

Iao Hon Estate

Research Study



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Research Summary

Research Rationale and Objectives

The Face-to-Face Household Interviews in lao Hon Estate is a research study conducted by Root Planning Cooperative which was assigned by Macau Urban Renewal Limited (MUR) with the aim of collecting data for the urban renewal project of lao Hon Estate. The objectives of the study are as follows:

- Investigate the disposition, characteristics, information, current state and vacancy rate of the estate's residential and non-residential units;
- Learn about the views of the estate's residents on the urban renewal project;
- Learn about the distribution of the estate's property owners;
- Learn about the inclination of the estate's property owners and tenants towards compensation;
- Learn about the expectations, opinions and suggestions of the estate's residents on the redevelopment project;
- Collect contact details of respondents/property owners with their consent.

Survey area: lao Hon Estate

- Geographic location: Rua Oito do Bairro lao Hon to the north, Avenida da Longevidade to the east, Seng Yee House and Man Sau House to the south, and Estrada dos Cavaleiros to the west;
- Blocks and units: a total of 2,556 residential and non-residential units in seven blocks, including:
 - 448 units in Hong Tai House
 - 433 units in Kat Cheong House
 - 224 units in Son Lei House
 - 423 units in Heng Long House
 - 439 units in Mau Tan House
 - 221 units in Man Sau House
 - 368 units in Seng Yee House

Research Methods and Execution

The Face-to-Face Household Interviews in lao Hon Estate study adopts two primary research methods: household interviews and a survey of the flats' current condition. These were run in the form of a census and interviews over a period of 10 months. Namely, interviewers would investigate all registered residential and non-residential units (2,556 units in total) within the survey area by conducting an interview with each unit. For topics that are closely related to the study but not fully reflected in the interviews, the interviewers would take photos and make drawings on site for record and analysis purposes.

Research Background

lao Hon Estate, situated near the land reclaimed from the former Areia Preta typhoon shelter, is the first large-scale housing project in Areia Preta district. Back in the 1920s, the area where the estate is located was once a racecourse and later became agricultural land with wooden houses. In the early 1970s, lao Hon Property (Macau) Co. Ltd. purchased and developed the land into lao Hon Estate in phases. In the late 1970s, when the project was completed, the estate comprised 50 buildings (now 46 buildings) of six to seven storeys high. Among which, the four buildings of Man Sau House and the six buildings of Seng Yee House are in the south of the estate next to Edifício lao San and Edifício lao Tim, while the others, Heng Long House,

Mau Tan House, Hong Tai House, Kat Cheong House and Son Lei House, are eight-building complexes located in the centre and north of the estate. The estate had a total of 2,780 units, then in 2009, the SAR Government demolished buildings D, E, F and G of Son Lei House which comprised 224 units, therefore the estate now contains a total of 2,556 units.

Timeline:

- In 2004, the SAR Government proposed the concept of old district redevelopment and made Lao Hon Estate the focal point;
- In late 2005, the Old District Redevelopment Consultative Council was established;
- In 2006, the drafting of the bill 'Legal Framework for Old District Redevelopment' and the supplementary administrative regulations was commenced;
- In 2011, having been discussed by the Old District Redevelopment Consultative Council for some years, the laws and regulations of the 'Legal Framework for Old District Redevelopment' were submitted to the plenary meeting of the Legislative Assembly and were passed in their first reading. The bill was then passed to the Second Standing Committee of the Legislative Assembly for a second reading;
- In 2013, the SAR Government revoked the bill 'Legal Framework for Old District Redevelopment';
- In 2015, the SAR Government replaced the concept of old district redevelopment with urban renewal;
- In 2019, the Tax Incentives Scheme for Building Reconstruction and the 'Legal Framework for Provision of Temporary Housing and Home swap Housing' under the Urban Renewal Scheme passed the legislative procedures and came into force;
- In October 2019, the SAR Government conducted a public consultation on the 'Legal Framework for Urban Renewal';
- In May 2020, a summary report of the public consultation on the 'Legal Framework for Urban Renewal' was released.

Overview of Research Findings

■ Questionnaire responses

- From the 2,556 registered ownerships, a total of 1,886 completed questionnaires were received, accounting for 73.8% of the total registered units in the survey area;
- 23 unit users 'refused to answer halfway through', accounting for 0.9%;
- 299 unit users 'refused to answer', accounting for 11.7%;
- 207 units were found to have 'no one answering the door', accounting for 8.1%;
- 141 units were 'unoccupied', accounting for 5.5%.

■ Target respondents

Unit users or their representatives. Of the 2,556 units in the area:

- 731 were 'residential and non-residential units occupied by property owners' (including their representatives), representing 28.6%;
- 357 were 'residential and non-residential units occupied by local tenants', representing 14%;
- 803 were 'residential and non-residential units occupied by non-resident workers', representing 31.4%;
- 317 'refused to answer the questionnaires at the beginning or refused to answer halfway through', representing 12.4%;
- 348 were found to have 'no one answering the door and unoccupied', representing 13.6%.

■ Characteristics of owner-occupied residential units

Of the 647 residential unit owner-occupiers that were interviewed:

- 342 were 'aged above 60', accounting for 52.9%;
- 321 have 'lived in the unit for over 30 years', accounting for 49.6%;

- 321 were 'not in employment', accounting for 49.6%;
- 187 had a household income of '22,001 patacas or above', accounting for 28.9%.

■ Residential and non-residential usage of units

- The property registration records indicate that a total of 2,556 units currently exist in Lao Hon Estate, including 2,428 residential and 128 non-residential units (commercial or industrial units).
- According to the findings of the interviews and the survey of the flats' current condition, there were a significant number of cases where residential units were used for business activities. It is found in the survey that a total of 234 units were being used for commercial or non-residential purposes, including 106 residential units.

■ Population estimate

The research study does not aim to determine the population size of the survey area. Therefore, the current Lao Hon Estate population has been estimated in this report based on the data from the interviews coupled with past statistics and the actual condition of the units. Based on these factors, it is estimated that as of July 2020, there were around 12,014 residents within the survey area.

■ Nationality and distribution of non-resident workers

- Of the 1,886 units successfully interviewed in the survey area, 803 (42.5%) were occupied by non-resident workers;
- Of the non-resident workers, 658 units were occupied by those from the mainland (81.94%) and 78 from Vietnam (9.71%).

■ Property ownership issues

- Of the 647 residential unit owner-occupiers that were interviewed, 22 (3.4%) considered that there were ownership issues at their property, while 612 (94.6%) said that their units have no ownership issues. However, 468 respondents (72.3%) claimed to have sole ownership over the units, while 155 (24.0%) respondents claimed to have partial ownership only;
- Of the 84 non-residential unit owner-occupiers that were interviewed, only three (3.6%) considered that there were ownership issues at their property, while 69 (82.1%) said that their units have no ownership issues. However, 62 respondents (73.8%) claimed to have sole ownership over the units.

■ Opinions on the surroundings from owner-occupied residential units

Of the 647 residential unit owner-occupiers that were interviewed:

- 518 indicated 'shabby environment', accounting for 80%;
- 499 indicated 'bad environmental hygiene', accounting for 77%;
- 488 indicated 'waste everywhere', accounting for 75%;
- 463 indicated 'peeling of external walls', accounting for 72%.

■ Disrepair of the buildings

Of the 647 residential unit owner-occupiers that were interviewed,

- 314 (51.5%) indicated there is 'water seeping through ceiling or walls';
- 280 (45.9%) indicated there is 'water seepage in the kitchen or bathroom';
- 254 (41.6%) indicated there is 'peeling concrete and exposed rebars';
- 236 (38.7%) indicated there are 'cracks on the walls or pillars';
- 200 (32.8%) indicated there is 'water leakage around the windows';
- 72 (11.8%) indicated there is 'no significant disrepair or other problems' in their units.

■ Attitude of residential unit owner-occupiers towards redevelopment

The attitudes towards the redevelopment of the buildings of the 647 owner-occupiers that were interviewed are as follows:

- 455 responded with 'strongly support', representing 70.32%;
- 134 responded with 'support', representing 20.71%;
- 13 responded with 'not support', representing 2.01%;
- 4 responded with 'strongly not support', representing 0.62%;
- 31 responded with 'no comment', representing 4.79%;
- 4 responded with 'no idea', representing 0.62%;
- 6 responded with 'not answered', representing 0.93%

■ **Attitude of non-residential unit owner-occupiers towards redevelopment**

The attitudes towards the redevelopment of the buildings of the 84 owner-occupiers that were interviewed are as follows:

- 49 responded with 'strongly support', representing 58.3%;
- 17 responded with 'support', representing 20.2%;
- 1 responded with 'not support', representing 1.2%;
- 1 responded with 'strongly not support', representing 1.2%;
- 8 responded with 'no opinion', representing 9.5%;
- 3 responded with 'no idea', representing 3.6%;
- 5 responded with 'not answered', representing 6%

■ **Forms of compensation favoured by residential unit owner-occupiers**

When asking the 647 residential unit owner-occupiers that were interviewed for their opinions on preferred forms of compensation, the interviewers refrained from proactively providing them with a choice of options, but let them propose one or more forms of compensation that they consider acceptable.

- A majority of 426 respondents proposed 'flat for flat' (existing property that can be viewed in advance and is not public housing property), accounting for 65.8%;
- 244 proposed 'flat for flat' (not for public housing property), accounting for 37.7%;
- 209 proposed 'returning to their original property after redevelopment', accounting for 32.3%;
- 185 proposed 'home swap housing' (existing property that can be viewed in advance), accounting for 28.6%;
- 17 proposed 'property acquisition in cash', accounting for 2.6%.

■ **Forms of compensation favoured by non-residential unit owner-occupiers**

When asking the 84 non-residential unit owner-occupiers that were interviewed for their opinions on preferred forms of compensation, the interviewers refrained from proactively providing them with a choice of options, but let them propose one or more forms of compensation that they consider acceptable.

- A majority of 46 respondents proposed 'shop for shop', accounting for 54.8%;
- 34 proposed 'returning to the original shop after redevelopment', accounting for 40.5%;
- 19 proposed 'relocation subsidy', accounting for 22.6%;
- 17 proposed 'renovation subsidy', accounting for 20.2%;
- 9 proposed 'property acquisition in cash', accounting for 10.7%.

■ **Willingness of residential and non-residential unit owner-occupiers to bear the redevelopment expenses**

Of the 647 residential unit owner-occupiers that responded, their willingness to bear the redevelopment expenses is as follows:

- 357 (55.2%) responded 'unwilling to pay';
- 158 (24.4%) responded 'willing to partially pay';
- 81 (12.5%) responded 'willing to pay'.

In regard to non-residential unit owner-occupiers' willingness to bear the redevelopment expenses, the respondents mainly considered whether or not the redevelopment would be beneficial to their business, and some gave indefinite answers to this question.

■ Preferred districts for relocation

When asked about their preferred location of possible home swap housing provided by the SAR Government, many residential unit owner-occupiers showed a preference for the northern district of the Macau peninsula; 568 (87.8%) of the 647 residential unit respondents hope to live in the northern district after the redevelopment.

■ Parties consulted by residential unit owner-occupiers for advice on relocation compensation

When considering whether to accept relocation and demolition compensation, the 647 owner-occupiers that were interviewed would seek advice from the following parties:

- 270 (41.7%) would 'decide by themselves';
- 197 (30.4%) would consult 'SAR Government entities';
- 147 (22.7%) would consult 'relatives';
- 131 (20.2%) would consult 'social workers'.

Topics

■ **The number of residents per unit is higher than average**

From the findings of the present study, it is estimated that there were around 12,014 residents living in the survey area and there were 2,316 units used for residential purposes. After factoring in Macau's average vacancy rate of 7.3% and deducting accordingly, around 2,147 residential units were occupied within the survey area, suggesting that there was an average of 5.3 people living in each unit, which is much higher than the average number of about three residents per unit in Macau. The data also shows that about 30% of the units in Lao Hon Estate were rented to non-resident workers as staff accommodation, many of which were occupied by seven or more people per unit.

If the Lao Hon Estate redevelopment project is going to be executed, its possible impact on the neighbouring areas should also be taken into consideration. For example, during the redevelopment, the decrease of available residential units in the area may affect the rental rates of apartments in the district. In addition, it was discovered during the study that a considerable number of non-resident workers live in Lao Hon Estate by renting bed spaces, and that upon the commencement of the project there may be insufficient 'bed spaces' for them in the area.

■ **Most owners interviewed support the redevelopment; some hold a 'wait and see' attitude**

Although the study shows that most of the owner-occupiers of residential units (91.03%) and non-residential units (78.5%) that were interviewed support the redevelopment project, as indicated in their 'support' and 'strongly support' responses to the questionnaire, it is worth noting that the number of units corresponding to these owner-occupiers only accounts for 28.6% of the registered properties in Lao Hon Estate. A more reasonable explanation is that the disrepair, unfavourable environment hygiene and public order have directly affected the owner-occupiers' life and business, which contributes to a greater desire for the redevelopment of the estate. However, given such an unfavourable environment, 8.97% and 21.5% of residential and non-residential unit owner-occupiers respectively did not show explicit support for the project.

