

YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF ECONOMICS
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**A STUDY OF RESIDENTS' SATISFACTION ON MYA YI NANDAR
LOW-COST HOUSING IN CHANMYATHAZI TOWNSHIP,
MANDALAY**

MYO MIN THU
EMDevS - 32 (19TH BATCH)

JUNE, 2025

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**A STUDY OF RESIDENTS' SATISFACTION ON MYA YI NANDAR LOW-COST
HOUSING IN CHANMYATHAZI TOWNSHIP, MANDALAY**

**A thesis submitted in partial fulfillment of the requirements for
the Master of Development (MDevS) Degree**

Supervised By:

Dr. Zin Zin Shwe
Professor
Department of Economics
Yangon University of Economics

Submitted By:

Myo Min Thu
Roll No - 32
EMDevS 19th Batch
2023 - 2025

JUNE, 2025

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This is to certify that this thesis entitled “**A Study of Residents' Satisfaction on Mya Yi Nandar Low-Cost Housing in Chanmyathazi Township, Mandalay**” submitted as the requirement for the Degree of Master Development Studies has been accepted by the Board of Examiners.

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(Examiner)

Associate Professor

Department of Economics

Yangon University of Economics

Dr. Zin Zin Shwe

(Supervisor)

Professor

Department of Economics

Yangon University of Economics

JUNE, 2025

ABSTRACT

This study examines residents' satisfaction with Mya Yi Nandar low-cost housing in Chanmyathazi Township, Mandalay, Myanmar, addressing a gap in literature on affordable housing in developing contexts. Rapid urbanization and housing shortages in Myanmar underscore the need for effective low-cost housing solutions, yet qualitative aspects of resident well-being remain understudied. The primary objective is to examine residents' satisfaction across nine dimensions, including living conditions, infrastructure, and socio-economic factors. Using a descriptive approach, the study collected data from 135 randomly selected residents through Likert-scale surveys, supplemented by interviews and secondary sources. Key findings reveal that while the project meets basic shelter needs, significant deficiencies in utility reliability, space adequacy, job opportunities, and safety undermine overall satisfaction. Residents demonstrate resilience but highlight a disconnect between housing provision and holistic urban quality of life.

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LISTS OF ABBREVIATION

ASEAN	-	Association of Southeast Asian Nations
CHDB	-	Construction and Housing Development Bank
CPTED	-	Crime Prevention Through Environmental Design
DUHD	-	Department of Urban and Housing Development
HDB	-	Housing and Development Board
JICA	-	Japan International Cooperation Agency
JLL	-	Jones Lang LaSalle
MCDC	-	Mandalay City Development Committee
MMK	-	Myanmar Kyat
MoC	-	Ministry of Construction
PC	-	Prefabricated Concrete
PPP	-	Public-Private Partnerships
PPR	-	People's Housing Program
SDGs	-	Sustainable Development Goals
SMEs	-	Small and Medium-sized Enterprises
UN-Habitat	-	United Nations Human Settlements Programme.

CHAPTER I

INTRODUCTION

Housing transcends a basic human need, serving as a fundamental pillar of human dignity, social stability, and economic development. Globally, rapid urbanization has spurred an unprecedented demand for affordable housing, particularly in developing countries. The United Nations reports that over 1.6 billion people worldwide live in inadequate housing, with nearly 900 million in urban slums. This pervasive housing crisis, exacerbated by population growth, rural-urban migration, and widening income inequality, leaves millions without access to safe, secure, and affordable homes.

In response to this critical global challenge, governments, international organizations, and private developers increasingly turn to low-cost housing as a solution. These projects aim to provide affordable shelter to low- and middle-income families, often supported by public subsidies or public-private partnerships. However, their success is not guaranteed solely by quantitative supply. Qualitative needs are frequently unmet, as issues such as poor construction, inadequate infrastructure, limited access to basic services, and unsafe environments can undermine the initiatives' purpose, leading to resident dissatisfaction and perpetuating cycles of poverty and inequality.

The importance of residents' satisfaction in low-cost housing is paramount. Satisfied residents are more inclined to maintain their homes, contribute positively to their communities, and experience improved physical and mental well-being. Conversely, dissatisfaction can foster social unrest, elevate crime rates, and lead to housing stock deterioration. Recognizing this, the Sustainable Development Goals (SDGs), especially Goal 11 (Sustainable Cities and Communities), underscore the necessity for inclusive, safe, and resilient housing. Similarly, the New Urban Agenda, adopted at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III), advocates for housing policies that prioritize resident well-being and promote sustainable urban development.

Despite global recognition of these issues, a significant gap persists in the literature on residents' satisfaction with low-cost housing, particularly in developing countries. Most existing studies concentrate on developed nations, where housing policies, economic conditions, and cultural contexts differ substantially from those in the Global South. This gap is acutely pronounced in Southeast Asia, a region experiencing some of the world's fastest urbanization rates. Within this region, Myanmar is undergoing profound political, economic, and social transformations, making the urgent need for affordable housing a critical area for investigation.

Against this backdrop, this research focuses on the Mya Yi Nandar Housing in Chanmyathazi Township, Mandalay. By examining residents' satisfaction within this specific context, the study aims to contribute to the global understanding of low-cost housing while addressing a pressing local issue. Furthermore, it seeks to provide actionable insights for policymakers, urban planners, and developers, ensuring that future housings are not only affordable but also livable, sustainable, and people-centered.

1.1 Rationale of the Study

Myanmar's rapid urbanization, with cities like Mandalay expanding at an unprecedented pace, has intensified the demand for affordable housing, driven by rural-urban migration, population growth, and economic transformation. While low-cost housing is a crucial component of sustainable urban development, the provision of these units frequently falls short of meeting residents' nuanced needs and expectations. Governments and developers often prioritize unit delivery, overlooking the crucial aspects of residents' quality of life and satisfaction. This disparity between housing supply and resident well-being is particularly acute in developing countries like Myanmar, where rapid urbanization often outpaces infrastructure development and effective policy implementation.

The Mya Yi Nandar Housing project in Chanmyathazi Township, Mandalay, represents a significant governmental effort to address the housing needs of low- and middle-income families. However, the true success of such initiatives extends beyond merely constructing units; it lies fundamentally in the satisfaction of the residents who inhabit these homes. This study endeavors to determine whether these housings are merely providing shelter or actively fostering communities where residents feel safe, comfortable, and empowered.

Understanding the factors that influence residents' satisfaction, such as housing quality, access to infrastructure and amenities, social and community services, economic opportunities, and safety and security, is paramount for informing effective policy, urban planning, and development. In a country like Myanmar, where urbanization is still in its nascent stages, insights gleaned from projects like Mya Yi Nandar Housing can guide future housing policies and initiatives, ensuring they are both sustainable and people-centered.

This study is particularly timely and relevant due to several factors. Firstly, Myanmar's ongoing political and economic transition necessitates addressing the housing needs of its burgeoning urban population. Secondly, the study directly contributes to the global discourse on sustainable urban development by aligning with the Sustainable Development Goals (SDGs), particularly Goal 11. Furthermore, this research fills a critical void in the existing academic literature. While low-cost housing has been extensively researched in developed countries, studies focusing on Southeast Asia, and Myanmar specifically, remain scarce. By conducting an analysis of residents' satisfaction in Mya Yi Nandar Housing, this study offers valuable insights that are both context-specific and broadly applicable to similar rapidly urbanizing settings.

Ultimately, this research seeks to answer a fundamental question: What transforms a house into a home? By exploring the myriad factors influencing residents' satisfaction, this study aims to provide actionable recommendations for improving the design, implementation, and management of low-cost housing projects, thereby contributing to both academic understanding and the tangible improvement of living conditions for thousands of families in Mandalay and beyond.

1.2 Objective of the Study

The primary objective of this study is to examine residents' satisfaction with the Mya Yi Nandar Housing, a low-cost housing development situated in Chanmyathazi Township, Mandalay.

1.3 Method of Study

This study employs a descriptive approach in its survey design, utilizing a simple random sampling method for participant selection. Both primary and secondary data were

used to achieve the research objectives. For the quantitative component, a questionnaire survey based on the Likert Scale Method was administered to measure residents' satisfaction across various dimensions. Primary data was collected from 135 randomly selected residents residing in the Mya Yi Nandar housing. To complement the survey data and enhance research depth, structured interviews and informal discussions were also conducted with residents.

Secondary data was compiled from diverse sources, including relevant government departments, official documents, academic articles, reputable internet websites, and recent research findings. These sources provided essential contextual information and support the comprehensive analysis of primary data.

1.4 Scope and Limitations of the Study

This study focuses on Mya Yi Nandar housing in Chanmyathazi Township, Mandalay, precisely because, unlike many other housing projects in Mandalay that are often restricted to in-service government staff, retirees, or fallen service members' families, Mya Yi Nandar housing is unique in its broader eligibility, catering to a wider demographic including company staff and the general public alongside the aforementioned groups. This inclusivity provides a valuable opportunity to assess resident satisfaction across a more diverse occupant base, offering a comprehensive understanding of housing conditions. While this assessment covers nine key dimensions of satisfaction, it has several limitations. There's a risk of low response rates, potentially skewing results if unhappy residents are less likely to participate. Although 135 residents were randomly selected, the overall convenience sampling due to accessibility may underrepresent certain groups. Finally, focusing on a single housing project limits how broadly these findings apply to other low-cost housing in Mandalay or Myanmar. These limitations suggest that while this study provides valuable insights into resident satisfaction at Mya Yi Nandar, its findings should be interpreted with these constraints in mind.

1.5 Organization of the Study

The organization of the study is structured to provide a comprehensive analysis of residents' satisfaction with Mya Yi Nandar Housing. This study is organized into five chapters. Chapter 1 begins with an Introduction, which outlines the rationale, objectives, method, scope, and limitations of the study. This is followed by chapter 2: Literature

Review, that delves into the concepts and definitions of low-cost housing, theories of residential satisfaction, government policies, and various factors influencing residents' satisfaction. Chapter 3 provides an overview of housing dynamics in Myanmar, urbanization in Mandalay, and specific details about the Mya Yi Nandar Housing. Chapter 4 includes survey design, respondent profiles, and analysis of results, focusing on satisfaction levels and factors affecting them, along with stakeholder insights and resident challenges. Finally, chapter 5 summarizes findings, offers recommendations for improvement, and discusses implications for future projects.

CHAPTER II

LITERATURE REVIEW

2.1 Concepts and Definitions of Low-Cost Housing

Low-cost housing, frequently referred to as affordable or social housing, is a fundamental element of global urban development strategies. Its primary aim is to furnish safe, secure, and adequate shelter for low- and middle-income households who are unable to access market-rate housing. The concept is deeply embedded in the broader discourse on housing equity and social justice, striving to address the shelter needs of vulnerable populations and mitigate inequalities in housing access.

Definitions of "low-cost housing" vary, reflecting its multifaceted nature. UN-Habitat (2015) defines it as housing affordable to households earning below the median income, typically consuming no more than 30% of their monthly income, thereby emphasizing financial accessibility. Stephen Malpezzi (1990) expands upon this, asserting that low-cost housing must not only be affordable but also meet fundamental standards of quality, safety, and habitability, arguing that mere affordability is insufficient without a decent living environment. Similarly, Shlomo Angel (2000) characterizes low-cost housing as a balance between cost-effectiveness and adequate space, infrastructure, and essential services.

The theoretical underpinnings of low-cost housing are crucial. John F. C. Turner's theory of housing (1976) underscores user participation and self-help in development, advocating for designs that actively involve residents to better meet their needs and preferences. This perspective challenges conventional top-down housing policies, promoting decentralized, community-driven solutions. Additionally, A. H. Maslow's hierarchy of needs (1943) positions shelter as a foundational human necessity, the fulfillment of which is prerequisite to pursuing higher-order goals such as self-actualization. Thus, low-cost housing facilitates the attainment of greater social and economic well-being by addressing this basic requirement.

A comprehensive understanding of low-cost housing extends beyond simple affordability. Graham Tipple and Suzanne Speak (2009) delineate three critical dimensions: affordability, adequacy, and accessibility. Affordability ensures housing costs are financially manageable for target households, preventing undue financial burden. Adequacy focuses on meeting minimum standards of quality, safety, and comfort for livability. Accessibility emphasizes strategic location, ensuring residents can access essential services, employment, and social infrastructure. These dimensions collectively highlight the necessity of a holistic approach that balances cost-effectiveness with residents' broader needs, fostering sustainable and inclusive urban development.

Global initiatives and policies further shape the concept of low-cost housing. The United Nations Sustainable Development Goals (SDGs), particularly Goal 11 (Sustainable Cities and Communities), underscore the imperative of ensuring access to adequate, safe, and affordable housing for all by 2030. Likewise, the New Urban Agenda, adopted at Habitat III in 2016, advocates for inclusive and sustainable urban development with a focus on affordable housing for marginalized groups. In the context of developing countries, Alan Gilbert (2004) points out that informal settlements and slums often arise from a deficit of affordable formal housing, emphasizing the need for proactive government intervention and innovative solutions.

2.2 Global Policies and Residential Satisfaction in ASEAN

The provision of adequate and affordable housing stands as a paramount challenge for governments worldwide, particularly within the context of rapid urbanization and escalating population growth. Addressing this complex issue necessitates comprehensive government policies designed to meet the diverse housing needs of low- and middle-income households, mitigate urban inequality, and foster sustainable urban development. However, the efficacy of such policies varies considerably based on their design, implementation, and alignment with specific local contexts. Concurrently, within the dynamic Association of Southeast Asian Nations (ASEAN), a region characterized by diverse economic landscapes and varying levels of urbanization, understanding residential satisfaction in implemented housing projects offers crucial insights. This chapter explores the theoretical foundations of housing policies, examines international and regional case studies of low-cost housing initiatives, and distills key lessons pertinent to Myanmar, emphasizing the interplay between policy frameworks and resident outcomes.

The theoretical underpinnings guiding low-cost housing policies are diverse, reflecting varying philosophical approaches to urban development and social welfare. John F. C. Turner's theory of housing (1976) significantly advocates for policies that empower residents through active participation and self-help in home design and management. This perspective, as discussed previously, posits that such bottom-up approaches lead to greater residential satisfaction and long-term sustainability by challenging traditional top-down methods and favoring decentralized, community-driven solutions.

