implementing and management process for housing, land tenure and urban planning. This not only supports policy relevance but also enriches academic debate with a comprehensive, synthesis-driven account of the evidence base on the potential of housing co-operatives for sustainable urban development. Instead of treating aspects of sustainability such as affordability, governance, environment or social inclusion individually, the review offers a holistic vision of the nexus of these dimensions. This offers an advance over existing knowledge and a useful basis for future empirical research, particularly in the context of developing countries where relevant empirical data is scarce.

5.2 Policy Implications

The review findings have several implications for urban planners, policymakers, developers of cooperative housing institutions, lenders and development agencies concerned with creating sustainable housing systems.

Firstly, it is important for governments to treat housing cooperatives as key agents of housing and urban development. The integration of cooperative housing into urban development strategies can contribute to diversifying housing supply mechanisms and increasing the availability of affordable housing options for low and middle-income groups.

Secondly, financial institutions and lending bodies need to create appropriate financial products for housing cooperative organizations. The availability of affordable loan products, loan guarantees, revolving funds for housing, and concessionary finance will enhance the capacity of cooperatives to undertake large scale housing developments.

Thirdly, urban planning authorities should create enabling environments for cooperation and participate with cooperatives in neighborhood development and infrastructure provision, as well as environmental management of urban areas. This collaborative planning process will improve the sense of ownership within the communities and the long-term sustainability of urban development.

Fourthly, universities, professional institutions and professional organizations should initiate and foster collaboration to provide housing cooperatives with expertise in architecture, engineering, law, finance, and project management. This support network would foster high-quality construction, compliance with regulatory requirements and effective institutional governance of housing cooperatives.

5.3 Recommendations

On the basis of the findings of this systematic review, the following recommendations are made:

1. The Government of Nigeria should consider mainstreaming and official recognition of housing cooperatives into the national housing and urban development policies. Consideration must be given to the current legislation related to housing like the provisions in the Land Use Act and the urban development guidelines for a conducive collective ownership and acquisition of land, and for simplification of urban planning and development approvals for cooperative housing developments (Ibem & Odum, 2011; Azeez & Mogaji-Allison, 2017).
2. Dedicated loan and credit facilities should be put in place by the Government, development finance institutions, cooperative banks and mortgage institutions for the registered housing cooperatives. Such facilities which could take various forms of subsidized loan rates, mortgage insurance products, revolving loan funds, infrastructure finance for housing cooperatives, are necessary for addressing the housing affordability problem and ensure sustainability (Bredenoord, 2017; Ijaiya et al., 2020).
3. Service support centers for housing cooperatives should be developed through collaboration among government departments, higher learning institutions, cooperative unions/federations, professional associations and financial

institutions for the purpose of providing technical advisory on the design, architectural, engineering, legal, financial, and management of projects. Capacity building for housing cooperative leaders on good governance and management practices, and skills on the cooperative sector should also be provided on a continuous basis (Odoanyanwu et al., 2017).

4. The housing cooperatives must strengthen their internal governance systems. Internal governance could be enhanced through implementing sound management practices including use of ICT-based information system, independent financial auditing, significant member participation in decision making and good leadership succession mechanisms (McClymont et al., 2019). Good governance in housing cooperatives will increase members' confidence, enhance legitimacy and guarantee their long term operation.

5. The housing cooperatives should be committed to mainstreaming social and gender inclusion in their governance structure and activities, through facilitating participation of excluded people, such as women, youth, persons with disabilities, and tenants (Bastida et al., 2020).

6. Future research efforts should shift from systematic reviews to empirical studies that examine the performance of housing cooperatives in various contexts that differ in their institutional, social and economic characteristics. Comparative studies on the performances of housing cooperatives in Nigeria and other countries should also be undertaken to inform policy makers and the understanding of the role of cooperative housing in the achievement of the SDG 11.

5.4 Limitations of the Study

This review has several limitations that need to be addressed. Firstly, the study is limited to English-language publications in the period 2000–2024. It is possible that relevant information in other languages was missed.

