

**YANGON UNIVERSITY OF ECONOMICS
MASTER OF PUBLIC ADMINISTRATION PROGRAMME**

**A STUDY ON HOUSING PROVISION FOR LOW INCOME
HOUSEHOLDS IN YANGON CITY
(A CASE STUDY OF “YOMA HOUSING” AND “MAHAR-
BANDoola RENTAL HOUSING”)**

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MPA - 3 (17th Batch)**

MAY, 2019

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BANDOOLA RENTAL HOUSING”)**

A thesis submitted as a partial fulfillment towards the requirement for the
degree of Master of Public Administration (MPA)

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MASTER OF PUBLIC ADMINISTRATION PROGRAMME

This is to certify that this thesis entitled “**A Study on Housing Provision for Low Income Households in Yangon City (A Case Study of “Yoma Housing” and “Mahar Bandoola Rental Housing”)**” submitted as a partial fulfillment towards the requirements for the degree of Master of Public Administration has been accepted by the Board of Examiners."

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ABSTRACT

Myanmar is facing the consequences of urbanization in large cities, especially in Yangon City and among these is the crucial problem of housing to accommodate those in need and for this, in Yangon City, housing projects by the government, international organizations and private sector have been implemented to solve the problem of housing needs for the low-income households, pensioners, squatters etc. This study intended to identify the types of housing provided for civil servants/low income groups and particularly for squatters etc. and to assess the change in living conditions in new settlements with a case of Yoma Housing and Mahar Bandoola Rental Housing. A survey is conducted with a total of (123) respondents, (50) respondents from Yoma Housing and (73) respondents from Mahar Bandoola Rental Housing who were selected and according to their answers it was found that in Yoma Housing, respondents, previously squatters were given occupancy certificates, no rental fees, only maintenance fees of Kyat 10,000 have to be paid and they also possessed collective ownership. However, 20% of the respondents' present income had decreased than before and nature of their income generating jobs include transportation costs accounted for it. In Mahar Bandoola Rental Housing, only rental fees of Kyat 30,000 and maintenance fees of Kyat 5,000, Kyat 1,000 for water supply have to be paid monthly. After being resettled from squatter settlements and mostly private rental, 27% of these respondents' income had increased because rental fees were relatively lower than the previous. However, in both housing estates, it was found that the majority of the respondents' opinions on living in the new settlements are expressed as being at a satisfactory level.

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
CBD	Central Business District
DHSHD	Department of Human Settlements and Housing Development
DUHD	Department of Urban and Housing Development
GAD	General Administration Department
HB	Housing Board
IAUC	Integrated Apartment Users Committee
JICA	Japan International Corporation Agency
MCD	Myanmar Construction Development Public Co. Ltd
MCEA	Myanmar Construction Entrepreneurs Association
NHDB	National Rehabilitation and Town and Country Development Board
RDT	Rangoon Development Trust
SEZ	Special Economic Zone
UNFPA	United Nations Population Fund
UN-Habitat	United Nations Human Settlements Programme
YCDC	Yangon City Development Committee
YMD	Yangon Metropolitan Development Public Co. Ltd
YRG	Yangon Regional Government

CHAPTER I

INTRODUCTION

1.1 Rationale of the Study

The nations of the world whether developed or developing, are facing problems concerning the urban environment as consequences of the urbanization process. The urbanization process is taken as having a direct and positive relationship with the development process resulting mainly from industrialization. Urbanization brings with it several consequences, both adverse and beneficial. They impact on social and environmental areas. Urban planning and management is needed for development programmes and change. The rapid increase in the number and size of cities and their changing role creates a special and unique problem of planning and administration in each metropolitan area.

In developing nations, rural to urban migration is also a major problem resulting in over-urbanization in some major cities and related urban problems which include physical, human and economic problems. Human problems are especially acute as most urban growth results from mass migration from the countryside. The city needs to plan well for the above problems where public utilities, transport and communication systems and sanitation and waste disposal need to be planned, financed, constructed, and maintained. Housing is most needed for immigrants and housing programmes are needed to fulfill these requirements leading to appropriate settlement schemes.

Myanmar is also facing the consequences of urbanization in large cities, especially Yangon City because of rural to urban migration. Many rural people from all parts of Myanmar have migrated and still migrating to large cities in search of a better life and basically a permanent job in the city. However, most end up with odd jobs facing insufficient income and worst still with no house to live in. In this case, the most vulnerable households have to settle down in slums. Slums usually produce a number of problems such as crime, communicable disease outbreak. The authorities

concerned are now dealing problems of these squatters and also for government staff/pensioners who do not own a house. Public and private housing projects have been implemented to solve the problem of housing needs for the low-income households, pensioners, etc.

Housing projects are conducted by the government, private sector, and also international aid from Japan, UN-Habitat, etc. Housing provision is on the rise such as to contribute to the most needed low-income groups, squatters and also to others. This thesis aims to identify the types of housing, provided for civil servants/low income groups and particularly for squatters etc. and it aims to find out how these two types differ from each other and how the residents' living conditions have changed in the new settlements with a case of Yoma Housing and Mahar Bandoola Rental Housing.

1.2 Objectives of the Study

The objectives of the study are:

- (1) To identify the types of housing provided for civil servants/low income groups and particularly for squatters
- (2) To assess the change in living conditions in new settlements with a case of two selected housing estate.

1.3 Method of Study

Descriptive method is used in this study. Primary data is collected by conducting a survey in Mahar Bandoola Rental Housing Estate in Dagon Myothit (South) Township and Yoma Housing Estate in Dagon Myothit (Seikkan) Township. A structured questionnaire is used for the residents in both housing apartments. Purposive sampling is used for selection of sample respondents and sample size covers 123 households from both housing estates. A total of 123 respondents, (50) respondents from Yoma Housing in Dagon Myothit (Seikkan) Township and (73) respondents from Mahar Bandoola Rental Housing in Dagon Myothit (South) Township Secondary data is obtained from corresponding government departments, research papers, libraries, Statistical yearbooks, internet website and some publications and reports from General Administration Departments of Dagon Myothit (Seikkan) and Dagon Myothit (South) Townships.

1.4 Scope and Limitation of the Study

This study mainly focused on the only resettled households in two separate housing apartments from Mahar Bandoola Rental Housing in Dagon Myothit (South) Township and Yoma Housing in Dagon Myothit (Seikkan) Township.

1.5 Organization of the Study

This study is organized into five chapters. Chapter One describes rationale of the study, objective of the study, method of study, scope of the study and finally the organization of the study. Chapter Two mentions the literature review with urbanization and its effects, informal settlements and housing problems and housing provision programmes. Chapter Three presents housing developments, housing projects of DUHD, Yangon Regional government, YCDC etc. in Yangon City. Chapter Four is analysis of the survey conducted in Yoma Housing and Mahar Bandoola Rental Housing. Chapter Five is conclusion with findings and recommendations.

CHAPTER II

LITERATURE REVIEW

Most housing problems arise, especially in developing countries, because of rural people migrating to large urban centers, a consequence of urbanization. Urbanization refers to general increase in population and the amount of industrialization of a settlement. It includes increase in the number and extent of cities. It symbolizes the movement of people from rural to urban areas. Urbanization happens because of the increase in the extent and density of urban areas. (Uttara, 2012) The density of population in urban areas increases generally because of the migration of people from less industrialized regions to more industrialized areas. Urban environment encompasses the interaction of population growth, city management and the built environment with the natural environment or ecological system in which a city is located. Urban environment also links with health, energy, infrastructure and land use. A fundamental dimension of sustainable development is sustaining the growth and development of the city while balancing the benefits with complex ecological systems and the global environment.

2.1 Urbanization and its Effects

Many countries of the world whether developed or developing, are facing problems concerning the urban environment as consequences of the urbanization process. The urbanization process is taken as having a direct and positive relationship with the development process resulting mainly from industrialization. Urbanization brings with it several consequences, both adverse and beneficial. They impact on social and environmental areas. However, in most developing nations, this urbanization process is brought about by the rural to urban migration phenomenon in most major urban centers and the natural increase in population is not a major factor. As urbanization proceeds, threats on the urban environment have become the major issues of today's urban growth management.

Industrial growth induces the rural population to migrate to cities as there is an increase of job opportunities and prospects of a higher living standard in large cities, which and this, further converted the cities into slums and shanty towns. Many people including farmers who move to cities in search of a better life end up as casual laborers as they lack adequate education. This leads to one of the worst problems of urbanization, the growth of slums. Numbers of slums increased in metropolitan cities due to acute shortage space for housing and so is the rise of squatters. Slums are urban areas that are heavily populated with substandard housing and very poor living conditions. There are several problems that result from these conditions.

The first is the unsecured land as slums are usually located on land, which are not owned by the slum dwellers. They can be evicted at any time by the landowners. Secondly, crowding and lack of sanitation are main problems due to poor living conditions. This contributes to outbreak of diseases. Utilities such as water, electricity and sewage disposal are also scarce. Thirdly, since the number of people competing for jobs is more than jobs available, unemployment is an inevitable problem. Urban unemployment increases as these squatters increase. Finally, slum conditions make maintenance of law and order difficult and the incidence of crime rises. Unemployment and poverty force people into anti-social activities such that slums become a breeding ground for criminal activities. Though urbanization has drawbacks as mentioned above, it also has benefits accruing to the city and its residents. (UN-Habitat, 2004)

Firstly, there is efficiency as cities are extremely efficient. Less effort is needed to supply basic amenities such as fresh water and electricity. In most cities, flats are in vogue today. Many people can be accommodated within a small land area. Second, there is also convenience because access to education, health, social services and cultural activities is readily available to people in cities than in villages. (UN-Habitat, 2004) Life in cities is much more advanced, sophisticated and comfortable, compared to life in villages. Cities have advanced communication and transport networks. Third is concentration of resources, since major human settlements were established near natural resources from ancient times, a lot of resources are available in and around cities and to exploit these resources, a lot of facilities exist only in cities. The fourth is educational facilities because schools, colleges and universities are established in cities to develop human resources. A variety of educational courses and fields are available offering students a wide choice for their future careers.

The fifth is social integration as people of many castes and religions live and work together in cities, which creates better understanding and harmony and helps breakdown social and cultural barriers. Finally, there can be improvements in the economy where high-tech industries earn valuable foreign exchange and also support the economy to develop. (Showket, 2019)

2.2 Informal Settlements and Shelter Deprivation

Informal settlements have several images and definitions. The UN-Habitat applies five measurable indicators for defining an informal settlement's shelter deprivations. A slum households consists of one or a group of individuals living under the same roof in an urban area, lacking one or more of the following five amenities (i) durable housing—a permanent structure providing protection from extreme climate conditions, (ii) sufficient living area—no more than three people sharing a room, (iii) access to improved water—water that is sufficient and affordable and can be obtained without extreme effort, (iv) access to improved sanitation, and (v) secure tenure—de facto or de jure tenure status and protection against forced eviction. On account of the non-availability of information on tenure status, use of made of the four indicators for defining slum households and the proportion of slum population to urban population. (UN-Habitat, 2012)

Informal settlements are the most visible manifestation of poverty in Asia as it is in other developing regions. It is in cities where one observes wealth and poverty in close proximity, rich and well-serviced neighborhoods located next to dense inner city or peri-urban informal settlements, lacking even the most basic services and living conditions. These shelter deprivations depict significant polarization in the distribution of city wealth and resources, and deeper poverty for these informal dwellers. They have uncertain titles and tenures that impede investment to improve the level and quality of services. They are considered a gray zone where occupants have limited legal claims and rights over land or housing they occupy. Indeed, title or tenure for informal dwellers is one of the most debated and challenging issues that confront Asian countries and the one that holds the key to improving and upgrading informal settlements and to reducing urban poverty.

The UN-Habitat maintains a Global Urban Indicators Database that includes the numbers and proportion of population living as informal dwellers. UN-Habitat's statistics show that of the 862 million people living in informal settlements worldwide,

over 60% of them live in Asia (including West Asia). Within Asia, 24% is in East Asia and 23% in South Asia. The proportion of urban population living in informal settlements is 28.6% for Asia. Moreover, informal settlements' population has risen across Asia over the period 1990–2012. Informal dwellers in East Asia increased by 34% during this period, while in South Asia and Southeast Asia, their numbers rose by 10.3% and 16.0%, respectively. (ADB, 2014)

The concentration of population with shelter deprivations, as defined by the UN-Habitat, represents an important aspect of poverty in Asian cities. Such deprivations are unacceptably high in Bangladesh where 70% of households live under severe deprivations; and in Cambodia, Lao PDR, and Nepal where significant proportions of households stand deprived of services and tenure. In addition, deprivations are not only a feature of informal settlements, in many ways; deprivations are also high in non-slum households in many Asian countries. (ADB, 2014)

Concern for informal settlement improvement and upgrading has been highlighted in recent years, on account that this is partly one of the goals of the Millennium Development Goals (MDGs). Several countries have reached the MDG goals. The existence and growth of these settlements are not a natural consequence of urban growth that will disappear over time with improvements in income. Their formation and growth are not only caused by rapid urbanization or income poverty but by factors such as regulatory framework for urban planning, delivery of land for settlements, and government spending on infrastructure (Ballesteros 2010).

2.3 Sustainable Development and Housing Development

One important aspect of the social dimensions of sustainable development is the sustainable development of human Settlements. Human settlement conditions are crucial to ensuring the safety and shelter of a country's population. Urban settlement in particular must be properly managed and developed to protect human health and to reduce environmental degradation from pollution and other consequences of urbanization and industrialization. (UN-Habitat, 2004)

The overall objective of sustainable human settlement is to improve the living standards of all people living in rural and urban area, to raise living standards, it is necessary that measures be undertaken on the basis of a partnership between the government and private sector. At the same time, greater efforts have to be made to bring about greater community participation in local developmental efforts.

