



**SCHOOL OF ENVIRONMENTAL TECHNOLOGY,
FEDERAL UNIVERSITY OF TECHNOLOGY**
MINNA, NIGER STATE, NIGERIA



4th

INTERNATIONAL CONFERENCE (SETIC2022)

BOOK OF PROCEEDINGS

MAIN THEME:

**SUSTAINABLE DEVELOPMENT AND RESILIENCE OF THE
BUILT ENVIRONMENT IN THE ERA OF PANDEMIC**

6th - 8th February, 2023

**VENUE: NITDA Centre,
Federal University of Technology,
Minna, Niger State, Nigeria**

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Federal University of Technology Minna, Nigeria*

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Federal University of Technology Minna, Nigeria*

**EDITOR IN CHIEF
B.J. Olawuyi**





School of Environmental Technology International Conference (SETIC 2022)

6th – 8th February, 2023

**Federal University of Technology Minna, Niger
State, Nigeria**

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**EDITOR IN CHIEF
B. J. Olawuyi**

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PREFACE

The 4th edition of School of Environmental Technology International Conference (SETIC2022) is organised by School of Environmental Technology, Federal University of Technology Minna, Nigeria. In collaboration with Massey University New Zealand, University of Namibia, Namibia, Department of Architectural Technology, Najran University, Saudi Arabia, Department of Civil Engineering, Stellenbosch University, Stellenbosch, South Africa and the Global Sustainable Futures, UK.

The main theme for this year conference is “**Sustainable Development and Resilience of the Built Environment in the Era of Pandemic**” and is of interest to everyone going by the fact that housing is a necessity following only after food and clothing while living in crowded places and poor sanitation is a concern and possible cause of spread of diseases and occurrence of epidemic/pandemic. This promotes and encourage innovative and novelty for emerging property management strategies in a pandemic era; modern geospatial tools for epidemiology; architecture, resilience and healthy buildings in pandemic era; planning for sustainable resilient neighbourhoods and cities in COVID-19 era; sustainable and resilient cities; sustainable cost management of built environment projects in the era of covid-19; wellbeing and resilience of the built environment.

The responses from participants for this conference are overwhelming, well attended, and successful. The operation mode was virtual for all participants with presentations in mode Our participants are from various Universities and other sector across the globe, from countries like United Kingdom, New Zealand, Saudi Arabia, South Africa, Namibia, Ethiopia and Nigeria just to mention a few. Hence, this conference provides a good platform for professionals, academicians and researchers to widen their knowledge and approach on latest advances in research and innovation. Papers presented in this conference cover a wide spectrum of science, engineering and social sciences.

Finally, a note of thanks must go to SETIC 2022 Local Organizing Committee (LOC) for their remarkable dedication in making this conference a success. We hope the event will prove to be an inspiring experience to all committee members and participants.



ACKNOWLEDGEMENTS

The effort put together in achieving the success of SETIC 2022 is predicated on the feat of the previous three edition of School of Environmental Technology International Conference held in 2016, 2018 and 2021, respectively. The support and goodwill from Vice-Chancellor of Federal University of Technology, Dean School of Environmental Technology, Dr. Renuka Thakore, Dr Dodo Y. A., Prof. James O.B. Rotimi and many other highly motivated people are highly appreciated.

It is also my privilege and honour to welcome you all, on behalf of the Local Organizing Committee (LOC) to the 4th edition of the Biennial School of Environmental International Conference (SETIC2022). This Conference which was earlier schedule for April, 2022 is holding now (6th to 8th February, 2023) due to the prolonged ASUU-FGN crisis which made our public Universities in Nigeria to be closed for over Eight Months. Our experience in the 3rd edition held in 2021 after the COVID-19 Pandemic has thought us on new ways of doing things with the Virtual Conferencing offering us a wider coverage, it is our hope that SETIC2022 will be an improvement on the Participants experience of opportunity available for global networking and interaction at Conferences via the Virtual mode of presentation.