Further conceptual clarity is provided by Gosta Esping-Andersen's welfare state typology (1990), which categorizes welfare states into liberal, conservative, and social democratic models, each with distinct housing policy approaches. Liberal welfare states (e.g., the United States) predominantly rely on market mechanisms with minimal government intervention, often leading to market-driven housing outcomes. In contrast, social democratic welfare states (e.g., Sweden) prioritize universal access to housing as a fundamental social right, frequently implemented through extensive public housing programs. Conservative welfare states (e.g., Germany) adopt a hybrid approach, combining market solutions with targeted government support. Complementing these typologies, David Harvey's concept of the "right to the city" (2008) further argues that adequate housing is a fundamental human right. This perspective places a clear responsibility on governments to ensure all citizens reside in safe and dignified conditions, thereby emphasizing the necessity of inclusive housing policies that specifically prioritize marginalized groups and address systemic inequalities.

International case studies illustrate the varied effectiveness of low-cost housing policies and their impact on residential satisfaction. Brazil's "Minha Casa Minha Vida" program, one of the world's largest low-cost housing initiatives, achieved significant success in increasing housing supply (Maricato, 2010). However, critics note its frequent focus on peripheral locations often distant from employment centers, schools, and healthcare facilities, which subsequently led to lower levels of residential satisfaction despite the quantity of units produced. This highlights the critical importance of integrated planning beyond mere unit provision.

Within the ASEAN region, several nations have implemented extensive low-cost housing programs in response to rapid urbanization and escalating housing demand (Kioe Sheng Yap & Koen De Wandeler, 2010). Singapore's Housing and Development Board (HDB) is widely recognized as a highly successful public housing model globally. Sock

Yong Phang (2013) attributes HDB's success to its comprehensive approach, which integrates housing provision with essential infrastructure, healthcare, education, and transportation systems. Significant government subsidies ensure affordability, while stringent regulations deter speculation and promote equitable access, contributing significantly to high residential satisfaction. Nevertheless, the HDB model has faced some criticism for its inherently top-down planning approach, which can sometimes limit direct resident participation in the design and management processes.

In Malaysia, the government's People's Housing Program (PPR) aims to provide affordable housing for low-income households. While Mohammad Abdul Mohit et al. (2010) acknowledge its success in increasing housing supply, their research indicated that resident satisfaction in PPR projects was often negatively impacted by issues such as poor maintenance, inadequate infrastructure, and limited public transportation access. These challenges underscore the critical necessity of integrating housing policies with broader urban planning strategies to ensure a holistic living environment. Thailand's Baan Mankong program offers a contrasting, yet equally insightful, example. It has garnered international acclaim for its community-driven approach to housing development. Somsook Boonyabancha (2005) emphasizes that the program's success stems from its profound focus on user participation and community empowerment. By actively involving residents in the design and management of their housing projects, Baan Mankong effectively addresses the specific needs and preferences of low-income households, thereby leading to higher residential satisfaction. However, its reliance on community organizing and capacity building has posed inherent limitations to its large-scale scalability across diverse urban contexts.

Despite these successes and varied approaches, common challenges persist across global and ASEAN contexts. Rapid urbanization and population growth often outpace the development of essential housing and supporting infrastructure, leading to issues such as overcrowding and inadequate services (Kioe Sheng Yap & Koen De Wandeler, 2010). Moreover, the diverse cultural and socio-economic specificities within ASEAN and across different nations necessitate housing policies that are carefully tailored to local conditions, rather than simply replicated.

The experiences derived from these international and ASEAN case studies provide several crucial lessons directly applicable to Myanmar's low-cost housing initiatives. Firstly, integrated planning, where housing projects are developed in conjunction with

essential infrastructure, healthcare, education, and transportation systems, is paramount to enhancing overall residential satisfaction and long-term sustainability. Secondly, balancing affordability with quality is a critical lesson, as evidenced by Malaysia's PPR, which faced challenges in maintaining quality despite achieving affordability. Projects must ensure that cost-effectiveness does not compromise structural integrity, livability standards, or access to basic services. Thirdly, actively involving residents in housing project design and management, echoing Turner's principles and Thailand's Baan Mankong, can significantly enhance satisfaction, ownership, and long-term sustainability by addressing specific needs and fostering community cohesion. Fourthly, policies must explicitly prioritize vulnerable groups to mitigate urban inequality and ensure equitable access to housing. Finally, regular monitoring and evaluation, encompassing assessments of residential satisfaction, housing quality, and service access, are indispensable for ensuring policy effectiveness and facilitating adaptive management. By judiciously integrating these multifaceted lessons, Myanmar can develop low-cost housing projects that not only meet basic shelter needs but also significantly improve the overall quality of life and residential satisfaction for its expanding urban population.

2.3 Theories of Residential Satisfaction

Residential satisfaction is a multidimensional concept reflecting the degree to which residents are content with their housing conditions and living environment. It serves as a crucial metric for evaluating the success of housing policies and projects, capturing residents' subjective experiences and perceptions. Over time, various theories drawing from sociology, psychology, urban studies, and housing research have emerged to explain its determinants.

At its core, residential satisfaction is defined by the alignment between residents' housing realities and their needs and expectations. Guido Francescato et al. (1979) pioneered the "gap theory," positing that satisfaction is high when the housing environment aligns with residents' aspirations and low when a significant disparity exists. George C. Galster (1987) expanded this with "residential dissonance," where a mismatch between preferences and actual conditions influences satisfaction. He emphasized that both objective factors (e.g., housing quality, infrastructure) and subjective factors (e.g., personal preferences, cultural values) play a role.

Several theoretical frameworks underpin the study of residential satisfaction. As noted previously, A. H. Maslow's hierarchy of needs (1943) posits that the fulfillment of basic needs like shelter, safety, and security is foundational to higher-order satisfactions such as community and aesthetic appeal. In this context, residential satisfaction is intrinsically linked to the provision of a stable and fulfilling living foundation.

Another key framework is María Amérigo and Juan Ignacio Aragonés' cognitive model of residential satisfaction (1997). This model highlights the importance of cognitive processes in shaping residents' perceptions, identifying three primary influencing factors: housing attributes (physical features like design, size, and maintenance), personal characteristics (socio-demographic and psychological traits), and the social environment (quality of social interactions and community life). By emphasizing the interplay between objective housing conditions and subjective evaluations, this model provides a holistic framework for understanding how external factors and internal perceptions collectively shape contentment with living environments.

Empirical studies further delineate the determinants of residential satisfaction. Alison Parkes et al. (2002) provide a comprehensive framework categorizing these into four key dimensions: housing quality (physical condition, design, maintenance), neighborhood characteristics (access to amenities, safety, aesthetics), the social environment (sense of community, social cohesion), and personal factors (socio-economic status, age, family size). Mohammad Abdul Mohit et al. (2010) specifically emphasize housing adequacy and affordability in low-cost housing contexts, with their Malaysian study revealing a strong influence of living space, infrastructure quality, and housing costs on satisfaction. These studies collectively underscore the complex interplay of physical, social, and personal factors.

Residential satisfaction is also significantly shaped by cultural and contextual factors. Eziyi Ibem and Dolapo Amole (2013) contend that determinants of satisfaction vary across different cultural and socio-economic contexts. For instance, in developing countries where basic services are often limited, factors such as water supply, electricity, and sanitation may hold greater significance in shaping residential satisfaction compared to developed nations.

In summary, theories of residential satisfaction offer valuable insights into the interplay between objective housing conditions and residents' subjective evaluations. From

Maslow's foundational needs to Américo and Aragonés' cognitive model, these frameworks, alongside empirical findings, identify a broad spectrum of determinants including housing quality, neighborhood characteristics, social environment, and personal factors. However, the relative importance of these factors varies across different cultural and socio-economic contexts, necessitating context-specific approaches to housing policy and design.

2.4 Factors Influencing on Residents' Satisfaction of Low-Cost Housing

Residential satisfaction is a complex and multifaceted concept influenced by a wide array of factors, broadly categorized into housing quality, neighborhood characteristics, the social environment, and personal factors according to Alison Parkes et al. (2002). Comprehending these factors is crucial for designing and implementing low-cost housing projects that genuinely meet residents' needs and expectations. This section synthesizes insights from housing studies, urban planning, and social sciences to provide an overview of these key influencing factors.

2.4.1 Housing-Related Factors

Housing-related factors are among the most critical determinants of residential satisfaction, encompassing the physical and structural attributes of housing units and their capacity to fulfill residents' fundamental needs and aspirations. Key dimensions include housing quality, adequacy, safety and security, and aesthetic appeal.

Housing Quality refers to the physical condition of housing units, including construction, design, and maintenance. Roderick J. Lawrence (1987) posits that quality is a primary determinant of satisfaction, directly impacting residents' comfort, health, and well-being. Poor construction (e.g., leaky roofs, cracked walls) can lead to dissatisfaction and health issues. V. I. Ogu (2002) links quality closely to housing adequacy, which concerns the extent to which housing meets basic needs like shelter, privacy, and comfort. Robert Gifford (2007) introduces environmental psychology, exploring how physical housing characteristics influence behavior and emotions; well-designed spaces can enhance mood, while poorly designed ones can induce stress. Irwin Altman and Setha M. Low (1992) highlight place attachment, where high-quality housing fosters a sense of belonging, thus increasing satisfaction.

Beyond physical condition, adequacy encompasses the housing unit's ability to meet functional needs. Earl W. Morris and Mary Winter (1978) propose the housing adjustment theory, where satisfaction is influenced by the gap between current conditions and housing aspirations. Graham Tipple and Suzanne Speak (2009) argue that adequacy is particularly vital in low-cost housing, where residents have limited resources for improvements. They emphasize policies that ensure adequate space, privacy, and functionality, as overcrowding, a common issue, can lead to stress and dissatisfaction.

Safety and Security are fundamental for residents' peace of mind. Oscar Newman's defensible space theory (1972) suggests that housing design can promote or hinder safety; well-lit common areas and secure entrances enhance security, increasing satisfaction. Rowland Atkinson and John Flint (2004) build on this with "secure by design" (CPTED), focusing on designing environments to deter crime through maximized visibility, access control, and fostered community sense. Housing projects with clear sightlines and active public spaces tend to experience less crime, boosting satisfaction.

Aesthetic Appeal refers to the visual and sensory qualities of housing, including design, landscaping, and overall appearance. Jack L. Nasar (1994) identifies aesthetic appeal as an important yet often overlooked factor. Attractive facades, harmonious colors, and thoughtful landscaping can instill pride and belonging. Rachel Kaplan and Stephen Kaplan (1989) introduce environmental preference, where people are drawn to visually pleasing environments. Roger S. Ulrich (1983) highlights the importance of nature and greenery, noting that housing projects with trees, gardens, and green spaces can improve residents' mood and well-being, thus increasing satisfaction.

In essence, housing-related factors are critical determinants, demanding a holistic approach to design and management in low-cost housing to ensure residents' satisfaction and project success.

2.4.2 Neighborhood Characteristics

Neighborhood characteristics significantly influence residents' satisfaction, encompassing the quality of the surrounding area, including access to essential services, amenities, and social infrastructure. Key dimensions include transportation, education, healthcare, recreational facilities, and social cohesion.

Access to reliable and efficient transportation is vital. Robert Cervero (2002) argues that transportation accessibility impacts residents' ability to reach jobs, education, healthcare, and recreation, thereby shaping their quality of life. Inadequate infrastructure, limited public transit, or long commutes lead to dissatisfaction. Todd Litman (2003) introduces transportation equity, emphasizing affordable and accessible options for all, especially low-income households. Housing projects near transit hubs or with well-connected road networks tend to yield higher satisfaction.

Access to quality education is crucial, particularly for families. Anthony S. Bryk et al. (2010) highlight school quality's impact on parents' perceptions of their neighborhood; good schools enhance satisfaction and community pride. Ann Owens (2010) emphasizes educational inequality, noting that limited access to quality education in low-cost housing areas can lead to dissatisfaction and relocation. Addressing these challenges requires policies ensuring equitable access. Access to healthcare services is critical, especially for vulnerable populations. Martin Gulliford et al. (2002) define healthcare accessibility as not just physical proximity but also affordability, quality, and availability. Inadequate access negatively impacts well-being and satisfaction. Stephen Peckham et al. (2014) stress integrated healthcare systems; housing near hospitals and pharmacies, alongside preventive care policies, can significantly enhance satisfaction.

Access to parks, sports complexes, and community centers is important for well-being. Deborah A. Cohen et al. (2007) argue these facilities offer opportunities for physical activity, social interaction, and relaxation. Anna Chiesura (2004) introduces green space satisfaction, where parks and gardens enhance aesthetics and provide environmental benefits. Providing such amenities in low-cost housing improves overall quality of life and satisfaction.

Thus, neighborhood characteristics are crucial determinants, necessitating a holistic approach to planning and development to ensure residents' satisfaction and the successful realization of housing projects.

2.4.3 Socio-Economic Conditions as Fundamental Determinants of Residents' Satisfaction

Socio-economic conditions are fundamental determinants of residential satisfaction, influencing residents' capacity to access and maintain adequate housing, as

well as their overall quality of life. These encompass factors such as income levels, employment status, and access to entertainment and recreational opportunities, all of which interact with housing and neighborhood characteristics.

Income is a primary socio-economic factor. George C. Galster (1987) argues that income dictates the ability to afford housing that meets needs and preferences. Higher-income households typically access better-maintained housing and quality services, while lower-income households face constraints, leading to dissatisfaction in low-cost housing where affordability might overshadow quality. J. David Hulchanski (1995) introduces "housing affordability stress" (housing costs exceeding 30% of income), which correlates with dissatisfaction as households may sacrifice other essentials. Ensuring affordable housing costs is critical for enhancing residential satisfaction.

Stable employment provides financial resources for housing improvements, influencing satisfaction as per Morris and Winter's (1978) housing adjustment theory. Unemployment or precarious employment can limit residents' ability to address housing deficiencies, leading to dissatisfaction. Jim Kemeny (1992) highlights housing tenure's role; homeowners, with a long-term stake, are more likely to invest in maintenance, increasing their satisfaction, whereas renters, especially in low-cost housing, may have less control and incentives.

Richard Florida (2002) emphasizes the role of cultural and creative amenities in shaping satisfaction. Access to entertainment options enhances quality of life and fosters community pride. Neighborhoods lacking such options may struggle to retain residents, particularly younger demographics.