The sustainable development of human settlements aims at providing adequate shelter for all, improving human settlement management, promoting sustainable land-use planning and management, providing an integrated environmental infrastructure such as water, sanitation, drainage and solid- waste management and promoting sustainable energy and transport systems in human settlements.

Access to safe and healthy shelter is essential to a person's physical, psychological, social and economic well-being. The provision of safe and healthy shelter is a problem in a rapidly growing population, and particularly with increasing urbanization. Ensuring that urban and rural populations, especially the poor, have access to safe, healthy and affordable shelter will require a great deal of resources on the part of the government and local authorities.

In managing human settlements such as setting out goals for meeting shelter and related needs, it is required not to jeopardize the environment and the resource base of future generations. In fulfilling the housing needs of low-income families, it must be integrated with the development of communications, transport, energy water and sanitation etc.

Then, in managing human settlements, they are the requirements for shelter of the urban and rural poor, the unemployed and sectors of the population that have no income. Access to land for these groups should be facilitated. The provision of low-cost building materials, housing and financing schemes and other innovative mechanisms should be considered to enable them to provide for their own shelter. There should be active promotion of the regularization and upgrading of informal settlements and urban slums as a practical solution to the need for adequate urban housing.

However, if such infrastructure is under-supplied or poorly distributed and if adverse impacts affect the natural resource base, urbanization can bring about overcrowding and environmental stress and degradation, leading to a lowering of the quality of life. Adverse impacts on human health will also result, leading to a draining of scarce public resources and the inability to optimize the human resource capacities of urban area.

Sustainable development is essential for human settlements developments, and gives full consideration to the needs and necessities of achieving economic growth, social development and environmental protection. Special consideration should be given to the specific situation and needs of developing countries and, as appropriate, of

countries with economies in transition. Human settlements shall be planned, developed and improved in a manner that takes full account of sustainable development principles and all their components. Sustainable human settlements development ensures economic development, employment opportunities and social progress, in harmony with the environment.

The quality of life of all people depends, among other economic, social, environmental and cultural factors, on the physical conditions and spatial characteristics of towns and cities. City lay out and aesthetics, land – use patterns, populations and building densities, transportation and ease of access for all to basic goods, services and public amenities have a crucial bearing on the livability of settlements. Human health and quality of life are at the centre of the effort to develop sustainable human settlements. Basic infrastructure and services at the community level include the delivery of safe water, sanitation, waste management, social welfare, transport and communications facilities, energy, health and emergency services, schools, public safety, and the management of and to implement them, in view of the fact that it has the duty to protect the people's health, conserve the living environment and perform the sustainable development for the State and the people. In order to protect the health and the quality of life of the local population, local government bodies shall take measures in line with the policies of the state and shall work out and implement appropriate measures for environmental pollution control and sound natural resource management with take into account the specific natural and social conditions of the area concerned. Citizens shall endeavor to contribute to the prevention of environmental pollution and the sound management of natural resources in all appropriate ways such as cooperating with the State and with local government bodies in the implementation of their policies. In order to control environmental pollution, the Government shall take measures for the control/the regulation of the emission of pollutants responsible for air, water and soil pollution, establishing standards to be observed by the enterprise.

2.4 Housing Policies and Housing Programmes

The need for housing policies exists in all the nations of the world. Housing being a basic requirement, thus, a necessity for a household's living status developed or developing nations, provision of Developed or developing nations, provision of housing has being a major concern for the respective governments Housing policies

have been formulated to solve the problems of housing. The main goal of housing policy is to fulfill every households, the opportunity of living in a home, affordable and also at the appropriate location/community suitable for them. The objectives for housing policy are generally;

- to provide opportunities for ownership of homes to the community in need
- to improve affordability across the housing market by increasing the supply of housing
- to provide (high) quality homes to those who can afford and also to those who cannot afford market housing, especially those who are vulnerable or in need.
- to make affordable low-cost housing accessible to the low-income urban households.

Housing development plan should consider such as housing developments with a range of community facilities, key services and infrastructure. Then, a sufficient quantity of housing is needed, taking into account the need and demand and seeking to improve choice. Land management is required for efficient and effective use of land A mix of market housing and affordable housing for various categories of households and income levels need to be provided. A mixed community can have the need for a variety of housing (tenure and price), different households (extended families, single, older people etc.) The crucial point to consider is housing policies with assurance of sustainability such as in minimizing environmental impact, climate change and disaster risks etc.

In the provision of housing, there are those provided by the private sector and also by the government. Private sector focused on overall market demand while the public sector on providing houses for sale or rent to the low-income group and public sector employees. Priority should be given most to the development of low and low medium cost houses.

The government need not take direct participation in housing and housing finance sector. But generally, the role that the state should take is as an enabler and as facilitator to the housing finance systems to encourage private sector for participation. However, the government may assume a greater role in the context of affordable housing as pure market-based mechanisms may not serve the needs of low-income groups.

In the types of housing provided, several terms used commonly are affordable housing, social housing, public housing, and low-cost housing in which they seem like interchangeable but there is a subtle difference.

Affordable housing is generally defined as housing for which an occupant pays no more than 30% of his or her income for gross housing expenses such as rent and utilities. Affordable generally means housing expenditure of no more than 30 per cent of household's income to one that ensures that a household has sufficient left for non-housing, in addition to housing expenditure. In developed and transitional countries, affordable means housing cost at no more than 30 per cent of expenditure at, or at 80 per cent of, that of the median households 's income. (UN-Habitat, 2016).

Social Housing is defined as houses and flats that are owned by local government or by other organizations that do not make a profit and that are rented to people who have low income. Social housing can alternatively be used as public housing. Social and public housing are affordable housing; they are delivered at affordable prices to low-income families. Government and non-profit organizations are normally providing social housing to certified low-income people. Social housing is home for poor citizens who are struggling with their accommodation cost. Social housing is typically delivered by government allocation scheme. The main function of social or affordable housing is to provide housing with reachable prices for the poor. (Shelter in England, 2018) **Public housing** refers to the provision of housing accommodation by the government or public authorities. Social housing has a meaning close to public housing.

Low cost housing refers to construction methods as also the financing methods whereby the cost of housing can be reduced. In other words, low cost housing refers to the reduction of the cost of housing through construction as well as financing methods.

All these terms eventually refer to the concerted efforts to provide housing solutions to the millions who are not able to afford to pay for their houses. As population explodes, and families become more and more nuclear, the demand for houses continues to increase world-over, and the price for houses continues to soar, making a house beyond the reach of the masses. While food, clothing and shelter are considered as the basic necessities of life, housing is quickly becoming a luxury that masses are unable to affordable. Hence, the need for affordable housing. (<http://india-financing.com/housing>)

Affordable housing is providing housing to eligible households whose needs are not met by the market. Affordable housing should meet the needs of those eligible households with a cost low enough for them to afford. Affordable and low-cost housing aims to solve the problems of those who do not have the ability to afford to buy their own houses. For the house to be affordable the cost must be appropriate for the buyer and he/she must have the ability to pay such cost. It is needed to lower the cost of the house such that the house itself can be affordable. To lower the cost, cost of construction needs to be lowered through construction methods.

2.5 Reviews on Previous Studies

Tipple and Willis (1991) confirm that, “over the last three decades, most official housing programmes have failed to reach considerable portions of urban poor”. Hallet (1993) also realizes that, “one factor that has contributed to the impasse in trying to close the gap between the supply and demand of low-cost, decent housing has perhaps surprisingly been the failings of the public housing programme and the origins of these failings are in many ways attributable to outside forces, but in considerable measure they have arisen within the programme itself”.

Sai Thet Naing Moe (2012) found that the long-term year 2020, the existing town developed area can accommodate within the balance density. Public Private Participation (PPP) is also significant role of the development of housing sector and win – win situation has been realized in many projects in Yangon. The role of public sector in housing development should be as facilitator and regulator, to focus and provide for the necessity of the low-income group and public sector employees.

Thu Rein Htun (2012) found that the value of quality of life with respect to economic indicators and social indicator are reflected not only by the situations but also residents’ opinions. Quality of life with respect to physical indicators, economic indicators and social indicators are varied among different group of residences.

Khin Maung Yi (2012) found that the most of residents were government staff and retired persons and satisfied on their housing environment single houses and locations silent space. Most of the common places such as market, school, bus-stop and the other public services such as hospital and police station were so far from the house.

Nandar Htet Htet Han (2015) showed that many challenges for the housing conditions of the populace in Yangon as the population is growing and such that the demand for infrastructure, basic services and housing in urban center shall be on the increasing trend and these will have to prepare for these problems in the near future.

Myint Swe (2015) found that “Affordability or Affordable housing is a housing that is affordable to lower or middle-income households.” And recommend that “The government should design and develop short-term and long-term housing development programs in order to provide affordable housing for lower middle-income groups and public rental housing for the lowest income groups.”

CHAPTER III

HOUSING CONDITIONS AND HOUSING PROJECTS IN YANGON CITY

3.1 Housing in Yangon City

Yangon is located in the southern part of the country on the east bank of the Yangon or Hlaing River and Bago River. It lies between the North Latitudes 16° 46' 19" and East Longitudes 96° 09' 22". The city's area has steadily increased from 72.52 square kilometres (28.00 sq mi) in 1901 to 86.2 square kilometres (33.3 sq mi) in 1940 to 208.51 square kilometres (80.51 sq mi) in 1974, to 346.13 square kilometres (133.64 sq mi) in 1985, and to 598.75 square kilometres (231.18 sq mi) in 2008. (Wikipedia, 2019)

Yangon City, the largest economic center of Myanmar, and it also serve as the administrative capital of Myanmar until 2016, when the government relocate administrative functions to the city of Nay Pyi Taw. Yangon city only cover one percent of the Myanmar land mass, it is also home to over ten percent of country population and estimated to account for one quarter to one third of the country's economy. (YRG, 2019)

Population of the city was growing from under 2.5 million inhabitants in 1983 (Census, 1983) to 7.36 million in 2018 (Census, 2014). In this population, internal migration accounted for 81 percent of the growth of Yangon District, due to the mix of socioeconomic push and pull-factors that drive rural-urban migration while natural increase was responsible for 31.46 percent. (Department of Population, 2016a)

Table (3.1) Population of Yangon City

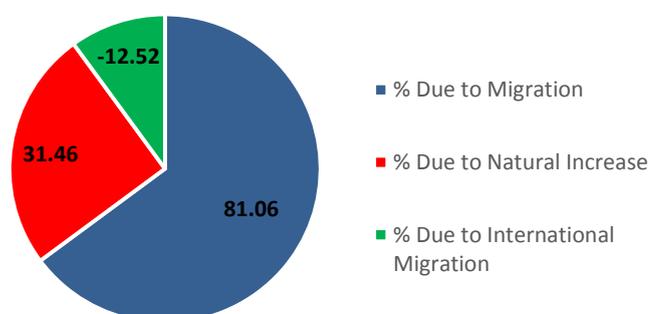
District	No. of Households	Population				
		Urban	Percentage	Rural	Percentage	Total
East	486,790	2,339,903	98.9	26,756	1.1	2,366,659
West	190,782	969,650	100	-	-	969,650
South	339,205	422,300	29.8	995,424	70.2	1,417,724
North	566,167	1,428,659	54.8	1,178,011	45.2	2,606,670
Total	1,582,944	5,160,512	70.1	2,200,191	29.9	7,360,703

Source: Census, 2014

According to Table (3.1), it is seen that the 70.01 % of the population are residing in the urban area of Yangon City. The components of population growth in Yangon in the 5-year period between 2010 and 2014 demonstrate that internal migration accounted for 81%, while natural increase was responsible for 31.46% (UN-Habitat, 2016). The labor force movement to fulfil the demands of the manufacturing sector is a significant driver of Yangon’s urbanization. Yangon, which contains 36 industrial zones and 1 special economic zone (SEZ), is among the most popular destinations for internal migration. (Appendix Table 6)

The components of population growth in Yangon in the five-year period between 2010 and 2014 are displayed in Figure 3.1, demonstrating that internal migration accounted for 81 percent of the growth of the Yangon while natural increase was responsible for 31.46 percent.

Figure (3.1) Share of urban population of Yangon between 2010 and 2014



Source: Department of Population, Thematic Report on Migration and Urbanization 2016

Beyond general population growth, however, the growth of urban areas typically involves a mix of socioeconomic push- and pull-factors that drive rural-urban migration. One of the push-factor is to consider that agricultural production is subject to prevailing weather conditions, as well as to market forces. (Department of Population, 2016a)

Table (3.2) Households by Types of Ownership

No	District	Households	Owner	Owner %	Rental	Rental %	Others	Others %
1	East	486,790	271,801	55.8	154,948	31.8	60,041	12.3
2	West	190,782	110,146	57.7	49,420	25.9	31,216	16.4
3	South	339,205	293,928	86.7	26,768	7.9	18,509	5.5
4	North	566,167	344,903	60.9	156,717	27.7	64,547	11.4
Total		1,582,944	1,020,778	64	387,853	25	174,313	11

Source: Census, 2014

The ownership pattern of the current housing stock is another factor that would contribute to the demand for new housing. According to the Table (3.2), 1.58 million households were lived in Yangon City. 64% of households owned their dwelling and 25% of the households are renters. So, 25% of the renter households have an aspiration to move towards ownership provided affordable housing as well as housing finance is made available.