■ **Attention should be paid to property ownership issues**

Of the interviewed residential unit owner-occupiers, 3.4% responded that there were ownership issues at their property while 94.6% (612 respondents) said that their units have no ownership issues; however, only 72.3% (468 respondents) claimed to have sole ownership over their property. Of the non-residential unit owner-occupiers that were interviewed, 3.6% responded that there were ownership issues at their property; and a higher proportion of people with sole ownership can be seen in this group, accounting for 73.8%. Respondents' legal awareness, family status and inheritance distribution are some of the aspects involved in their property ownership issues. The respondents might not comprehensively and correctly recognise the status and problems of their property ownership, which are subject to the change of family situation and may change during the implementation of the project, adding uncertainties to the redevelopment.

■ Respondents hold different attitudes towards compensation plans

According to the research findings, it can be seen that in-kind compensation is more preferable among the respondents; 65.8% proposed 'flat for flat' (existing property that can be viewed in advance and is not public housing property), 32.3% proposed 'returning to their original property after redevelopment', 28.6% proposed 'home swap housing', while the respondents generally showed little interest in 'property acquisition in cash' with only 2.6% proposing this idea. Among the various proposed forms of in-kind compensation, the respondents showed a preference for 'existing property' that can be viewed in advance. Comparatively, they have shown a much greater interest in the idea of 'flat for flat' than 'return to their original property after redevelopment'. For the interviewed owner-occupiers of non-residential units, they have a greater desire to return to their original shop; a majority proposed 'shop for shop' (54.8%), followed by 'returning to the original shop after redevelopment' (40.5%).

■ Respondents express concerns about the disrepair of the buildings

The disrepair of Lao Hon Estate concerns the respondents; 51.5% of the residential unit owner-occupiers (314 units) indicated 'water seeping through the ceiling or walls', 45.9% (280 units) indicated 'water seepage in the kitchen or bathroom', 41.6% (254 units) indicated the 'peeling of concrete and exposed rebars in the walls', 38.7% (236 units) indicated 'cracks on walls or pillars', 32.8% (200 units) indicated 'water leakage around the windows', and only 11.8% (72 units) considered 'no significant disrepair or other problems' in their units. In other words, 88.2% of the respondents (538 units) had seen rather apparent and severe damage in their units. Although the study only asked residential unit owner-occupiers about the disrepair of the buildings, it is noteworthy that they should have taken greater care of their properties, which suggests that the disrepair of the entire Lao Hon Estate might be worse than it is shown in the abovementioned data.

■ Residential units are used for business activities

According to the findings, it was commonly seen that the residential units on the ground floor of Lao Hon Estate have been used for business activities. From the interviews and survey of the flats' current condition, a total of 106 residential units have been used for business activities or non-residential purposes. The survey findings show that the change of usage has not interrupted people's daily lives but actually offers them more convenience. In the long term, it will be one of the focal points in the redevelopment project.

Recommendations

■ **Continuously follow up on the community conditions**

In the survey area lives a complex and densely-populated community with an estimated population of 12,014, including disadvantaged groups, such as grassroot residents and non-resident workers, and a significant floating population. The area is also interwoven with marginalised sectors, informal stores and rooftop flats.

However, generally the owner-occupiers are older in age; they may not have a clear understanding of the SAR Government's policies and social changes, and it may take some time for them to grasp new ideas. Most of the residential unit owner-occupiers have long been living in Lao Hon Estate, with around half of them living there for over 30 years, and have enjoyed a close relationship with neighbours. When the redevelopment approaches in the future, good relations with these residents must be established and other issues must be examined and understood through long-term communication and observation. Therefore, it is recommended that Macau Urban Renewal Limited (MUR) establish a field centre at Lao Hon Estate, which will facilitate the follow-up of the community conditions over a long period of time and allow residents to easily obtain relevant information about the urban renewal project and get answers to their questions.

■ **Need for clearer policies and laws for redevelopment to advance**

The findings show that 91.03% of the owner-occupiers of residential units and 78.5% of those of non-residential units supported redevelopment. However, owners of non self-occupied properties and units with indefinite ownership will also be included in the calculation of the percentage of ownership interest, which will make the future execution of the urban renewal project more complicated. Clearer policies and laws are essential for boosting the support for redevelopment; otherwise, residents may not be reassured enough to support the project when their major concerns, such as compensation plans, protection of their rights and redevelopment schedule, are not clearly addressed.

■ **Provide legal assistance for property owners**

The residential unit owner-occupiers of residential units are older in age, and the number of units with ownership issues may keep increasing if these owner-occupiers pass away before the completion of the project. It is therefore suggested that legal assistance be provided to property owners (especially the elder ones), such as lectures on ownership inheritance, and support in handling inheritance after their death and resolving current ownership issues.

■ **Provide a variety of compensation plans that meet residents' needs**

The findings reveal that the owner-occupiers of residential units have a clear attitude towards compensation and over 60% of them are in favour of the 'existing property' option. Only around 30% suggested returning to their original property after redevelopment. The lower percentage may be attributable to the larger number of old-age residents, and 'return after redevelopment', which means to move to temporary housing units for several years before returning to their rebuilt home, is unlikely to be an attractive option for these residents who prefer a stable and comfortable life. It is recommended that more consideration be given to home swap housing in the compensation plans for redeveloping residential units. For instance, a certain number of home swap housing units can be built in the northern district of the Macau peninsula, so that the residents can choose an 'existing property that can be viewed in advance'. This is 'home swap in adjacent districts', and is a more reassuring option for the residents.

■ **Understand current status and usage of the units to devise compensation plans**

For a certain period of time in the future, MUR should keep track of the status of residential and non-residential units in Lao Hon Estate, especially residential units that are owner-occupied, and residential units used for commercial or non-residential purposes. Different compensation plans should be devised based on the condition of these units. For example, only owner-occupiers have the priority to choose 'return after redevelopment' or 'home swap in adjacent districts'. In fact, different plans are offered to these two groups of occupiers in the Hong Kong Government's compensation policies for redevelopment projects, which can be taken as reference. Reducing the number of residents returning after redevelopment can help alleviate the population density of the district in the long run, and give greater flexibility to the usage of the land.

■ **Continue monitoring the buildings' structure**

The Lao Hon Estate buildings are in a poor condition. Urban renewal laws and policies have yet to be formulated, and it is foreseeable that there is still some time before the redevelopment project is commenced.

The research team recommends:

- Conducting structural inspections of Lao Hon Estate and undertaking structural reinforcement wherever necessary;
- Continuously monitoring the condition of the buildings to prevent major accidents;
- Giving higher redevelopment priority to the buildings in poorer condition.

■ **Factors to consider in determining the order of the estate's redevelopment**

A number of factors need to be considered in determining the order of the estate's redevelopment, and six prioritised factors are listed in this report:

- Fewer registered flats;
- Worse structural condition;
- Higher level of support for redevelopment;
- Fewer residential units used for commercial or non-residential purposes, and fewer rooftop flats;
- Greater convenience in construction;
- Higher ratio of residential units.

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I. Research Rationale

The Face-to-Face Household Interviews in Lao Hon Estate is a research study conducted by Root Planning Cooperative which was assigned by Macau Urban Renewal Limited (MUR) with the aim of collecting data for the urban renewal project of Lao Hon Estate. The objectives of the study are as follows:

- Investigate the disposition, characteristics, information, current state and vacancy rate of the estate's residential and non-residential units;
- Learn about the views of the estate's residents on the urban renewal project;
- Learn about the distribution of the estate's property owners;
- Learn about the inclination of the estate's property owners and tenants towards compensation;
- Learn about the expectations, opinions and suggestions of the estate's residents on the redevelopment project;
- Collect contact details of respondents/property owners with their consent.

The survey area is Lao Hon Estate, with Rua Oito do Bairro Lao Hon to the north, Avenida da Longevidade to the east, Seng Yee House and Man Sau House to the south, and Estrada dos Cavaleiros to the west. The estate has a total of 2,556 residential and non-residential units in seven blocks, including 448 units in Hong Tai House, 433 units in Kat Cheong House, 224 units in Son Lei House, 423 units in Heng Long House, 439 units in Mau Tan House, 221 units in Man Sau House and 368 units in Seng Yee House.

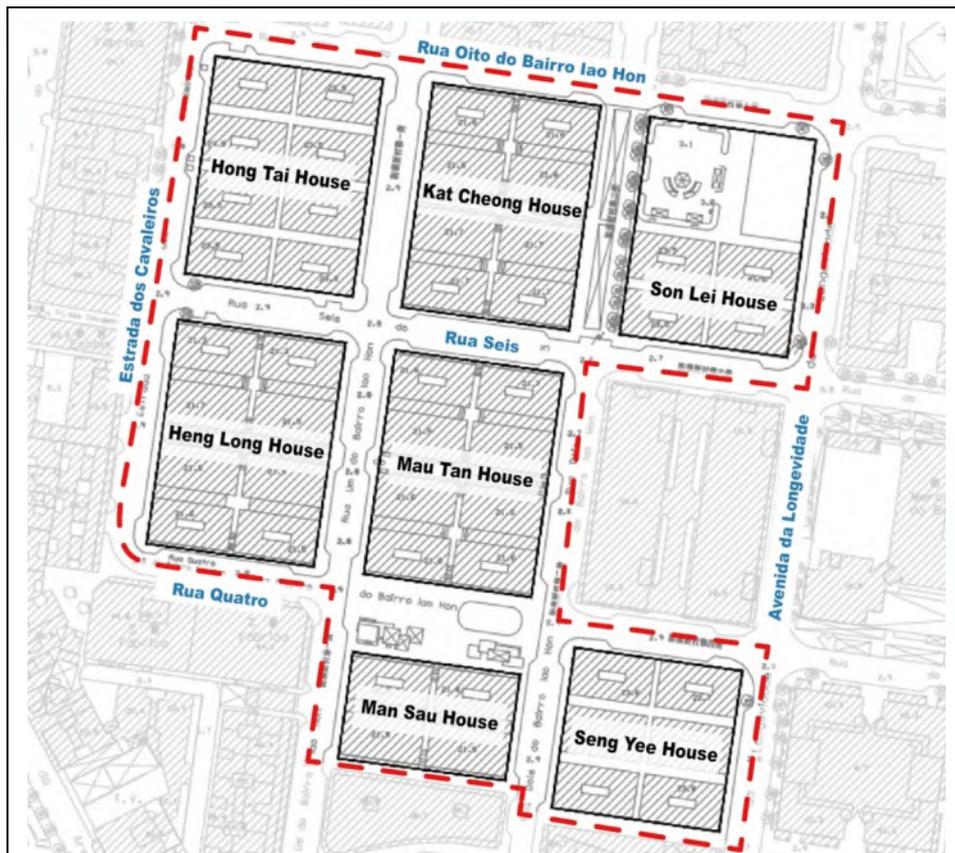


Figure 1 Survey Area

II. Research Methods and Execution

2-1 Tasks Involved

The following tasks were involved in the research study:

- Formulating, testing, encoding and printing questionnaires;
- Designing and producing tags and blue vests for interviewers;
- Data research for interviews (2,556 households);
- Distributing interview notification letters, brochures and souvenirs;
- Taking photos to record the survey area (with file names indicating the location, date and time), including but not limited to public places, corridors, staircases, entrance gates, façades of the buildings and flat exteriors; flat interiors should also be photographed when consent is given by the respondent;
- Data consolidation and statistical analysis for the compilation of this report.

2-2 Research Methods

■ Household interviews

The research study was mainly conducted in the form of quantitative research through interviews, in which the interviewers would investigate all registered residential and non-residential units (2,556 units in total) within the survey area by conducting an interview with each unit.

■ Survey of the flats' current condition

The survey served as an auxiliary research method in the research study. For topics that are closely related to the study but not fully reflected in the interviews, interviewers would take photos and make drawings on site for record and analysis purposes.

2-3 Execution Process

Interviewers first delivered a notification letter and brochure into the letterbox of each unit before starting the household interviews, and a total of 12 interviewers conducted the interviews in groups of two or three.

The interviews were conducted from June to August 2020 in the following sequence: Son Lei House, Seng Yee House, Man Sau House, Mau Tan House, Heng Long House, Kat Cheong House, and Hong Tai House.

III. Research Background

3-1 Community Background

Iao Hon Estate, situated near the land reclaimed from the former Areia Preta typhoon shelter, is the first large-scale housing project in Areia Preta district. Back in the 1920s, the area where the estate is located was once a racecourse and later became agricultural land with wooden houses. In the early 1970s, Iao Hon Property (Macau) Co. Ltd. purchased and developed the land into Iao Hon Estate in phases.