In sum, socio-economic conditions are vital determinants of residential satisfaction. Scholars like Galster, Hulchanski, Morris and Winter, Kemeny, Cohen et al., Chiesura, and Florida have illuminated their impact, underscoring the need for a holistic approach to housing policy and design that addresses these conditions to achieve project goals.

2.4.4 Social Environment

The social environment within a housing complex significantly influences residents' satisfaction, encompassing the quality of social interactions, the sense of community, and the degree of social cohesion among residents. These factors contribute to a feeling of belonging, mutual support, and overall well-being.

Sense of Community refers to the feeling of belonging and connection that residents' experience within their living environment. McMillan and Chavis (1986) define sense of community through four elements: membership, influence, integration and fulfillment of needs, and shared emotional connection. A strong sense of community can foster positive social interactions, mutual support, and collective action, leading to higher residential satisfaction. Conversely, a lack of community can result in isolation and dissatisfaction.

Social Cohesion refers to the bonds that bring people together and the willingness of members of a society to cooperate with each other. Robert D. Putnam (2000) emphasizes the concept of social capital, where networks of relationships among people, who live and work in a particular society, enable that society to function effectively. In a residential context, social cohesion is manifested through neighborly interactions, collective problem-solving, and a shared commitment to the well-being of the community. High social cohesion can lead to a safer, more supportive, and more enjoyable living environment, directly impacting residents' satisfaction. Conversely, low social cohesion can result in distrust, conflict, and a diminished quality of life.

The degree to which residents are involved in decision-making processes and community activities also plays a crucial role. Sherry Arnstein's (1969) "Ladder of Citizen Participation" highlights different levels of resident involvement, from manipulation to citizen control. When residents are genuinely empowered and engaged in the planning, design, and management of their housing environment, their sense of ownership and satisfaction tends to increase. Active participation can lead to solutions that are better tailored to local needs and foster a stronger sense of collective responsibility.

In summary, the social environment, characterized by a strong sense of community and high social cohesion, is a vital determinant of residential satisfaction. These factors, alongside opportunities for community participation, contribute significantly to residents' overall well-being and the long-term success of low-cost housing projects.

2.5 Review of Previous Studies

Numerous previous studies have investigated residential satisfaction concerning housing conditions across various contexts. This review synthesizes findings from selected research, highlighting recurring determinants and challenges.

In Malaysia, Zamri Chik et al. (2021), in their study "Determinants of Residential Satisfaction towards Low-cost Housing in Terengganu," surveyed 278 residents. They found that location, design, and quality were significant predictors of satisfaction, with location being the most prioritized factor, followed by design and quality. Interestingly, the community neighborhood factor did not significantly influence satisfaction. The study recommended that future housing projects prioritize strategic locations, high-quality construction, and well-maintained environments.

Aung Thura Phyo (2024) conducted "The Assessment on Residents' Satisfaction of Low-Cost Housing Projects (A Case Study of Dagon Seikkan Township)" in Yangon, Myanmar. Using a mixed-method approach at the Yuzana Low-Cost Housing Project, the study assessed satisfaction with various aspects, including housing quality, infrastructure, healthcare, education, and safety. Residents generally expressed satisfaction with food access and employment opportunities but raised concerns about safety, infrastructure maintenance, and housing durability. The research also highlighted developer challenges such as cost constraints and maintenance delays, recommending better infrastructure, enhanced safety measures, and improved collaboration among stakeholders.

Further addressing housing challenges in Yangon, Kyaw Naing Htun (2022), in "A Study on Provision of Affordable and Rental Housing in Yangon," focused on the Mahar Bandoola Public Rental Housing project. This study identified that rapid urbanization and rural-to-urban migration significantly increased housing demand, leading to an insufficient supply of public rental housing. A survey of 200 respondents revealed a strong preference for rental housing due to high private rental costs and a desired housing size of 400-600 square feet. Recommendations included increasing the provision of affordable and rental housing, improving public facilities, and implementing policies supportive of low-income families.

In a cross-border suburban region of Bratislava, Slovakia, Ján Výboštok and Pavla Štefkovičová (2023) examined "Housing affordability, quality of life, and residential satisfaction in the Austrian cross-border suburban region of Bratislava, Slovakia." Their survey of residents who relocated for affordable housing revealed that those prioritizing affordability were generally more satisfied with living conditions and costs. Despite a decline in affordability due to rising prices, residents continued to value the suburban lifestyle, citing peaceful environments, green spaces, and proximity to Bratislava. The

study underscored the importance of neighborhood quality and amenities, suggesting policy focuses on affordable rental housing and improved infrastructure.

In Malaysia, Nurul Huda Muhamad et al. (2023) assessed "Satisfaction Level of Occupants' for Low-Cost Housing in Malaysia" at PPR Melana Indah (Phase 1) in Johor Bahru. Their questionnaire-based research found high levels of satisfaction with power supply, fire protection, and recreational facilities. However, vertical transportation, specifically due to poor lift maintenance, received the lowest satisfaction scores. The study recommended improving facilities like lifts and enhancing security measures.

Hsu Mon Htike (2023) conducted "A Study of Residents' Satisfaction with Housing Estates in North Dagon Township (A Case Study of 'Bo Ba Htoo Housing' and 'Bo Min Yaung Housing')" in Yangon, Myanmar. This quantitative study surveyed 250 residents across two government housing projects. While residents in Bo Ba Htoo Housing generally expressed satisfaction, those in Bo Min Yaung Housing reported dissatisfaction, particularly concerning building quality, room height, and the condition of toilets and bathrooms. The study highlighted the need for improvements in public facilities, maintenance, and neighborhood security.

Internationally, Ali Karimzadeh et al. (2015) presented "The Study of Low-Income Housing Residents' Satisfaction" at a conference in Italy, focusing on two Mehr Housing Program complexes in Iran (Abadeh and Sarvestan). Their survey of 100 households indicated satisfaction with security and housing quality. However, significant challenges arose from poor access to city centers and public transportation, cultural dissatisfaction (especially in Abadeh due to diverse backgrounds), and financial difficulties. The study concluded that while the program addressed housing shortages, improvements were needed in urban planning, cultural integration, and financial support, recommending better location planning, cultural and economic considerations, quality control, and flexible financial solutions.

The review of these studies consistently highlights the multifaceted nature of residential satisfaction in low-cost and affordable housing across diverse regions. Key determinants such as housing design, quality, location, surrounding environment, and access to amenities consistently emerge as critical factors. Studies from Malaysia, Myanmar, Slovakia, and Iran reveal that while residents often prioritize location, housing quality, and safety, significant challenges persist, including inadequate infrastructure, poor

maintenance, and financial constraints. These findings underscore the importance of adopting a holistic approach to housing policy and development, one that emphasizes strategic location planning, quality construction, improved infrastructure, and tailored financial solutions. Addressing these interconnected factors can significantly enhance residential satisfaction, improve the quality of life for residents, and ensure the long-term sustainability of affordable housing initiatives for low-income populations.

CHAPTER III

BACKGROUND OF LOW-COST HOUSING IN MYANMAR

3.1 Housing Dynamics Amidst Urbanization in Myanmar

Urbanization stands as one of the most transformative processes shaping Myanmar's socio-economic landscape. Over the past two decades, the nation has experienced rapid urban growth, driven by economic liberalization, rural-urban migration, and population expansion. UN-Habitat (2015) reports that Myanmar's urban population has grown at an annual rate of 2.8%, with urban areas now constituting approximately 30% of the total population. This accelerated urbanization has created significant challenges for housing provision, particularly in major cities like Yangon, Mandalay, and Naypyidaw, where demand for affordable housing substantially outstrips supply.

Myanmar's urbanization is characterized by several prominent trends. Rural-urban migration is a primary driver, as millions seek better economic opportunities in urban centers. These migrants often find employment in the informal sector (e.g., construction, manufacturing, small-scale trade) but frequently face barriers to obtaining formal housing, worsening their living conditions. Concurrently, the country's population growth, at an annual rate of 1.1% (World Bank, 2020), further intensifies housing demand. As cities expand, they typically sprawl into peri-urban zones and informal settlements, a consequence of the scarcity of affordable housing in city centers and the availability of cheaper land on the outskirts. This rapid spatial expansion presents both challenges and opportunities, shaping the future of urban living in Myanmar and underscoring the need for sustainable planning.

The swift pace of urbanization in Myanmar has exacerbated various housing-related challenges, culminating in a multifaceted housing crisis. A critical issue is the severe housing shortage; demand has far outstripped supply, particularly in major urban hubs. The Ministry of Construction (2019) estimates a deficit of over 1 million units, predominantly in urban areas. This is compounded by escalating affordability challenges, as rising

property prices and rental costs render housing increasingly unattainable for low- and middle-income households. For instance, in Yangon, the average housing unit price surged by 15% annually between 2010 and 2020 (Yangon Housing Market Report, Jones Lang LaSalle, 2020), forcing many families into informal settlements, often characterized by poor construction, inadequate infrastructure, and limited access to essential services like clean water and sanitation. Furthermore, urban infrastructure—including utilities and transportation—struggles to keep pace with population growth, complicating housing development and perpetuating inadequate living conditions.

In response, the government of Myanmar has launched several policies and initiatives. The cornerstone is the National Housing Policy, launched on June 12, 2017, aiming to ensure affordable housing for all citizens, particularly low-income households. This policy emphasizes increasing supply, enhancing quality, and fostering public-private partnerships. Complementing this, specific low-cost housing projects, such as the Mya Yi Nandar Housing project in Mandalay, target low- and middle-income families to alleviate overcrowding and infrastructure inadequacies. Urban planning reforms, including comprehensive master plans for major cities, aim to improve land management and governance, integrating housing initiatives with essential infrastructure and promoting sustainable growth.

Despite these efforts, implementation faces numerous obstacles. Funding constraints, largely due to limited public funds and over-reliance on private investment, restrict the scale and quality of projects. Weak institutional capacity within government bodies, marked by corruption, inefficiency, and lack of technical expertise, undermines policy effectiveness. Complex land tenure systems and disputes over ownership also create formidable barriers to development, especially where urban land is scarce. The sheer speed of urbanization often outpaces the government's ability to plan and execute projects, leading to ad-hoc and uncoordinated development.

Nevertheless, opportunities exist to enhance housing provision and promote sustainable urban development. Community-driven strategies, actively involving residents in project design and management, can foster ownership and satisfaction, as demonstrated by Thailand's Baan Mankong program. Integrating housing with critical infrastructure, healthcare, education, and transportation, as exemplified by Singapore's Housing and Development Board (HDB) model, can significantly elevate quality of life. Strengthening public-private partnerships can amplify resources and expertise. Finally, policy reforms

addressing land tenure issues, institutional capacity, and funding limitations are crucial for creating a more conducive environment for housing development. Addressing these challenges and leveraging opportunities are essential for ensuring all citizens have access to safe, secure, and affordable housing.

3.2 Affordable Housing Policy Landscape in Myanmar

Myanmar's ongoing socioeconomic transformation, characterized by rapid urbanization and sustained economic growth, has profoundly intensified the demand for affordable housing across the nation, particularly within its burgeoning urban centers like Yangon and Mandalay. In response to this escalating need, the Department of Urban and Housing Development (DUHD), operating under the Ministry of Construction (MoC), plays a pivotal and multifaceted role. The DUHD is not merely an implementer but also the primary architect of affordable housing policies, a key driver of housing supply initiatives, and a crucial actor in the development of a supportive legal and financial framework designed to broaden housing access. This thesis examines the DUHD's affordable housing policies within Myanmar, scrutinizing their formulation, implementation mechanisms, and the persistent systemic challenges that impede the expansion of housing access for low- and middle-income populations nationwide.

The DUHD's overarching affordable housing strategy is centrally anchored in the ambitious One Million Housing Plan (2011–2030). This long-term national initiative aims to construct one million housing units across Myanmar, with the DUHD itself committed to delivering 20% (or 200,000 units) of this ambitious target (JICA, 2018). Within the DUHD's direct contribution, a significant 90% of units are specifically designated as low-cost housing for low-income households, while the remaining 10% are categorized as affordable housing for middle-income groups. This strategic allocation underscores the government's commitment to addressing widespread urban housing shortages, which are fundamentally driven by both natural population growth and pronounced rural-to-urban migration patterns.

Complementing this ambitious plan, key legislative efforts underpin the national strategy. The drafting of the National Housing Development Bill signifies an intent to create a comprehensive regulatory framework for housing supply on both public and private lands. Concurrently, the Condominium Law (2016) introduced mechanisms for unit ownership in high-rise developments, a significant step aimed at incentivizing foreign

investment and potentially improving mortgage accessibility in the formal sector. However, a critical limitation of the Condominium Law, in the context of affordable housing, has been the persistent lack of comprehensive implementing regulations. This deficiency has largely restricted its impact to high-end developments, leaving a notable gap in its applicability to broad-based affordable housing initiatives (JICA, 2018).

The DUHD employs a multi-pronged approach to housing delivery across Myanmar: Public Housing Projects: The DUHD directly constructs low-cost and affordable housing units, frequently leveraging public land to maintain accessible price points. Illustrative examples include the Yuzana Low-Cost Housing Project in Yangon, where units are priced to target households with monthly incomes within specific low-to-middle ranges (JICA, 2018). These projects often utilize a lottery system for allocation, prioritizing specific demographic groups such as civil servants and factory workers. Recognizing the scale of the national housing demand, the DUHD actively seeks collaborations with private developers and international donors. This includes partnerships with entities like Singapore's Surbana Jurong, which have piloted innovative construction techniques such as prefabricated concrete (PC) methods to improve efficiency and reduce costs. However, private sector involvement in the affordable segment remains largely constrained by profitability considerations, often gravitating towards higher-end markets. The establishment of the Construction and Housing Development Bank (CHDB) in 2013 was a crucial step in providing long-term, low-interest loans to eligible housing buyers nationwide. CHDB utilizes a tripartite agreement model involving the DUHD, CHDB, and the buyer, which aims to ensure repayment security. Nevertheless, the scalability of these financial instruments faces challenges due to ambiguities in legal frameworks governing collateral execution and the inherent limitations of a still-developing financial sector (JICA, 2018). Furthermore, the DUHD also manages a revolving fund, established with a significant initial capital injection (e.g., MMK 100 billion in 2014), intended to bridge the financial gap between construction commencement and sales completion.