In Yangon City, 'permanent' housing largely comprises the use of concrete/brick masonry for construction of floors and walls, but often the roof material used is the corrugated sheet. The semi-permanent and temporary dwelling units are predominantly constructed using wood and bamboo as the material for floors and walls and corrugated sheets or thatch used as the roof material. (Appendix Table 2, 3 and 4) So, high rate of ownership may attributable to the availability of commonly used building materials, such as timber, bamboo and dhani/theke leaves.

Table (3.3) Housing Shortage Estimate by ADB (2019 - 2030)

Contribution Factor	Demand	Source
Quality of Housing Stock, Tenure and Ownership	520,000	2014 Census
Demographic trends, Urbanization and Migration (until 2030)	593,000	UN World Urbanization Prospects (2014)
Expansion of informal settlements (GAD estimate population of 475,000)	155,000	YRG, GAD, DUHD
Homelessness (Census estimated at 2.16% of Yangon Population)	34,000	2014 Census
Total Housing Demand for the period 2018-2030	1,302,000	ADB Estimate

Source: ADB, 2019

According to the Table (3.3) by ADB' housing shortage estimation, Yangon city will need around 13 million affordable housing for the period of 2019-2030. ADB' consideration for affordable housing need were based on the calculation of 2014 census, UN world urbanization prospects and various government department and organization data. In order to meet the present and future (2030) demand, both public and private sectors need to deliver an average of 100,000 housing units annually until 2030. (ADB, 2019)

According to Table 3.3 and Appendix Table 5, The quality of the housing stock can be determined from the types of building materials used for the construction of roof, walls and floors. 66.6% of housing stock in Yangon Region denoting the highest comparative level of quality with Rank 1 and 2. The 13.6% of housing stock falling into Rank 4/5 and would require replacement or reconstruction in the near future. Similarly, 19.8% housing units with rank 3 will need significant upgrade and or retrofitting. So, 33.4% of the existing housing stock or around 520,000 units are considered to be contributing to the housing shortage.

Table (3.4) Top 20 District to District Migrant Flows in Myanmar (2016)

Rank	District to District Flow	Number
1	West Yangon to East Yangon	56,601
2	Phyarpon to North Yangon	51,086
3	West Yangon to North Yangon	43,044
4	Hinthada to North Yangon	35,311
5	Maubin to North Yangon	33,369
6	Labutta to North Yangon	29,796
7	Thayawady to North Yangon	29,362
8	North Yangon to East Yangon	28,368
9	Pathein to North Yangon	27,852
10	East Yangon to West Yangon	26,257
11	East Yangon to North Yangon	25,652
12	Phyarpon to East Yangon	24,891
13	South Yangon to North Yangon	24,660
14	Myingyan to Mandalay	24,500
15	Myaungmya to North Yangon	21,694
16	Bago to East Yangon	20,807
17	North Yangon to West Yangon	17,519
18	Bago to North Yangon	18,663
19	Magway to North Yangon	16,321
20	Pathein to East Yangon	14,835

Source: Census, 2016

The shift of labor force composition due to an increasing demand in the manufacturing sector is also a driver of urbanization. Yangon, which contains one SEZ and 36 industrial zones (Appendix Table 6), has been the most popular destination for internal migration. Of the top 20 inter-district population flows displayed in Table (3.4), except one flow from Myingyan to Mandalay, all flow of internal migration lead to the Yangon's four districts as the destination. East Yangon is less crowded and has lower rents, hence making this district a major beneficiary of this movement (Department of Population Census, 2016a).

10 industrial zones of East Yangon are also accounted for top destination of the population flows with 5 time in the top 20. The central business district (CBD) is located in West Yangon, but rents have risen rapidly in recent years forcing many people to leave for the outer areas of the city. North Yangon, which has 25 industrial zones and becoming top destination of the population flows appearing 12 times in the top 20. Although Thaketa industrial zones and Thilawa Special Economic Zone were located in South Yangon, was not listed in the top destination of migrant flow.

3.2 Informal Settlements in Yangon City

The definition of informal settlements is context-specific. Various definitions have thus been proposed, but that suggested by the UN-Habitat Programme is probably the most widely applicable. This defines informal settlements as:

- i. residential areas where a group of housing units has been constructed on land to which the occupants have no legal claim, or which they occupy illegally;
- ii. unplanned settlements and areas where housing is not in compliance with current planning and building regulations (unauthorized housing).

The UN-Habitat-Myanmar has identified the following typology of informal settlements in Yangon:

- i. Roadside settlements. Settlements where houses are built along roadside/pavements.
- ii. River/reek-side settlement. Houses are built on unoccupied land along rivers and creeks.
- iii. Peri-urban land settlements. Settlements where houses are built on agricultural land.
- iv. Resettlement area subdivisions. Unauthorized subdivisions on resettlement sites from the 1980s.
- v. Village tract subdivisions. Settlements where houses are built on land that is categorized as rural, but has been recently incorporated into the authority of an urban area local government.
- vi. Inner-urban infill. Small, often opportunistic settlements built on or adjacent to developed areas, which are characterized by clustering around areas of employment generation.

- vii. Slum settlements. Settlements that are built on illegally occupied public or private land such as vacant land, park land, or underdeveloped sites.

There is a total of 423 different informal settlements in Yangon with 72,863 households and population is 370,000. Hlaing Thar Yar Township was the key location to the majority of informal settlements, (181 settlements) demonstration link to migration and employment. Many have migrated to the city after Cyclone Nargis, either as a response to immediate loss and damage, or change in agriculture in the years afterwards. (UN-Habitat-Myanmar, 2016)

Table (3.5) Squatter Settlements in Yangon by District (2010-2016)

No	District	No. of Households	Population	No. of Squatter Households	No. of Population in Slum	Total Slum % in District	Comparison of Slum % by District Population
1	East	486,790	2,606,670	50,786	168,130	35.4	6.4
2	West	190,782	2,366,659	1,420	4,736	1.0	0.2
3	South	339,205	1,417,724	28,771	83,401	17.6	5.9
4	North	566,167	969,650	74,617	218,764	46.1	22.6
Total		1,582,944	7,360,703	155,594	475,031	100.0	6.5

Source: General Administration Department, 2017 and Census 2014

In the squatter survey conducted by General Administration Department, it was found that the number of informal settlements in peri-urban Yangon has increased significantly within the period between 2010 and 2016. (GAD, 2017) According to Table (3.5), Yangon North District was the key location for majority of squatter settlements in Yangon and accounted for 46% of total squatters in Yangon City. Meanwhile, Yangon East District was second with 35%. By comparing with District population, slum population in Yangon North District reached 23% of district total.

The total area occupied by these informal settlements in Yangon is over 2,000 acres with a population of approximately 475,031 (155,594 households) which can be explained as 6.5% of Yangon population was living in slums. (GAD, 2017) Based on the survey, the households residing in Yangon were set on (25.5.2016) as a cut-off date, having been issued smart cards validating their domicile status and possibly making them eligible for alternate housing.

3.3 Housing Provision in Yangon City

The existing housing supply in Yangon City can be primarily classified into:

- i. State-provided affordable housing and government quarters (mainly DUHD, Ministry of Construction,); and
- ii. Private sector-led supply of condominiums and landed houses (Community projects).

3.3.1 Housing Provision in Yangon City by DUHD

In 1921, Rangoon Development Trust (RDT) took the responsibility of land management and city development. In 1951, National Rehabilitation and Town and Country Development Board (NHDB) unified RDT and Housing Construction Corporation to rebuild war-torn country. In 1965, responsibilities for the construction of houses was taken over by the Public Works Corporation, while NHDB continued to plan, finance and manage housing. In 1972, through change in name only for NHDB was transformed to Housing Board (HB) and the Public Works Corporation became the Construction Corporation. (Min Htein, 2016)

The use of "housing" as the title of the department is a misnomer in the sense that the operations by 1990 were dominated by planning, land development, water supply, sanitation, and land administration. The Mission was advised that a new title "The Department of Human Settlements and Housing Development" was in the process of being approved by the Government, in conjunction with a reorganization and expansion. (UN-Habitat, 1991)

In 2015, Department of Urban and Housing Development have mandate to integrate fragmented urban development projects and providing rental housing for government staff and low-income groups. (Min Htein, 2016)

In response to the growing challenge of meeting the housing shortage and imminent demand, the Government of Myanmar adopted a "million homes plan", which aims to develop one million new housing units by 2030. As part of the one million housing plan, DUHD has formulated a plan to supply 20% of the total volume, of which 90% will be low-cost housing units (targeting low-income households) and 10% will be affordable housing units (targeting lower middle-income households).

In building the foundation for million home plan goals, and in support for the Government policy: "To upgrade living standards and provide adequate housing for

all the citizens”, efforts are underway to establish a National Housing Policy, as well as the legal and financial instruments to support policy implementation.

Table (3.6) Target Housing prices and size by DUHD

Housing Category	Low			Middle	High
	Needy	Low Cost	Affordable		
Monthly Regular Income (Household)	MMK 0.1 Million	MMK 0.3 – 0.5 Million	MMK 0.5 – 1.0 Million	MMK 1.5 Million	MMK 1.5 Million or more
Average Price (MMK Million per housing unit)	MMK 6 Million	MMK 10 – 27 Million	MMK 27 – 50 Million	MMK 60 Million	-
Average Size	150 Sq.ft	300 – 800 Sq.ft	800 – 1200 Sq.ft	600 Sq.ft	-

Source: JICA, 2018

Table (3.6) shows the basic feature of the low cost and affordable housing defined by the DUHD. The average size of low-cost housing was 300 to 800 square feet with the average price between 10 million to 27 million Myanmar Kyat. The average size of affordable housing was wider than the previous with 800 to 1200 square feet and the average sale price was between 27 million to 50 million Myanmar Kyat. Affordable housing was target to households with monthly household income between 0.5 million to 1 million Myanmar kyat and Low-cost housing was target to households with monthly household income between 0.3 million to 0.5 million Myanmar Kyat.

Previously, DUHD use different types of housing provision and some are as the following,

- (i) Public and Rental Housing
- (ii) Site and Services Schemes
- (iii) Slum Upgrading Schemes (hut to apartment scheme)
- (iv) Urban Redevelopment Projects
- (v) Low-cost Housing Development
- (vi) Estate Redevelopment Projects.

Table (3.7) Housing Provision of DUHD by Types of Ownership

No	Periods	Rental		Ownership			Total
		Rental Housing	Staff Housing	Low Cost	Medium Cost	High Cost	
1	1951-1961	6,102	-	-	-	-	6,102
2	1962-1988	3,393	697	-	-	-	4,090
3	1989-2010	-	73	3,448	45,655	2,473	51,649
4	2011-2015	19,374	3,180	19374	5996	5984	53,908
5	2015-2016	2168	-	11160	5589	4382	23,299
6	2017-2018	-	2,310	6,992	1,069	1,543	11,914
Total		31,037	6,260	40,974	58,309	14,382	150,962

Source: DUHD, 2019

According to the Table (3.7), **Public and Rental Housing** has been introduced in 1951 and in the same year, established “National Housing Board” which was to implement the plan’s objective. During the period of 1951 to 1961, the government provided 6,102 units of rental housing in Yangon City.

In 1958, **Site and Services Schemes** were initiated at that time and squatters were transferred with necessary help to the new satellite towns such as Dagon Myothit (East), Dagon Myothit (North), Dagon Moythit (South), Dagon Seikkan, Shwe Pyithar and Hlaing Tharyar by endeavors of Department of Urban and Housing Development (DUHD). This scheme is laid down and being implemented not only for squatters and fire victims’ resettlement but also for upgrading Yangon suburban areas as regional development projects. The basic needs such as accessibility to roads, drainage systems, electricity, and community tube wells are subsidized by the state as infrastructure development costs for squatters.

Since 1988 about 229934 plots were allocated to over 500,000 persons in eight new satellite towns to the east, west and north of Yangon. Then, beginning from 1989 about 200,000 populations of squatters were resettled to Dagon Myothit, Shwepyithar and Hlaing Tharyar new satellite towns with provision of leased land with basic infrastructure. Senior government employees were allotted land plots of 40 feet by 60 feet, squatters were resettled and relocation of villages was implemented in the new satellite towns.

Slum Upgrading Schemes (hut to apartment scheme) has been introduced after 1994 in Tarmway Township with Min Yee Kyaw Swar Housing Project and some part of the inner-city area through on-site relocation by providing apartment units for squatter families or beneficiaries. The scheme lasted 6 years period (1994-2000). There are (47) hut to apartment projects in (13) townships and had resettled (12,862) family groups with an estimated cost of 8,561 million Kyats.

Urban Redevelopment Projects has been launched since 1989 as the urban redevelopment program to enhance the general physical appearance of the urban area and to redesign the landscape of the city. The redevelopment projects were implemented with public private partnership and profit sharing basic. Some townships do not have the characteristics of an urban area and also the appearance does not fit into a urbanized area. These townships conditions show low-level housings and disorderly scattered squatters' wards. It is required that these townships need to be upgraded in order to be at level with the features of Yangon city. According to the systematic town plan, Dawbon and Dala Townships were reassembled and resettled with leased lands officially in 1989. In 1992 Seikkyi Kanaungto Township was also reallocated with plots of land in accordance with the systematic town plan. Apart from them, in the downtown area of Yangon, dangerous buildings were abolished and replaced with modernized buildings in the provision of high-grade housing estates. Since 1993, 395 middle cost houses, 2,915 high grade houses and 14,911 apartments in 23 townships of Yangon City were constructed.