The conference provides an international forum for researchers and professionals in the built environment and allied professions to address fundamental problems, challenges and prospects of **Sustainable Development and Resilience of the Built Environment in the Era of Pandemic**. The conference is a platform where recognized best practices, theories and concepts are shared and discussed amongst academics, practitioners and researchers. This 2022 edition of SETIC has listed in the program a Round Table Talk on on Housing Affordability Beyond COVID-19 with selected Speakers from across the globe available to do justice on the topic of discussion. Distinguished Conference participants, permit me to warmly welcome our Keynote:

- Dr. Ibrahim Idris, *Director Public health, State Ministry of Health, Niger State, Nigeria;*
- Dr. A.A. Bilau, *Lecturer and expert in Disaster Risk Management, Department of Building, Federal University of Technology, Minna, Nigeria and;*
- Dr. Yakubu Aminu Dodo, *Ass. Prof. Architecture Engineering Department, Faculty of Engineering, Najran University, Najran, Saudi Arabia;*

And the lead Discussants for the Round Table Talk:

- Prof. James O.B. Rotimi, *Professor of Construction Economics & Management, School of Built Environment, College of Sciences, Massey University of New Zealand;*
- Prof. O.A. Kemiki, *Professor of Estate Management and Valuation, Federal University of Technology, Minna, Nigeria;*
- Dr. Renuka Thakore, *Founder, Institute for Global Sustainable Futures, Progress through Partnership, UK;*
- Dr. Guillermo Delgado, *Senior Lecturer, Architecture and Acting Director, Institute of Land, Livelihoods and Housing (ILIH), Namibia University of Science and Technology, Namibia;*
- Prof. Adewumi John Babafemi, *Associate Professor and Head of Construction Materials and Unit; Stellenbosch University, Stellenbosch, South Africa;*
- Dr. Yakubu Aminu Dodo, *Ass. Prof. Architecture Engineering Department, Faculty of Engineering, Najran University, Najran, Saudi Arabia.*



for accepting to share from their knowledge, wealth of experience and be available to interact with participants on varied issues on “**Sustainable Development and Resilience of the Built Environment in the Era of Pandemic**”.

As reflected on the Conference program, the Conference activities will be Virtual for all presenters to run in four parallel sessions on the Zoon platform. With a total of Seventy (70) articles captured in the Conference Proceedings covering the six subthemes of the Conference, I have no doubt that we are all in for an impactful experience at SETIC2022 as we brainstorm, exchange ideas, share knowledge and participate in evolving more approach to sustainable housing and land management drives.

I implore us all to enjoy every moment of the deliberations and ensure we maximize the great opportunity offered by the Conference to network for better research and career development as we also make new friends.

I also on behalf of myself and the LOC express our appreciation to the Dean, School of Environmental Technology and the entire Staff of the School for giving us the opportunity to steer the ship for SETIC2022. To the Reviewers and various Committees that served with us, I say thank you for helping us through despite the pressure of work.

Thanks, and God bless you all.

Olawuyi, B.J. (PhD)
Chairman, LOC
SETIC2022



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DECLARATION

PEER REVIEW AND SCIENTIFIC PUBLISHING POLICY STATEMENT

6th February, 2023

TO WHOM IT MAY CONCERN

I wish to state that all the papers published in SETIC2022 Conference Proceedings have passed through the peer review process which involved an initial review of abstracts, review of full papers by minimum of two referees, forwarding of reviewers’ comments to authors, submission of revised papers by authors and subsequent evaluation of submitted papers by the Scientific Committee to determine content quality.

It is the policy of the School of Environmental Technology International Conference (SETIC) that for papers to be accepted for inclusion in the conference proceedings it must have undergone the review process and passed the academic integrity test. All papers are only published based on the recommendation of the Reviewers and the Scientific Committee of SETIC

Babatunde James OLAWUYI
Chairman SETIC2022
Federal University of Technology, Minna, Nigeria

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| Prof. Junaid, A | Planning for Sustainable Resilient Neighbourhoods and Cities in Pandemic Era |
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Acknowledgement To Keynote Speakers and Lead Discussants

SETIC 2022 organisers wishes to thank our keynote speakers, and Guest speakers for accepting to create time to share from their rich wealth of knowledge and interact with delegates and participants on varied issues being examined at this year’s conference. A brief profile of each keynote speaker is provided here, this would allow for future interaction and networking with them.