Following the recession between 1967-1968, the real estate industry in Macau entered its recovery period in 1969. The then Portuguese administration of Macau were requested and agreed to lend 2 million patacas to support the industry's recovery, after which some businesspeople started to build low-cost flats. Iao Hon Estate was erected between 1970 and 1972 when the property market was moving upward.¹

Iao Hon Estate is the first complex in Macau built using the precast component method, which allowed the fast construction of numerous units with lower costs. The sale price was around HK\$20,000 each for most of the units, with some sold as low as HK\$15,000². The units, which could be purchased in instalments, were highly sought after and even attracted queues of buyers. Iao Hon Estate was popular not only among Macau residents but also people from Hong Kong, who bought the units as their holiday homes or to lease them.

In the late 1970s, when the project was completed, the estate comprised 50 buildings that were all six to seven storeys high. Among which, the four buildings of Man Sau House and the six buildings of Seng Yee House are in the south of the estate next to Edifício Iao San and Edifício Iao Tim, while the others, Heng Long House, Mau Tan House, Hong Tai House, Kat Cheong House and Son Lei House, are eight-building complexes located in the centre and north of the estate. A total of 2,780 units were eventually built.

The Iao Hon Estate project was planned on the basis of rectangular street blocks, all spanning the same width of around 53.5 metres. Man Sau House and Seng Yee House, which consist of fewer buildings, were built in blocks of a shorter length, while Heng Long House and Mau Tan House were designed as blocks of 71.8 metres long, and Hong Tai House, Kat Cheong House, and Son Lei House blocks of 70 metres long. All of the buildings were standardised with the rectangular layout of the same size, which measures 25.8 metres long and 15 metres wide, enabling construction with precast components to save on time and expenses.

According to a *Vakio Daily* news report from 24 August 1977, the government had not named the streets around Iao Hon Estate or installed building number plates onto the buildings until the completion of the project, and the road east of the estate, now known as Avenida da Longevidade, was not fully constructed back then. Until the 1980s, there had only been wooden houses to the north of Rua Oito do Bairro Iao Hon, and stretches of agricultural land with wooden houses to the east of Avenida da Longevidade. Centro Comercial Vong Kam was erected in the mid-1980s; to the west and south of the estate were a number of industrial and residential buildings.

¹ Wu Zhiliang and Ieong Wan Chong, eds. *Encyclopaedia of Macau*, Macau: Macao Foundation, 2005, pp. 259

² Tang Si, *Stories of Old Macau Vol. 3*, Macau: Macao Foundation, 2004, pp. 40-41

In regard to urban street planning, four streets run from south to north through the estate, listed in order from west to east, they are: Estrada dos Cavaleiros, Rua Um do Bairro lao Hon, Rua Dois do Bairro lao Hon and Avenida da Longevidade. Between each group of the buildings is a 1.8-metre-wide alley running in the north-south direction. Five streets run from the east-west direction, listed in order from south to north, they are: Rua Quatro, Rua Cinco, Rua Seis, Rua Sete and Rua Oito do Bairro lao Hon, with Rua Quatro, Rua Seis and Rua Oito serving as main streets, and Rua Cinco and Rua Sete as alleys between the buildings. The building complexes of the estate were erected along the streets, except for Man Sau House, which has a unique structure that only consists of four buildings and has a small square located to the south of Rua Quatro do Bairro lao Hon. The small square, which was adorned with a set of fountains in the early days, is the leisure space of the estate.

The exteriors of lao Hon Estate buildings were designed with a simple cuboid shape, as a result of the functionality-oriented influence of modernistic houses. The buildings have a primary façade that faces the street in the north-south direction and features a painted wall, vertical and horizontal windows. Constructed with precast components, the repetition of architectural elements forms a visual rhythm. The side facing the street in the east-west direction is the secondary façade of the buildings, with only windows and window openings for staircases on the white walls. The exterior wall of Hong Tai House is decorated with mosaic tiles, and that of all other buildings is simply finished with plaster and paint.

lao Hon Estate buildings feature different interior layouts despite the standardised exterior. Those with a long and narrow atrium have staircases that lead directly to the streets and alleys, and each staircase is shared between four units per floor. As for those without an atrium, the staircases are installed on their east and west sides and connected by corridors in the middle of each floor, and the units are situated along the corridors. The units have a layout of one living room and one bedroom, or one living room and two bedrooms. Overall, the buildings have different interior structures based on their different designs, although the exteriors are all the same.

Initially, street stores were opened on the ground floor of only Kat Cheong House, Mau Tan House, Man Sau House and part of Seng Yee House. As the district developed commercially, however, most ground-floor residential units of the other complexes were used for business activities, with staircases providing access to the streets, which has resulted in the phenomenon of 'residential units used for commercial or non-residential purposes' and will be explained further in subsequent sections. As for the roofing, Hong Tai House is the only complex in lao Hon Estate with staircases that allow access to the rooftop, where many rooftop flats have emerged; in the other complexes, which do not have staircases directly leading to the rooftop, relatively few rooftop flats can be found.

3-2 Policy Background

The ageing of buildings in Macau's old districts has become severe. A total of around 4,800 buildings, equivalent to two-thirds of buildings in the city, are over 30 years old, 1,700 of which are faced with structural ageing issues. The issue of unattended old buildings is becoming increasingly apparent and has become a pitfall of urban safety.

3-2-1 Old district redevelopment proposed by the government in 2004

To address this issue, the SAR Government proposed a redevelopment of the old district in 2004 and established the Old District Redevelopment Consultative Council to advance the redevelopment progress. The committee was responsible for collecting, consolidating and evaluating opinions from all sectors of society regarding the various issues associated with the redevelopment, and raising suggestions for the government and relevant bodies to consider. In 2006, the drafting of the bill 'Legal Framework for Old District Redevelopment' and the supplementary administrative regulations was commenced. In 2011, the legal framework was submitted to the plenary meeting of the Legislative Assembly and was passed in their first reading; the bill was then passed to the Second Standing Committee of the Legislative Assembly for a second reading, but was revoked by the government in 2013.

3-2-2 Urban renewal proposed by the government in 2015

It was clearly stated in the 2015-2016 policy addresses of the SAR Government that 'old district redevelopment will be advanced with the concept of urban renewal.'³ In 2016, the Urban Renewal Committee was established and the concept of old district redevelopment was replaced with urban renewal by the government, in the hope of progressively improving the environment in the districts.

As stipulated in the Urban Renewal Committee's administrative regulation no. 5/2016, the committee is an advisory organ that assists the SAR Government in formulating urban renewal policies and is responsible for the entire scope of affairs relevant to urban renewal, such as the strategy of urban renewal policies; coordination with policies of other areas; urban renewal activities; effect of urban renewal measures and initiatives; and raising opinions, conducting research, devising plans and giving suggestions for the draft of urban renewal laws and regulations.

3-2-3 Macau Urban Renewal Limited founded in 2019

After three years of consultation and referencing the Urban Renewal Authority of Hong Kong, MUR was founded to officially begin work. MUR started with an initial capital of 100 million patacas, with the shares purchased in cash by the Macau SAR Government, Industrial and Commercial Development Fund, and Science and Technology Development Fund. MUR serves to coordinate and promote all activities relevant to urban renewal, including the construction of home swap housing and temporary housing units, with the aim of gradually advancing the urban renewal progress.

³ Policy Research and Regional Development Bureau, "Five-Year Development Plan: New Thinking in Urban Evolution from 'Old District Redevelopment' to 'Urban Renewal'", Macao: Government Information Bureau, 2016, <https://www.gcs.gov.mo/showNews.php?PageLang=C&DataUcn=99127>

3-2-4 Redevelopment and renewal of Iao Hon district

For the redevelopment of Iao Hon district, the Old District Redevelopment Consultative Council commissioned Macao Polytechnic Institute (IPM) to conduct the Survey of Living Conditions of Iao Hon Residents in 2007. A total of 1,603 residential unit users and 237 industrial and commercial unit users (including warehouse users; the same applies below) answered the survey, which represented a response rate of 81% (excluding unoccupied units).

The SAR Government's data from that year indicates that of the 2,557 units of Iao Hon Estate (excluding the 224 social housing units of Son Lei House), 2,429 were residential units and 128 were industrial and commercial units, whereas the IPM research team found during the survey that 176 of the 2,429 residential units had been converted to other uses. In other words, 2,253 residential units and 304 industrial and commercial units essentially existed in the neighbourhood at that time.

Of the aforementioned 2,253 residential units, 1,603 units completed the survey (which accounted for 71.15% of the total, or 80.27% of the total if unoccupied units are excluded), 256 units were unoccupied (11.36%), 358 units were unable to be contacted by the MPI team (15.89%), and 36 units refused to take the survey (1.6%).

Of the aforementioned 304 industrial and commercial units, 237 units completed the survey (which accounted for 77.97% of the total, or 82.29% of the total if unoccupied units are excluded), 16 units were unoccupied (5.26%), 35 units were unable to be contacted by the IPM team (11.51%), and 16 units refused to take the survey (5.26%).

The SAR Government demolished buildings E and G of Son Lei House in March 2009, and erected the 'Old District Redevelopment Consultative Council Temporary Office in Iao Hon District' at the same location in July 2009 to listen to the residents' opinions and appeals, thereby facilitating the community work in the course of old district redevelopment. Later, buildings D and F of Son Lei House were also demolished and converted into a sitting-out area in the second phase.

To promote urban renewal in Iao Hon district, a series of face-to-face household interviews were conducted in Iao Hon Estate from June to August 2020. Through the questionnaires, the research team collected the property owners' and occupiers' views and suggestions on redeveloping the old district, which will serve as the data basis for the urban renewal project.

IV. Overview of Research Findings

4-1 Questionnaire Responses

From the 2,556 units with registered property ownership, a total of 1,886 completed questionnaires were received, accounting for 73.8% of the total registered units in the survey area. A total of 23 unit users (0.9%) 'refused to answer halfway through', 299 unit users (11.7%) 'refused to answer' and 207 units (8.1%) were found to have 'no one answering the door', and 141 units (5.5%) were unoccupied.

Table 1 Questionnaire completion status

	Count	Percentage
Completed	1,886	73.8%
User refused to answer halfway through	23	0.9%
User refused to answer	299	11.7%
Door not answered	207	8.1%
Unit unoccupied	141	5.5%
Total	2,556	100.0%

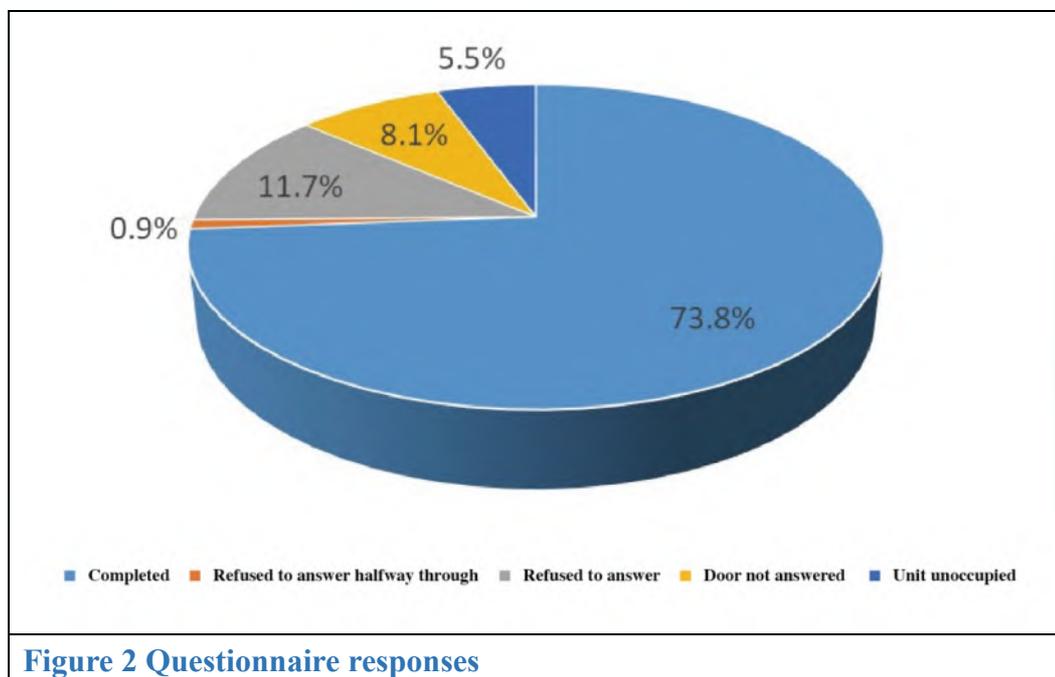


Figure 2 Questionnaire responses

4-2 Target Respondents

4-2-1 Target respondents

Target respondents of the research study include unit users or their representatives. A total of 731 (28.6%) were residential and non-residential units occupied by 'property owners' (including their representatives, and the same applies below); 357 (14%) were residential and non-residential units occupied by 'local tenants'; 803 (31.4%) by 'non-resident workers'. Users of 317 units (12.4%) 'refused to answer the questionnaires at the beginning or halfway through'⁴, and a total of 348 units (13.6%) were found to have 'no one answering the door' and 'unoccupied'.