Since 1997, **low cost housing programs** such as housing in Dagon, Hlaingtharyar, North Okkalapa and Danyingone have been introduced and 2,676 apartments units have been constructed for the benefits of lower and middle-income people. Since late 2011, democratization and important reforms have been undertaken by the Government so as to gradually change their approach to housing intervention from direct construction to facilitation program.

3.3.2 Housing Provision in Yangon City by UN-Habitat

There is one approach of community engagement in the resettlement process of families from informal settlement are implement by UN-Habitat in Yangon City with the funding of the Government of Japan/JICA. The pilot project was named "Yoma Housing" and was located in Dagon Myothit (Seikkan) Township. It lays between North latitudes 16° 51' 36" and 96° 18' 0" East Longitude.

The Phase I of the project had six buildings comprising four units of five storeys each with basic services and infrastructures. The Phase II, which has been recently completed, and has three buildings- comprising of four units/five storeys each. This project is mainly focused to accommodate the households previously lived in squatter areas, with inadequate accommodation, lack of access to public electricity, limited access to clean water and sanitation, lack of a proper waste disposal system, and a poor environmental sanitation which make their settlements not suitable for human living. Land for the housing project was made available by the Ministry of Construction. Beneficiary families were chosen following a process of social mobilization and arduous beneficiary selection process based on vulnerability criteria.

Beneficiary Identification include -

- Most vulnerable, most needy, poorest of the poor households identified by screening through a set of Vulnerability criterion
- Among the slum families within Dagon Myothit (Seikkan) Township and who are currently at a distance of one mile from project area.
- They have been residing for at least 2 years in the current location, and who have shown the desire to move and to own a house.

The Phase I project of “Yoma Housing” was handed over to 120 vulnerable families from Dagon Myothit (Seikkan) Township on 2 July 2017. Beneficiary families in the apartments have a right to live in the apartment for a period of 30 years. Occupancy certificates were issued by the DUHD and jointly with the name and allocated apartment units to the individuals.

3.3.3 Housing Provision in Yangon City by Yangon Regional Government

Institutional changes are taking place after 2011; the 2008 Constitution has assigned the management of the housing sector, including urban development, to the States and the Regions. (Constitution, 2008) DUHD continuously hand over the land to Yangon Regional Government since 1994 and was transferring housing since 2016. Yangon Regional Government implemented the various housing and housing project on the transferred land from DUHD to re-deliver the low-income, government servant and squatters.

One of the most significant projects developed by Yangon Regional Government is “Mahar Bandoola Rental Housing Project”. It lays between North latitudes 16° 53' 24" and 96° 14' 24" East Longitude. It was located along No (2) High Way, Dagon Myothit (South) Township and developed with Kyat 20 billion funding of Union Government in the 2015-16 fiscal year. More than 35,000 people applied for the Mahar Bandoola Rental housing, and a draw took place at Myanmar Event Park in 13 March 2016. It had 50 buildings – comprising four storeys/ six-unit buildings, but 9 buildings out of 50 were under inspection for quality issues. So, this could accommodate a total of 1152 low-income families, civil servants, pensioners and squatters from aforesaid project area.

All resident has to made agreement with DUHD to follow the 26 terms and conditions. Residents have to pay monthly rental fees of 300,00 Kyats, maintenance fees of 5,000 kyats and 1,000 kyats for electric meter bill, and for tube well pump. All rental fees have to be paid not later than the 10th day of a month.

On July 2017, Yangon Regional Government formed Public Housing Delivery Committee with the objectives of

- (i) to deliver housing units to targeted groups
- (ii) to prevent speculations by lottery winners
- (iii) to establish adequate housing delivery system.

Table (3.8) Number of Housing Stock in Public Housing Delivery Committee

	Low cost Housing Units	Affordable Housing Units	Total
Transfer from DUHD	823	163	986
Retransfer to another department	120	2	122
In Hand of Public Housing Delivery Committee	703	161	864

Source: Public Housing Delivery Committee, 2019

According to Table (3.8), DUHD transfer total 986 housing units including 823 low-cost housing units and 163 affordable housing units to YRG. Then 120 units of low-cost housing units and 2 Affordable housing units were transfer to various government department. So, total 864 units including 703 low-cost housing units and 161 affordable housing units was in hand of Public Housing Delivery Committee.

YRG set the priorities weighting with 35% to Low-Income Public, 25% respectively to government and company staff and 15% for government retiree. Second priority is size of the households. Monthly average income of the applicants must have Kyats 3 million between 5 million for Low Cost Housing and Kyats 5 million to 12 million for affordable housing.

In February 2018, Public Housing Delivery Committee announces to submit applications for low-cost and affordable housing through four District GAD offices. Selling scheme base on cash down payment system and housing mortgage system. Cash down payment have to pay within one month from the date of buying permit. It also has 3% discount on the prices. Housing Mortgage system was linked to CHID Bank and applicant have to open “Home for Saving Account”. The applicant who save 20% down payment are eligible to apply housing finance system. Total 16707 applications were sold and 6027 application were submitted to buy low cost and affordable housing.

Table (3.9) Number of Housing Applicants by District

District	Public	Government Staff	Company Staff	Retiree	Total
East	1,751	969	571	474	3,775
West	257	385	153	139	934
South	45	116	28	25	214
North	616	292	91	115	1,104
Total	2,669	1,762	843	753	6027

Source: Public Housing Delivery Committee, 2019

Table (3.9) show the number of applicants by district and the total 6027 applications was received by four districts. It is found that the application of low-income public was significantly higher than the other groups with 2669 applications. Applications received from the category of government staff was 1762 and 843 from category of company staff.

Table (3.10) Lists of First Batch Sales

Particular	Household's Income Under 5 million Kyats	Household's Income above 5 million Kyats	Total
Low Income Public	203	40	243
Government Staff	162	31	193
Company Staff	151	27	178
Retiree	95	13	108
Total	611	111	722

Source: Public Housing Delivery Committee, 2019

According to the received applications, Public Housing Delivery Committee draw housing lottery and Table (3.10) categorizes the total 722 winners to two income group, with household's income under 5 million kyats account with 611 applicants are listed into Low-cost Housing and above 5 million kyats account with 11 applicants listed into Affordable housing. In March 2018, Public Housing Delivery Committee announces the winners and calls these applicants to buy the respective housing units.

Table (3.11) Mode of buying for First Batch

Particular	Household Income Under 5 million Kyats	%	Household Income Above 5 million Kyats	%	Total
By Cash Down	17	2.8	15	13.5	32
By housing mortgage system	421	68.9	35	31.5	456
Want of change housing and level of housing unit	35	5.7	26	23.4	61
Late response	7	1.1	1	0.9	8
Withdraw awarded housing units	17	2.8	6	5.4	23
No response	114	18.7	28	25.2	142
Total	611	2.8	111	100	722

Source: Public Housing Delivery Committee, 2019

According to Table (3.11), majority of the both income group choose to buy through housing mortgage system with 69 % of household's income under 5 million kyats and 35% of household's income above 5 million kyats. Meanwhile, 19 % of household's income under 5 million kyats and 25% of household's income above 5 million kyats were not response to buy the housing units.

As above mention, only 488 housing units were sold by cash down and housing mortgage system. So, only 488 applicants were buying through (cash down payment and housing mortgage system) and 234 applicants was not buying. The rest of 165 applicants want to relist second batch sale due to the housing price, location of the housing and room size. After negotiation with the 65 applicants who want to change location of housing and level of housing units, 45 low-cost housing and 6 affordable housing units were sold. So, only 325 housing units including 220 low-cost housing units and 105 affordable housing units were left in hand of Public Housing Delivery Committee.

3.3.4 Housing Provision in Yangon City by Private Sector Corporation

In March 2017, Yangon Regional Government (YRG) formed “Yangon Metropolitan Development Public Co. Ltd” (YMD), collaborated with Myanmar Construction Development Public Co. Ltd. (MCD) represent by Myanmar Construction Entrepreneurs Association (MCEA). It is the first company established by the government to oversee housing construction.

The Yangon government has taken a 51% stake in the semi government company, while Myanmar Construction and Development Public Company (MCD), a private firm took the remaining 49%. The main objective of YMD is to raise public funds to develop projects of YRG and to set up and carry out the following objectives:

- i. To invest in urban infrastructure projects in accordance with YRG's policy;
- ii. To provide affordable housings for low income workers and government employees;
- iii. To act as an advisor to YRG in accordance with the “Sustainable Cities and Communities” goal of the Sustainable Development Goals;
- iv. To co-operate with foreign investors and increase foreign investments;
- v. To promote social development; and
- vi. To support the research and development of sustainable development plans in Yangon.

According to the Project Bank, YMD is acting as implementation agency of Yangon Regional Government for the following housing projects,

- i. Affordable and Government Staff Rental Housing Project
- ii. Gyo Gone Housing Redevelopment
- iii. Mayangone Villa Mixed-use Development Project
- iv. Pyi Taw Thit Housing Redevelopment

CHAPTER IV

SURVEY ANALYSIS AND FINDINGS

4.1 Survey Profile

Yoma Housing is located in Dagon Myothit (Seikkan) Township, Yangon East District. Dagon Myothit (Seikkan) Township's land area is approximately 85.4 square kilometers and this township comprises 30 wards and 4 village tracts and has a population of 167,448 with a total of 37,905 households.

Mahar Bandoola Rental Housing was located along No (2) High Way, Dagon Myothit (South) Township. Dagon Myothit (South) Township's land area is approximately 79.1 square kilometers (Census, 2014) and it comprises 32 wards. It has a population of 371,646 and the total number of households is 76,984.

4.2 Survey Design

The survey for this study was conducted through a self-administered structured questionnaire for the respondents in both Yoma and Mahar Bandoola Rental Housing apartments. The questionnaire consisted of (4) parts which are characteristics, economic conditions and migration pattern of respondents, current housing conditions and respondents' opinions on satisfactory level living in these housing apartments. The sample respondents for this survey were selected through a purposive sampling method. A total of 123 respondents, (50) respondents from Yoma Housing in Dagon Myothit (Seikkan) Township and (73) respondents from Mahar Bandoola Rental Housing in Dagon Myothit (South) Township were being selected as samples for the survey.

4.3 Survey Findings

The results of the survey are presented in the following with explanation on change in living conditions in new settlements with a case of two selected Yoma Housing and Mahar Bandoola Rental Housing. The findings are presented in four parts as mentioned above with characteristics, economic conditions and migration pattern of respondents, current housing conditions and respondents' opinions on satisfactory level living in these housing apartments.

4.3.1 Characteristics of Respondents

The characteristics of the 50 respondents from Yoma Housing and 73 respondents from in Mahar Bandoola Rental Housing are shown in Tables (4.1) and Table (4.2).

Table (4.1) Characteristics of Respondents

Particular	Yoma Housing		Mahar Bandoola Housing	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Age Level (Years)				
under 30	1	2.0	5	6.8
31 - 40	5	9.8	11	15.1
41 - 50	18	35.3	17	23.3
51 - 60	12	23.5	17	23.3
above 60	15	29.4	23	31.5
Gender				
Male	30	60	62	84.9
Female	20	40	11	15.1
Education Level				
Never been to School	18	36	18	24.7
Primary School	14	28	12	16.4
Middle School	14	28	14	19.2
High School	2	4	18	24.7
University	2	4	7	9.6
Post Graduate	-	-	4	5.5
Number of Family Members				
Between 1-3	11	22	19	26.0
Between 4-6	29	58	43	58.9
Between 7-9	10	20	10	13.7
Above 9	-	-	1	1.4

Source: Survey Data

In Table (4.1), it is found that from Yoma Housing, out of the total 50 respondents, 30 respondents (60%) are males where only 20 respondents (40%) are females. The age range between 35 and 64 years made up the majority of the respondents (71.7%). In Mahar Bandoola Rental Housing, 62 respondents (84.9%) of the total are males where 11 respondents (15.1%) are females. Most of the respondents in both housing were still engaged in various types of income earning activities though some are retirees and dependents.

In Yoma Housing, the age group between 41 and 50 years made up the majority of the respondents with 18 or 35.3% of the total respondents. Then, two age groups between 41 to 50 years and between 51 and 60 years made up 58.8% of the total respondents stating that as the majority was in the working age group.

In Mahar Bandoola Rental Housing, the age group above 60 years made up the majority of the respondents with 23 or 31.5% of the total respondents in this group. It is seen that two age groups between 51 to 60 years and above 60 years made up 54.8% of the total respondents stating that majority of the respondents were in the older age group.

The education level of the respondents in Yoma Housing is seen as only about 4% are graduates and the majority of respondents had never been to school. Then, 28 respondents or 56% had an education of primary and middle school levels.

Mahar Bandoola Rental Housing has 18 respondents (24.7%) had never been to school and 35% had an education level of primary and middle school levels and 18 respondents with high school level are significantly higher than the respondents from Yoma Housing which had 24.7%.

The average household's size of Yoma Housing is 4.72 and 29 respondents (58%) of the total respondents had family members between 4-6 members. This shows that the majority of the respondents were medium sized families. Then, it is followed by family members between (1-3) members who accounted for 22% of the total respondents and the third is 10% with (7-9) family members.

In Mahar Bandoola Rental Housing, 43 respondents (58.9%) of the total respondents had family members between 4-6 members. Then, it is followed by family members between (1-3) members who accounted for 26% of the total respondents and the third is 13% with (7-9) family members. The second group mostly comprises retired government service personnel. Average households' size of Mahar Bandoola Rental Housing is the same as in Yoma Housing with 4.7.