Secondly, although this review has been carried out using a systematic methodology, due to the significant variability in terms of study design, outcomes measured and context of studies, the evidence synthesis has relied largely on narrative synthesis rather than meta-analysis.

Thirdly, as a review of existing published literature, it is subject to the limitations of the included studies' quality and reporting of results. However, this review provides a thorough and transparent analysis of the current literature on housing cooperatives and their contribution to sustainable urban development, and a strong evidence base for policy development.

Abbreviations

None.

Acknowledgment

The authors express their sincere gratitude to everyone who offered patience, support, and invaluable assistance throughout this research. The constructive feedback and scholarly contributions were critical to the study's success.

Author Contributions

The authors were responsible for the study design, data collection, conceptualization, methodology, manuscript drafting, data analysis, and presentation of results.

Conflict of Interest

The authors confirm that there are no conflicts of interest regarding the publication of this work.

Declaration of Artificial Intelligence (AI) Assistance

The authors affirm that AI tools, including ChatGPT from OpenAI, were used solely for language editing and to enhance the clarity of expression within the manuscript.

Ethics Approval

Ethical approval was not required for this study, as it involved analysis of employee performance data without personal identifiers or sensitive information. All data were handled confidentially, adhering to established ethical standards for organizational research.

Funding

This research did not receive funding from any public, commercial, or non-profit agency.

References

1. Adegun, O. B., & Olusoga, O. O. (2019). Self-help housing: Cooperative societies' contributions and professionals' views in Akure, Nigeria. *Built Environment*, 45(3), 332–345. <http://www.jstor.org/stable/45216291>
2. Agbalajobi, D., Awal, M. S., Lawanson, T., & Paller, J. W. (2025). Claiming the city: Citizenship and political connections in African neighborhoods. *World Development*, 192, 107010.
3. Agbola, T., & Alabi. (2000). Sustainable housing delivery: Lessons from international experience. In National workshop on sustainable housing delivery in Nigeria: Challenges for public/private partnership. Development Policy Centre.