Table 2 Identity of target respondents

	Residential purposes	Commercial/non-residential purposes	Sub-total	Percentage
Property owners or their representatives	647	84	731	28.6%
Local tenants	294	63	357	14.0%
Non-resident workers	803	0	803	31.4%
User refused to answer at the beginning/halfway through	260	57	317	12.4%
Door not answered	184	23	207	8.1%
Unit unoccupied	134	7	141	5.5%
Total	2,322	234	2,556	100.0%

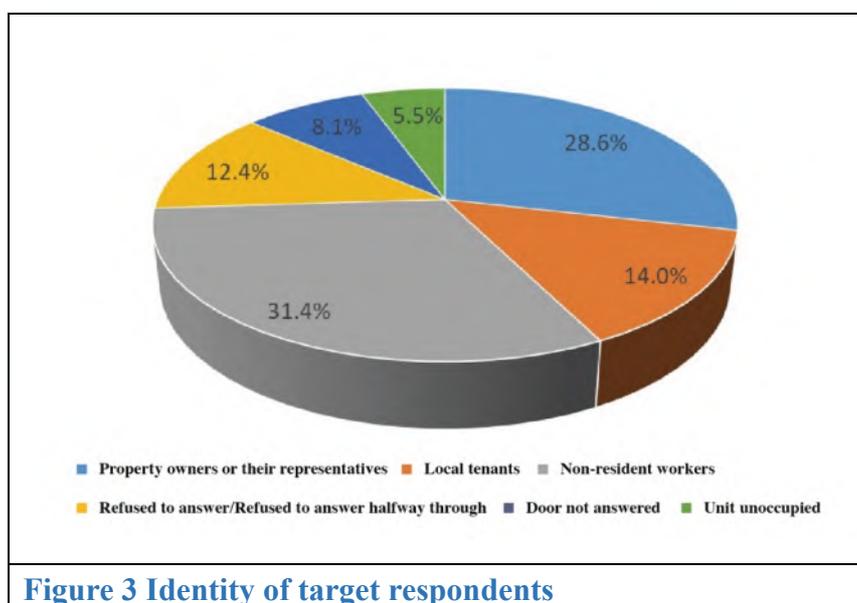


Figure 3 Identity of target respondents

⁴Different figures are presented in 'user refused to answer at the beginning/ halfway through' of this section from those in 'user refused to answer halfway through' and 'user refused to answer' in section 4-1. Differences arise because, before refusing to answer the questionnaire, some of the respondents mentioned to interviewers their relation with the property they were occupying, which is deemed to have answered the question.

4-2-2 Residential unit owner-occupiers

Of the 647 residential unit owner-occupiers that answered the questionnaire, 342 respondents (52.9%) were aged above 60; 321 respondents (49.6%) had lived in their own flats for over 30 years; 321 respondents (49.6%) were not in employment, while 84 (26.6%) of the 316 working respondents were gaming employees. On the other hand, 187 (28.9%) of the 647 units occupied by property owners reported a household income of 22,001 patacas or above.

Table 3 Age of residential unit owner-occupiers

	Count	Percentage
Below 20 years old	3	0.46%
21 - 30 years old	38	5.87%
31 - 40 years old	57	8.81%
41 - 50 years old	62	9.58%
51 - 60 years old	131	20.25%
61 - 70 years old	236	36.48%
71 years old or above	106	16.38%
Not answered	14	2.17%
Total	647	100.0%

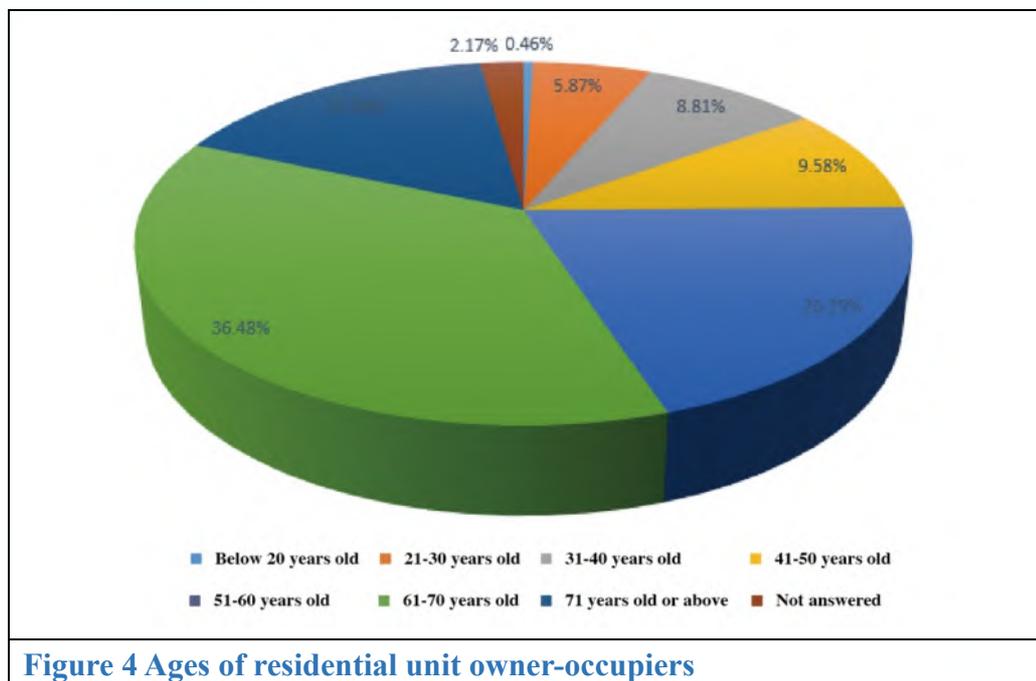


Table 4 Residential unit owner-occupiers' duration living in the unit

	Count	Percentage
3 years or below	23	3.6%
3.1 - 5 years	20	3.1%
5.1 - 7 years	15	2.3%
7.1 - 10 years	21	3.2%
10.1 - 15 years	29	4.5%
15.1 - 20 years	64	9.9%
20.1 - 25 years	65	10.0%
25.1 - 30 years	70	10.8%
30 years or above	321	49.6%
No idea	7	1.1%
Not answered	12	1.9%
Total	647	100.0%

Table 5 Employment status of residential unit owner-occupiers

	Count	Percentage
Employed	316	48.9%
Not in employment	321	49.6%
Not answered	10	1.5%
Total	647	100.0%

Table 6 Occupation of residential unit owner-occupiers

	Count	Percentage
Gaming employee	84	26.6%
Worker	81	25.6%
Others	73	23.1%
Clerk	30	9.5%
Professional	22	7.0%
Civil servant	10	3.2%
Businesspeople	9	2.8%
Not answered	7	2.2%
Total	316	100.0%

Table 7 Household income of residential unit owner-occupiers (patacas)

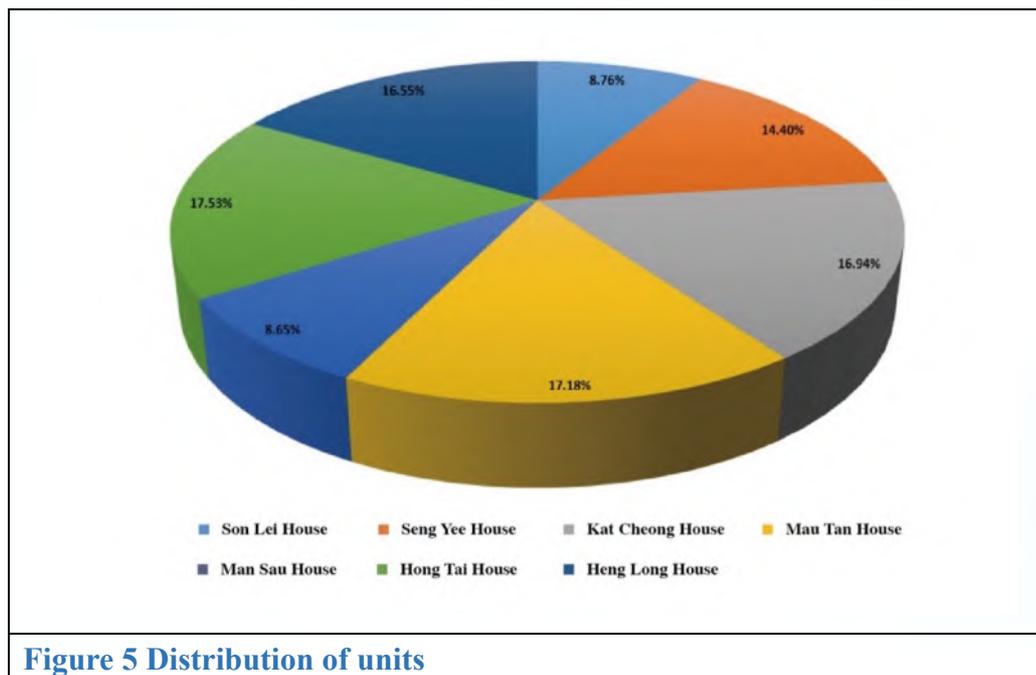
	Count	Percentage
No income	40	6.2%
Below 5,000	72	11.1%
5,001 - 7,000	32	4.9%
7,001 - 8,000	17	2.6%
8,001 - 10,000	42	6.5%
10,001 - 12,000	34	5.3%
12,001 - 14,000	26	4.0%
14,001 - 16,000	35	5.4%
16,001 - 18,000	27	4.2%
18,001 - 20,000	24	3.7%
20,001 - 22,000	38	5.9%
22,001 or above	187	28.9%
Not answered	73	11.3%
Total	647	100.0%

4-2-3 Distribution of units

The survey area has a total of 2,556 registered units, including 2,428 for residential and 128 for non-residential uses. Non-residential units are registered as commercial and industrial units, among other names, and a large majority of the units are currently being used for business purposes.

Table 8 Distribution and registered usage of units

Block	Number of registered units	Percentage
Son Lei House	224	8.76%
Seng Yee House	368	14.40%
Kat Cheong House	433	16.94%
Mau Tan House	439	17.18%
Man Sau House	221	8.65%
Hong Tai House	448	17.53%
Heng Long House	423	16.55%
Total	2,556	100.0%



4-2-4 Residential and non-residential usage of units

The property registration records indicate that a total of 2,556 units currently exist in Lao Hon Estate, including 2,428 units for 'residential purposes' and 128 non-residential units. According to the findings of the interviews and the survey of the flats' current condition, there were a significant number of cases where residential units were used for business activities. It is found in the survey that a total of 234 units were being used for 'commercial or non-residential purposes', including 106 residential units.

There were 112 residential units in Lao Hon Estate used for commercial or non-residential purposes in 2007 according to statistics of the same year released by the Old District Redevelopment Consultative Council, which is close to the figure in this research study.

Table 9 Current usage of units

	Number of units	Percentage
Residential purposes	2,322	90.8%
Commercial/non-residential purposes	234	9.2%
Total	2,556	100.0%

Table 10 Current status of commercial / non-residential units

	Number of units	Percentage
Registered for non-residential usage (industrial, commercial and other purposes)	128	54.70%
Residential units used for commercial or non-residential purposes (ground floor)	92	39.32%
Residential units used for commercial or non-residential purposes (second floor and above)	14	5.98%
Total	234	100.0%

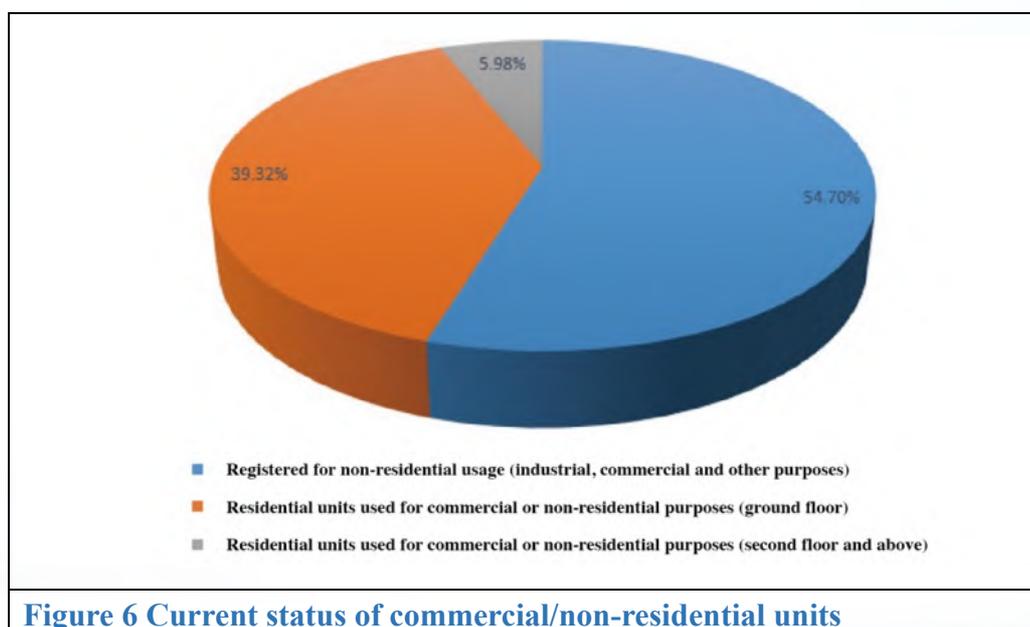


Figure 6 Current status of commercial/non-residential units

4-2-5 Living population and population estimate

The research study does not aim to determine the population size of the survey area. Therefore, the current Lao Hon Estate population has been estimated in this report based on the data from the interviews coupled with past statistics and the actual condition of the units. Based on these factors, it is estimated that as of July 2020, there were around 12,014 residents within the survey area. It is worth noting that of the 1,444 responding units, most residents responded '7 people or above', totalling 340 (23.5%), whereas three-person units, which are the most common in Macau, only represent 12.0%, and two-person and four-person units account for 13.9% and 15.0% respectively.