Table (4.2) Occupation of Respondents

Occupation	Occupation			
	Yoma Housing		Mahar Bandoola Housing	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Dependent	22	44	4	5.5
Retirees	-	-	12	16.4
Actor	-	-	1	1.4
Technicians in Car workshop	-	-	1	1.4
Carpenter	2	4	1	1.4
Cleaner	1	2	-	-
Company staff	-	-	8	11.0
Construction Worker	3	6	2	2.7
Doctor	-	-	1	1.4
Government Staff	-	-	2	2.7
Jetty Stevedore	-	-	1	1.4
Mason	7	14	6	8.2
Odd Jobs	9	18	13	17.8
Overseas Worker	-	-	1	1.4
Partnership Company Owner	-	-	1	1.4
Plumber	1	2	-	0.0
Security	-	-	3	4.1
Tailor	-	-	1	1.4
Taxi Driver	2	4	6	8.2
Vendor	3	6	8	11.0
Welder	-	-	1	1.4

Source: Survey Data

According to Table (4.2), 22 respondents (44%) from Yoma Housing were dependents and for occupation, the majority was seen in mason and odd jobs category with 32 % of total respondents. This expresses there is no respondents as government and company staff and the majority were relying on income from odd jobs.

In Mahar Bandoola Rental Housing, the percentage of respondents as government and company staff is about 11% only and 17.8% of the total includes odd job workers, construction workers and masons. Then, 64.6% were engaged as actor, carpenters, taxi drivers, tailors, vendors, and welders, technicians in car workshops, doctors and overseas workers. It can be seen that the majority of the respondents were engaged in own businesses expressing a situation that might be somehow related to their education level.

4.3.2 Economic Conditions of Respondents

Table (4.3) shows the monthly income of the respondents from both Yoma Housing and Mahar Bandoola Rental Housing and the level of income was categorized into 12 levels ranging from less than Kyat 50000 to above kyat 1,000,000.

Table (4.3) Monthly Income of Respondents

Monthly Income (MM Kyat)		Yoma Housing			Mahar Bandoola Housing		
		No. of Respondents	Percentage	Average Respondent Income	No. of Respondents	Percentage	Average Respondent Income
1	Less than 50000	-	-	-	1	1	31,000
2	50,001 - 100,000	3	6	86,667	6	8	100,000
3	100,001 -200,000	17	34	161,765	13	18	165,385
4	200,001 -300,000	14	28	263,571	17	23	285,647
5	300,001 - 400,000	7	14	370,000	10	14	387,000
6	400,001 -500,000	4	8	465,000	5	7	486,000
7	500,001 -600,000	3	6	553,333	9	12	591,111
8	600,001 - 700,000	-	-	-	1	1	650,000
9	700,001 - 800,000	1	2	750,000	1	1	800,000
10	800,001 - 900,000	1	2	850,000	1	1	800,000
11	900,001 - 1000,000	-	-	-	2	3	966,667
12	Above 1,000,000	-	-	-	7	10	1,193,571

Source: Survey Data

According to Table (4.3), the monthly income of the respondents from Yoma Housing is seen as being related to the above-mentioned Tables (4.1) and (4.2). As most of them are earning their incomes through masonry and odd jobs, 62 % of respondents made up their monthly incomes between Kyat 100,001 to 300,000. Meanwhile 6 % of respondents' income was less than the standard daily wage rate of Kyat 4800 (that is Kyat 144,000 a month).

In Mahar Bandoola Rental Housing, 23% of the total respondents were in the income group of between Kyat 200,001 and Kyat 300,000 followed by 18% with income between Kyat 100,001 and Kyat 200,000. It was found that 64% of the total respondents had an income between less than Kyat 50000 and Kyat 400,000.

This can be considered that their monthly incomes are at a low-income level. Even most of the respondents have answered that their business nature was depending on the construction sectors and currently, it was difficult to find a job. From Mahar Bandoola Rental Housing, 7 respondents answered that they had stress on monthly rental fees which include 30000 kyats for rental fees, 5,000 kyats for maintenance fees and 1,000 kyats for electric bills from estate underground water pump and one respondent answered that he could not pay rental fees for 13 months. In Yoma Housing, there are no rental fees but residents have to pay maintenance fees of 8,000 kyats, 1,000 Kyats for electric bills of estate underground water pump and another 1,000 kyats for YCDC garbage collection fees. Due to disparity of income generating groups, 36% of total respondents from Mahar Bandoola Rental Housing who had been resettled from slums and low-income households had more stress on meeting housing expenses than that of residents from Yoma Housing.

Table (4.4) Change in Monthly Income of Respondents in New Settlement

No.	Yoma Housing		Mahar Bandoola Housing	
	No. of Respondents	%	No. of Respondents	%
Decrease in Income	10	20	12	16
No change in Income	29	58	41	56
Increase in Income	11	22	20	27
Total	50	100	73	100

Source: Survey Data

Table (4.4) illustrates the change in income condition of the respondents from both Yoma Housing and Mahar Bandoola Rental Housing, comparing their present incomes with their previous incomes before being resettled in the new places. It was found that for Yoma Housing, 10 respondents stated their income had decreased, 11 respondents had an increase in their incomes and the rest stated that there was no change in income. In Mahar Bandoola Rental Housing, 41 respondents (56%) out of the total respondents answered that their incomes remain the same as that of in the previous residence. Then, even 20 respondents (27%) had an increase in income.

This situation explains that in Yoma Housing, all were resettled from slums and their income depends on their jobs as their jobs were mostly odd jobs and masons which could not bring permanent incomes to them. In addition, in the case of income decrease, they had to consider transportation cost as all of the respondents from Yoma Housing reported that they have to take motorcycle carry to reach the bus-stop and even more difficult to come back home after 6 PM because YBS are out of services in this area.

For Mahar Bandoola Rental Housing, the residents were those who were allotted to these apartments and who are also government staff, pensioners and only 48 persons were resettled from slums. In this situation, the survey shows that only 12 out of 50 respondents stated as their income had decreased.

Table (4.5) Sources of Loan

Sources of Loan	Yoma Housing		Mahar Bandoola Housing	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Money Lenders	11	10	17	23.3
Relatives	7	16	6	8.2
Micro Finance Firms	8	10	4	5.5
No response/depend on own income	24	62	27	37.0

Source: Survey Data

Table (4.5) shows the sources of loans in both Yoma Housing and Mahar Bandoola Rental Housing. There were many forms of loan for low-income households such as borrowing from money lenders, relatives, micro finance firms

while some depend on own income. Interest rates varied among different lenders, such as micro finance firms charge 2.5%, 3% and 5% interest rate and most loans are short term loans. Meanwhile, the cost of loans was much higher when borrowing from money lenders, so respondents stated that the rates were 10%, 15%, 20% and even for daily loans, they had to pay 50% interest rate.

In Yoma Housing, the majority of respondents gave no response but 37% of respondents answered that they borrowed from relatives. Then, 10% of the respondents stated that they borrowed money from money lenders and micro finance firms.

In Mahar Bandoola Rental Housing, the majority of respondents (37%) gave no response about financing but 23.3% of respondents answered that they borrowed from money lenders and 8.2% of the respondents stated that they borrowed money from relatives. It can be seen that the cost of loans was higher because these low-income families did not have any collateral for taking loans.

4.3.3 Migration Pattern of Respondents

The resettled respondents of the study area were from various States and Regions and the situation of their native of origin was shown in the following Table (4.6).

Table (4.6) Native Places of Respondents by States and Regions

States/Regions	Yoma Housing		Mahar Bandoola Housing	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Yangon Region	18	36	53	72.6
Ayeyawaddy Region	22	44	9	12.3
Bago Region	6	12	4	5.5
Magway Region	1	2	2	2.7
Mandalay Region	1	2	2	2.7
Rakhine State	1	2	-	0.0
Shan State	1	2	1	1.4
Kayin State	-	-	1	1.4
Mon State	-	-	1	1.4

Source: Survey Data

When the respondents from Yoma Housing are asked about their native places, it was found that only 36% of the total respondents are of Yangon origin whereas 64% are from the other states and regions (Table 4.6). This shows that migration from other parts of the country has come into existence in this city.

In Mahar Bandoola Rental Housing, due to the housing lottery system of Yangon Regional Government, the applicant has to submit a form or application for an apartment at the Township GAD office. It was found that the majority of the respondents were from Yangon Region and it accounted for 72.6% of the total respondents. The remaining respondents were those who moved from other States and Region and they had been residing in Yangon for a long time such as 18 respondents answered they had been in Yangon for at least 5 years to the most 10 years. Even (3) respondents stated that they had stayed in Yangon for 20 years.

Table (4.7) Previous Residence of Respondents

Previous Residence	Yoma Housing		Mahar Bandoola Housing	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Townships from Yangon Region	44	88	71	97.2
Ayeyawaddy	5	10	0	0
Bago	1	2	1	1.4
Magway	-	-	1	1.4

Source: Survey Data

Table (4.7) expresses the previous residences of the respondents from both Yoma Housing and Mahar Bandoola Rental Housing. In Yoma Housing, it was found that about 88% of the total respondents were from Yangon and only 12% of the total respondents are from the other states and regions. (Table 4.7) Then there were (5) respondents from Ayeyawaddy Region which was 10% of the total and (1) respondent was from Bago Region.

Meanwhile 97.3% of respondents from Mahar Bandoola Rental Housing were from Yangon Region and only (1) respondent (1.4%) each from Bago and Magway Regions.

Table (4.8) Types of Housing before Resettlement

Types of Housing	Yoma Housing		Mahar Bandoola Housing	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Apartment	1	2	17	23.3
Bungalow	-	-	3	4.1
Brick Nogging	-	-	2	2.7
Wooden House	2	4	26	35.6
Bamboo House	33	66	18	24.7
Hut (Durable 2 – 3 Year)	2	4	-	-
Hut (Durable 1 Year)	12	24	6	8.2
Others	-	-	1	1.4

Source: Survey Data

According to Tables (4.8), the majority of respondents, that is, 94% of the total respondents from Yoma Housing lived in slums for many years. So, previously, almost all of them lived in bamboo houses. So, almost all types of their previous housing were bamboo houses, Hut (durable 2-3 years and 1 year only). Only one respondent report that previously he lived with the apartment types.

In Mahar Bandoola Rental Housing, majority of the respondents were retired government service personnel and previously private renters. So, types of their previous housing were wooden houses with a larger share of 35.6%. It also included bamboo houses with 24.7% of the total, hut and others represent 34.3% of the total because of squatter resettlement families. The third largest type of housing was apartment with 23.3% of the total.

4.3.4 Current Housing Structure

At present, the types of housing structure are different between the two housing estates in terms of building units and level of storeys in each type of housing.

According to Table (4.9), Yoma Housing was constructed under the funding of the Government of Japan/JICA and implemented by UN-Habitat. The housing structure in terms of building units was six buildings comprising four units of five storeys each and the apartment (room) area was 570 square feet with two bed rooms.

Table (4.9) Differences in Current Housing Structure

Building Type	Number of Building Units	Number of Rooms	Room Area
			Square Feet
Four Unit – Five Storey (Yoma Housing)	6	120	570
Six Unit – Four Storey (Mahar Bandoola Rental Housing)	41	984	680

Source: Survey Data

Mahar Bandoola Rental Housing had 50 building units comprising six unit – four storeys each with basic services and infrastructures, to accommodate a total of 1200 low-income families, civil servants and squatters from aforesaid project area. An apartment (room) area was 680 square feet with two bed rooms.

Table (4.10) Ownership of Present Apartment

Apartment Ownership	Yoma Housing		Mahar Bandoola Housing	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Official Allotment	50	100	71	97.3
Re rent from allotted persons	-	-	2	2.7

Source: Survey Data

In Yoma Housing, land ownership was retained by DUHD and each building which consists of 20 housing units are collectively owned by the group of apartment dwellers of the building. DUHD issued the occupancy certificates to the residents and described terms and conditions include such as “the beneficiary occupants are authorities to stay in the allotted apartment units for 30 years from the date of receiving this certificate and not allowed to transfer or sell or rent or otherwise dispose the apartment units”. None of the respondents stated that there was no re rent or selling of apartment to another.

In Mahar Bandoola Rental Housing, land ownership was transferred to Yangon Regional Government from DUHD for project implementation. Estate management was done by the DUHD Estate Management Office and rental agreement also made by the DUHD. According to contractual terms and conditions of rental

agreement between DUHD and allotted person, there is prohibition to re rent or selling apartment to another and if it is found that a resident has violated the rule, he or she will be charged with the 1955, Government Premises (Eviction) Act. But 2 respondents (2.7%) stated that they re-rented from official allotted persons and depending on the floor level of the apartment, they have to pay Kyat 100,000 and Kyat 150,000 respectively. So, 97.3 % of the residents were those who were staying by official allotment. (Table 4.10)

Table (4.11) Means of Getting to Place of Work

Particular	Yoma Housing		Mahar Bandoola Housing	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Walking	5	10	6	8
By Bicycle	8	16	11	15
By Motorcycle	5	10	6	8
By Bus	31	62	42	58
By Ferry	1	2	8	11
By Train	-	-	-	-

Source: Survey Data

Depending on the location of the workplace, different modes of transport are used including buses and slow vehicles (bicycle, trishaw, motorcycle). Some workplaces are within walking distance from the respondents' residences. Table (4.11) shows the different modes of transport used by the respondents in going to and from the residences and their workplace.