4. Azeez, T., & Mogaji-Allison, B. (2017). Constraints of affordable housing through cooperative societies in tertiary institutions in Lagos State, Nigeria. *Journal of Geography and Regional Planning*, 10(3), 39–46. <https://doi.org/10.5897/JGRP2016.0599>
5. Barbosa, M. W., Pumpin, M. de la Á. R., & Vargas, G. (2025). Prioritization of water footprint management practices and their effect on agri-food firms' reputation and legitimacy: A best–worst method approach. *Sustainability*, 17(8), 3453. <https://doi.org/10.3390/su17083453>
6. Bastida, M., Pinto, L. H., Olveira Blanco, A., & Cancelo, M. (2020). Female entrepreneurship: Can cooperatives contribute to overcoming the gender gap? A Spanish first step to equality. *Sustainability*, 12(6), 2478. <https://doi.org/10.3390/su12062478>
7. Bredenoord, J. (2017). Self-managed cooperative housing by mutual-assistance as introduced in Central America between 2004 and 2016: The attractiveness of the “FUCVAM” model of Uruguay. *Journal of Architectural Engineering Technology*, 6(1), 188. <https://doi.org/10.4172/2168-9717.1000188>
8. Chavez, D. (2018, June 21). Sweat equity: How Uruguay's housing coops provide solidarity and shelter to low-income families. P2P Foundation. <https://p2pfoundation.net/sweat-equity-how-uruguays-housing-coops-provide-solidarity-and-shelter-to-low-income-families/>
9. Czischke, D. (2018). Collaborative housing and housing providers: Towards an analytical framework of multi-stakeholder collaboration in housing co-production. *International Journal of Housing Policy*, 18(1), 55–81. <https://doi.org/10.1080/19491247.2016.1265265>
10. Dale, A., & Newman, L. (2009). Sustainable development for some: Green urban development and affordability. *Local Environment*, 14(7), 669–681. <https://doi.org/10.1080/13549830903089283>
11. Daoud, A. O., Othman, A. A. E., Ebohon, O., & Bayatti, A. (2021). Quantifying materials waste in the Egyptian construction industry: A critical analysis of rates and factors. *Ain Shams Engineering Journal*. <https://doi.org/10.1016/j.asej.2021.02.039>
12. Ekundayo, A., & Keffi, A. M. (2018). Housing provision in Nigeria: The cooperative alternative. *African Journal of Economics and Sustainable Development*, 1(1), 70–78.
13. Elorduy, N. A. (2023, September 28). Return and resettlement: Masterplan in Ngarannam, Nigeria by Tosin Oshinowo. *Architectural Review*. <https://www.architectural-review.com/essays/return-and-resettlement-masterplan-in-ngarannam-nigeria-by-tosin-oshinowo>
14. Ezeigbo, C. N., Tella, A., Chinenye, O. B., Okonkwo, E. U., Nwafulundu, O. O., & Oputa, C. L. (2026). Midwives and spouse psychological support during pregnancy and birth in selected hospitals in Aba, Abia State. *International Journal of Advanced Medical and Allied Sciences*, 2(02), 51–58.
15. Foster, S. R., & Iaione, C. (2016). The city as a commons. *Yale Law & Policy Review*, 34(2), 281–349.
16. Haraldsson, H. V., Ranhagen, U., & Sverdrup, H. (2001). Is eco-living more sustainable than conventional living? Comparing sustainability performances between two townships in Southern Sweden. *Journal of Environmental Planning and Management*, 44(5), 663–679.
17. Howard, E. (2014, June 25). Could community land trusts offer a solution to the UK's housing crisis? *The Guardian*. <https://www.theguardian.com/housing-network/2014/jun/25/community-land-trusts-solution-uk-housing-crisis>
18. Huchzermeyer, M. (2011). Cities with “slums”: From informal settlement eradication to a right to the city in Africa. UCT Press.
19. Ibem, E. O., & Odum, C. O. (2011). The role of co-operatives in securing land for urban housing in Nigeria: A case study of NEPA District Co-operative Thrift and Loan Saving Association, Enugu. *Journal of Co-operative Studies*, 44(2), 25–36.
20. Ijaiya, M. A., Bakare-Aremu, T. A., Ajudua, E. I., & Shitu, S. (2020). Cooperative societies and households poverty reduction nexus: A study of Minna Metropolis, Niger State, Nigeria. *KIU Journal of Social Sciences*, 6(2), 275–286.
21. International Cooperative Alliance. (1995). Cooperative identity. <https://ica.coop/en/cooperatives/cooperative-identity>
22. Lang, R., & Novy, A. (2014). Cooperative housing and social cohesion: The role of linking social capital. *European Planning Studies*, 22(8), 1744–1764. <https://doi.org/10.1080/09654313.2013.800025>
23. Lines, K., & Makau, J. (2018). Taking the long view: 20 years of Muungano wa Wanavijiji, the Kenyan federation of slum dwellers. *Environment and Urbanization*, 30(2), 407–424. <https://doi.org/10.1177/0956247818785327>
24. Magdy, Y., Kamel, W., & El Menshawy, A. (2020). Affordable housing retrofitting strategies through coupling simulation method criteria. *Scientific Journal of the Faculty of Fine Arts Alexandria University*, 8(2), 11–19.
25. McClymont, K., Morrison, D., Beevers, L., & Carmen, E. (2019). Flood resilience: A systematic review. *Journal of Environmental Planning and Management*. <https://doi.org/10.1080/09640568.2019.1641474>