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Performance of Housing Cooperatives Societies in Housing Finance in North Western Geo-Political Zone, Nigeria

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Abstract:

Housing is widely acknowledged as one of life's most fundamental requirements and a requirement for man's existence. In view of this, the study assessed the performance of housing cooperatives in housing finance in north western Nigeria with a view to providing affordable housing. Data was collected from 150 members of the FRSC Staff Housing Cooperative, the Staff of the Kaduna State Housing Cooperation, and NNPC Staff Multi-Purpose Cooperative Societies. Simple random sampling technique was adopted for the study. The analysis of the data was carried out with the use of percentage, mean item score, and Pearson product correlation. The findings revealed that the major sources of funds for the sampled housing cooperative societies for housing provision are through member contributions and development levies. The most widely adopted mode of operation for housing development is the provision of loans, with a mean value of 4.80. The correlation between the performance of housing cooperatives in housing finance and their mode of operation for housing development was found to be significant at 5% (0.05) level of significance ($p = 0.36$). It was concluded that the success rate of cooperative societies in housing provision is average, dispelling the belief that cooperative approach to housing delivery is a sure way of arresting the problem of housing availability. The major recommendation from the study was that in order for cooperative societies to be successful in housing intervention, they must increase their financial capacity and operational funds as well as handle the different obstacles that they face.

Keywords: Cooperatives, Finance, Housing, Housing availability, Performance.

Introduction

Housing is widely acknowledged as one of life's most fundamental requirements and a requirement for man's existence (Akinsanya & Adewusi, 2017). It is one of the most essential indicators for gauging a country's welfare because of its capacity to increase its inhabitants' health and well-being and development of the country economy (Ayeniyo, 2015). While adequate housing is crucial for every person and country, the housing crisis continues to be a worldwide issue and a growing difficulty for both urban and rural people, especially in most emerging nations. In the previous one hundred years, Nigeria has seen a high pace of urbanization (Abdulkareem, *et al.*, 2020), resulting in an exponential population increase in existing urban centers and the emergence of new ones.

However, Nigeria now has a housing gap of approximately 17 million units and need to add roughly 700,000 new units per year for the next 20 years to make up the shortfall (Olugbenga et al, 2017). These figures indicate that Nigeria has a significant housing shortage. Finance is a necessary component of housing supply and is often seen as the lifeblood of real estate development. Any successful and long-term housing program depends on the availability of funds for the housing project. The way cities are built is a direct reflection of how they are funded in terms of housing (Nubi, 2012).

For example, Garba et al (2021) reasoned that when the housing financing system is well-structured, the city will look well-organized with well-built residences. However, housing is a local and long-term commodity, domestic resource mobilization via savings to finance construction of shelter is extremely important. As a result, the task is to formalize and integrate alternative funding mechanism into the official



financial system (Olayinka *et al.*, 2016). Cooperative societies are democratic structures in which people work together to meet their social and economic needs (Oyalawo & Babawale, 2017). Cooperative societies are seen as an economic instrument since they may create savings that commercial finance organizations need in order to provide house financing (Mahmud, 2015). Cooperative societies' efforts show how self-help can solve a wide range of socioeconomic issues. These views are supported by Ayedun, et al, (2017) research on cooperative activities in the Lagos Metropolis. Furthermore, experts on cooperative housing have acknowledged that cooperative societies should have a more defined role in housing financing and supply (Olayinka et al., 2016, cited in Mazadu et al, 2021).

It is within this perspective that this research narrowed down its focus to assess the performance of housing cooperatives in housing finance in North western Nigeria, with emphasis on Kaduna State. In order to achieve this aim, the following objectives were formulated; evaluate the factors that influencing the performance of housing cooperatives in the study area; and to determine the level of satisfaction with the strategies adopted by the cooperative's societies in housing provision.