According to survey data, the majority of the respondents from both housing used bus as a mean for getting to place of work and none of the respondents from both housing used train. Then, the respondents from both housing used bicycle as a mean for getting to place of work. Only 5 respondents (10%) from Yoma Housing and 6 respondents (8%) from Mahar Bandoola Rental Housing were walking to work and then 8 respondents (16%) from Yoma Housing and 11 respondents (15%) from Mahar Bandoola Rental Housing were using bicycles to go to their workplace. These modes of transport did not have any cost and so the respondents using these modes had less

expense than those who had to use other modes of transport such as buses, ferry etc.

Table (4.12) Daily Travelling Cost to Work

Daily Travelling Costs to Work	Yoma Housing		Mahar Bandoola Housing	
	No. of Respondents	Percentage	No. of Respondents	Percentage
None	13	26	6	8
Under 500 Kyats	7	14	11	15
Between 500 to 1,000	18	36	6	8
Between 1,000 to 5,000	12	24	42	58
Above 5000	-	-	8	11

Source: Survey Data

In the Table (4.2), 44% of the respondents were dependents and it might reflect the daily travelling cost to work. On the other hand, the rest 56% of respondents had travelling cost to reach to the work place.

According to the location of Yoma Housing, respondents have to interchange two or more buses to reach the workplace and the majority of respondents had to spend between 500 kyat to 1,000 kyat. It was also found that 42 respondents from Mahar Bandoola Rental Housing had to spend between 1,000 kyat to 5,000 kyat. Majority of respondents from both housing answered that they had to rely on public transport such as buses, as it is much cheaper and more convenient.

4.3.5 Respondents' Opinions on Satisfactory Level of Resettled Housing

This part explains the opinions of the respondents from both housing estates on whether their living conditions had changed from the previous settlements and whether they were satisfied or not, living in the new settlements. These contains seven sections which included living conditions, employment, education, and business opportunities, comparing previous and present residence, surrounding conditions and management of administrative committee.

Table (4.13) Opinions of Respondents on Satisfactory Level of Resettled Housing

		Yoma Housing		Mahar Bandoola Rental Housing	
No	Particulars	Total No. of Respondents	%	Total No. of Respondents	%
I. Residents' opinion on satisfactory level for living in Housing					
1	Very Satisfied	4	8	10	13.7
2	Satisfied	27	54	43	58.9
3	Moderate	4	8	13	17.8
4	Dissatisfied	14	28	4	5.5
5	Very Dissatisfied	1	2	3	4.1
Total		50	100	73	100
II. Residents' opinion on satisfactory level for Employment Opportunities					
1	Very Satisfied	1	2	6	8.2
2	Satisfied	17	34	39	53.4
3	Moderate	8	16	7	9.6
4	Dissatisfied	20	40	15	20.5
5	Very Dissatisfied	4	8	6	8.2
Total		50	100	73	100
III. Residents' opinion on satisfactory level for Education Opportunities					
1	Very Satisfied	0	0	5	6.8
2	Satisfied	19	38	37	50.7
3	Moderate	10	20	21	28.8
4	Dissatisfied	16	32	6	8.2
5	Very Dissatisfied	5	10	4	5.5
Total		50	100	73	100
IV. Residents' opinion on satisfactory level for Business Opportunities					
1	Very Satisfied	0	0	2	2.7
2	Satisfied	12	24	33	45.2
3	Moderate	22	44	18	24.7
4	Dissatisfied	16	32	14	19.2
5	Very Dissatisfied	0	0	6	8.2
Total		50	100	73	100

Source: Survey Data

Table (4.13) Opinions of Respondents on Satisfactory Level of Resettled Housing (Cotd)

V. Residents' opinion on satisfactory level by comparing with previous house					
1	Very Satisfied	9	18	12	16.4
2	Satisfied	27	54	33	45.2
3	Moderate	3	6	12	16.4
4	Dissatisfied	11	22	13	17.8
5	Very Dissatisfied	0	0	3	4.1
Total		50	100	73	100
VI. Residents' opinion on satisfactory level for Surrounding Conditions of Housing					
1	Very Satisfied	0	0	4	5.5
2	Satisfied	2	4	53	72.6
3	Moderate	39	78	9	12.3
4	Dissatisfied	6	12	2	2.7
5	Very Dissatisfied	3	6	5	6.8
Total		50	100	73	100
VII. Residents' opinion on satisfactory level for Management of Administrative Committee					
1	Very Satisfied	2	4	4	5.5
2	Satisfied	42	84	58	79.5
3	Moderate	0	0	6	8.2
4	Dissatisfied	4	8	1	1.4
5	Very Dissatisfied	2	4	4	5.5
Total		50	100	73	100

Source: Survey Data

Both Yoma and Mahar Bandoola Rental Housing used tube wells to deliver domestic water and the distributed water quality is very poor to drink, that is, not potable. So, all of the respondents from both Mahar Bandoola Rental Housing and Yoma Rental Housing had to buy drinking water and most of the residents even used these purified water bottles for cooking and preparing food.

According to Section I of Table (4.13), it was found that 54% of the total respondents were satisfied with the resettled Yoma Housing but 28% of the respondents were dissatisfied. Then, 58.9% of the total respondents from Mahar Bandoola Rental Housing were satisfied for living in resettled new Housing and only

17.8% had a moderate satisfactory level. Whereas, 2% of respondents from Yoma Housing and 4.1 % of the respondents from Mahar Bandoola Rental Housing were respectively very dissatisfied with living in their new housing apartments. The majority of the respondents from Yoma Housing were very dissatisfied because housing flats were far away from their jobs and very close from the Kyi Su Cemetery. The majority of the respondents from Mahar Bandoola stated that, the reason is the new place is far away from the jobs.

According to Section II of Table (4.13), it was found that 40% of the respondents from Yoma Housing were very dissatisfied for their employment opportunities. They pointed out the main reason and that was, it depended on their types of job which was mostly odd jobs. The majority of the respondents stated that their new residence was far away from the odd jobs picking points. Employer of odd jobs workers usually pickup their employees at informal settlements.

In Mahar Bandoola Housing, the majority of the respondents, 53% were at the moderate level of employment opportunities by comparing with previous residence and new apartment. Also, 20.5% of the respondents were very dissatisfied concerning employment opportunities.

For the opinion level of education opportunities, it was found that none of the respondents from Yoma Housing stated on very satisfied level. But 58% of the respondents had satisfied and moderate level for education and 42% were at dissatisfied and very dissatisfied level for education opportunities. It can be seen that the majority of the respondents were relocated from previous informal settlement where their children usually attended nearby schools. Also, low-income and high dependency rate of households reflect their education expense and most of their children usually had not completed the high school level.

In contrast to Yoma Housing, more than half of the total respondents from Mahar Bandoola Rental Housing, that is, 50.7% was satisfied for education opportunities and 6.8 % was very satisfied on it. It can be seen that Mahar Bandoola Rental Housing was located near a school which gave their children more accessibility to attend the school. Then, 28.8% of the respondents were at a moderate level of education opportunities for their children and 13.7% were at dissatisfied and very dissatisfied level for education opportunities.

For the opinion level of business opportunities, major respondents from Yoma Housing 44% were at a moderate level and 32% were dissatisfied for it. The location of Yoma Housing was very close to Kyi Su cemetery and low-density area within the Dagon Myothit (Seikkan). So according to Section IV of Table (4.13), it can be accounted that the environment of housing is difficult for their business opportunities. Contrary to Yoma Housing, 45.2% of respondents from Mahar Bandoola Rental Housing were satisfied on their business opportunities and 24% of respondents were at a moderate level. Also, 27.4% of respondents was not satisfied (dissatisfied and very dissatisfied) upon their business opportunities.

According to Section V of Table (4.13), 54% of respondents from Yoma Housing were satisfied for their current residence by comparing with their previous house and 18% stated as very satisfied on it. It was clear that slum upgrading program is beneficial to all resettled households and could absolutely raise their standard of living. But 22% of the respondents were not satisfied for living in current residence by comparing with their previous house. It can be considered that their opinions were linked to their employment opportunities and some argued that the room area of apartment was too narrow for their families. Even average household size of both housing was 4.7; some families had a larger number of family members.

In Mahar Bandoola Rental Housing, 45.2% of the respondents were satisfied on their current residence by comparing with their previous house and 16.4% of respondents stated that as very satisfied on it. So, it can be seen that total 61.6% of the respondents were optimistic for current apartment. Even though the majority of respondents were optimistic, 17.8% of the respondents were dissatisfied for their current residence by comparing with their previous house. Moreover, 4.1% of the respondents stated as very dissatisfied on their current residence by comparing with their previous house. Most of the dissatisfied respondents reported that current residence was far away from the market and difficult to find and buy food.

According to Section VI of Table (4.13), 78% of the respondents from Yoma Housing were moderated level on surrounding conditions of their current residence but none of the respondents stated as very satisfied on it. Then, 12% of the respondents showed as very dissatisfied and another 6% as dissatisfied with the surrounding conditions. It was clear that even the location of housing was next to a cemetery, the surrounding conditions was more convenient than the previous house.

In Mahar Bandoola Rental Housing, 72.6% of the respondents say as satisfied on the surrounding conditions of their housing location and 12.3% of the respondents answered satisfaction at a moderate level. However, 6.8% of the respondents stated as very dissatisfied on it.

According to Section VII of Table (4.13), 42 respondents or almost all 84% of the respondents from Yoma Housing were satisfied with the way of management by management committee of this housing unit. It was also similar with Mahar Bandoola Rental Housing as 79.5% of the respondents stated as satisfied with the way of management by DUHD. Then, 5% of the respondents showed as very satisfied and another 5% as dissatisfied with the way of DUHD's management. It can be concluded that majority of the respondents from both housing was satisfied with the management of respective administrative committees.

Table (4.14) Overall Degree of Opinion on Satisfactory Level of Resettled Housing

Particular	Overall Degree of Opinion on Satisfactory Level of Resettled Housing (%)					Total (%)
	Very Satisfied	Satisfied	Moderate	Dissatisfied	Very Dissatisfied	
Yoma Housing	2	37	31.4	24.6	5	100
Mahar Bandoola Rental Housing	8.61	57.36	15.42	11.55	7.05	100

Source: Survey Data

According to Table (4.14), 24.6% of respondent from Yoma Housing and 11.55% of respondents from Mahar Bandoola Rental Housing was dissatisfied on living in respective housing but the overall degree of Residents' opinion on living in both Yoma and Mahar Bandoola Rental Housing is good as being on a satisfactory level with 37% and 57.36% respectively.

CHAPTER V

CONCLUSION

5.1 Findings

The study aims to identify the types of housing provided for civil servants/low income groups and particularly for squatters and to assess the change in living conditions in new settlements with a case of two selected housing estates. In order to identify types of housing provided for civil servants/low income groups and particularly for squatters in Yangon region, Yoma Housing in Dagon Myothit (Seikkan) Township and Mahar Bandoola Rental Housing in Dagon Myothit (South) Township was selected to conduct the survey and the sample size was 123 residents from Yoma and Mahar Bandoola Rental Housing Estates.

The survey questionnaire included basic characteristics; age level, gender of head of households, number of family members, occupation of households heads, education of households head, monthly income of households , source of finance, previous residence of households, types of housing of the previous residence, composition of buildings in selected housing estate, ownership of present apartment, means of getting to place of work, daily travelling cost to work and Residents' opinion on satisfactory level for living in Housing.

In this study, the question concerning the change in living conditions in new settlements were asked based on three broad categories such as migration pattern of respondents, current housing conditions in two housing estate, residents' opinion on satisfactory level for living in housing. This study also assesses the change in living conditions in new settlements.

It was found that Yoma Housing has more female headed households than the Mahar Bandoola Rental Housing. Average households' size of Mahar Bandoola Rental Housing is same as Yoma Housing with 4.7 and most of the household heads in both housing is still engaged in various types of income earning activities while some are retirees and dependents. Household head of Yoma Housing has few graduates and majority are under middle school level and 28% are never been to school.

It was also true in Mahar Bandoola Rental Housing, with 24.7% are never been to school and 35% are primary and middle school level. But High school level are significantly higher than the respondents from Yoma Housing with 24.7%.

For the employment, total 44 percent or 22 respondents were dependent and category of Manson and Odd jobs in Yoma Housing which comprise 32 percent of total respondents. It is found that the majority of the respondents from Yoma Housing are dependent with 22% and major work force engaged in Manson and odd jobs. Disparity of occupation in Mahar Bandoola Rental Housing was found and it might be somehow related to their education level.

Due to the housing lottery system of Yangon Regional Government, the applicant has to submit at the Township GAD office. So, the percentage of Yangon origin are found higher in Yoma Housing with larger share 72.6% in Mahar Bandoola Rental Housing. But it is found that the rest of the population were migrated from other state and regions for last 5 years to 10 years ago.

It is found that 2.7 % of respondents from Mahar Bandoola Rental Housing are re-rented from official allotted persons even though re-renting is prohibited.

For the previous residences in Yoma Housing, it is found that majority of total respondents 88% are from townships of Yangon and only 12% of total respondents moving from other states and regions mostly from Ayeyarwady Region with 12%. Meanwhile 97.3% of respondents from Mahar Bandoola Rental Housing are from Yangon Region and only 2.8% or 1 respondents is from Bago Region.

In Mahar Bandoola Rental Housing, majority of the respondents were retired government service personnel and previously private renters. So, types of their previous types of houses were made by wooden with larger share of 35.6%. Majority of residence from Yoma Housing was lived as squatters for many years so almost all types of their previous house is Bamboo house and hut (durable 2-3 years and 1 year only).