Table 11 Number of occupants in responding units

	Count	Percentage
1 person	75	5.2%
2 people	200	13.9%
3 people	173	12.0%
4 people	217	15.0%
5 people	170	11.8%
6 people	225	15.6%
7 people or above	340	23.5%
No idea	18	1.2%
Not answered	22	1.5%
Others	4	0.3%
Total	1,444	100.0%

The population estimate is based on the data collected from the interviews. Most of the units with seven people or above are currently occupied by non-resident workers, and these units are generally more crowded. The calculation is based on the average of 10 occupants per unit during the research period and takes into account the vacancy rate of 7.3%, which is the same as the overall figure in Macau in 2019; when the number of unoccupied units confirmed and inferred is deducted and the units that refused to answer and with no one answering the door are included, it is estimated that about 12,014 people are living in Lao Hon Estate based on the average number of occupants of the responding units listed above.

Table 12 Population estimate in the survey area

	2011 (Census)	2020 (Estimate)
Total	7,461	12,014

4-2-6 Nationality and distribution of non-resident workers

Of the 1,886 units successfully interviewed in the survey area, 803 (42.5%) were occupied by non-resident workers; of the non-resident workers, 658 units were occupied by those from the mainland (81.94%) and 78 from Vietnam (9.71%).

Table 13 Nationality and distribution of non-resident workers

	Son Lei House	Seng Yee House	Kat Cheong House	Mau Tan House	Man Sau House	Hong Tai House	Heng Long House	Total	Percentage
Mainland	65	85	112	106	51	126	113	658	81.94%
Philippines	0	3	2	1	2	3	2	13	1.62%
Vietnam	3	3	20	15	10	8	19	78	9.71%
Nepal	1	2	2	3	2	0	2	12	1.50%
Others	0	1	0	0	0	0	0	1	0.12%
Not answered	3	10	7	5	4	1	11	41	5.11%
Total	72	104	143	130	69	138	147	803	100.0%
Percentage	9.0%	13.0%	17.8%	16.2%	8.6%	17.2%	18.3%	100.0%	

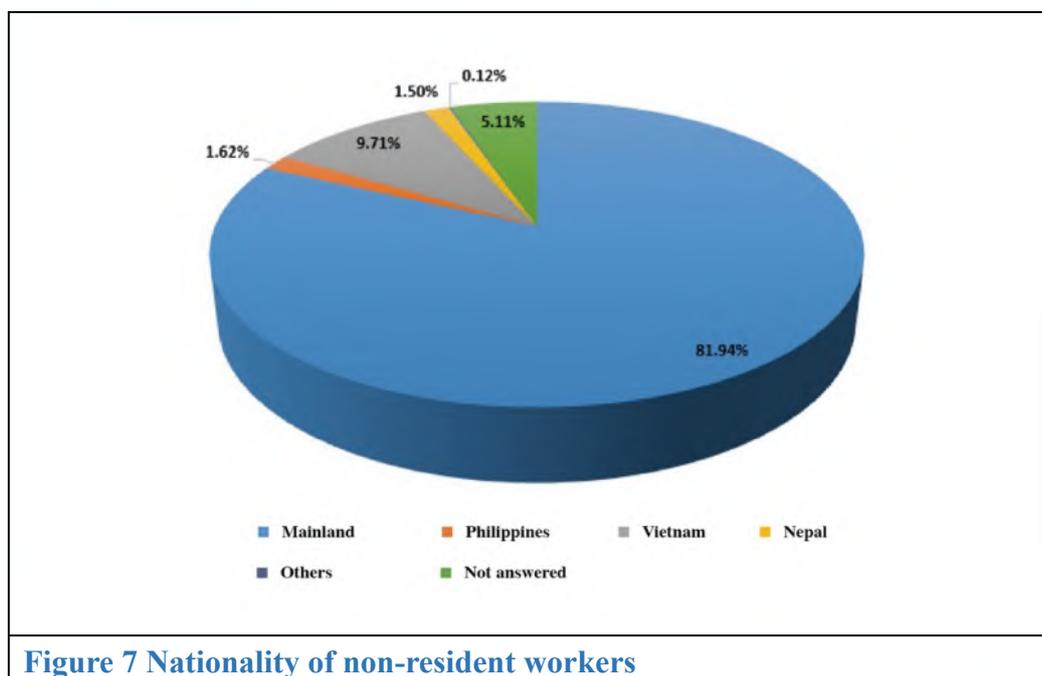


Figure 7 Nationality of non-resident workers

4-2-7 Ownership issues of residential units

Of the 647 residential unit owner-occupiers who answered this question, only 22 (3.4%) considered that there were ownership issues at their property, while 612 (94.6%) said that their units have no ownership issues. However, 468 respondents (72.3%) claimed to have sole ownership over the units; 155 (24%) respondents claimed to have partial ownership only and the rest of the ownership falls under the name of their close relatives, such as parents, spouses, children or siblings.

Table 14 Answers from residential unit owner-occupiers as to whether their property has ownership issues

	Count	Percentage
No	612	94.6%
Yes	22	3.4%
No idea	3	0.5%
Not answered	10	1.5%
Total	647	100.0%

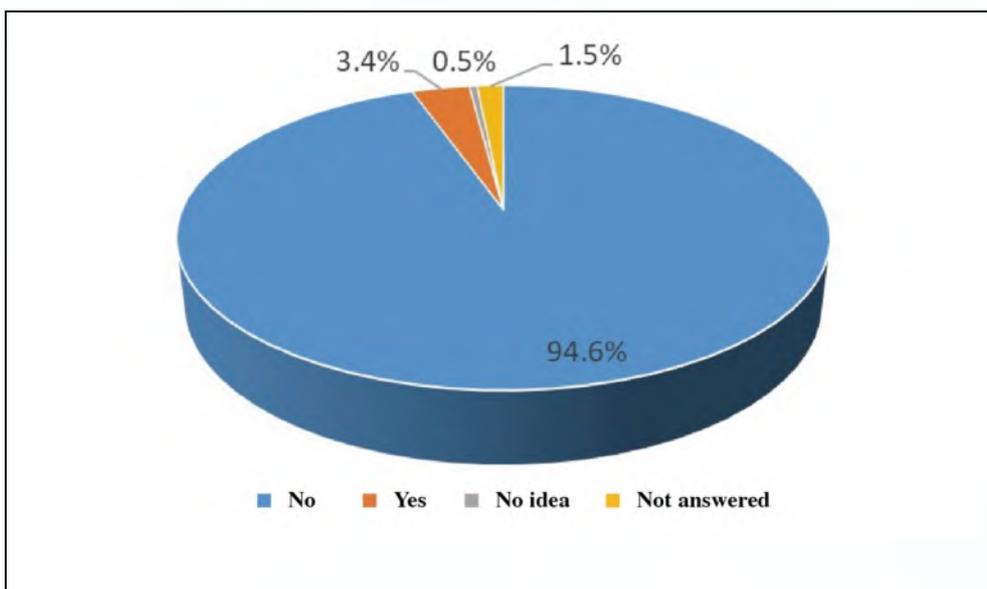


Figure 8 Answers from residential unit owner-occupiers as to whether their property has ownership issues

Table 15 Answers from respondents of residential units as to whether they have gained full (100%) property ownership

	Count	Percentage
No, partial only	155	24.0%
Yes	468	72.3%
Not answered	24	3.7%
Total	647	100.0%

Table 16 Number and relationship of people who have partial ownership of the respondents' property

	Number of people
Parents	25
Spouses	85
Offspring	16
Full siblings	11
Paternal half-siblings	1
Uncles	0
Cousins	0
Father/mother-in-law	2
Siblings-in-law	1
Other relatives	8
Friends	5
Not answered	3
Others	31

4-2-8 Ownership issues of commercial/non-residential units

Of the 84 non-residential unit owner-occupiers who answered this question, only three (3.6%) considered that there were ownership issues at their property, while 69 (82.1%) said that their units have no ownership issues. However, 62 respondents (73.8%) claimed to have sole ownership over the units, while 12 respondents (14.3%) claimed to have partial ownership.

Table 17 Answers from non-residential unit owner-occupiers as to whether their property has ownership issues

	Count	Percentage
No	69	82.1%
Yes	3	3.6%
Not answered	12	14.3%
Total	84	100.0%

Table 18 Answers from respondents of non-residential units as to whether they have gained full (100%) property ownership

	Count	Percentage
No, partial only	12	14.3%
Yes	62	73.8%
Not answered	10	11.9%
Total	84	100.0%

4-2-9 Lease contract of residential and commercial units

A lease contract has been signed for 169 (57.48%) of the 294 residential units occupied by local tenants, whereas 82 (27.89%) of the units do not have a lease contract. Meanwhile, 34 (54%) of the commercial units have a lease contract and four (6.3%) do not. It is worth noting that tenants of 18 commercial units (28.6%) said they did not know.

Table 19 Answers as to whether a lease contract has been signed for residential and commercial units

	Residential		Commercial	
	Count	Percentage	Count	Percentage
Yes	169	57.48%	34	54.0%
No	82	27.89%	4	6.3%
No idea	16	5.44%	18	28.6%
Not answered	26	8.84%	7	11.1%
Others	1	0.34%	0	0.0%
Total	294	100.0%	63	100.0%

4-2-10 Rooftop flats

When investigating the condition of rooftop flats in the survey area, the research team could only determine their number and location by comparing the survey findings with aerial photographs. This is due to objective reasons such as unreachability of the rooftop flats for interviewers, lack of safe access to the rooftop of the buildings, and occupiers' inability to provide valid information. Taking this into account, a total of 68 rooftop flats were found in the survey area.

4-3 Community Environment

4-3-1 Opinions on the surroundings from owner-occupied residential units

When asked about their thoughts on the surroundings, 647 residential unit owner-occupiers responded, with 518 (80%) indicating 'shabby environment', 499 (77%) indicating 'bad environmental hygiene', 488 (75%) indicating 'waste everywhere' and 463 (72%) indicating 'peeling of external walls'.

Table 20 Opinions on the surroundings from owner-occupied residential units

Order	Opinion	Count	Percentage
1	Shabby environment	518	80%
2	Bad environmental hygiene (pest infestation)	499	77%
3	Waste everywhere	488	75%
4	Peeling of external walls	463	72%
5	Damaged staircases and insufficient lighting	461	71%
6	Too many trespassers	459	71%
7	Worn electric wires	429	66%
8	Too many non-resident workers	408	63%
9	Stairways exposed to slanted rain	403	62%
10	Indoor water leakage	380	59%
11	Too demanding to walk up and down stairs due to old age	375	58%
12	Poor public security	359	55%
13	Inconvenient commute due to congested traffic	294	45%
14	No comment	43	7%

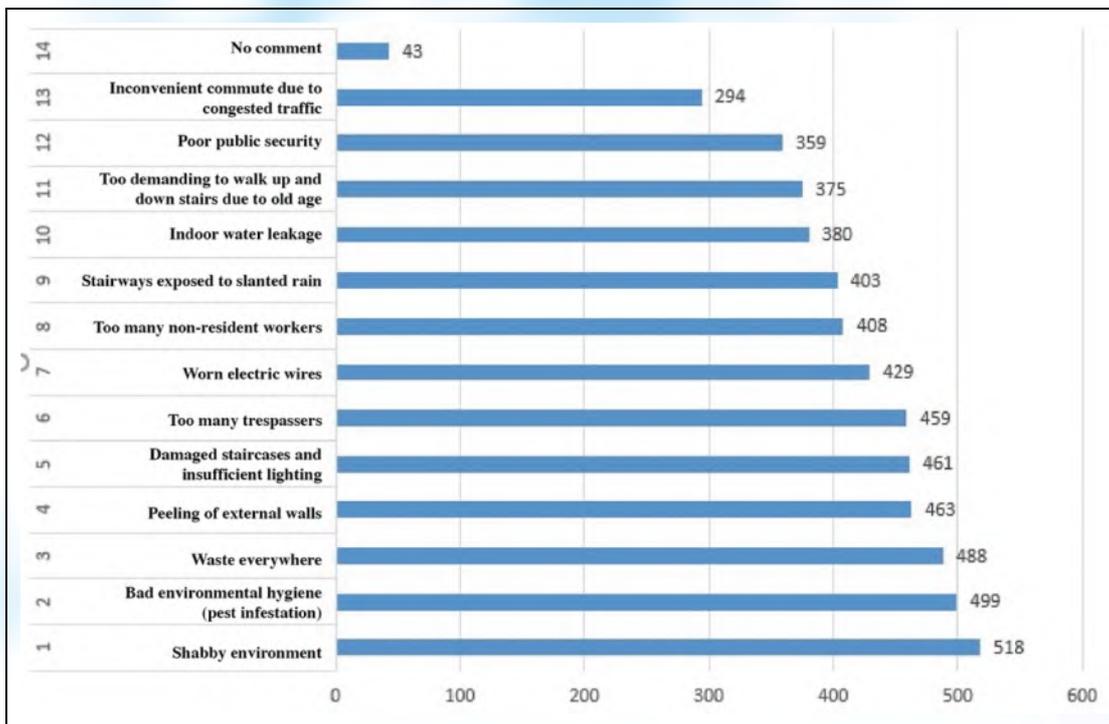


Figure 9 Opinions on the surroundings from owner-occupied residential units

4-3-2 Disrepair of buildings

Of the 647 residential unit owner-occupiers that were interviewed, 314 (51.5%) reported 'water seeping through ceiling or walls', 280 (45.9%) reported 'water seepage in the kitchen or bathroom'; 254 (41.6%) reported 'peeling concrete and exposed rebars', 236 (38.7%) reported 'cracks on the walls or pillars', 200 (32.8%) reported 'water leakage around the windows', and only 72 (11.8%) reported 'no significant disrepair or other problems'.