Despite these varied efforts, the DUHD's national affordable housing policies encounter significant and pervasive hurdles: legal and institutional gaps, funding constraints and sustainability, and quality and equity issues. A fundamental challenge lies in the absence of a fully robust and comprehensive legal framework for unit ownership and streamlined mortgage registration, which complicates loan enforcement and discourages broader lender participation. Crucially, the current Condominium Law explicitly excludes

public land from its purview, severely limiting its utility for the majority of DUHD's affordable housing projects (JICA, 2018). This fragmented legal landscape contributes to uncertainty and delays in development. The DUHD's reliance on its revolving fund and direct government budgets is precarious. Delays in housing sales and loan repayments directly hinder the replenishment of the revolving fund, thereby constraining its capacity for continuous construction and new project initiation. This reliance also makes the program vulnerable to fluctuations in national budgetary allocations. While DUHD housing projects generally meet basic construction standards, there are concerns regarding long-term quality and safety. To control costs, earthquake-resistant designs are often omitted, raising significant safety concerns, particularly in seismically active regions of Myanmar. Furthermore, the strategic concentration of housing projects in major cities like Yangon and Mandalay, while addressing high-demand areas, inadvertently neglects the growing housing needs in secondary cities and rural areas, leading to an uneven distribution of housing development benefits across the country.

Mandalay, as Myanmar's second-largest city, serves as a crucial urban context for observing the nuances of these national affordable housing policies and their localized challenges. The city mirrors the national trends of rapid urbanization and population growth, intensifying its local housing shortage. The DUHD's initiatives in Mandalay directly reflect national policy directives, focusing on public housing schemes and, increasingly, exploring public-private partnerships. Beyond new construction, the government has engaged in vital slum upgrading and resettlement programs targeting informal settlements along the Mandalay Canal and Ayeyarwady River. These efforts, often supported by international partners like UN-Habitat, aim to improve living conditions and offer a degree of tenure security, although relocation efforts frequently face resistance due to perceived inadequacies of amenities at peripheral resettlement sites.

The 2016 Condominium Law has also influenced Mandalay's market, stimulating private sector activity and the development of mid-range condominiums, yet these often remain unaffordable for the urban poor. Public-private partnerships, while explored by the Mandalay City Development Committee (MCDC) for mixed-income housing, face similar national impediments: bureaucratic delays and persistent financing gaps. In Mandalay, the issue of land scarcity and inflated urban land prices particularly pushes low-cost housing developments to the city's outskirts. This decentralization often results in insufficient infrastructure, such as unreliable water supply and poor transportation networks,

diminishing livability. Access to formal mortgage financing through institutions like CHDB remains difficult for many low-income earners due to high interest rates (13–15%) and stringent criteria, forcing reliance on informal credit systems. The estimated 30% of Mandalay's population residing in informal settlements further underscores the urgent need for comprehensive national and local tenure security and upgrading programs, as many remain excluded from formal housing schemes due to lack of documentation or fear of displacement.

The DUHD's affordable housing policies represent a proactive and crucial response to Myanmar's deepening urban housing crisis. The One Million Housing Plan and associated legislative efforts signify a clear national commitment to addressing housing shortages. However, the realization of scalable and sustainable outcomes is critically dependent on addressing persistent systemic challenges—namely, legal ambiguities, significant funding constraints, and concerns regarding quality and equitable access. By strategically leveraging international partnerships, instituting fundamental legal and financial reforms, prioritizing robust quality assurance, and adopting comprehensive integrated urban planning, Myanmar can significantly bridge the gap between housing demand and supply, fostering more inclusive and sustainable urban growth for all its citizens.

3.3 Urbanization in Mandalay and Development of Low-Cost Housing Projects

Mandalay, Myanmar's cultural heart and second-largest city, serves as a critical hub for trade, commerce, and cultural exchange along the Irrawaddy River. However, recent rapid urbanization has profoundly reshaped its landscape, presenting both opportunities and significant housing challenges. The city's dynamic growth is influenced by several interrelated factors. Its strategic location and proximity to major economic players like China and India position it as a vital hub for regional trade and investment, fostering economic diversification in manufacturing, construction, and logistics. This economic vibrancy attracts migrants, leading to substantial population growth. The Mandalay City Development Committee (MCDC) reported an annual growth rate of 2.5%, reaching 1.7 million in 2020, with projections exceeding 2.5 million by 2030. This demographic expansion places immense pressure on housing and infrastructure.

Mandalay's urbanization also involves significant spatial expansion, particularly in peri-urban areas like Chanmyathazi, Amarapura, and Patheingyi. These regions have seen

a surge in mixed residential, commercial, and industrial developments, alongside the proliferation of informal settlements. Much of this growth has been unplanned, leading to challenges in managing housing needs and delivering essential infrastructure services. The city's contrasts are stark: its historic core boasts modern infrastructure, while expanding peripheries like Chanmyathazi Township face acute challenges in housing, infrastructure, and service provision.

The rapid pace of urbanization in Mandalay has intensified profound housing challenges, particularly for low- and middle-income households. Housing affordability is a pressing issue; between 2010 and 2020, the average housing unit price surged by 12% annually (JLL, 2020), rendering home ownership and rentals increasingly unattainable for many. This financial pressure has driven a significant portion of the population into informal settlements or overcrowded conditions, often lacking basic amenities. These settlements, prevalent in peri-urban areas like Chanmyathazi Township, suffer from poor housing quality, inadequate infrastructure, and limited access to essential services (e.g., clean water, electricity, sanitation). The urban infrastructure deficit further complicates development and undermines residential satisfaction. Additionally, disparate growth patterns exacerbate social inequality, creating a disconnect between the flourishing city center and underserved peri-urban areas, leading to a sense of exclusion and marginalization from Mandalay's economic and cultural life. Addressing these interconnected challenges is crucial for equitable urban development.

To address these housing challenges, the government has introduced various policies and programs in Mandalay. Key initiatives include low-cost housing projects, such as the Mya Yi Nandar Housing Project, designed to provide affordable options for low-income groups, reduce informal settlements, and improve living standards. Urban planning and zoning regulations have been implemented to control land use and promote sustainable development, ensuring strategic planning of residential, commercial, and industrial areas. The promotion of public-private partnerships (PPP) leverages private sector investment to increase housing supply. Microfinance and housing loans aim to enhance homeownership, though accessibility for lower-income groups due to high interest rates and eligibility constraints remains a challenge.

Private developers significantly influence Mandalay's housing landscape, primarily constructing high-end residential and commercial properties (e.g., condominiums, luxury apartments, shopping complexes) for the growing middle and upper classes, reflecting

evolving urban preferences for quality housing and amenities. Some firms also invest in affordable housing, though they face financing, land acquisition, and regulatory hurdles. In line with global trends, developers are increasingly incorporating smart housing solutions, such as energy-efficient designs and environmentally friendly construction, to enhance sustainability and efficiency. Despite these contributions, a coordinated effort between the government and private sector is vital to ensure inclusive and sustainable urban housing development in Mandalay.

The development and implementation of low-cost housing projects in Mandalay are crucial for addressing the urban housing crisis and ensuring affordable living conditions for low- and middle-income residents. Given rapid urbanization, a strategic and integrated approach to urban planning is essential for long-term sustainability and livability. Government-led initiatives, often collaborating with private sector investments and international organizations, have introduced various projects aimed at providing secure and sustainable shelter. These require well-structured land allocation policies, financial incentives (e.g., low-interest loans, subsidies), and public-private partnerships to reduce construction costs while maintaining affordability.

Despite these efforts, challenges like land acquisition constraints, infrastructure limitations, and financial sustainability persist, necessitating innovative urban development solutions. Strengthening zoning regulations, optimizing land use through mixed-use developments, and promoting vertical expansion over horizontal sprawl can enhance accessibility and prevent excessive land consumption. Moreover, investing in modernized roads, public transportation, and essential utilities (water supply, electricity) is vital to support the growing urban population and ensure low-cost housing projects are functional and well-integrated into the broader urban fabric.

The evolution of low-cost housing in Mandalay over the past two decades reflects broader shifts in Myanmar's economic and political landscape. Earlier projects in the 2000s were largely ad-hoc and small-scale, with limited government involvement. However, the National Housing Policy (2014) ushered in a more proactive governmental approach, emphasizing affordable housing as a key component of urban development.

Examining specific low-cost housing projects in Mandalay illustrates how these policies have been implemented. Notable developments, including the Mya Yi Nandar Affordable Housing Complex and others, offer insights into successes, challenges, and

lessons learned regarding public-private partnerships, community engagement, and infrastructure investment in achieving affordability, sustainability, and livability goals. These examples can serve as models for other rapidly urbanizing regions in Myanmar.

Mingalar Yankin Affordable Rental Housing locates in Shintawgon Village, Patheingyi Township, this government initiative provides modern, subsidized rental housing for low- and middle-income families. It features multi-story apartment buildings with basic amenities (water, electricity, sanitation) and communal spaces, aiming to reduce shortages and improve living standards.

Mae Kin Kone Government Retired Staff Housing also locates in Patheingyi Township, this project provides affordable living accommodations for retired government employees. It offers residential units with essential amenities and communal spaces to foster community, alleviating financial burdens for retired civil servants.

Aung Myay Mandalay National Civil Servants Housing situates in Patheingyi Township, this government-led initiative provides affordable and quality living accommodations for civil servants and their families. It features modern units with essential amenities and green areas, aiming to improve the welfare and long-term stability of public sector employees.

Mya Yi Nandar Affordable Housing locates in Chanmyathazi Township, this project aims to provide affordable and sustainable housing for low-income families. It focuses on constructing cost-effective, environmentally friendly homes using local materials and energy-efficient designs. The project also emphasizes community development by including shared spaces like parks, schools, and healthcare facilities, fostering a sense of belonging and improving overall quality of life.

Future urban planning strategies for Mandalay must prioritize sustainability and resilience. This includes incorporating green building practices, climate-resilient infrastructure, and preserving open spaces to counter environmental impacts. Smart city initiatives, such as digital infrastructure and smart energy management systems, can further enhance urban service efficiency. Integrating pedestrian-friendly zones, flood-resistant designs, and eco-friendly materials will improve quality of life and mitigate climate risks.

Urbanization in Mandalay presents both opportunities and challenges in the housing sector. While economic growth and infrastructure development contribute to urban expansion, issues such as affordability, informal settlements, and weak policy

implementation remain significant obstacles. Addressing these requires a multi-stakeholder approach involving government agencies, private developers, financial institutions, and local communities. By aligning low-cost housing initiatives with comprehensive urban planning, Mandalay can achieve a balanced urban landscape that supports inclusive growth, enhances affordability, and ensures long-term sustainability in its housing and infrastructure sectors.

3.4 Demographic and Socio-Economic Profile of Chanmyathazi Township

Chanmyathazi Township, an integral urban area within Myanmar's Mandalay Region, exhibits a diverse demographic and socio-economic landscape. As a key township within Mandalay, the country's second-largest city, it serves as a hub for commerce, education, and cultural activities, with a population engaged across trade, services, and small-scale industries.

According to the Township Profile 2023 issued by the General Administration Department, Chanmyathazi Township is bordered by Patheingyi Township to the east, Pyigyidagun Township and Amarapura Township to the south, Amarapura Township to the west, and Maha Aung Myay Township to the north. Situated at an elevation of approximately 256 feet above sea level within Myanmar's dry zone, it experiences a tropical climate with temperatures ranging from 12.0°C to 42.4°C. Its dry conditions pose fire hazards, and water levels can significantly rise to 1,260 centimeters, indicating potential flooding concerns in low-lying areas.

The township has a total population of 240,193 residents, predominantly ethnic Bamar (approximately 98%), with smaller communities of Kachin, Kayah, Karen, Chin, Mon, Rakhine, and Shan. The gender distribution is fairly balanced (48.5% male, 51.5% female). Covering 25.8 square kilometers, it has a high population density of 11,001.5 persons per square kilometer. The median age is 27.3 years, indicating a relatively young demographic.

Administered across 14 wards, Chanmyathazi comprises 53,047 private households, with an average size of 5 individuals; notably, 23.7% of these households are female-headed. The age distribution shows 23.8% children (0-14 years), 71.5% economically productive adults (15-64 years), and 4.7% elderly (65+ years). The total dependency ratio is 39.9 (child dependency 33.3, old-age dependency 6.61), and 2.0% of

the population has a disability. Homeownership is diverse: 57.2% own, 26.7% rent, and a smaller portion lives in government or private company quarters. Housing construction primarily utilizes bamboo, wood, and corrugated sheets.

Regarding energy, electricity is the dominant source for both cooking (55.3% of households) and lighting (86.5%), though 36.8% still use charcoal for cooking. Drinking water access is primarily via tube wells and boreholes (49.8%), supplemented by bottled or purified water for 25.6% of households.

Ethnically, while predominantly Bamar, Chanmyathazi hosts Chinese, Indian, and other minority communities, reflecting Mandalay's historical role as a cultural crossroads. Burmese is the primary language, with increasing English usage in business and education. Theravada Buddhism is the dominant faith, with numerous pagodas and monasteries, alongside smaller Christian, Muslim, and Hindu communities, contributing to religious diversity.

Socio-economically, Chanmyathazi Township exhibits a mix of affluence and poverty, with disparities in housing, income, and service access. Its economy is driven by small and medium-sized enterprises (SMEs), retail trade, and service sectors (education, healthcare). The labor force participation rate is 65.8% (84.2% male, 48.7% female), with a relatively low unemployment rate of 3.2%. Mandalay's bustling Zegyo Market significantly influences the local economy, providing employment and attracting traders. However, challenges like informal employment, limited credit access, and infrastructure gaps persist, particularly in peri-urban areas.

Education and healthcare facilities are comparatively well-developed, with various public and private schools, vocational centers, and clinics. The township boasts a commendable literacy rate of 96.4% among individuals aged 15 and above (98.3% male, 94.8% female). However, disparities in access to quality education and healthcare remain for low-income families. Urban planning and infrastructure are improving, with ongoing efforts to enhance road networks, sanitation, and public transportation. Despite advancements, traffic congestion, waste management, and housing affordability continue to challenge sustainable development.

In summary, Chanmyathazi Township mirrors Myanmar's broader socio-economic dynamics: rapid urbanization, cultural diversity, and economic potential, yet constrained by structural inequalities and developmental challenges. Understanding its profile is crucial

for formulating targeted policies to promote inclusive growth and improve residents' quality of life.