Literature Review

The pooled effect of high population upsurge and urbanisation in a declining economy has thrown Nigeria into serious housing problems. Ironically, the low-income groups that constitute the majority of Nigerian society are the most affected by the financial menace. The problem of housing shortages is growing worse by the day in many developing nations, including Nigeria. Conceivably, a major trait of the housing crisis notable in urban centers in most developing nations is that of inadequate supply relative to demand. A shortage of adequate housing virtually abounds in every country, particularly in the developing and third-world countries. The shortage, in both quantitative and qualitative terms, is more acute in urban centers. Thus, it is assertive that there is inadequacy in housing to cope with the ever-increasing population in Nigeria. The causes of this dearth in housing are numerous. High construction costs are found to be present in all countries, albeit to varying degrees of significance. Adedeji (2010) attributes the high cost of construction to the rising cost of building materials, the inflation rate in the economy, the high space and quality standards adopted by designers, professional fees for housing design and construction, excessive profit of contractors, and 10% interest payable on the National Housing Fund in Nigeria (NHF).

Moreover, several studies (Farouk, 2014; Olayinka, 2016; Ayedun *et al*, 2017) have evaluated cooperative societies, housing provision, and housing finance in different parts of Nigeria. Each of these studies attempted to identify challenges faced by cooperative societies in housing provision from the perspective of resident satisfaction. The first limitation of the above referenced studies is that, the data used in the studies were collected from selected cooperative societies on their contribution to meeting the housing needs of their members. Secondly, the residents' perceptions of the level of performance of the various housing cooperative societies in housing provision were also used. However, none of those studies focused on Kaduna State or any cooperative housing estate within the north western geopolitical zone of Nigeria. It is for this reason that this research sought to evaluate the performance of housing cooperatives in financing housing in Kaduna State, Nigeria.

Factors Influencing the Performance of Housing Cooperatives

Despite the potentials and the important contributions of housing cooperatives and self-help groups to housing delivery, certain problems hamper their effective operation. It is noted that the contributions of the informal sector in the production of residential housing have been quite obvious over the years, but for the past two decades or so, when the public sector became more active in housing production, the importance of the informal sector has been on the decline. Among others, the problems that militated against the housing production and delivery efforts of the informal organizations include:

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1. Low government support, recognition and inadequate operating environment. Although the 1991 housing policy seeks to mobilize private sector participation in housing provision, the cooperative option has not been explored in practical terms and there has been no adequate supportive environment for it to thrive.
2. Only few people have realized the potentials of self - help and housing cooperatives in housing delivery. People have not been adequately sensitized and mobilized to form cooperatives to meet their housing needs.
3. Financial constraints and the inability of the societies to secure loan or mobilize enough finances from members have been a constraint to the informal housing delivery system. Experience from the Asian countries shows that they do not know how to obtain and manage a mortgage loan. Very often, available savings are used for site acquisition and members have no money left with which to begin construction (Lewin, 1981).
4. Members are not adequately knowledgeable in housing management and administration particularly on technical aspect of building and financial management, e.g., bookkeeping. This often led to poor project supervision, control and financial irregularity.
5. Lack of adequate technical support and facilitation to aid cooperative housing delivery efforts. Most self-groups and housing cooperatives do not receive adequate technical guidance or assistance in their building projects due to poor operating environment. There is often the absence of private, semi-governmental or governmental Technical Service Organisation (TSO) to assist the existing housing cooperatives in project planning, financial administration and supervision of their housing schemes.
6. Problem of land acquisition for housing project development. problem of land ranges from delay in title\certificate of occupancy acquisition and plan approval, land speculation leading to high-cost litigation in case of multiple sale of the same land to different people general inadequate access.
7. Changes in Policy Environment: Changes in government policy is a significant challenge facing co-operatives. Co-operative societies that had enjoyed a considerable amount of financial support of their governments at various times have had to adjust with much strain, 115 when government withdrew support in the face of harsh micro-economic turns. This is especially true for countries like Canada, Turkey, Austria, Poland and Czechoslovakia.
8. Macro-economic Policies: Related to the changes in government policy, the literature revealed that macro-economic policies have constrained housing supply by co-operative societies, since housing production costs generally increased as government withdrew from subsidies and the prices of housing and complementary services increased. This occurred in Poland, Canada, and Austria. This brought about financing challenges for the organizations. On the other hand, at periods of favourable macro-economic climate, cooperatives in countries such as Austria and Belgium enjoyed considerable development.
9. Regulatory Environment: In addition, Saegert and Benitez (2004) maintains that lack of innovative financing options and strict regulatory mechanisms are some challenges in developing and operating low-income housing by co-operative societies. This was evident in almost all countries and several such as Austria and Belgium put in direct policy measures to address this.