Table 21 Disrepair of owner-occupied residential units

Order	Disrepair status of units	Count	Percentage
1	Water seeping through ceiling or walls	314	51.5%
2	Water seepage in kitchen or bathroom	280	45.9%
3	Peeling concrete and exposed rebars	254	41.6%
4	Cracks on walls or pillars	236	38.7%
5	Water leakage around windows	200	32.8%
6	No significant disrepair or other problems	72	11.8%

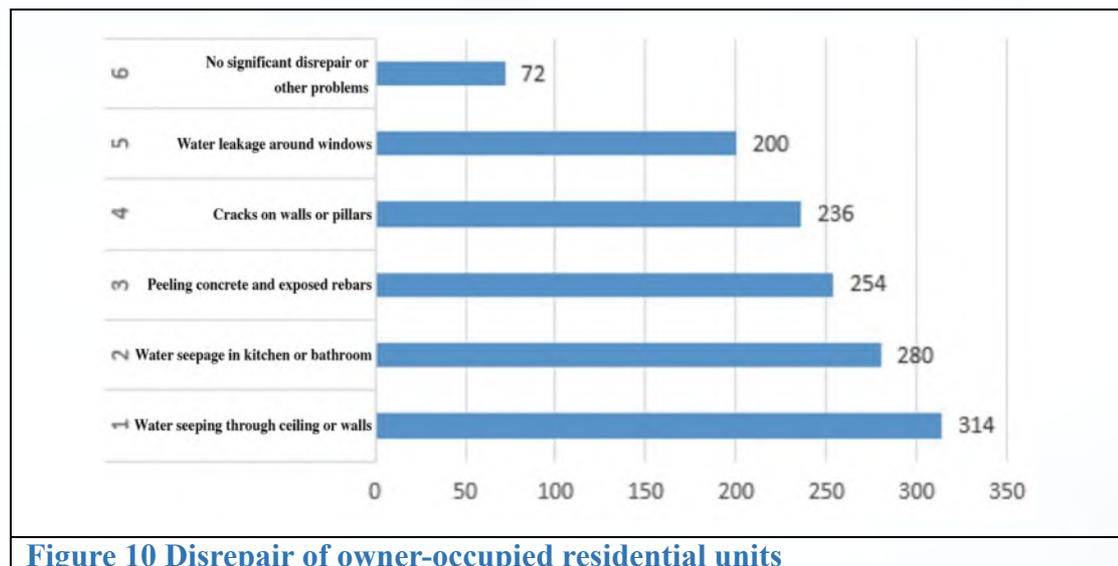


Figure 10 Disrepair of owner-occupied residential units

4-4 Inclination towards Redevelopment

4-4-1 Attitude of residential unit owner-occupiers towards redevelopment

Regarding their inclination towards supporting the redevelopment of the estate, 455 (70.32%) of the 647 interviewed residential unit owner-occupiers responded with 'strongly support', 134 (20.71%) responded with 'support', 13 (2.01%) responded with 'not support', four (0.62%) responded with 'strongly not support', 31 (4.79%) responded with 'no comment', four (0.62%) had 'no idea', and six (0.93%) 'did not answer'. It can be seen from the results that over 90% of the respondents supported the redevelopment project, whereas a noteworthy group of 58 respondents (8.97%) tended not to support or did not clearly express their inclination.

Table 22 Attitude of residential unit owner-occupiers towards redevelopment

	Count	Percentage
Strongly support	455	70.32%
Support	134	20.71%
Not support	13	2.01%
Strongly not support	4	0.62%
No comment	31	4.79%
No idea	4	0.62%
Not answered	6	0.93%
Total	647	100.0%

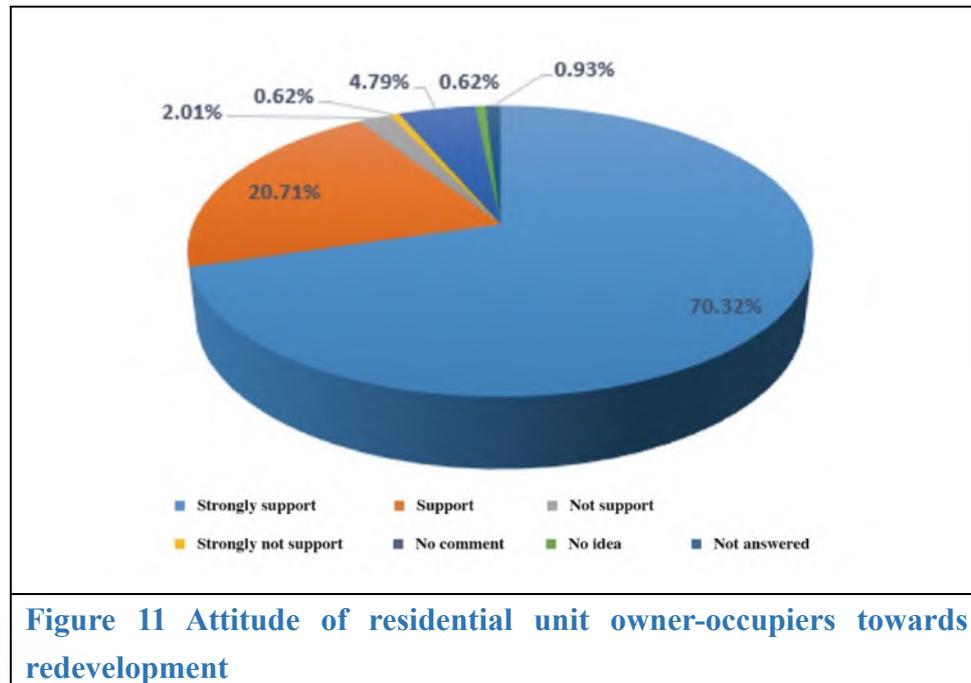


Figure 11 Attitude of residential unit owner-occupiers towards redevelopment

4-4-2 Forms of compensation favoured by residential unit owner-occupiers

When asking the 647 residential unit owner-occupiers that were interviewed for their opinions on preferred forms of compensation, the interviewers refrained from proactively providing them with a choice of options, but let them propose one or more forms of compensation that they consider acceptable. A majority of 426 respondents (65.8%) suggested 'flat for flat' (existing property that can be viewed in advance and is not public housing property), followed by 244 respondents (37.7%) who favoured 'flat for flat' (not for public housing property), and 209 respondents (32.3%) who suggested 'returning to their original property after redevelopment'. Only 17 respondents (2.6%) advocated 'property acquisition in cash'.

Table 23 Forms of compensation favoured by residential unit owner-occupiers

Order	Form of compensation	Count	Percentage
1	Flat for flat (existing property that can be viewed in advance and is not public housing property)	426	65.8%
2	Flat for flat (not for public housing property)	244	37.7%
3	Return to the original property after redevelopment	209	32.3%
4	Home swap housing (existing property that can be viewed in advance)	185	28.6%
5	Home swap housing (property built by the government)	169	26.1%
6	Relocation subsidy	107	16.5%
7	Manpower for relocation due to old age	98	15.1%
8	Relocation subsidy (only after existing property is viewed in advance)	88	13.6%
9	Housing for the elderly (existing property that can be viewed in advance)	21	3.2%
10	Property acquisition in cash	17	2.6%
11	Housing for the elderly	16	2.5%

* This is a multiple choice question and the total percentage, therefore, is more than 100%

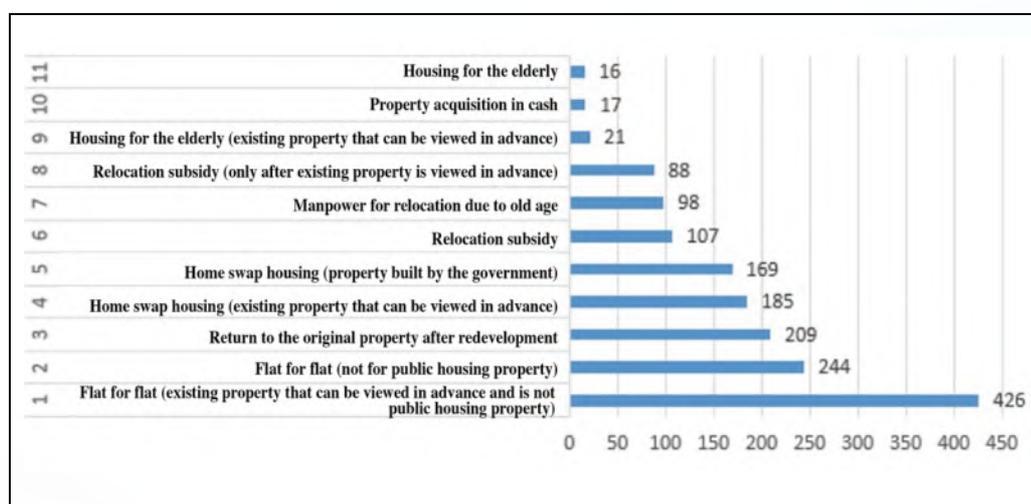


Figure 12 Forms of compensation favoured by residential unit owner-occupiers

4-4-3 Willingness of residential unit owner-occupiers to bear redevelopment expenses

Regarding the willingness of residential unit owner-occupiers to bear part of the redevelopment expenses, 357 (55.2%) of the 647 respondents expressed unwillingness, 158 (24.4%) were 'willing to partially pay', and only 81 (12.5%) clearly expressed willingness to pay. As for non-residential unit owner-occupiers' willingness to bear the redevelopment expenses, the respondents mainly considered whether or not the redevelopment would be beneficial to their business, and some gave indefinite answers to this question.