3.5 Overview of Mya Yi Nandar Housing

The Mya Yi Nandar Housing Complex stands as a prominent affordable housing development situated in Chanmyathazi Township, Mandalay, serving as a critical component of Myanmar's broader urban housing initiatives. Its fundamental aim is to provide accessible and systematically organized residential spaces primarily for low- to middle-income households. The complex's design prioritizes systematic urban planning, featuring a clearly defined spatial layout based on a grid network of numbered streets (e.g., 45th to 49th Streets) intersected by key arterial roads (e.g., 117th and 120th Streets). This structured layout is integral to ensuring efficient vehicular and pedestrian circulation throughout the development.

The complex is predominantly composed of low-rise apartment blocks and row houses, strategically designed to optimize population density while simultaneously maintaining a high degree of livability for its residents. Its infrastructure is thoughtfully integrated to support residential functionality and enhance accessibility, with internal roads and streets facilitating smooth movement. Furthermore, the strategic placement of essential community amenities and public services in the immediate vicinity of the complex significantly contributes to the social and cultural well-being of its inhabitants. These include readily accessible green spaces such as a Small Park on Pearl Street 2, various religious institutions, nearby eateries, and guest accommodations. The strong connectivity between the housing complex and vital urban services is underscored by the presence of facilities like the Mandalay City Development Committee (MCDC) office, a nearby fire station, and a traffic police office, all within 1 kilometer, ensuring easy access for the community.

Mya Yi Nandar Housing exemplifies a model of planned urban development specifically targeting affordability, spatial equity, and robust community integration. This makes it a highly relevant subject for academic study concerning sustainable housing policy and urban management within Myanmar. The project, centrally located in Chanmyathazi Township, is a flagship initiative that has been systematically developed in three distinct phases, each meticulously designed to cater to diverse income groups, ranging from low- to middle-income households. Each phase of the complex is characterized by variations in

housing design, unit size, and pricing, thereby reflecting a nuanced understanding of the varied needs within the target population.

Table 3.1 Detailed Breakdown of Mya Yi Nandar Housing

Phase	MaMa	Project Area (acre)	Building (a)	Floor (b)	Room/flr (c)	Total Rooms (a*b*c)	Room area (sq.ft.)
1	15	7.67	27	4	8	864	484 & 572
	26	5.4	30	4	4	480	554.5
2	16	7.67	20	5	8	800	572
	27	5.4	27	4	4	432	554.5
3	25	4.6464	25	6	4	600	661
	28	8.68	50	6	4	1200	661
	29	8.68	1	6	4	24	661
	19	2.9292	15	6	4	360	661

Source: Data from Mandalay City Development Committee (MCDC)

Phase 1 of the Mya Yi Nandar Housing encompasses two distinct blocks: MaMa-15 and MaMa-26. This phase had a notable construction period of one year, involving the expertise of 37 sub-contractor companies. MaMa-15 comprises 27 buildings, collectively offering 864 residential rooms. Each building within this block rises four stories, with each floor accommodating 8 rooms, resulting in a total of 32 rooms per building. MaMa-26 consists of 30 buildings, providing a total of 480 rooms. Similar to MaMa-15, each building in this block is four stories high, but with a design featuring 4 rooms per floor, resulting in 16 rooms per building. Pricing for Phase 1 units ranged from 60 lakhs to 120 lakhs. Specifically, ground floor units were priced at 120 lakhs regardless of square footage. For units with 572 sq.ft., prices varied by floor: 1st floor at 110 lakhs, 2nd floor at 90 lakhs, and 3rd floor at 70 lakhs. For units with 484 sq.ft., prices were: 1st floor at 100 lakhs, 2nd floor at 80 lakhs, and 3rd floor at 60 lakhs. Payment options for Phase 1 included both one-time cash payment and loan payment.

Phase 2 introduces two additional blocks: MaMa-16 and MaMa-27. MaMa-16 comprises 20 buildings, providing a total of 800 rooms. In MaMa-16, each building stands five stories high, with each floor containing 8 rooms, leading to 40 rooms per building.

Similarly, MaMa-27 consists of 27 buildings, collectively offering 432 rooms. Each building in MaMa-27 is four stories high, with each floor accommodating 4 rooms, totaling 16 rooms per building.

Phase 3 represents a significant expansion with four new blocks: MaMa-19, MaMa-25, MaMa-28, and MaMa-29. MaMa-19 comprises 15 buildings, collectively offering 360 rooms. Each building in this block is six stories high, with each floor containing 4 rooms, yielding a total of 24 rooms per building. Notably, the recently constructed MaMa-19 blocks are strategically located in close proximity to Phase 1, specifically positioned between 48th and 49th Streets, adjacent to 117th Street. MaMa-25 features 25 buildings, providing 600 rooms in total, with each building mirroring MaMa-19's design of six stories and 4 rooms per floor, resulting in 24 rooms per building. MaMa-28 stands as the largest block in this phase, with 50 buildings and a substantial total of 1200 rooms. Each building in MaMa-28 maintains the consistent design of six stories with 4 rooms per floor, totaling 24 rooms per building. Finally, MaMa-29 consists of a single six-story building, which also provides 24 rooms, with 4 rooms per floor. Pricing for Phase 3 units ranged from 190 lakhs to 260 lakhs. The ground floor units were priced at 260 lakhs, followed by 240 lakhs for 1st floor, 220 lakhs for 2nd floor, 210 lakhs for 3rd floor, 200 lakhs for 4th floor, and 190 lakhs for 5th floor, respectively. Payment options for Phase 3 also included both one-time cash payment and loan payment.

The strategic integration of public services and governmental infrastructure around the Mya Yi Nandar Housing Complex further underscores its role as a comprehensively planned urban development. A Local Health Division and Township Public Health Department are situated within easy reach, ensuring convenient access to healthcare services for the community. Early childhood education is facilitated by a Day Nursery School, operating under the management of the Department of Social Welfare, alongside No. 25 Basic Education Middle School for younger students. Essential utilities are also seamlessly integrated, with a 33/11 KV (10) MVA Substation, managed by the Ministry of Electric Power, located in close proximity to ensure efficient power distribution for the general public residing in the complex. The presence of a Construction Materials Quality Testing Laboratory nearby, which falls under the Building and Warehouse Department (comprising Building, Warehouse, and Estimates divisions) of the Mandalay City Development Committee, signals a commitment to systematic planning, testing, monitoring, and quality control during the construction process. Moreover, the proximity

of a Department of Labor and Labor Law Inspection office (Ministry of Labor) caters to workers' and work-related affairs, while a traffic police office and the Mandalay regional fire station enhance public safety. Recreational and green spaces, including a football stadium, a small park, and a nursery and garden center, are also directly attached to the housing complex, managed by the MCDC, enriching the living environment for residents.

In conclusion, the Mya Yi Nandar Housing stands as a testament to planned urban development in Mandalay, aiming to address the critical need for affordable and integrated residential spaces. Its multi-phase development, systematic spatial planning, and comprehensive integration with essential public services highlight a proactive approach to urban management and housing provision. However, like many large-scale initiatives in the region, the project has navigated certain challenges, including issues related to limited funding and the complexities of land acquisition. Furthermore, ensuring consistent transparency and equitable accessibility in unit allocation remains a continuous focus to guarantee that the most vulnerable populations truly benefit from such vital developments. Despite these ongoing considerations, Mya Yi Nandar Housing offers valuable insights into Myanmar's efforts to foster sustainable housing policy and inclusive urban growth.

CHAPTER IV

SURVEY ANALYSIS

4.1 Survey Profile

Adequate housing is a fundamental human need and a key determinant of quality of life. Residents' satisfaction with their living conditions reflects not only the physical quality of their homes but also access to essential services, affordability, and overall well-being. Assessing housing satisfaction involves examining factors such as dwelling conditions, availability of basic amenities, cost burdens, and the surrounding environment.

This survey analysis explores residents' experiences in low-cost housing, focusing on their satisfaction with housing quality, infrastructure, and daily living conditions within the Mya Yi Nandar Housing. By understanding these perspectives, the study aims to identify strengths and areas for improvement in affordable housing initiatives. The findings will contribute to broader discussions on sustainable urban development and inform policies that ensure safe, affordable, and dignified living conditions for all.

Understanding the demographic and socio-economic characteristics of respondents is essential for analyzing housing satisfaction. This survey captures key details about the residents of Mya Yi Nandar Housing, including household composition, income levels, and tenure status. By examining these factors, the study provides context for how different groups experience and evaluate their living conditions.

The survey includes a representative sample from diverse backgrounds, ensuring a comprehensive assessment of their needs and challenges. Data on housing type, occupancy rates, and utility access offer insights into physical home conditions, while information on employment, education, and household expenditures highlights the economic realities shaping satisfaction. This profile supports the analysis of housing conditions, helps identify disparities, and prioritizes targeted improvements for vulnerable groups, fostering more inclusive and responsive urban development policies.

4.2 Survey Design

A well-structured survey design is critical for obtaining reliable and meaningful data on residents' housing satisfaction. This study employs a descriptive approach, combining quantitative and qualitative techniques to capture both statistical trends and in-depth perspectives.

The survey for the Mya Yi Nandar Housing employs a simple random sampling method to ensure a representative sample, with questionnaires distributed across various phases of the development. The questionnaire itself is designed around several key themes: housing conditions (covering aspects like structural quality, space adequacy, and maintenance), access to basic services (including water, electricity, and sanitation), affordability and financial burden (addressing rent, utilities, and unexpected costs), and finally, community and environment (examining factors such as safety, noise, and the availability of green spaces).

Responses are measured using a 5-point Likert scale, enabling standardized analysis of satisfaction levels. Open-ended questions complement the quantitative data, allowing residents to elaborate on their experiences and suggest improvements. To enhance accuracy, the survey is conducted through face-to-face interviews and self-administered forms, ensuring accessibility for all demographic groups. Pilot testing refined question clarity and eliminated biases. This rigorous design ensures comprehensive and actionable findings, supporting evidence-based recommendations for policymakers and urban planners.

4.3 Analysis of Survey Results

This section provides a comprehensive examination of the survey findings, systematically evaluating residents' experiences in the Mya Yi Nandar Housing. The analysis begins with the demographic and socio-economic profiles of respondents, establishing a foundational understanding of the community. Next, it quantifies residents' satisfaction levels across key housing dimensions. The study then identifies the critical factors influencing satisfaction, revealing patterns and disparities. Finally, insights from stakeholders provide institutional perspectives on project implementation and challenges. By integrating resident feedback with stakeholder viewpoints, this analysis offers a holistic assessment of the low-cost housing initiative, bridging the gap between policy intentions

and lived realities and aiming to inform targeted improvements for future housing developments.

4.3.1 Socio-Demographic Characteristics of Respondents

Understanding the composition of residents is fundamental to assessing housing satisfaction and identifying tailored solutions. This section examines the socio-demographic characteristics of respondents in the Mya Yi Nandar Housing, including gender, age, education, income, household size and employment status. This comprehensive profile helps contextualize satisfaction levels and reveals the diverse needs and experiences within the community.

Table 4.1 Socio-Demographic Characteristics of Respondents

No	Variables	Frequency	Percentage
1	Gender		
	Male	63	46.7
	Female	72	53.3
	Total	135	100
2	Age Group		
	Under 25	12	8.9
	26-35	50	37.0
	36-45	34	25.2
	46-55	17	12.6
	56 and above	22	16.3
	Total	135	100
3	Education Level		
	No formal education	0	-
	Primary	3	2.2
	Middle school	2	1.5
	High School	22	16.3

Table 4.1 Socio-Demographic Characteristics of Respondents (Cont.)

No	Variables	Frequency	Percentage
3	Diploma	10	7.4
	Bachelor's degree	78	57.8
	Master's degree or higher	20	14.8
	Total	135	100
4	Income Level		
	Less than 300,000 MMK	22	16.3
	300,000 to 700,000 MMK	35	25.9
	700,000 to 1,000,000 MMK	24	17.8
	10,00,000 to 1,500,000 MMK	19	14.1
	Over 1,500,000 MMK	35	25.9
	Total	135	100
5	Household Size		
	1-2	30	22.2
	3-4	74	54.8
	5-6	30	22.2
	7 or more	1	0.7
	Total	135	100
6	Employment Status		
	1-2	106	78.5
	3-4	24	17.8
	5-6	5	3.7
	7 or more	0	-
	Total	135	100

Source: Survey Data, 2025

The survey findings reveal key socio-demographic characteristics of respondents residing in Mya Yi Nandar low-cost housing in Chanmyathazi Township, Mandalay. The sample consists of 135 residents, with a slightly higher proportion of females (53.3%) than males (46.7%). In terms of age distribution, the majority of respondents fall within the 26–35 age group (37.0%), followed by those aged 36–45 (25.2%), indicating that the housing complex primarily accommodates young and middle-aged adults. A smaller proportion of residents are under 25 (8.9%) or above 56 (16.3%), suggesting that elderly and very young populations are less represented in this housing scheme.

Education levels among respondents are notably high, with 57.8% holding a Bachelor's degree and an additional 14.8% possessing a Master's degree or higher. This suggests that the residents are relatively well-educated, which may influence their expectations and satisfaction levels regarding housing conditions. Only a minimal percentage reported primary (2.2%) or middle school (1.5%) education, while none had no formal education, reinforcing the trend of higher educational attainment in this community. However, the near absence of less-educated groups raises questions about accessibility for marginalized populations.

Income distribution presents a bimodal pattern, with the largest groups earning either 300,000–700,000 MMK (25.9%) or over 1,500,000 MMK (25.9%), while fewer fall into middle-income brackets. This disparity may reflect varying economic backgrounds among low-cost housing residents, possibly due to differences in employment status or household composition. Regarding household size, 54.8% of respondents live in households of 3–4 members, followed by smaller (1–2 members, 22.2%) and larger (5–6 members, 22.2%) families, indicating that the housing units mostly cater to nuclear families. These findings imply that current unit sizing may meet typical family needs but raise questions about accommodating larger families without overcrowding. The significant minority of smaller households suggests a need for varied unit types in future developments.

The employment status data reveals a workforce concentration mirroring Myanmar's formal labor pattern, with 78.5% of households having 1-2 employed members, likely reflecting single-earner or dual-income nuclear families common in urban areas. The 17.8% with 3-4 workers suggests multigenerational earning arrangements or adult children contributing to household income, while the minimal 3.7% with 5-6 employed members may indicate extended family economic units or boarding house situations. The complete

absence of households with 7+ workers confirms this is not an industrial worker dormitory-type community.