Level of Satisfaction with the Strategies Adopted by the Cooperatives Societies in Housing Provision



Satisfaction is the person’s feelings of pleasure or disappointment from comparing a product’s perceived performance (or outcome) to their expectations (Dakurah *et al.*, 2005). This definition makes it clear that satisfaction is a function of perceived performance and expectations. If the performance falls short of expectations, the cooperator is dissatisfied; if the performance matches the expectations, the cooperator is satisfied. If the performance exceeds expectations, the cooperator is highly satisfied or delighted (Dakurah *et al.*, 2005). Olayinka *et al.* (2016) asserted that cooperators satisfaction is a precursor of improved performance and cooperator retention for any cooperative society. In part, the strength of a cooperative depends on its ability to mobilise its resources and members in gaining market share and achieving economic growth and maintaining member commitment, satisfaction, and retaining them. Satisfied, highly committed members are more likely to support their cooperative by participating in all cooperative activities. The reverse occurs when members are unhappy. Member’s goals, what they desire from their cooperatives are critically related to why they joined the cooperative in the first place. These goals also affect member satisfaction with the cooperative, commitment to it, and participation in its activities (Dakurah *et al.*, 2005).

The ability of a cooperative to meet its members’ expectations depends on whether management effectively evaluates membership needs. Often, they do not, and there are several reasons for this. One notion is that of “assumed similitude” – the belief that the interests of the general membership must be similar to their own and, therefore, there is no need to investigate them separately. Secondly, member official communications may be poor (Bello, 2005). The third is reported by (Mazadu *et al.*, 2021), as a divergent set of members objectives both between and within cooperatives, members’ a their cooperatives significantly impact their participation and behavioural intentions. Odhiambo (2003), opined that various internal and external factors might influence the level of member satisfaction. However, the more positive attitude one holds towards an organisation, the more likely it is that the person will patronize or use a service from it.

According to Olanda (2006), achieving high levels of cooperators satisfaction requires cooperative society to continually monitor and examine the experiences, opinions, and suggestions of their cooperators and other people who are likely to be potential members, as democratic organisations, to encourage cooperators patronization for the realization of their distinctive character. Farouk *et al.* (2014) reported that cooperators expressed their satisfaction with housing cooperative loans compared to the National Housing Fund. Gbadeyan (2011) also revealed that cooperators expressed satisfaction with an interest rate, affordability, transaction cost, availability and collateral for housing finance. However, in housing activities, cooperators need to be satisfied with housing development, cost of labour, building materials purchased, houses directly purchased, interest to be paid on loans for housing, cost of loan recovery if members default, transaction cost, processes of land and building document, land allocated and so on.

Research Methodology

A quantitative research approach was adopted in this study. The use of structured questionnaires was employed for data collection in order to achieve the study’s objectives. The mean item score (MIS) and spearman rank correlation were used to analyse the collected data. The population for this research was drawn from the list of the members of FRSC Staff Housing Cooperative, Staff of Kaduna State Housing cooperation and NNPC Staff Multi-Purpose Cooperative Society Limited. Fifty (50) members each from FRSC Staff Housing Cooperative, Staff of Kaduna State Housing cooperation and NNPC Staff Multi-Purpose Cooperative Soc. Ltd were purposively selected. Therefore, a total of 150 members from all the three aforementioned cooperatives societies were sampled for this study.