It is found that income group of between 200,001 to 300,000 in Mahar Bandoola Rental Housing Rental Housing, has 23% out of total. Second majority of the income group are made up between 100,001 to 200,000 with 18% and average income of households was 165,385 Kyat in a month. Their income will be around 100,000 after deducting the monthly rental fees, electricity bill and cost of drinking water. It is found that both Yoma and Mahar Bandoola Rental Housing use tube well to deliver domestic water and distributed water quality is very poor to drink.

It is found that majority of the respondents from both housing use bus for mean of getting to place of work by the residents and none respondents use train. Moreover, respondents have to interchange two or more bus to reach the place of work and majority of respondents have to spend between 500 kyat to 1,000 kyat according to the location of Housing. It was also found that 42 respondents from Mahar Bandoola Rental Housing answer that they also have to relies on public transport such as buses, as it is much cheaper and convenient.

It is found that 54% of respondents were satisfied for living in Yoma Housing and second majority of the population 28% were dissatisfied upon it. 58.9% of the respondents from Mahar Bandoola Rental Housing was satisfied for living in Housing and only 17.8% were moderate level. Whereas, 2% of respondents from Yoma Housing and 4.1 % of the respondents from Mahar Bandoola Rental Housing were respectively very dissatisfied for living in their housing because majority of the respondents from both housing state that their housing flats were far away from their jobs and Yoma housing was very close from the Kyi Su Cemetery.

Moreover, 40% of major respondents from Yoma Housing were very dissatisfied for their employment opportunities. It is found that majority of the respondents 53% were moderate level of employment opportunities in Mahar Bandoola Rental Housing, by comparing with previous resident and after new apartment. Also, 20.5% of the second majority respondent was very dissatisfied for the employment opportunities.

For the opinion level of education opportunities, it is found that none of the respondent from Yoma Housing state any satisfactory. 19% of the respondents was moderate level for education and 16% were very dissatisfied for education opportunities. Low-income and high dependency rate of households reflect their education expanse and most of their children usually not finished the high school level. Contrary to Yoma Housing, it is found that major respondents and that is 50.7% of the Mahar Bandoola Rental Housing was satisfied for education opportunities.

For the opinion level of business opportunities, major respondents from the Yoma Housing has moderate level with 44% and 32% were dissatisfied for it. The location of the Yoma Housing was very close to Kyi Su cemetery and low-density area within the Dagon Myothit (Seikkan). Contrary to Yoma Housing, 45.2% of respondents from the Mahar Bandoola Rental Housing was satisfied on their business

opportunities 24% of respondents answer moderate level. Also, 27.4% of respondents was not satisfied (dissatisfied and very dissatisfied) upon their business opportunities.

It is found that 54% of respondents from Yoma Housing was satisfied for their current resident by comparing with their previous house and 18% state that very satisfied on it. It was clear that slum upgrading program beneficial to all resettle households and absolutely raise their standard of living. But 22% of the respondents was not satisfied for living in current resident by comparing with their previous house. It can be assumed that their opinion will link to their employment opportunities and some argue that the room area of apartment was too narrow for their families. Even average households' size of both housing was 4.7, some families has big number of family members.

In Mahar Bandoola Rental Housing, 45.2% of the respondents was satisfied for their current resident by comparing with their previous house and 16.4% of respondents state that very satisfied on it. So, it can be assumed that total 61.6% of the respondents were optimistic for current apartment. Even though majority of respondents optimistic, 17.8% of the respondents were dissatisfied for their current resident by comparing with their previous house. Moreover, 4.1% of the respondents state that very dissatisfied for their current resident by comparing with their previous house. Most of the dissatisfied respondent report that, current resident was far away from market and difficult to find a food.

It is found that 39% of respondents from Yoma Housing was satisfied for surrounding conditions of their current resident and only 3% state very satisfied on it. It was clear that even the location of housing was next to cemetery, the surrounding conditions was more convenient that the previous house.

In Mahar Bandoola Rental Housing, 72% of the respondents say satisfied the surrounding conditions of housing and second majority of respondents answer moderate as shown by 12.3%. 6.8% of respondents state very dissatisfied on it.

Almost all of the respondents from Yoma Housing was satisfied the way of management by management committee of housing. It was also similar to Mahar Bandoola Rental Housing, 79.5% of respondents state satisfied the way of management by DUHD. The respondents with 5% each are very satisfied and dissatisfied the way of DUHD' management. It can be concluded that majority of the respondents from both housing was satisfied the management of respective administrative committees.

5.2 Recommendations

Myanmar is also facing the consequences of urbanization in large cities, especially Yangon City because of rural to urban migration. Many rural people from all parts of Myanmar have migrated and still migrating to Yangon City in search of a better life and basically a permanent job in the city. However, most end up with odd jobs facing insufficient income and worst still with no house to live in. Access to safe and healthy shelter is essential to a person's physical, psychological, social and economic well-being.

According to the study and findings of this study, it is found that Housing projects are conducted by the government, private sector, and also international aid from Japan, UN-Habitat, etc. Housing provision is on the rise such as to contribute to the most needed civil servants/pensioners and low-income group, squatters and also to others.

Firstly, almost all of resettlement families from squatters in Mahar Bandoola Rental Housing does not have national Identification card and household's registration certificates (Form 10) due to the subsequent rental and squatter. Despite the household's registration certificates (Form 10) was not related to the ownership of building, Estate Management Office of DUHD does not issue recommendation where the resident live in. So, almost all of resettlement families from squatters faces difficulty to apply the National Identification Card.

Secondly, the quality of water extracted from underground tube well in both Yoma and Mahar Bandoola Rental Housing are not suitable to drink and the cost of drinking water took certain portion for those families. It should be connected YCDC piped water for the well-being of residents.

Thirdly, concerned department should effort to regularize in accordance with prescribed rules and regulations for defaulters. If concerned department cannot manage in time, it would difficult to manage growing defaulters such as re-renting. Also, concerned department should review the terms and conditions for rental housing estate to reflect the current conditions.

Fourthly, the residents must be encouraged to become engaged in community life as community participation is also essential in forming a healthy and clean environment within their residential areas.

Although basic education is officially free, many families in Yoma Housing area were poor and cannot afford additional exercise books and stationery, uniforms

and unexpected fees for their day to day schooling. Many of these families also rely on income from their children's labor to get by. Therefore, should arrange vocational training centers in nearby place would be more helpful for those school dropout children.

Finally, Government should encourage the housing for low-income families such as rental housing, low-cost housing etc. depending on their level of income.

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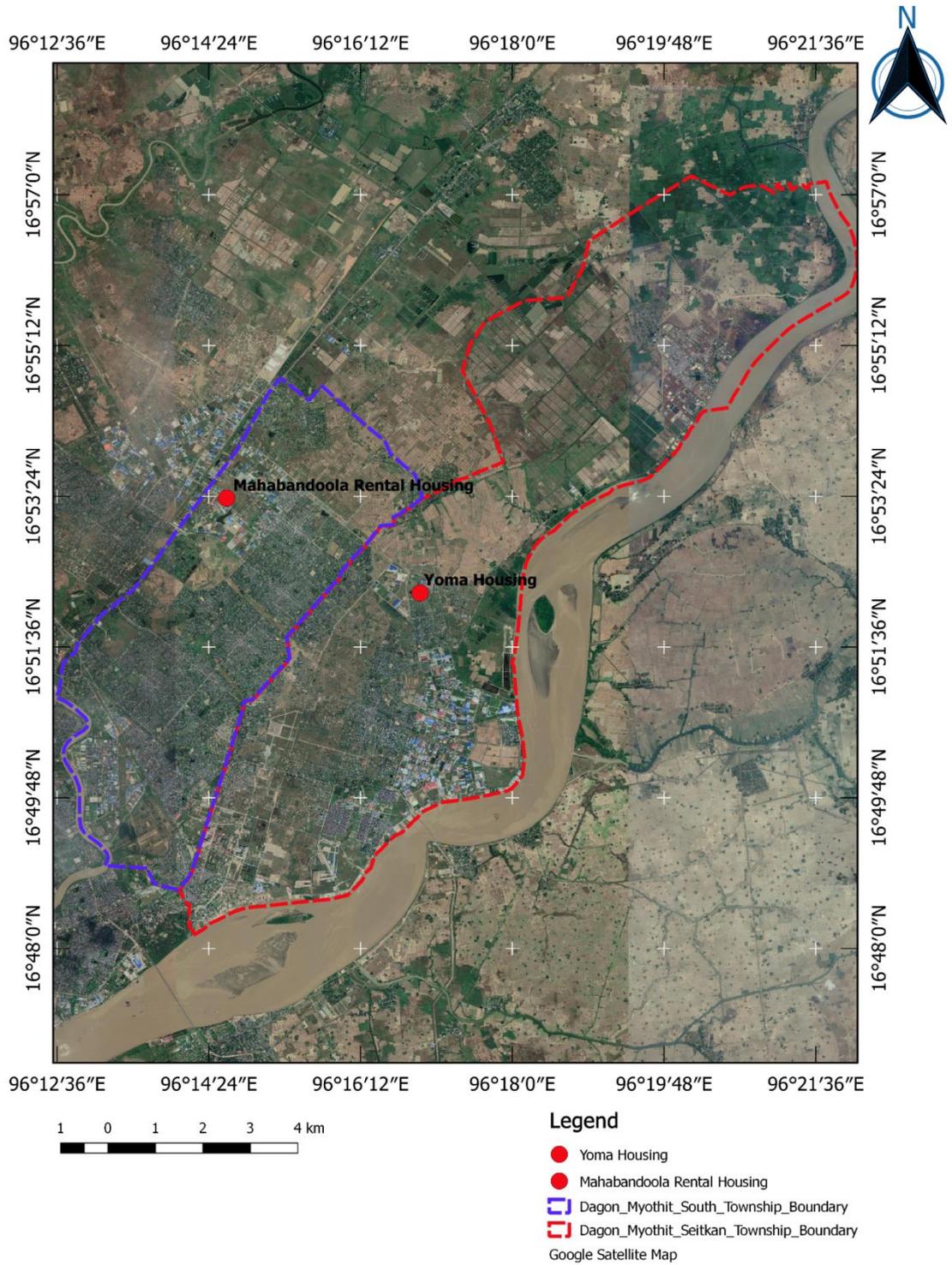
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APPENDIX I

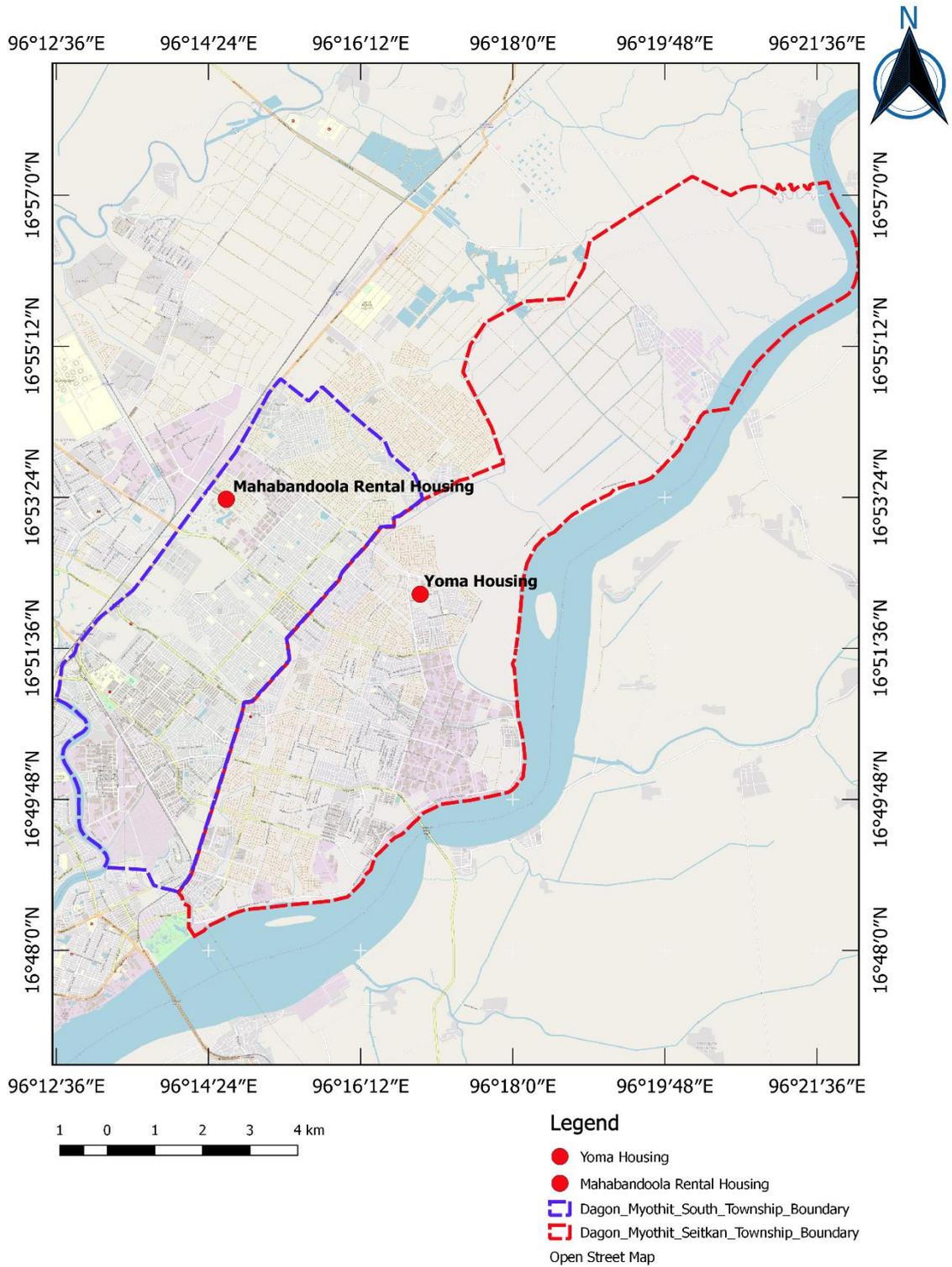
Location of Yoma Housing and Mahar Bandoola Rental Housing



Source: Google Map, 2019

APPENDIX II

Location of Yoma Housing and Mahar Bandoola Rental Housing



Source: Open Street Map, 2019

APPENDIX IV

Questionnaire Survey of Housing Provision for Low Income Households in Yangon Region (A Case Study Of “Yoma Housing” And Mahar Bandoola Rental Housing)

The questions below are about your personal background. Please answer the questions correctly as they apply to you.