Table 24 Willingness of residential unit owner-occupiers to bear redevelopment expenses

	Count	Percentage
Willing to pay	81	12.5%
Unwilling to pay	357	55.2%
Willing to partially pay	158	24.4%
No comment	11	1.7%
Not answered	40	6.2%
Total	647	100.0%

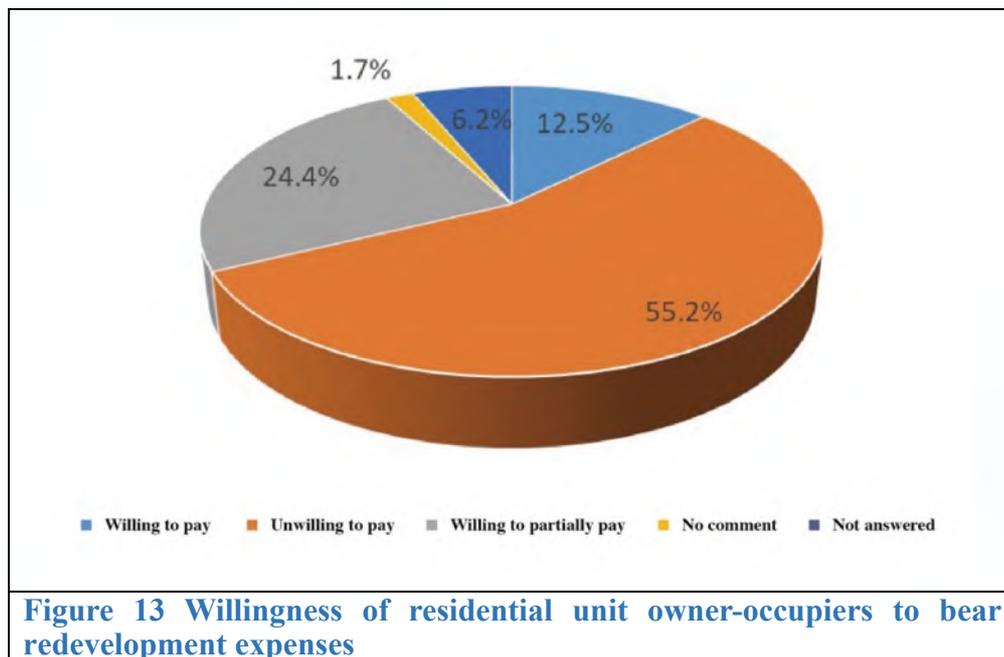


Figure 13 Willingness of residential unit owner-occupiers to bear redevelopment expenses

4-4-4 Attitude of non-residential unit owner-occupiers towards redevelopment

Regarding the extent of support for the redevelopment of the estate, 49 (58.3%) of the 84 interviewed non-residential unit owner-occupiers responded with 'strongly support', 17 (20.2%) responded with 'support', one (1.2%) responded with 'not support', one (1.2%) responded with 'strongly not support', 8 (9.5%) responded with 'no comment', three (3.6%) had 'no idea', and five (6.0%) 'did not answer'. It can be seen from the results that around 80% of the respondents supported the redevelopment project, whereas a noteworthy percentage of over 20% of the respondents tended not to support or did not clearly express their inclination, suggesting that some of the owner-occupiers of non-residential units hold a wait-and-see attitude towards redevelopment.

Table 25 Attitude of non-residential unit owner-occupiers towards redevelopment

	Count	Percentage
Strongly support	49	58.3%
Support	17	20.2%
Not support	1	1.2%
Strongly not support	1	1.2%
No comment	8	9.5%
No idea	3	3.6%
Not answered	5	6.0%
Total	84	100.0%

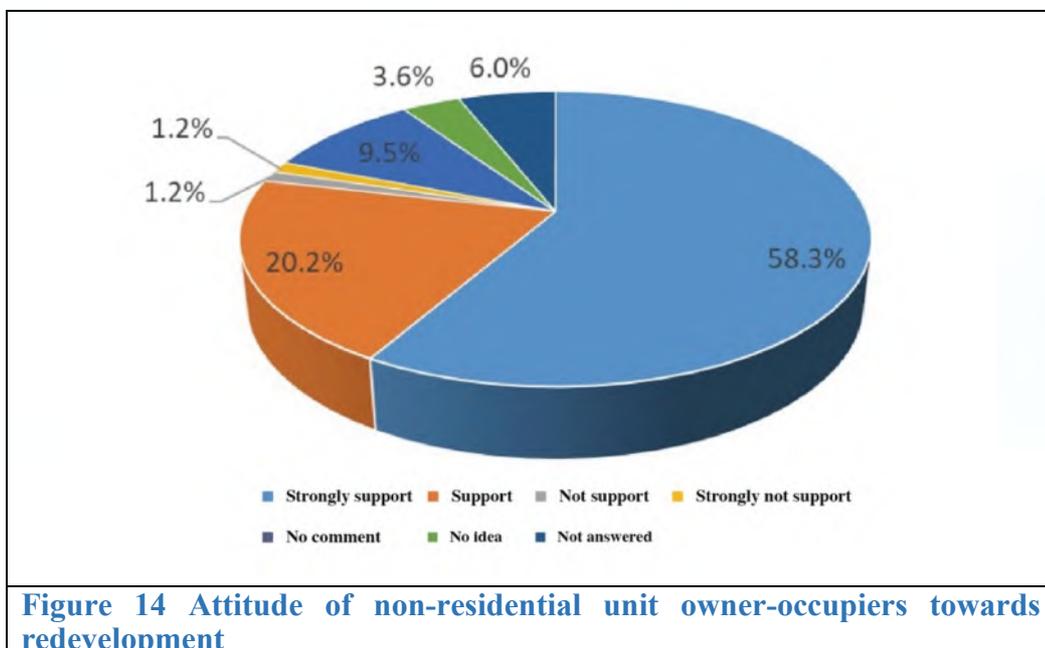


Figure 14 Attitude of non-residential unit owner-occupiers towards redevelopment

4-4-5 Forms of compensation favoured by non-residential unit owner-occupiers

When asking the 84 non-residential unit owner-occupiers that were interviewed for their opinions on preferred forms of compensation, the interviewers refrained from proactively providing them with a choice of options, but let them propose one or more forms of compensation that they consider acceptable. According to the findings, a majority of 46 respondents (54.8%) favoured 'shop for shop', followed by 34 (40.5%) who suggested 'returning to their original shop after redevelopment'. Nineteen respondents (22.6%) proposed 'relocation subsidy, 17 (20.2%) proposed 'renovation subsidy', and only nine (10.7%) favoured 'property acquisition in cash'.

Table 26 Forms of compensation favoured by non-residential unit owner-occupiers

Order	Form of compensation	Count	Percentage
1	Shop for shop	46	54.8%
2	Return to the original shop after redevelopment	34	40.5%
3	Relocation subsidy	19	22.6%
4	Renovation subsidy	17	20.2%
5	Compensation for staff	13	15.5%
6	Property acquisition in cash	9	10.7%
7	Others	8	9.5%
8	No comment	7	8.3%
9	Additional community facilities in the redeveloped estate	4	4.8%
10	Not answered	2	2.4%

* This is a multiple choice question and the total percentage, therefore, is more than 100%

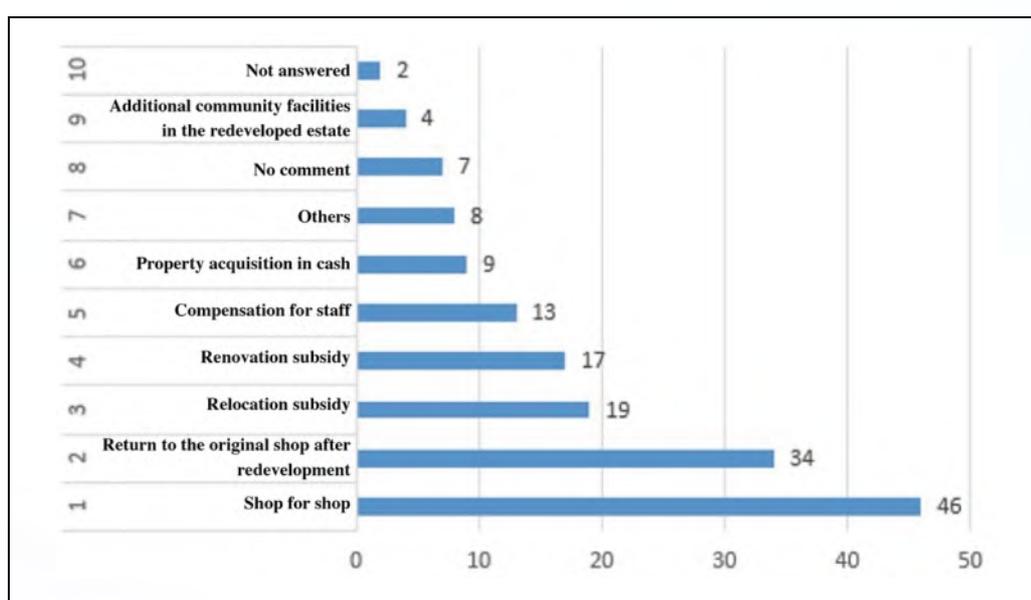


Figure 15 Forms of compensation favoured by non-residential unit owner-occupiers

4-5 Development Prospects

4-5-1 Opinions of residential unit owner-occupiers regarding community facilities after redevelopment

Regarding the community facilities after redevelopment, 551 (85.2%) of the 647 interviewed owner-occupiers of residential units suggested 'parks', 536 (82.8%) suggested 'wet markets', 498 (77%) suggested 'supermarkets', 484 (74.8%) suggested 'bus stops', and 482 (74.5%) suggested 'banks'.

Table 27 Opinions of residential unit owner-occupiers regarding community facilities after redevelopment

Order	Opinion on community facilities after redevelopment	Count	Percentage
1	Parks	551	85.2%
2	Wet markets	536	82.8%
3	Supermarkets	498	77.0%
4	Bus stops	484	74.8%
5	Banks	482	74.5%
7	Restaurants and eateries	457	70.6%
8	Health centres	437	67.5%
9	Social welfare facilities (centres for the youth and elderly)	422	65.2%
6	Car parks	384	59.4%
10	Cultural facilities	359	55.5%
11	Schools	354	54.7%
12	Libraries	345	53.3%
13	Sports facilities (such as courts)	328	50.7%
14	Others	31	4.8%

* This is a multiple choice question and the total percentage, therefore, is more than 100%

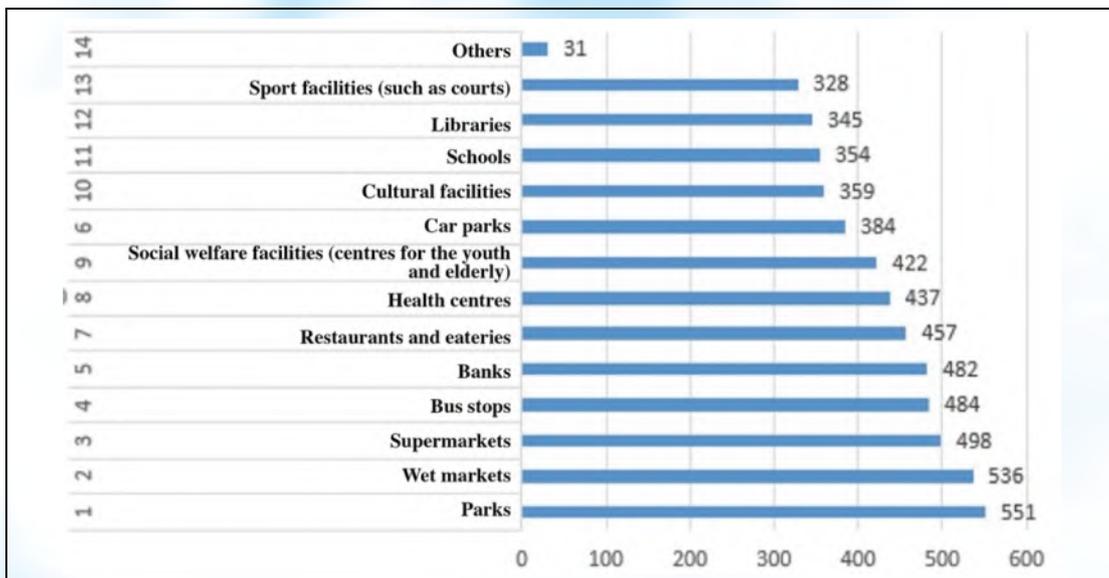


Figure 16 Opinions of residential unit owner-occupiers regarding community facilities after redevelopment

4-5-2 Residential unit owner-occupiers' preferred districts for relocation

When asked about their preferred location of possible home swap housing provided by the SAR Government, many residential unit owner-occupiers showed an explicit fondness for the northern district of the Macau peninsula; 568 (87.79%) of the 647 respondents hope to live in the northern district after the redevelopment.

Table 28 Favoured districts in case of accepting home swap housing

District	Count	Percentage
Northern district of the Macau peninsula	568	87.79%
New Urban Zone A	15	2.32%
Island districts	6	0.93%
No comment	43	6.65%
No idea	3	0.46%
Others	2	0.30%
Not answered	10	1.55%
Total	647	100.0%

4-5-3 Parties consulted by residential unit owner-occupiers for advice on relocation compensation

Regarding who to consult when considering whether to accept relocation compensation, 270 (41.7%) of the 647 interviewed residential unit owner-occupiers chose to decide by themselves, 197 (30.4%) would consult the SAR Government entities, 147 (22.7%) would consult their relatives and 131 (20.2%) would consult social workers.

Table 29 Parties consulted by residential unit owner-occupiers for advice on relocation compensation

Order	Party consulted	Count	Percentage
1	Decide by themselves	270	41.7%
2	SAR Government entities	197	30.4%
3	Relatives	147	22.7%
4	Social workers	131	20.2%
5	Friends	53	8.2%
6	Others	20	3.1%
7	Neighbours	11	1.7%
8	Community associations	10	1.5%
9	Hometown natives	6	0.9%

* This is a multiple choice question and the total percentage, therefore, is more than 100%

V. Topics

5-1 The Number of Residents Per Unit is Higher than Average

From the findings of this study, it is estimated that there were around 12,014 residents living in the survey area and there were 2,316 units used for residential purposes. After factoring in Macau's average vacancy rate of 7.3% and deducting accordingly, around 2,147 residential units were occupied within the survey area, suggesting that there was an average of 5.3 people living in each unit, which is much higher than the average number of about three residents per unit in Macau.