Results And Discussion



Factors that influence the performance of housing cooperatives in the study area

The use of MV was used to rate the factors that influence the performance of housing cooperatives in the study area. The result of the MV analysis is presented in Table 1.

Table 1: Factors influencing the performance of housing cooperatives

| Factors | Mean | Rank |
|------------------------|-------------|-----------------|
| Financial stability | 4.67 | 1 st |
| Management Competency | 4.50 | 2 nd |
| Leadership | 4.48 | 3 rd |
| Market competition | 4.00 | 4 th |
| Organization structure | 3.85 | 5 th |
| Computerization | 3.60 | 6 th |
| Personnel | 3.00 | 7 th |
| Average MIS | 4.01 | |

It was shown that the most influential factors are financial stability, management competence, and leadership, with MV values of 4.67, 4.50, and 4.48 ranked 1st, 2nd, and 3rd, respectively. The personnel factor was identified to be the least influential factor, with a mean value of 3.00 ranked 7th. On average, all the identified factors influence the performance of housing cooperatives in the study area (average MIS = 4.01).

Influence of Management Competency on Performance Housing Cooperative Society

Table 2 reveals the influence of management competency on performance in a housing cooperative society. The findings show that management competency influences the actualization of the society's objectives (MV = 4.50 ranked 1st), while encouraging more members to join was ranked 2nd (MV = 3.80) and having little impact was ranked 3rd (MV = 2.65).

Table 2: Influence Management Competency

| Management competency | Mean | Rank |
|--|------|-----------------|
| Influences Actualization of the society objectives | 4.50 | 1 st |
| Encourages more members to join | 3.80 | 2 nd |
| Has little impact | 2.65 | 3 rd |

Influence of Personnel on Performance of Housing Cooperative Society

The findings revealed that, all four personnel influences identified, which are: encouraging more members to join; improving professionalism; connecting the board and the members; and providing skilled services (MV = 4.50 and 4.50 ranked first; MV = 4.00 and 4.00 ranked third and fourth), were significant.

Table 3: Influence of Personnel on Performance of Housing Cooperative Society

| Personnel | Mean | Rank | Decision |
|---------------------------------|------|-----------------|------------------|
| Encourages more members to join | 4.50 | 1 st | Very significant |
| Improves professionalism | 4.50 | 1 st | Very significant |
| Link the Board and the members | 4.00 | 3 rd | Significant |
| Gives skillful services. | 4.00 | 4 th | Significant |

Influence of Computerization on Performance Housing Cooperative Society

The findings show the influence of computerization on performance in housing cooperative society. The findings show that computerization influences It reduces errors and improves efficiency of cooperatives in



general business and creates more confidence with a MV = 4.50, 4.30, 4.00, and 3.80 (ranked 1st, 2nd, 3rd, and 4th) respectively are of extent.

Table 4: Influence of Computerization on Performance Housing Cooperative Society

| Computerization | Mean | Rank |
|--|------|-----------------|
| Reduces errors | 4.50 | 1 st |
| Improves efficiency | 4.30 | 2 nd |
| Improves cooperatives general business | 4.00 | 3 rd |
| Creates more confidence | 3.80 | 4 th |

Influence of Financial Stability on Performance of Housing Cooperative Society

Table 5 reveals the influence of financial stability on the performance of housing cooperative societies. The findings show that financial stability influence includes making the cooperatives meet their obligations; members' loan demand is attended to on time; members' confidence is built; and experiencing fewer liquidity problems with a MV = 4.80, 4.50, 4.40, and 4.10 (ranked 1st, 2nd, 3rd, and 4th) respectively are of extent.