26. Moore, T., & McKee, K. (2012). Empowering local communities? An international review of community land trusts. *Housing Studies*, 27(2), 280–290. <https://doi.org/10.1080/02673037.2012.647306>
27. Nnoje, A. I., Okonkwo, C. J., Ugboaga, C. O., & Otugo, N. E. (2025). International competition and entrepreneur development in Nigeria. *Journal of Economics Finance and Innovation*, 4(1). Retrieved from <https://sbsuejournals.uz/index.php/EFI/article/view/407>
28. Odoanyanwu, N. M., Okonkwo, J. C. & Irouke, V. M. (2017). Adopting the Cooperative Approach and Low Cost Housing Construction Technique in Ameliorating the Housing Deficit in Enugu. *The (IIARD) International Journal of Geography and Environmental Management*. Vol. 3, No.2. 25 – 34.
29. Okafor, O. E., Okonkwo, C. J., & Ngene, N. C. (2024). Assessment of the influence of cooperative membership on farm business sustainability and food security in Anambra State. *West African Journal on Sustainable Development (WAJSD)*, 1(2), 42–57.
30. Okafor, O. E., & Okonkwo, C. J. (2022). Assessment of the socio-economic effect on violence against women amidst COVID-19 pandemic in Awka South Local Government Area, Anambra State, Nigeria. *IOSR Journal of Humanities and Social Science*, 9(1), 17–29. <https://doi.org/10.9790/019X-09011729>
31. Okeke, C. O., Ogbuefi, L. E., Okonkwo, C. J., Dike, G. N., Obananya, C. G., & Williams, G. (2026). A PLS-SEM analysis of environmental-informational entrepreneurship-eco-innovativeness relationship: Mediating and moderating effect of green market-appropriating and green institutions. *Well Testing Journal*, 35(S1), 44–80. Retrieved from <https://welltestingjournal.com/index.php/WT/article/view/277>
32. Okolo, C., Agwu, K., Kwashi, W., & Ayandegi, S. (2024). Cooperatives as a means of enhancing sustainable affordable housing provision in Nigeria: A case study of Federal Polytechnic Nekede, Owerri, Nigeria [Dataset]. figshare. <https://doi.org/10.6084/m9.figshare.26614228.v1>
33. Okonkwo, C. J., Orajaka, U. P., Ezeokafor, U. R., & Oguejiofor, N. D. C. (2026). Digital entrepreneurship and small- and medium-scale enterprises (SME) development in South East Nigeria. *African Journal of Economic and Management Studies*, Ahead-of-print. <https://doi.org/10.1108/AJEMS-10-2025-0804>
34. Okonkwo, C. J., Adeyeye, M. M., Salami, A. O., Ugwa, M., & Ike, J. O. (2026). Ethical partnerships and governance: Scaling strategies for social enterprise performance in Enugu Metropolis. *Journal of Emerging Trends in Management Science and Entrepreneurship*, 8(2), 603–622.
35. Okonkwo, E. U. (2025). A systematic review of child abuse mitigation policies in Nigeria, South Africa, and the United States: Progress toward global child protection standards. *International Journal of Medical Evaluation and Physical Report*, 9(6), 73–84.
36. Okonkwo, E. U., & Ingwu, J. A. (2025). Knowledge and practice of healthcare waste management among healthcare professionals in Enugu State University Teaching Hospital, Enugu. *International Journal of Medical Evaluation and Physical Report*, 9(6), 85–99.
37. Olson, M. (1965). *The logic of collective action: Public goods and the theory of groups*. Harvard University Press.
38. Onwuka, F. N., Otaokpukpu, J. N., & Okonkwo, C. J. (2017). Effectiveness of extension services in enhancing the productivity, income and welfare of women farmers' cooperatives in Kajuru Local Government Area of Kaduna State. *IIARD International Journal of Economics and Business Management*, 3(8), 86–100.
39. Otaokpukpu, J. N., & Okonkwo, C. J. (2023). Strategy for rural development: The cooperative way. *Forshen Hub International Journal of Entrepreneurial and Cooperative Studies*, 6(5).
40. Otaokpukpu, J. N., Ogbu, S. O., & Okonkwo, C. J. (2017). Effect of type and participation on cooperative financial performance in Orumba South Local Government Area of Anambra State. *IIARD International Journal of Social Sciences and Management Research*, 3(8), 104–114.
41. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., et al. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, Article n71. <https://doi.org/10.1136/bmj.n71>
42. Roberts, B., & Kanaley, T. (Eds.). (2006). *Urbanization and sustainability in Asia: Case studies of good practice*. Asian Development Bank.
43. Shah, N. (2018, November 1–2). Mutual-aid cooperative housing as a bridge between self-provisioned and the formal product delivery model: Lessons from Uruguay [Conference paper]. *Alternatives to the Present: A Conference on Architecture, Urbanism, Sociology, Development & Planning*, London, United Kingdom. https://www.researchgate.net/publication/355913540_MUTUAL-AID_COOPERATIVE_HOUSING_AS_A_BRIDGE_BETWEEN_SELF-PROVISIONED_AND_THE_FORMAL_PRODUCT_DELIVERY_MODEL_LESSONS_FROM_URUGUAY
44. Sims, D., & Abd-El Fattah, H. (2016). *Egypt housing profile*. United Nations Human Settlements Programme.
45. Taiwo, A. A., Fadairo, G., Adedeji, Y. M. D., & Olotuah, A. O. (2012). Sustainable housing development in Nigeria: Using low-carbon technology. *WIT Transactions on Ecology and the Environment*, 162, 149. <https://doi.org/10.2495/EID120114>

46. Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology*, 8(1), Article 45. <https://doi.org/10.1186/1471-2288-8-45>
47. Tummers, L. (2016). The re-emergence of self-managed co-housing in Europe: A critical review of co-housing research. *Urban Studies*, 53(10), 2023–2040. <https://doi.org/10.1177/0042098015586696>
48. Ugwa, M., Okonkwo, C. J., & Madu, J. C. (2020). Effect of ethical conduct on the performance of organizations in a competitive business environment (A study of OSISATECH Polytechnic Enugu). *Journal of Humanity*, Coal City University, 1(2).
49. Ugwa, M., & Okonkwo, C. J. (2015). Challenges of terrorism in Nigeria and the implications for multinational enterprises. *International Research Journal of Social Science & Management (RJSSM)*, 4(11), 140–151.
50. Ugwa, M., & Okonkwo, C. J. (2015). Redirecting education system towards entrepreneurship development. *International Research Journal of Commerce & Behavioural Science (RJCBS)*, 4(5), 1–12.
51. Ugwu, A. (2018). The role of co-operatives societies in housing delivery: A case study of Enugu State. *Afribary*. <https://afribary.com/works/the-role-of-co-operatives-societies-in-housing-delivery-a-case-study-of-enugu-state-8534>
52. UN-Habitat. (2010). Cooperative housing: The way forward for Africa. United Nations Human Settlements Programme.
53. UN-Habitat. (2020). World cities report 2020: The value of sustainable urbanization. United Nations Human Settlements Programme.
54. Urazán-Bonells, C. F., Rondón-Quintana, H. A., & Caicedo-Londoño, M. A. (2024). The effects of economic sector GDP on low-income housing supply: Colombia's regions case. *Buildings*, 14(1), 267. <https://doi.org/10.3390/buildings14010267>
55. World Commission on Environment and Development. (1987). *Our common future*. Oxford University Press.
56. World Habitat. (2012). FUCVAM: Mutual-aid housing cooperatives in Uruguay. <https://www.world-habitat.org>
57. World Habitat. (2016). South-South cooperation: International transfer of the FUCVAM model of mutual aid housing cooperatives. <https://www.world-habitat.org/wp-content/uploads/2016/03/Report-South-South-cooperation-FUCVAM-WEB-5MB.pdf>
58. Yesudhas, R. (2021). Access to water, sanitation and hygiene in slums of Mumbai: Minor research project report. College of Social Work (Autonomous), Nirmala Niketan....