Overall, these socio-demographic insights highlight that Mya Yi Nandar housing primarily serves young to middle-aged, educated individuals with varying income levels, predominantly in small to medium-sized family units. These factors may significantly shape residents' perceptions and satisfaction with the housing facilities, warranting further analysis in the study.

4.3.2 Residential Mobility and Future Outlook of Respondents

The residential mobility and future outlook of respondents in Mya Yi Nandar low-cost housing, providing insights into their living circumstances, relocation motivations, and future housing intentions. This category includes resident type (e.g., tenant, owner), primary reasons for moving, length of residence, future housing plans, and migration history. Understanding these factors is crucial for assessing how residents' past experiences and future aspirations influence their satisfaction with low-cost housing. For instance, whether they moved due to affordability, employment opportunities, or forced displacement may shape their perceptions of current housing conditions. Similarly, the duration of residence and intentions to relocate in the future can indicate long-term stability or dissatisfaction. By analyzing these aspects, the study explores how residential mobility and housing transitions affect overall satisfaction, offering policymakers and urban planners' valuable perspectives on sustainable low-cost housing development.

Table 4.2 Residential Mobility and Future Outlook of Respondents

No	Variables	Frequency	Percentage
1	Resident Type		
	By Renting	54	40.0
	Privately Own	81	60.0
	Others	0	-
	Total	135	100
2	Moving Reasons		
	This Housing is Fair price.	68	50.4

Table 4.2 Residential Mobility and Future Outlook of Respondents (Cont.)

No	Variables	Frequency	Percentage
2	Proximity to Workplace.	17	12.6
	Access to Transportation.	5	3.7
	Proximity to Basic Amenities (Schools, Hospitals, Markets)	4	3.0
	Government Allocation/ Subsidy	14	10.4
	Better Living Conditions	12	8.9
	Family/Friends Already Living in the Area	11	8.1
	Others	4	3.0
	Total	135	100
3	Residing Period		
	Under 1 year	18	13.3
	1 – 3 years	58	43.0
	3 – 7 years	50	37.0
	7 years and above	9	6.7
	Total	135	100
4	Future Housing Tenure		
	Below 1 year	6	4.4
	From 1 to 3 years	34	25.2
	From 3 to 6 years	25	18.5
	Above 6 years	34	25.2
	A lifetime	36	26.7
	Total	135	100
5	Migration History		
	Kachin	2	1.5

Table 4.2 Residential Mobility and Future Outlook of Respondents (Cont.)

No	Variables	Frequency	Percentage
5	Magway	4	3.0
	Mandalay	85	63.0
	Nay Pyi Taw	2	1.5
	Rakhine, Sittwe	1	0.7
	Sagaing	23	17.0
	Shan	2	1.5
	Shan (North)	5	4
	Upper Myanmar	1	0.7
	Village	1	0.7
	Yangon	8	5.9
	Japan	1	0.7
	Total		135

Source: Survey Data, 2025

A majority of residents (60.0%) own their homes privately, while 40.0% are renters, indicating a mix of tenure security within the community. This ownership-rental ratio aligns with Myanmar's cultural preference for property ownership, indicating the project successfully facilitates home acquisition for low-to-middle income families. The high ownership rate suggests greater neighborhood stability and social cohesion.

The primary reason for moving to this housing complex was affordability, with 50.4% citing the fair price as their key motivation. Other significant factors included proximity to workplace (12.6%) and government allocation/subsidy (10.4%), suggesting that economic and policy-driven factors heavily influence housing choices. Write-in responses further highlight unmet needs in the broader housing market, such as preference for privacy and land purchase barriers, indicating the project may serve as a solution for those failing to secure private housing. Better living conditions (8.9%) also implicitly validate the project's improvements in basic standards, demonstrating that while

affordability dominates, the project addresses a spectrum of housing insecurities shaping urban migration.

Regarding length of residence, 43.0% have lived in the housing complex for 1–3 years, followed by 37.0% for 3–7 years, indicating a moderately stable population with a significant portion being relatively new residents. The distribution indicates stable but not permanent residency, typical of subsidized housing where residents may upgrade. The limited number of long-term dwellers could reflect the project's recent establishment or natural turnover. When asked about future housing plans, 26.7% intend to stay for a lifetime, while another 25.2% plan to remain for 1–3 years or above 6 years, reflecting varied long-term commitments. The significant lifetime commitment reflects successful affordability for stable households, while the 4.4% planning to leave within a year may indicate dissatisfaction or job mobility. The matching 25.2% figures for both 1-3 year and above 6-year plans highlight how the same development accommodates different housing pathways. These divergent timelines necessitate differentiated community planning, from flexible services for transient residents to long-term maintenance systems for permanent dwellers, underscoring the complex role of subsidized housing.

Migration history shows that 63.0% of respondents originally come from Mandalay, followed by Sagaing (17.0%) and Yangon (5.9%), suggesting that most residents are locally or regionally sourced, with minimal international migration (0.7% from Japan). This demographic composition highlights the role of low-cost housing in accommodating internal migrants and local low-to-middle-income families seeking affordable living options near urban centers. The concentration of local residents may contribute to stronger community cohesion.

These findings underscore the importance of housing affordability, tenure security, and accessibility in shaping residential satisfaction and stability. The data also suggests that while many residents view their current housing as a long-term solution, others may still consider relocation based on changing economic or social needs. Understanding these dynamics is essential for policymakers aiming to improve low-cost housing programs and ensure sustainable urban development.

4.3.3 Residents' Satisfaction with Mya Yi Nandar Housing

Assessing residents' satisfaction across multiple dimensions is crucial for evaluating the success of low-cost housing projects. This section examines satisfaction levels in key

aspects of daily life, including housing conditions, infrastructure quality, access to healthcare, entertainment options, food availability, transportation networks, employment opportunities, education facilities, and safety perceptions. These interconnected factors collectively determine the livability of Mya Yi Nandar Housing and reveal how well the project meets residents' diverse needs. By analyzing satisfaction across these domains, the study identifies strengths to maintain and improvement areas to address, providing a comprehensive picture of residential well-being and offering valuable insights for policymakers and urban planners.

Table 4.3 Housing Happiness

No	Description	Mean	Standard Deviation
1	My home is durable and long-lasting.	2.39	0.82
2	The housing unit meets my family's space requirements.	2.26	0.88
3	My home has adequate ventilation and natural light.	2.33	1.10
4	The noise levels in and around my housing unit are acceptable.	2.94	1.05
Overall		2.48	0.96

Source: Survey Data, 2025

The survey results indicate moderate satisfaction with housing quality (overall mean=2.48), placing it in the "Neutral" tier (2.61-3.40) and suggesting room for improvement. Residents expressed relative satisfaction with durability (mean=2.39), though the moderate standard deviation (0.82) suggests varied experiences. Space adequacy received the lowest satisfaction (mean=2.26), signaling cramped units for many families, aligning with data showing 22.2% of households have 5+ members. Ventilation and lighting scored marginally better (mean=2.33), but high deviation (1.10) indicates potential design flaws. Noise levels were the most contentious issue (mean=2.94), nearing "Disagree" territory, reflecting poor sound insulation or disruptive community environments. The overall neutral assessment implies the project meets basic shelter needs but falls short of consistently comfortable living environments. Priority improvements should address space optimization and noise mitigation.

Table 4.4 Infrastructure Happiness

No	Description	Mean	Standard Deviation
1	I have access to clean and safe water.	2.36	0.94
2	Water supply in the housing complex is consistent and reliable.	2.85	1.00
3	Electrical outages are rare and resolved promptly.	3.52	1.11
4	Sanitation facilities in my community are adequate.	2.77	1.05
5	Roads and pathways within the housing complex are well-maintained and safe.	2.53	0.94
6	There is sufficient street lighting to ensure safety at night.	3.02	1.19
7	Common areas are clean and well-maintained.	3.01	0.98
Overall		2.87	1.03

Source: Survey Data, 2025

The infrastructure assessment reveals significant challenges in basic service delivery, with an overall neutral-to-negative satisfaction trend (overall mean=2.87). While basic water safety scored relatively well (mean=2.36), reliability was problematic (mean=2.85), indicating frequent interruptions, and high deviation (1.00) suggests unequal distribution. Electricity emerged as the most deficient area (mean=3.52, nearing "Disagree"), with frequent and prolonged outages, and extreme deviation (1.11) implying uneven grid maintenance. Moderately negative scores for sanitation (mean=2.77) and road conditions (mean=2.53) reflect systemic maintenance gaps. Common area upkeep (mean=3.01) and street lighting (mean=3.02) barely meet minimum standards, creating safety concerns after dark. The profile exposes a paradox: basic amenities are provided, but inconsistent quality and reliability undermine livability, with the electrical system's poor performance demanding urgent upgrades.

Table 4.5 Healthcare Happiness

No	Description	Mean	Standard Deviation
1	I have access to local healthcare facilities that meet my needs.	2.68	1.00
2	The housing complex is free from harmful environmental pollutants.	2.81	0.98
3	There are adequate recreational areas to promote physical activity.	2.60	1.02
4	The overall environment of the community supports a healthy lifestyle.	2.79	0.96
5	Health-related services and facilities are easily accessible.	2.68	1.08
Overall		2.71	1.01

Source: Survey Data, 2025

The healthcare assessment reveals a marginally satisfactory situation (overall mean=2.71), with cautious optimism about amenities but clear areas for improvement. Residents report moderate satisfaction with healthcare access (mean=2.68) and facility availability (mean=2.68), though high standard deviations (~1.00) indicate unequal service distribution, likely stemming from facility concentration. Pollution concerns persist (mean=2.81), reflecting Mandalay's broader air quality challenges. Near-identical scores for healthy environments (mean=2.79) and pollution levels suggest environmental factors limit wellness potential. Recreational spaces scored slightly better (mean=2.60). The narrow score range (2.60-2.81) indicates no dramatic highs or lows, but the overall neutral rating reveals untapped potential.

Table 4.6 Entertainment Happiness

No	Description	Mean	Standard Deviation
1	There are sufficient entertainment facilities within or near the housing complex.	2.89	0.96

2	There are enough safe play areas for children within the housing complex.	2.70	1.04
3	Cultural or leisure activities that interest me are easily accessible.	3.01	1.00
4	The housing complex provides opportunities for socializing with neighbors.	2.50	0.79
5	Community events and activities are regularly organized.	3.03	1.00
Overall		2.83	0.96

Source: Survey Data, 2025

The entertainment assessment reveals a concerning lack of leisure opportunities (overall mean=2.83), positioning it as one of the weakest aspects of residential satisfaction. Residents reported dissatisfaction with entertainment options (mean=2.89) and cultural activity access (mean=3.01), reflecting an "entertainment desert." High standard deviations (~1.00) suggest uneven amenity access. While play areas scored slightly better (mean=2.70), the result remains unsatisfactory for a community with many young families, and wide deviation (1.04) indicates uneven distribution. The sole bright spot was neighborly interaction (mean=2.50), suggesting organic socialization despite institutional neglect. However, organized community events scored poorly (mean=3.03), a missed opportunity to strengthen bonds. These scores collectively depict a community where residents must create their own entertainment, with children's play and casual socialization occurring despite, not because of, project planning.

Table 4.7 Food Happiness

No	Description	Mean	Standard Deviation
1	There are sufficient grocery shopping options within a convenient distance.	2.01	0.77
2	The food available locally is affordable and of good quality.	2.60	0.89

3	There are enough dining options that cater to my taste and dietary preferences.	2.43	0.93
4	Food delivery services are readily available and reliable.	2.18	0.85
5	I am satisfied with the freshness and variety of food sold nearby.	2.66	0.92
Overall		2.38	0.87

Source: Survey Data, 2025

The food accessibility assessment presents one of the more positive dimensions of resident satisfaction (overall mean=2.38), though disparities exist. Residents expressed clear satisfaction with grocery availability (mean=2.01) and delivery services (mean=2.18), indicating successful retail development. Low standard deviations (0.77-0.85) show consistent experiences. While options exist, cost and quality concerns persist (mean=2.60), particularly for the 16.3% of residents earning below 300,000 MMK. Dietary preference accommodation scored moderately (mean=2.43), suggesting local vendors may not fully serve the community's ethnic diversity. The strong performance in food access contrasts sharply with weaker entertainment and infrastructure scores.

Table 4.8 Transportation Happiness

No	Description	Mean	Standard Deviation
1	Public transport facilities are conveniently accessible from the housing complex.	2.35	0.91
2	Transport options are reliable and timely.	2.48	0.89
3	The cost of transportation to key areas (e.g., city center, workplace) is reasonable.	2.70	0.96
4	Traffic congestion is manageable during my daily commutes.	2.39	0.93
5	Parking spaces are sufficient and conveniently located.	3.02	1.21
Overall		2.59	0.98

Source: Survey Data, 2025

The transportation assessment reveals a moderately functional but strained mobility system (overall mean=2.59). Residents report relatively good access to public transport (mean=2.35) and consistent reliability (mean=2.48). However, transportation affordability emerged as a key concern (mean=2.70), especially for households earning 300,000-700,000 MMK. Parking availability was the worst-performing aspect (mean=3.02), surprising given the area's density and 60% homeownership. The extreme deviation (1.21) suggests uneven provisions across blocks. The transportation profile presents contradictions: reasonable transit access but financial and parking pain points that disproportionately affect working residents (62.2% aged 26-45), aligning with employment accessibility challenges.

Table 4.9 Job Happiness

No	Description	Mean	Standard Deviation
1	I am satisfied with the employment opportunities available in or near the housing complex.	2.87	0.93
2	My commute to work is reasonable and does not negatively affect my quality of life.	2.40	0.85
3	Living in this housing complex provides a stable economic environment for maintaining employment.	2.53	0.81
4	There are good opportunities for career advancement within easy commuting distance.	2.83	0.94
5	Job security in this area meets my expectations.	2.84	0.92
Overall		2.69	0.89

Source: Survey Data, 2025

The employment assessment reveals significant economic challenges (overall mean=2.69), with particular dissatisfaction around local job opportunities and career growth. Residents expressed clear dissatisfaction with nearby job availability (mean=2.87) and career advancement prospects (mean=2.83), especially concerning for the 62.2% working-age adults. Commute satisfaction scored better (mean=2.40), likely reflecting adaptation rather than ideal conditions, compounded by transportation cost concerns (mean=2.70). Moderate scores for job security (mean=2.84) and economic environment

(mean=2.53) indicate precarious employment, troubling for homeowners needing stable income. The results expose a critical disconnect: while the project provides affordable shelter, it fails to connect residents to meaningful, proximate employment, explaining why 48.1% plan to leave within six years.