Table 5: Influence of Financial Stability on Performance of Housing Cooperative Society

| Financial Stability | Mean | Rank |
|---|------|-----------------|
| Make the cooperatives meet her obligation | 4.80 | 1 st |
| Members loans demand is attended on time | 4.50 | 2 nd |
| Members confidence is built | 4.40 | 3 rd |
| Experience less liquidity problem | 4.10 | 4 th |

Level of Satisfaction with the Strategies Adopted by the Cooperatives Societies in Housing Provision

The use of MV was used to rate the level of satisfaction with the strategies adopted by the cooperative societies in housing provision. The result of the MV analysis is presented in Table 6. It was shown that the members were very satisfied with the saving and deposit mobilization policy of the Co-operative Society, with an MV of 4.50 ranked 1st, followed by satisfaction with the amortization period for housing loans, with an MV of 4.38 ranked 2nd. With MVs of 4.20 and 4.10, respectively, ranked 3rd and 4th, the members of the cooperative society were very happy with the interest rate on loans and the way loans were given out and paid back. The findings of the study agree with the Gbadeyan (2011), where it was revealed that cooperators expressed their satisfaction with an interest rate, affordability, transaction cost, availability and collateral for housing finance. However, in housing activities, cooperators need to be satisfied with housing development, cost of labour, building materials purchased, houses directly purchased, interest to be paid on loans for housing, cost of loan recovery if members default, transaction cost, processes of land and building document, land allocated etc.

Table 6: Level of Satisfaction with the Strategies Adopted

| Level of Satisfaction | Mean | Rank |
|---|------|-----------------|
| Are you satisfied with the saving and deposit mobilization policy of the Co-operative Society | 4.50 | 1 st |
| Are you satisfied with amortization period for housing loan obtained | 4.38 | 2 nd |
| Are you satisfied with interest charge on the loan | 4.20 | 3 rd |
| Are you satisfied with the loan lending and recovery process of the Co-operative society? | 4.10 | 4 th |

4.7 Hypothesis

H₀: There is no significant relationship between performance of housing cooperatives in housing finance and mode of operation for housing development.



H₁: There is a significant relationship between performance of housing cooperatives in housing finance and mode of operation for housing development.

To test these hypotheses, correlation analysis was performed and the results indicate that there is a weak positive relationship between performance of housing cooperatives in housing finance. The Pearson correlation coefficient, r , is 0.253, and that, it is statistically significant ($p = 0.036$). Therefore, the alternate hypothesis that states a significant relationship exists between performance of housing cooperatives in housing finance and mode of operation for housing development was accepted ($r = .253$, $n = 150$, $p = .036$).

Table 7: Results of Pearson Product Correlation Analysis

| Correlations | | performance of housing cooperatives | |
|-------------------------------------|---------------------|-------------------------------------|-------|
| | | mode of operation | |
| Performance of housing cooperatives | Pearson Correlation | 1 | .253* |
| | Sig. (2-tailed) | | .036 |
| | N | 150 | 150 |
| Mode of operation | Pearson Correlation | .253* | 1 |
| | Sig. (2-tailed) | .036 | |
| | N | 150 | 150 |

*. Correlation is significant at the 0.05 level (1-tailed).

Conclusion And Recommendations

Co-operative societies' actions in housing supply are required due to the capital-intensive nature of housing and the widespread housing demand in Nigerian cities, as well as the government's ineffective involvement. However, the extent of their operations and the unique characteristics of their market have gone unrecorded. In order to assess cooperative societies' approaches to providing housing within the reach of low-income members of the cooperatives in North West Nigeria. This study further concludes that there is weak positive relationship between performance of housing cooperatives in housing finance and mode of operation for housing development. Also, the success rate of co-operative societies in housing provision is average dispelling the belief that co-operative approach to housing delivery is a sure way of arresting the problem of housing provision.

In view of these conclusions the paper, recommends that the:

- The internal governance mechanism of co-operatives be strengthened for improved co-ordination.
- The academia should support the process of strengthening the internal governance of co-operative societies, while keeping relations with external stakeholders. This can be done by breaking down theories of co-operative governance into clear actionable points for the cooperative societies to adopt and the regulators to enforce.
- The cooperative societies should ensure that the procedures for granting such loan are not cumbersome and the interest rate on such loan is reduced or manipulated in favour of cooperators. This would go along to make funds available to the prospective beneficiaries of the cooperative loans.

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