Section (I) Characteristics of Respondents

1. Name -----
2. Age-----
3. Gender
 - a) Male
 - b) Female
4. Number of family member -----
5. Marital Status -----
6. Religion-----
7. Race-----
8. Education-----
 - a) Never been to School
 - b) Primary,
 - c) Middle,
 - d) High,
 - e) University,
 - f) Post Graduated
9. Ownership of Present Apartment
 - a) Official Allotment,
 - b) Re-rent from other,
 - c) Others, please describe
10. Occupation -----

Section (II) Economic Conditions of Respondents

11. Monthly family income before Current apartment-----
12. Monthly family income after moving to Current apartment-----
13. Monthly expenditure for Rental fees -----
14. Monthly expenditure for Maintenance fees -----
15. Monthly expenditure for Electricity Bill -----
16. Monthly expenditure for Domestic Water Usage-----
17. Monthly expenditure for Drinking Water -----
18. Sources of Loan
 - a) From Bank
 - b) From License money lender
 - c) From Money lender
 - d) From Microfinance firms
 - e) From relatives
19. Interest rate -----
20. Main source of water for drinking and non-drinking in this households
 - a) YCDC Tap Water/Pipped
 - b) Public Well or Lake
 - c) Underground Water Piped by Estate
 - d) Bottle Water from Vendor
21. Means of getting to place of work
 - a) On foot
 - b) By Bicycle/ trishaw
 - c) By Motorcycle
 - d) By Bus
 - e) By Ferry
 - f) By Train
22. Duration to reach the place of Work
 - a) 15 minutes
 - b) 30 minutes
 - c) 45 minutes
 - d) 1 hour
 - e) More than 1 hour

23. Daily Travelling Costs to Work

- a) None
- b) Under 500
- c) 500 – 1000
- d) 1000 – 5000
- e) Above 5000

24. Monthly expenditure for education

- a) None
- b) Under 20,000
- c) 20,000-50,000
- d) 50,000 – 100,000
- e) 100,000 – 200,000
- f) Above 200000

Section (III) Migration Pattern of Respondents

25. Place of Birth -----

26. The reasons to move Yangon

- a) Employment/in search for employment
- b) Education
- c) Marriage
- d) Followed family
- e) Conflict
- f) Did not move
- g) Others, please describe

27. Place of previous residence -----

28. Duration in place of usual residence -----

29. Reason for movement to this apartment -----

30. Types of Ownership of housing in previous residence

- a) Owner
- b) Renter
- c) Provided free (individual)
- d) Government Quarter
- e) Squatter
- f) Other

31. If Rental, how much have to pay for rental fees -----

31. Type of housing unit in last residence occupied by this households

- a) Apartment/Flat
- b) Brick House
- c) Semi-pucca house
- d) Wooden House
- e) Bamboo
- f) Hut 2-3 years
- g) Hut 1 year
- h) other

32. How many bed room in the last residence house -----

33. How long you stay in the last residence -----

Section (IV) Respondents' opinions on satisfactory level of Resettled Housing

No	Factors	Very Satisfied	Satisfied	Moderate	Dissatisfied	Very Dissatisfied
1	Respondents' opinion on satisfactory level for living in Housing					
2	Respondents' opinion on satisfactory level for Employment Opportunities					
3	Respondents' opinion on satisfactory level for Education Opportunities					
4	Respondents' opinion on satisfactory level for Business Opportunities					
5	Respondents' opinion on satisfactory level by comparing with last house					
6	Respondents' opinion on satisfactory level for Surrounding Conditions of Housing					
7	Respondents' opinion on satisfactory level for Management of Administrative Committee					

APPENDIX V

Appendix Table (1) Types of Housing in Yangon Region

District	Types of Housing							
	Total	Apartment/ Condominium	Bungalow/ Brick House	Semi pucca house	Wooden house	Bamboo	Hut 2 – 3 years	Hut 1 year
East	486,790	112,666	47,588	54,772	211,653	47,644	3,781	2,566
West	190,782	108,005	16,639	18,706	39,841	5,714	422	230
South	339,205	4,815	12,276	17,031	142,082	152,721	5,319	3,226
North	566,167	41,378	40,544	60,132	265,847	138,340	7,517	5,843
Total	1,582,944	266,864	117,047	150,641	659,423	344,419	17,039	11,865

Source: Census, 2014

Appendix Table (2) Conventional Households by Main Construction Material for the Roof

District	Total	Main Construction Material for the Roof					
		Dhani/Theke /In leaf	Bamboo	Wood	Corrugated sheet	Tile/Brick /Concrete	Other
East	486,790	28,944	677	1,010	441,880	32,254	1,607
West	190,782	3,830	79	481	195,914	37,294	585
South	339,205	140,102	578	341	422,298	1,705	565
North	566,167	109,125	1,398	824	441,880	11,034	1,906
Total	1,582,944	144,783	503,990	768	379,264	24,160	1,582,944

Source: Census, 2014

Appendix Table (3) Conventional Households by Main Construction Material for the External Wall

District	Total	Main Construction Material for the External Wall					
		Dhani/Theke /In leaf	Bamboo	Wood	Corrugated sheet	Tile/Brick /Concrete	Other
East	486,790	15,054	109,011	228	137,272	12,138	206,294
West	190,782	5,485	9,728	47	30,381	3,254	140,608
South	339,205	75,964	141,940	152	84,597	2,700	30,053
North	566,167	48,280	243,311	341	127,014	6,068	129,071
Total	1,582,944	144,783	503,990	768	379,264	24,160	1,582,944

Source: Census, 2014

Appendix Table (4) Conventional households by Main Construction Material for the Floors

District	Total	Main Construction Material for the Floors				
		Bamboo	Earth	Wood	Tile/Brick /Concrete	Other
East	486,790	33,593	2,047	245,879	199,117	6,154
West	190,782	3,822	413	56,091	128,010	2,446
South	339,205	97,716	1,486	209,498	27,880	2,625
North	566,167	111,366	4,180	311,766	131,718	7,137
Total	1,582,944	246,497	8,126	823,234	486,725	18,362

Source: Census, 2014

Appendix Table (5) Rank-wise Housing Quality Index in the Yangon Region and Union

Consolidated Housing Quality Index by Rank	Yangon Region	Union (Total)	Union (Urban)
Rank 1	37.1	10.9	32.3
Rank 2	29.5	20.6	41.4
Rank 3	19.8	42.3	21.0
Ranks 4 / 5	13.6	26.2	5.3
Total	100	100	100

Source: Thematic Report on Housing Conditions and Household Amenities (2017)

APPENDIX VI

Appendix Table (6) Industrial Zone in Yangon Region

No	District	Industrial Zone	Township	Establish	Land Plot	Land Area (Acres)	Manage By
1	East	South Okkalapa Industrial Zone	South Okkalapa Township	1999	132	35	South Okkalapa Industrial Zone Management Committee
2	East	North Okkalapa Industrial Zone	North Okkalapa Township	1999	175	109.789	North Okkalapa Industrial Zone Management Zone
3	East	East Dagon Industrial Zone (1) Extension A+B)	Dagon Myothit (East) Township	2001	332	666	East Dagon Industrial Zone Management Committee
4	East	East Dagon Industrial Zone (2) (Heavy+Noise/Smell)	Dagon Myothit (East) Township	2001	761		
5	East	Dagon Seikkan Industrial Zone (1)	Dagon Myothit (Siekkan) Township	1997	314	1208.695	Dagon Seikkan Industrial Zone (1,2) Management Committee
6	East	Dagon Seikkan Industrial Zone (2)	Dagon Myothit (Siekkan) Township	1997	190		
7	East	South Dagon Industrial Zone (1)	Dagon Myothit (South) Township	1992	694	475.374	No-1 South Dagon Industrial Zone Management Committee
8	East	South Dagon Industrial Zone (2)	Dagon Myothit (South) Township	1992	1878	214.53	No-2 South Dagon Industrial Zone Management Committee
9	East	South Dagon Industrial Zone (3)	Dagon Myothit (South) Township	1997	1549	53.316	No-3 South Dagon Industrial Zone Management Committee
10	East	North Dagon Industrial Zone	Dagon Myothit (North) Township	2000	175	25	YCDC+North Dagon Industrial Zone Management Committee
11	South	Tharkayta Industrial Zone	Tharkayta Township	1999	329	200	Tharkayta Industrial Zone Management Committee
12	South	Thilawa Special Economic Zone	Than Lyin Township	2001	181	6200	Myanmar Thilawa SEZ Holding Public Co., Ltd

Source: The report of Industrial Zone Development Committee to Yangon Regional Government (Data collected from 19.5.2016 to 6.6.2016)

Appendix Table (6) Industrial Zone in Yangon Region (Continue)

No	District	Industrial Zone	Location	Establish	Land Plot	Land Area (Acres)	Manage By
13	North	Mingalardone Industrial Park	Mingalardon Township	1998	41	220	Mingalardone Industrial Park Co.,Ltd
14	North	Pyin Ma Bin Industrial Zone	Mingalardon Township	-	39	560.06	Myanmar Economic Holdings Ltd
15	North	Yangon Industrial Zone	Mingalardon Township	2000	445	902.503	Zaykabar Co.,Ltd
16	North	Hlaing Tharyar Industrial Zone (1)	Hlaing Thar Yar Township	1995	225	1300	Hlaing Tharyar Industrial Zone (1), (2), (3), (4), (6), (7) Management Committee
17	North	Hlaing Tharyar Industrial Zone (2)	Hlaing Thar Yar Township	1995	298		
18	North	Hlaing Tharyar Industrial Zone (3)	Hlaing Thar Yar Township	1995	133		
19	North	Hlaing Tharyar Industrial Zone (4)	Hlaing Thar Yar Township	1995	199		
20	North	Hlaing Tharyar Industrial Zone (6)	Hlaing Thar Yar Township	2000	18	1087.98	
21	North	Hlaing Tharyar Industrial Zone (7)	Hlaing Thar Yar Township	2000	117		
22	North	Hlaing Tharyar Industrial Zone (5)	Hlaing Thar Yar Township	2000	526	222.933	
23	North	Mya Sein Yaung Industrial Zone	Hlaing Thar Yar Township	2002	82	331.28	Shwe Taung Real Estate Co., Ltd
24	North	Shwe Lin Ban Industrial Zone	Hlaing Thar Yar Township	2002	551	1,100	Shwe Lin Ban Industrial Zone Management Committee
25	North	Anaw Yahtar Industrial Zone	Hlaing Thar Yar Township	2002	209	952.46	Anaw Yahtar Industrial Zone Management Committee

Source: The report of Industrial Zone Development Committee to Yangon Regional Government (Data collected from 19.5.2016 to 6.6.2016)

Appendix Table (6) Industrial Zone in Yangon Region (Continue)

No	District	Industrial Zone	Location	Establish	Land Plot	Land Area (Acres)	Manage By
26	North	Livestock Zone	Hlaing Thar Yar Township	-	163		-
27	North	Ngwe Pin Le Industrial Zone	Hlaing Thar Yar Township	2003	81	204.23	Ngwe Pin Le Livestock breeding and Fisheries Co.,Ltd
28	North	Shwe Than Lwin Industrial Zone	Hlaing Thar Yar Township	2001	156	412.973	-
29	North	Shwe Pyi Thar Industrial Zone (1)	Shwe Pyi Thar Township	1990	404	336	Shwe Pyi Thar (1) Industrial Zone Management Committee
30	North	Shwe Pyi Thar Industrial Zone (2)	Shwe Pyi Thar Township	1992	132	204.512	Shwe Pyi Thar(2/3/4)Industrial Zone Management Committee
31	North	Shwe Pyi Thar Industrial Zone (3)	Shwe Pyi Thar Township	1992	173	394.504	Shwe Pyi Thar(2/3/4)Industrial Zone Management Committee
32	North	Shwe Pyi Thar Industrial Zone (4)	Shwe Pyi Thar Township	1992	157	388.312	Shwe Pyi Thar(2/3/4)Industrial Zone Management Committee
33	North	Thar Du Kan Industrial Zone	Shwe Pyi Thar Township	2001	165	509.646	-
34	North	Wartayar Industrial Zone	Shwe Pyi Thar Township	2004	424	1099.64	-
35	North	Wartayar Wood-base Industrial Zone	Shwe Pyi Thar Township	2004	14	-	-
36	North	Shwe Poukkan Industrial Zone	Shwe Pyi Thar Township	1991	690	94.64	Shwe Poukkan Industrial Zone Management Committee
37	North	Myaung Ta Kar Steel Founding Industrial Zone	Hmawbi Township	2006	508	682.6	Myaung Ta Kar Steel Founding Industrial Zone Management Committee

Source: The report of Industrial Zone Development Committee to Yangon Regional Government (Data collected from 19.5.2016 to 6.6.2016)