Table 4.10 Education Happiness

No	Description	Mean	Standard Deviation
1	I am satisfied with the quality of educational institutions available to my family.	2.92	0.92
2	Schools in or near our housing complex meet my children's educational needs.	2.79	0.85
3	There are sufficient after-school or tutoring programs supporting my children's learning.	2.68	0.94
4	Educational opportunities in this area will positively impact my children's future.	2.62	0.88
5	The proximity of schools reduces stress and improves our family's daily routine.	2.45	0.88
Overall		2.69	0.89

Source: Survey Data, 2025

The education assessment reveals moderate dissatisfaction (overall mean=2.69), particularly concerning school quality and enrichment opportunities, highly significant given that 23.8% of residents are children and 72.6% of adults are highly educated. Residents expressed strongest dissatisfaction with local school quality (mean=2.92), suggesting a mismatch between parent expectations and educational offerings. After-school programs scored poorly (mean=2.68), representing a missed opportunity. School proximity was the most positive aspect (mean=2.45), reducing daily stress. However, this logistical advantage is undermined by quality concerns, presenting a paradox: while families are successfully located near schools, these institutions often fail to meet the aspirations of the highly educated parent demographic.

Table 4.11 Safety Happiness

No	Description	Mean	Standard Deviation
1	I feel secure in my home at night.	2.84	1.16
2	Security measures (e.g., locks, security guards) in my housing area are effective.	3.45	1.11
3	Safety-related incidents are rare within our housing community.	3.30	1.13
4	Community management responds effectively to safety concerns and incidents.	3.59	1.13
5	I feel confident about the safety of outdoor and communal areas during both day and night.	3.47	1.08
Overall		3.33	1.12

Source: Survey Data, 2025

The safety assessment reveals significant concerns (overall mean=3.33), positioning security as one of the most problematic aspects of living in Mya Yi Nandar. This is particularly alarming given that 26.7% of residents plan lifetime stays. Residents reported strong dissatisfaction with security measures (mean=3.45) and incident response (mean=3.59), with the latter being the worst-scoring item across all survey dimensions. Consistently high standard deviations (~1.10) indicate widespread concerns. While home security at night scored relatively better (mean=2.84), it still falls in the "Disagree" range, correlating with inadequate street lighting (mean=3.02). The extremely poor rating for management response (mean=3.59) suggests systemic institutional neglect, exacerbating residents' vulnerability despite the physical design, and is particularly troubling given the high population density (11,001.5 persons/km²).

4.3.4 Summary Results of Factors Affecting Residents' Satisfaction of Mya Yi Nandar Housing

The comprehensive analysis of resident's overall feedback reveals a complex interplay of factors that collectively determine satisfaction levels in the Mya Yi Nandar Housing.

Table 4.12 Factors Affecting Residents' Overall Satisfaction of Mya Yi Nandar Housing

No.	Description	Overall Mean	Overall Standard Deviation
1	Housing Happiness	2.48	0.96
2	Infrastructure Happiness	2.87	1.03
3	Healthcare Happiness	2.71	1.01
4	Entertainment Happiness	2.83	0.96
5	Food Happiness	2.38	0.87
6	Transportation Happiness	2.59	0.98
7	Job Happiness	2.69	0.89
8	Education Happiness	2.69	0.89
9	Safety Happiness	3.33	1.12
Overall		2.73	0.97

Source: Survey Data, 2025

The satisfaction survey for Mya Yi Nandar low-cost housing highlights both foundational strengths and a complex array of significant opportunities for enhancement across various living conditions. Notably, residents expressed the most positive average sentiment towards Food Happiness (mean score of 2.38) and Housing Happiness (mean score of 2.48). These scores indicate that these critical domains, despite overall challenges, received average responses leaning towards agreement and satisfaction. However, even within these more favorably rated domains, underlying issues create significant pain points; for Housing, while basic structural integrity shows moderate satisfaction, critical design flaws such as space constraints (particularly challenging for households with 5-6 members leading to overcrowding stress), ventilation and lighting issues suggesting architectural shortcomings, and unacceptable noise levels pointing to inadequate soundproofing create daily discomfort. These physical limitations are exacerbated by inconsistent maintenance quality, with sanitation facilities and common areas showing neglect, especially affecting long-term residents. For Food Happiness, despite relatively satisfactory access, higher dissatisfaction with affordability creates significant financial strain for lower-income households.

Despite these nuances, the overall mean score of 2.73 paints a broader picture of pervasive dissatisfaction across the community. This average score, leaning distinctly towards the "Disagree" range, signifies that residents' current living conditions, in general, fundamentally fall short of their expectations. Beyond housing and food, other essential services contribute significantly to this dissatisfaction. Residents contend with chronic instability in essential services; erratic electricity access damages appliances, spoils food, and creates security vulnerabilities, while inconsistent water supply necessitates alternative storage solutions. Poorly maintained sanitation systems pose public health risks, particularly during Mandalay's intense summers. These service failures disproportionately impact vulnerable groups, including female-headed households. Transportation (mean=2.59) reveals a paradox of reasonable access but problematic costs, with expensive and unreliable options that isolate residents from economic opportunities and social services beyond the complex. The project's peripheral location exacerbates financial strain through these hidden costs, as lengthy commutes consume a significant portion of income for low-wage workers.

Furthermore, Job Happiness and Education Happiness (overall mean 2.69) are deeply impacted by a bleak economic and social environment. Limited local employment options perpetuate precarious informal sector work, and the lack of dedicated childcare spaces further restricts income-generating opportunities for parents. These challenges are magnified for homeowners facing rising maintenance costs and renters experiencing annual lease increases. The educational ecosystem itself fails to deliver on its promise of upward mobility, with under-resourced schools ill-equipped to serve the child population, leading to overcrowded classrooms and rote learning that disadvantage students. The lack of after-school programs leaves children unsupervised, and limited internet access restricts digital learning. These educational shortcomings, combined with bleak local job prospects, contribute to a youth exodus from the community.

Density-related tensions permeate daily interactions. While organic social connections are relatively strong, poorly designed common areas offer no respite from cramped living, and the absence of structured community programs misses opportunities to bridge ethnic differences. Environmental health risks, such as amplified odors from insufficient drainage and trapped pollutants in winter inversions, contribute to respiratory illnesses that strain limited healthcare access, which is perceived as barely adequate for vulnerable groups. A pervasive sense of vulnerability permeates community life, largely

driven by ineffective security measures that enable petty theft and harassment. Elderly residents report avoiding evening activities due to poor lighting, while parents restrict children's play over safety fears. Management's slow response to safety complaints has severely eroded confidence in institutional support, further compounded by opaque decision-making regarding maintenance priorities and resource allocation.

The wide standard deviations (ranging from 0.87 to 1.12) across all metrics consistently reveal inconsistent service delivery and maintenance. This points to systemic issues beyond individual complaints, suggesting a lack of standardized quality and equitable distribution of resources. Transparency issues in housing allocation and maintenance prioritization create perceptions of unfair treatment. Short-term planning fails to address the needs of long-term residents, while inadequate community participation mechanisms miss crucial opportunities to leverage resident expertise for improvements.

Crucially, these numerous challenges interact in vicious cycles, underscoring a complex and interconnected web of deficiencies. For instance, high transportation costs reduce access to healthcare visits, which in turn decreases workforce participation, limiting income for home improvements. Similarly, safety concerns reduce common space utilization, undermining social benefits. Long-term residents face particular distress as aging infrastructure declines, and seasonal variations intensify difficulties, with monsoon floods overwhelming drainage and summer heat spiking electricity demand. The resident experience ultimately reflects the paradox of affordable housing that meets physical shelter needs but critically fails to address the broader ecosystem required for a genuine quality of life. The findings unequivocally suggest that Mya Yi Nandar requires comprehensive, ecosystemic interventions that integrate physical, economic, social, and governance factors for long-term success and improved resident well-being.

4.4 Results of Residents' Suggestions for the Improvement of Mya Yi Nandar Housing

The open-ended survey responses reveal a clear blueprint for enhancing quality of life in Mya Yi Nandar Housing, with resident proposals converging around six priority areas. These practical recommendations reflect a community balancing affordability aspiration with urban livability standards.

Residents overwhelmingly demand enhanced protection measures (32% of responses), citing frequent motorcycle thefts and nighttime vulnerabilities. Specific proposals include CCTV cameras in all blocks, increased solar-powered streetlight coverage, and dedicated security patrols. These align with concerning satisfaction scores for security measures (mean=3.45), particularly from female and elderly residents.

Residents are frustrated with inconsistent utilities and propose concrete solutions: reforming electricity billing systems (18% of responses) due to alleged overcharging, upgrading water filtration to address sediment issues affecting health, and implementing reliable waste management with more bins and consistent collection schedules. These highlight dissatisfaction with sanitation and common area upkeep.

With limited space, residents propose multi-purpose solutions. A recurring complaint involves illegal ground-floor encroachments, suggesting conversion into regulated parking. They also propose transforming garbage accumulation zones into recreational ponds or gardens and building Dhamma halls in all wards for the community's Buddhist majority. These innovative ideas aim to alleviate parking crises and improve social connections.

A significant quarter of suggestions focus on systemic governance reforms. Residents call for monthly community meetings to address security and cleanliness, transparent enforcement of parking and noise regulations, and shared maintenance funds. These proposals respond to perceived management failures and reflect a desire for self-governance among the highly educated resident base.

Parents and young people advocate for specific social infrastructure improvements, including repairing playground equipment, installing new fitness additions, and implementing after-school tutoring programs leveraging resident expertise. They also propose pet ownership regulations to control sanitation issues, directly benefiting the child population and addressing educational resource dissatisfaction.

Several recurring themes emphasize a "housing family" concept to strengthen community bonds. Residents suggest joint activities across age groups and establishing emergency support networks and conflict mediation systems for common issues like noise disputes. These social initiatives could bolster existing neighborly connections filling the void of organized community activities.

Residents demonstrate a practical understanding of implementation, proposing phased solar lighting installations and community-led waste management pilot programs. They also see potential in public-private partnerships for essential services like a supermarket. These approaches reflect the community's diverse income distribution, where higher earners could potentially subsidize services for lower-income neighbors, allowing for co-investment in shared improvements.

Collectively, these suggestions form a resident-generated masterplan balancing immediate security needs with long-term social infrastructure development. Their emphasis on participatory governance and multi-use space design offers valuable lessons for future low-cost housing projects in Myanmar's rapidly urbanizing context. Critically, these proposals demonstrate that residents seek meaningful engagement in creating solutions - a vital insight for policymakers aiming to transform housing projects into sustainable communities.

CHAPTER V

CONCLUSION

5.1 Findings

The comprehensive evaluation of Mya Yi Nandar Housing reveals a complex portrait of an affordable housing project that meets basic shelter needs but struggles to fulfill the broader aspirations of sustainable urban living. The study's descriptive approach uncovers several critical patterns defining the resident experience in this rapidly urbanizing context.

Living Conditions and Infrastructure present a mixed picture. While the project successfully provides structurally sound housing (durability mean=2.39), significant deficits in noise control (mean=2.94), space adequacy (mean=2.26), and utility reliability (electricity mean=3.52) undermine residential comfort. The infrastructure ecosystem shows particular strain, with water supply inconsistencies (mean=2.85) and sanitation shortcomings (mean=2.77) creating daily challenges for the 80% of residents who have lived onsite for 1-7 years. These service gaps disproportionately impact vulnerable groups, including female-headed households (23.7%) and the elderly (4.7%), forcing them to develop costly coping mechanisms.

Socio-Economic Dynamics exhibit paradoxical outcomes. Although homeownership rates reach 60%, reflecting successful policy implementation, the bipolar income distribution creates divergent lived realities. A quarter of households (25.9%) earning below 700,000 MMK struggle with transportation costs (mean=2.70) and healthcare access (mean=2.71), burdens more easily absorbed by their higher-earning neighbors. Despite the project's educated demographic (72.6% with tertiary education), limited local career pathways (job opportunities mean=2.87) lead 48.1% of residents to plan leaving within six years, despite the housing affordability.

Community and Safety Factors reveal both organic strengths and institutional failures. Neighborly interaction scores relatively well (mean=2.50), indicating existing

social bonds, yet organized community activities are strikingly deficient (mean=3.03), representing missed opportunities for enhanced social cohesion. Safety concerns cast a long shadow, with ineffective security measures (mean=3.45) and poor management responsiveness (mean=3.59) eroding trust, which is particularly troubling given that 26.7% of residents plan lifetime stays. These governance shortcomings, coupled with design flaws like inadequate soundproofing, amplify tensions inherent in high-density living (11,001 persons/km²).

Resident Resilience shines through as a defining characteristic. Faced with systemic gaps, households demonstrate remarkable adaptability, from creating informal support networks to developing shared solutions for parking and waste management. This grassroots innovation, particularly from the educated resident base, represents a vital resource for participatory improvement strategies. However, a consistent theme across the findings is the fundamental disconnect between physical housing provision and the broader ecosystem of services, opportunities, and governance necessary for genuine urban quality of life.

The project's ultimate paradox lies in its simultaneous success as shelter infrastructure and its shortfall as a truly livable community—a tension that mirrors Myanmar's broader urbanization challenges. These findings collectively argue for redefining affordable housing success beyond mere unit delivery to encompass economic mobility, environmental health, and participatory governance within housing policy frameworks. The resident-generated suggestions, emphasizing both immediate security upgrades and long-term social infrastructure, provide a practical roadmap for this necessary evolution.

5.2 Suggestions

The findings from Mya Yi Nandar Housing necessitate a multi-dimensional improvement strategy that addresses immediate livability concerns and long-term community development, offering critical lessons for Myanmar's next generation of affordable housing. These evidence-based suggestions combine urgent interventions with systemic policy reforms and community empowerment approaches to create a holistic roadmap for transformation, aiming to shift from shelter-focused developments to thriving urban communities.

Immediate interventions within the next 6-12 months are crucial. Safety reinforcement involves implementing security patrols and installing solar-powered CCTV cameras at all building entrances, focusing on areas with high theft rates, and improving lighting and visibility in all common areas. Utility stabilization is also essential, requiring upgrading electrical transformers and water pumping systems while introducing transparent metering to resolve billing disputes. Reliable waste management systems with increased bins and consistent collection schedules are needed to improve sanitation. To enhance food access and quality, monthly night markets featuring regional cuisines could transform underused common areas into vibrant spaces for economic exchange and food diversity. Space optimization is a priority; illegally occupied ground-floor areas should be converted into regulated motorcycle parking spaces, and waste accumulation points transformed into community gardens or recreational ponds.

Medium-term community development, within 1-3 years, should focus on participatory governance. Establishing elected resident committees with decision-making power over a portion of maintenance budgets would formalize existing mutual aid practices. Monthly problem-solving forums could address recurrent issues from noise to pet regulations, leveraging the highly educated resident base. Social cohesion can be strengthened by designing and building multi-faith community halls in all wards, accommodating the Buddhist majority's needs and providing venues for social events. Underutilized common spaces should be converted into structured recreational zones and after-school enrichment centers. To enhance economic empowerment, on-site vocational training hubs focused on digital skills and craft entrepreneurship should be created, tapping into Mandalay's growing service sector. Improving human development services is crucial through community-led tutoring programs leveraging residents' high educational attainment, and the development of parent-teacher associations. Educated residents can be mobilized to mentor local youth and develop community learning initiatives. Mobile clinics should be partnered with to address healthcare service distribution gaps.

Sustainable improvement hinges on long-term policy implications and institutional reforms. Integrated service standards are needed that mandate the concurrent development of essential facilities (schools, clinics, markets) alongside residential units in future housing projects, ensuring specific ratios. Empowered community governance should establish legally recognized resident cooperatives with authority over maintenance budgets, and design cultural programming spaces directly into initial blueprints. Additionally,

continuous adaptive management requires standardized satisfaction metrics through annual resident audits, and post-occupancy evaluations at 1, 3, and 5-year milestones.

Collectively, these suggestions represent a fundamental shift in affordable housing from a quantity-focused endeavor to a quality-focused ecosystem. Success would be measured by economic mobility, intergenerational well-being, and cultural continuity. For Myanmar’s urbanizing cities, adopting this framework could prevent the challenges faced by Mya Yi Nandar from replicating elsewhere, ensuring future housing projects become engines of inclusive development rather than mere containers of urban poverty, balancing local context with global SDG 11 standards for sustainable communities. The Mya Yi Nandar Housing study transcends its local context to offer a universal lesson: affordable housing cannot be measured solely by roofs and walls, but by its capacity to nurture human dignity, opportunity, and belonging. This vision demands nothing less than a new paradigm—one where housing policy is inseparable from climate action, economic justice, and cultural preservation, ensuring that the cities we build today become the equitable homes our shared future deserves.

REFERENCES

- Amérigo, M., & Aragonés, J. I. (1997) 'A Theoretical and Methodological Approach to the Study of Residential Satisfaction', *Journal of Environmental Psychology*, 17(1), pp. 47-57.
- Angel, S. (2000) *Housing Policy Matters: A Global Analysis*. Oxford University Press.
- Altman, I., & Low, S. M. (1992) *Place Attachment*. Springer.
- Atkinson, R., & Flint, J. (2004) 'Fortress UK? Gated Communities, the Spatial Revolt of the Elites, and Time-Space Trajectories of Segregation', *Housing Studies*, 19(6), pp. 875-892.
- Boonyabancha, S. (2005) 'Baan Mankong: Going to Scale with "Slum" and Squatter Upgrading in Thailand', *Environment and Urbanization*, 17(1), pp. 21-46.
- Bryk, A. S., Sebring, P. B., Allensworth, E., Luppescu, S., & Easton, J. Q. (2010) *Organizing Schools for Improvement: Lessons from Chicago*. University of Chicago Press.
- Cervero, R. (2002) 'Built Environments and Mode Choice: Toward a Normative Framework', *Transportation Research Part D: Transport and Environment*, 7(4), pp. 265-284.
- Chiesura, A. (2004) 'The Role of Urban Parks for the Sustainable City', *Landscape and Urban Planning*, 68(1), pp. 129-138.
- Cohen, D. A., McKenzie, T. L., Sehgal, A., Williamson, S., Golinelli, D., & Lurie, N. (2007) 'Contribution of Public Parks to Physical Activity', *American Journal of Public Health*, 97(3), pp. 509-514.
- Esping-Andersen, G. (1990) *The Three Worlds of Welfare Capitalism*. Princeton University Press.
- Florida, R. (2002) *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community, and Everyday Life*. Basic Books.
- Forrest, R., & Kearns, A. (2001) 'Social Cohesion, Social Capital, and the Neighborhood', *Urban Studies*, 38(12), pp. 2125-2143.

- Francescato, G., Weidemann, S., & Anderson, J. R. (1979) 'Residents' Satisfaction in HUD-Assisted Housing: Design and Management Factors', *Journal of Architectural and Planning Research*, 6(4), pp. 303-319.
- Galster, G. C. (1987) 'Identifying the Correlates of Dwelling Satisfaction: An Empirical Critique', *Environment and Behavior*, 19(5), pp. 539-568.
- Gifford, R. (2007) *Environmental Psychology: Principles and Practice*. Optimal Books.
- Gilbert, A. (2004) 'Helping the Poor through Housing Subsidies: Lessons from Chile, Colombia, and South Africa', *Habitat International*, 28(1), pp. 13-40.
- Gulliford, M., Figueroa-Munoz, J., Morgan, M., Hughes, D., Gibson, B., Beech, R., & Hudson, M. (2002) 'What Does 'Access to Health Care' Mean?', *Journal of Health Services Research & Policy*, 7(3), pp. 186-188.
- Harvey, D. (2008) 'The Right to the City', *New Left Review*, 53, pp. 23-40.
- Healey, P. (1997) *Collaborative Planning: Shaping Places in Fragmented Societies*. Macmillan.
- Hulchanski, J. D. (1995) 'The Concept of Housing Affordability: Six Contemporary Uses of the Housing Expenditure-to-Income Ratio', *Housing Studies*, 10(4), pp. 471-491.
- Ibem, E. O., & Amole, D. (2013) 'Residential Satisfaction in Public Core Housing in Abeokuta, Ogun State, Nigeria', *Social Indicators Research*, 113(1), pp. 563-581.
- JLL. (2020) *Yangon Housing Market Report*. Jones Lang LaSalle.
- Kaplan, R., & Kaplan, S. (1989) *The Experience of Nature: A Psychological Perspective*. Cambridge University Press.
- Kemeny, J. (1992) *Housing and Social Theory*. Routledge.
- Lawrence, R. J. (1987) 'Housing, Dwellings, and Homes: Design Theory, Research, and Practice', *Journal of Architectural and Planning Research*, 4(4), pp. 271-286.
- Litman, T. (2003) 'Evaluating Transportation Equity', *World Transport Policy & Practice*, 9(2), pp. 50-65.
- Malpezzi, S. (1990) 'Urban Housing and Financial Markets: Some International Comparisons', *Urban Studies*, 27(6), pp. 971-1022.
- Malpass, P., & Murie, A. (1999) *Housing Policy and Practice*. Macmillan.

- Maricato, E. (2010) 'The Statute of the Peripheral City', in *Cities for All: Proposals and Experiences towards the Right to the City*. Habitat International Coalition, pp. 45-60.
- Maslow, A. H. (1943) 'A Theory of Human Motivation', *Psychological Review*, 50(4), pp. 370-396. Ministry of Construction. (2019) *National Housing Policy Implementation Report*. Government of Myanmar.
- Mohit, M. A., Ibrahim, M., & Rashid, Y. R. (2010) 'Assessment of Residential Satisfaction in Newly Designed Public Low-Cost Housing in Kuala Lumpur, Malaysia', *Habitat International*, 34(1), pp. 18-27.
- Morris, E. W., & Winter, M. (1978) 'Housing, Family, and Society', *Journal of Marriage and Family*, 40(1), pp. 9-21.
- Nasar, J. L. (1994) 'Urban Design Aesthetics: The Evaluative Qualities of Building Exteriors', *Environment and Behavior*, 26(3), pp. 377-401.
- Newman, O. (1972) *Defensible Space: Crime Prevention through Urban Design*. Macmillan.
- Ogu, V. I. (2002) 'Urban Residential Satisfaction and the Planning Implications in a Developing World Context: The Example of Benin City, Nigeria', *International Planning Studies*, 7(1), pp. 37-53.
- Owens, A. (2010) 'Neighborhoods and Schools as Competing and Reinforcing Contexts for Educational Attainment', *Sociology of Education*, 83(4), pp. 287-311.
- Parkes, A., Kearns, A., & Atkinson, R. (2002) 'What Makes People Dissatisfied with Their Neighborhoods?', *Urban Studies*, 39(13), pp. 2413-2438.
- Peckham, S., Exworthy, M., Powell, M., & Greener, I. (2014) 'Decentralization, Centralization, and Devolution in Publicly Funded Health Services: Decentralization and Healthcare', *Public Money & Management*, 34(6), pp. 415-422.
- Phang, S. Y. (2013) 'Singapore's Housing Policies: Responding to the Challenges of Economic Transitions', *The Singapore Economic Review*, 58(3), pp. 1-22.
- Pierre, J. (1999) 'Models of Urban Governance: The Institutional Dimension of Urban Politics', *Urban Affairs Review*, 34(3), pp. 372-396.

Putnam, R. D. (2000) *Bowling Alone: The Collapse and Revival of American Community*. Simon & Schuster.

THE REPUBLIC OF THE UNION OF MYANMAR_ NATIONAL HOUSING POLICY WHITE PAPER. Tipple, G., & Speak, S. (2009) *The Hidden Millions: Homelessness in Developing Countries*. Routledge.

Turner, J. F. C. (1976) *Housing by People: Towards Autonomy in Building Environments*. Marion Boyars.

Ulrich, R. S. (1983) 'Aesthetic and Affective Response to Natural Environment', in *Behavior and the Natural Environment*. Springer, pp. 85-125.

UN-Habitat. (2015) *Global Housing Strategy Framework*. United Nations.

World Bank. (2020) *Myanmar Urbanization Review*. World Bank Group.

Yap, K. S., & Wandeler, K. (2010) *Self-help housing in Bangkok*.

APPENDIX I

Qualitative Interview to the residents of Mya Yi Nandar Housing in Chanmyathazi Township, Mandalay.

- What aspects of living in Mya Yi Nandar Housing are you satisfied or dissatisfied with?
- Do you feel safe in your home and neighborhood? What security concerns do you have?
- Are basic utilities like electricity, water, and waste management reliable?
- What improvements would you suggest for the physical infrastructure?
- Are there adequate community spaces and activities?
- What maintenance issues affect your quality of life?
- What would make you consider staying here long-term?
- What are the areas needing improvement in this housing?

**Quantitative questionnaires of Residents' Satisfaction with Low-Cost Housing
in Chanmyathazi Township, Mandalay**
(A Case Study of Mya Yi Nandar Housing)

Ward (MaMa): _____, Building No: _____

Part 1: Socio-Demographic Characteristics

Please tick in the correct answer (Ø).

1. What is your gender?

Male Female

2. What is your age range?

Under 25 46-55
 26-35 56 and above
 36-45

3. What is the highest level of education you have completed?

No formal education Diploma
 Primary Bachelor's degree
 Middle school Master's degree or higher
 High School

4. What is your monthly household income range?

Less than 300,000 MMK 10,00,000 to 1,500,000 MMK
 300,000 to 700,000 MMK Over 1,500,000 MMK
 700,000 to 1,000,000 MMK

5. How many people currently live in your household?

1-2 5-6
 3-4 7 or more

6. How many people currently employed in your household?

1-2 5-6
 3-4 7 or more

Part 2: Residential Mobility and Future Outlook

Please tick in the correct answer (Ø).

7. Please describe how you living in your property.

By Renting Others -----
 Privately Own

8. Reason for Moving to Present Housing

This Housing is Fair price. Government Allocation/ Subsidy
 Proximity to Workplace. Better Living Conditions
 Access to Transportation. Family/Friends Already Living in the Area
 Proximity to Basic Amenities (Schools, Hospitals, Markets) Others

25	There are adequate recreational areas to promote physical activity.						
26	The overall environment of the community supports a healthy lifestyle.						
27	Health-related services and facilities are easily accessible.						
Entertainment Happiness							
28	There are sufficient entertainment facilities within or near the housing complex.						
29	There are enough safe play areas for children within the housing complex.						
30	Cultural or leisure activities that interest me are easily accessible.						
31	The housing complex provides opportunities for socializing with neighbors.						
32	Community events and activities are regularly organized.						
Food Happiness							
33	There are sufficient grocery shopping options within a convenient distance.						
34	The food available locally is affordable and of good quality.						
35	There are enough dining options that cater to my taste and dietary preferences.						
36	Food delivery services are readily available and reliable.						
37	I am satisfied with the freshness and variety of food sold nearby.						
Transportation Happiness							
38	Public transport facilities are conveniently accessible from the housing complex.						
39	Transport options are reliable and timely.						
40	The cost of transportation to key areas (e.g., city center, workplace) is reasonable.						
41	Traffic congestion is manageable during my daily commutes.						
42	Parking spaces are sufficient and conveniently located.						
Job Happiness							
43	I am satisfied with the employment opportunities available in or near the housing complex.						

44	My commute to work is reasonable and does not negatively affect my quality of life.						
45	Living in this housing complex provides a stable economic environment for maintaining employment.						
46	There are good opportunities for career advancement within easy commuting distance.						
47	Job security in this area meets my expectations.						
Education Happiness							
48	I am satisfied with the quality of educational institutions available to my family.						
49	Schools in or near our housing complex meet my children's educational needs.						
50	There are sufficient after-school or tutoring programs supporting my children's learning.						
51	Educational opportunities in this area will positively impact my children's future.						
52	The proximity of schools reduces stress and improves our family's daily routine.						
Safety Happiness							
53	I feel secure in my home at night.						
54	Security measures (e.g., locks, security guards) in my housing area are effective.						
55	Safety-related incidents are rare within our housing community.						
56	Community management responds effectively to safety concerns and incidents.						
57	I feel confident about the safety of outdoor and communal areas during both day and night.						

Recommendation

Your honest opinion of improving your community.

APPENDIX V