The data also shows that about 30% of the units in Lao Hon Estate were rented to non-resident workers as staff accommodation, many of which were occupied by seven or more people per unit. The relatively higher population density of the Lao Hon neighbourhood is attributable to the large number of non-resident workers living there.

The large population and high population density may hinder the redevelopment progress and bring other impacts on the surroundings in the future. It is noticeable that the surroundings of the survey area have always been the areas with the highest population density in Macau. According to the statistics from the 2016 Population By-Census conducted by the Statistics and Census Service of Macau, the population density in Areia Preta and Lao Hon districts reached 170,953 per square kilometres, representing the highest among other statistical districts.

The redevelopment of Lao Hon Estate implies a decrease in the number of available residential units in the area during the implementation of the project. Therefore, its possible impact on the neighbouring areas should be taken into consideration, including the rental rates of apartments in the district. In addition, it was discovered during the study that a considerable number of non-resident workers live in Lao Hon Estate by renting bed spaces. It may be difficult for these non-resident workers to find sufficient 'bed spaces' upon commencement of the project. It is noteworthy that of the 1,886 units that finished the interviews, 803 residential units are rented to non-resident workers, accounting for 42.5% of the total.

5-2 Most Owners Interviewed Support

Redevelopment; Some Hold a ‘Wait and See’

Attitude

Although the study shows that most of the owner-occupiers of residential units (91.03%) and non-residential units (78.5%) that were interviewed support the redevelopment project, as indicated in their ‘support’ and ‘strongly support’ responses to the questionnaire, it is worth noting that the number of units corresponding to these owner-occupiers only accounts for 28.6% of the registered properties in Lao Hon Estate. A more reasonable explanation is that the disrepair, unfavourable environment hygiene and public order have directly affected the owner-occupiers’ life and business, which contributes to a greater desire for the redevelopment of the estate. However, given such conditions, 8.97% and 21.5% of residential and non-residential unit owner-occupiers respectively did not show explicit support for the project.

Although the data shows that most residential and non-residential unit owner-occupiers support the redevelopment, practically speaking, the residents that did not show support for the project may somewhat obstruct the redevelopment progress in the future. Predictably, without more explicit policies or compensation plans, it will be rather difficult to raise the proportion of supporting residents to make the redevelopment feasible.

5-3 Attention Should be Paid to Property

Ownership Issues

Of the 647 interviewed residential unit owner-occupiers, 3.4% responded that there were ownership issues at their property while 94.6% (612 respondents) said that their units have no ownership issues; however, only 72.3% (468 respondents) claimed to have sole ownership over their property. Of the 84 non-residential unit owner-occupiers that were interviewed, 3.6% responded that there were ownership issues at their property; and a higher proportion of people with sole ownership can be seen in this group, accounting for 73.8%. Respondents’ legal awareness, family status and inheritance distribution are some of the aspects involved in their property ownership issues, which can be associated with the two main factors:

(1) Respondents might not be fully aware that there are property ownership issues at the flats they are living in, which are usually related to inheritance distribution, matrimonial property regime and divorce, among others;

(2) Respondents were reluctant to talk about or address the issues due to privacy considerations.

On the other hand, as the respondents are generally of an older age⁵, the ownership issues may increase and become more complicated when the owners pass away. As can be seen from Table 4-2-2, 52.9% of the owner-occupiers/property owners are aged 61 or above, and 20.2% aged between 51 and 60.

⁵ The reason for the respondents being generally older aged may be that the elderly tend to spend more time at home and be more patient when completing the interviews.

5-4 Respondents Hold Different Attitudes towards Compensation Plans

Owners' attitudes towards compensation plans have a significant impact on the future redevelopment work. The majority of the interviewed residential unit owners, 426 (65.8%), proposed 'flat for flat' (existing property that can be viewed in advance and is not public housing property); 244 (37.7%) proposed 'flat for flat' (not for public housing property), 209 (32.3%) proposed 'returning to their original property after redevelopment', 185 (28.6%) proposed 'home swap housing' (existing property that can be viewed in advance) and 17 (2.6%) proposed 'property acquisition in cash'.

It can be seen from the above findings that in-kind compensation plans, including 'flat for flat', 'return to their original property after redevelopment' and 'home swap housing', are preferred by the respondents while they showed little interest in the idea of 'property acquisition in cash'. Among the various proposed forms of in-kind compensation, the respondents showed a preference for 'existing property' that can be viewed in advance. Comparatively, they have shown a much greater interest in the idea of 'flat for flat' than 'return to their original property after redevelopment'.

As the residential unit owner-occupiers are generally older aged, accepting the option of 'property acquisition in cash' means that they may need to purchase another house from the private market, which may bring them certain difficulties and psychological barriers. Although about 30% of the respondents suggested 'returning to their original property after redevelopment', it is noticeable that they may need to move more than once during the redevelopment process, which may not be desirable for the elderly.

As stated in section 5-3, residential unit owner-occupiers are generally older, and 49.6% of the respondents are not in employment as indicated in section 4-2-2. It means these residents' permanent income may come from the various government welfare programmes, which makes them more conservative when considering the compensation plans.

It is noticeable that, despite the evident ageing population among the residential unit owner-occupiers in the survey area, only 21 (3.2%) and 16 (2.5%) chose the two options about 'housing for the elderly'. As it is an open-ended question and the interviewers did not offer any answers to choose from, the respondents may not know of or could not recall the government's relevant policy, which may also be the reason for the lower response rate for the option of 'home swap housing' as compared to the other three in-kind compensation plans, as the respondents do not have sufficient knowledge of the relevant policies.

Non-residential unit owner-occupiers hold slightly different attitudes towards the compensation plans than residential unit owner-occupiers. Although 54.8% (46 respondents) of the interviewed non-residential unit owner-occupiers proposed 'shop for shop', there is still a significant portion of 40.5% (34 respondents) who proposed 'returning to their original shop after redevelopment', suggesting that non-residential unit owner-occupiers have a greater desire to return to their original shop than those of residential units. Non-residential unit owner-occupiers also emphasised subsidy for relocation and renovation more than those of residential units.

5-5 Respondents Express Concerns about the Disrepair of the Buildings

The disrepair of Lao Hon Estate concerns the respondents; 51.5% of the residential unit owner-occupiers (314 units) indicated 'water seeping through the ceiling or walls', 45.9% (280 units) indicated 'water seepage in the kitchen or bathroom', 41.6% (254 units) indicated the 'peeling of concrete and exposed rebars in the walls', 38.7% (236 units) indicated cracks on walls or pillars, 32.8% (200 units) indicated water 'leakage around the windows', and only 11.8% (72 units) considered 'no significant disrepair or other problems' in their units. In other words, 88.2% of the respondents (538 units) had seen rather apparent and severe damage in their units. Although the study only asked residential unit owner-occupiers about the disrepair of the buildings, it is noteworthy that they should have taken greater care of their properties, which suggests that the disrepair of the entire Lao Hon Estate might be worse than it is shown in the abovementioned data.

5-6 Residential Units are Used for Business Activities

According to the findings, it was commonly seen that the residential units on the ground floor of Lao Hon Estate have been used for business activities. From the interviews and survey of the flats' current condition, a total of 106 residential units have been used for business activities or non-residential purposes. The survey findings show that the change of usage has not interrupted people's daily lives but actually offers them more convenience. In the long term, it will be one of the focal points in the redevelopment project.

VI. Recommendations

6-1 Continuously Follow up on the Community

Conditions

In the survey area lives a complex and densely-populated community with an estimated population of 12,014, including disadvantaged groups, such as grassroot residents and non-resident workers, and a significant floating population. The area is also interwoven with marginalised sectors, informal stores (residential units used for commercial or non-residential purposes) and rooftop flats. It is suggested that long-term follow-up and investigations be conducted on all units before the execution of the demolition and relocation plans in the future, so as to successively arrange for the residents to move out and to fully prevent certain social issues from spreading outside the district during the removal process.

From the above, we can understand that there are various grey-area activities in Lao Hon Estate, which make the unit users and owners cautious and not so willing to disclose the actual condition of the units and their actual demand to the interviewers. On the other hand, generally the residential unit owner-occupiers are older in age; they may not have a clear understanding of the SAR Government's policies and social changes, and it may take some time for them to grasp new ideas. Most of the residential unit owner-occupiers have long been living in Lao Hon Estate, with around half of them living there for over 30 years, and have enjoyed a close relationship with neighbours. When the redevelopment approaches in the future, good relations with these residents must be established and other issues must be examined and understood through long-term communication and observation.

Therefore, it is recommended that MUR establish a field centre at Lao Hon Estate, which will facilitate the follow-up of the community conditions over a long period of time and allow residents to easily obtain relevant information about the urban renewal project and get answers to their questions.

6-2 Need for Clearer Policies and Laws for Redevelopment to Advance

The findings show that 91.03% of the owner-occupiers of residential units and 78.5% of those of non-residential units support redevelopment. However, owners of non self-occupied properties and units with indefinite ownership will also be included in the calculation of the percentage of ownership interest, which will make the future execution of the urban renewal project more complicated. Clearer policies and laws are essential for boosting the support for redevelopment; otherwise, residents may not be reassured enough to support the project when their major concerns, such as compensation plans, protection of their rights and redevelopment schedule, are not clearly addressed.

It should be noted that the draft of the 'Legal Framework for Old District Redevelopment' was submitted to the Legislative Assembly for deliberation in 2011, around which time, relevant authorities had made considerable publicity efforts among the public. Therefore, failing to provide clearer, more detailed and definite information in regard to the urban renewal project could make it difficult to obtain residents' attention and endorsement.

Therefore, in the foreseeable future, the legislation of the 'Legal Framework for Urban Renewal' will be the top priority in Macau's urban renewal, especially in the Lao Hon Estate redevelopment project. A clear definition of the rights and obligations of the residents, MUR and the government in urban renewal will significantly facilitate the redevelopment of Lao Hon Estate.

6-3 Provide Legal Assistance for Property Owners

The owner-occupiers of residential units are older in age, and the number of units with ownership issues may keep increasing if these owner-occupiers pass away before the completion of the project. It is therefore suggested that legal assistance be provided to property owners (especially the elder ones), such as lectures on ownership inheritance, and support in handling inheritance after their death and resolving current ownership issues.

In addition, equal attention should be paid to 'residential units used for commercial or non-residential purposes'. Greater effort must be placed on increasing these property owners' awareness of their units' status, so as to avoid divergence of opinions in discussing compensation plans in the future, or any misunderstanding due to insufficient knowledge of their units' status.

6-4 Provide a Variety of Compensation Plans that Meet Residents' Needs

The findings reveal that the owner-occupiers of residential units have a clear attitude towards compensation and over 60% of them are in favour of the 'existing property' option. Only around 30% suggested returning to their original property after redevelopment. The lower percentage may be attributable to the larger number of old-age residents, and 'return after redevelopment', which means to move to temporary housing units for several years before returning to their rebuilt homes on the original land, may not be the most attractive option for these residents who prefer a stable and comfortable life.

It is recommended that more consideration be given to home swap housing in the compensation plans for redeveloping residential units, for instance, building a certain number of home swap housing units in the northern district of the Macau peninsula so that the residents can choose an 'existing property that can be viewed in advance', which is 'home swap in adjacent districts', and seems to be a more reassuring option for the residents. Speaking from the administrative perspective, the residents are no longer under urban renewal procedures with MUR when they have purchased their home swap housing units and moved out of the original property. In other words, compared with 'return after redevelopment', it is obvious for them that 'home swap in adjacent districts' involves less disruption and less administrative costs from public departments and private entities. It is suggested that policy restrictions on purchasing 'home swap housing' should be relaxed for property owners in a bid to further align 'home swap housing' to the 'flat for flat' option and reduce the residents' worries.

On the other hand, only 3.2% of the residential unit owner-occupiers suggested homes for the elderly. The ratio is obviously too low considering that over half of the owner-occupiers are aged above 60, and it may be because they did not know or have a clear idea about the relevant policies, or were holding a wait and see attitude towards them. It is suggested that greater effort should be placed on promoting the policies in the future. Similar to 'home swap housing', policies for 'home for the elderly' should be formulated in the direction of attracting older owners.

Relatively speaking, the interviewed non-residential unit owner-occupiers are more willing to return to their original shops, as they rely on and are more sensitive to the shop location. It is worth discussing that 'return after redevelopment' involves moving their shops twice, which will incur rather high costs in regard to shop decoration and relocation. On the other hand, in the case of 'home swap in adjacent districts', the owner-occupiers may be compensated with new shops located in a developing neighbourhood with a limited population which will increase uncertainties in their business. Therefore, property acquisition in cash may be more favourable to these owner-occupiers, although most of them did not show support for this option.

6-5 Understand Current Status and Usage of the Units to Devise Compensation Plans

For a certain period of time in the future, MUR should keep track of the status of residential and non-residential units in Lao Hon Estate, especially residential units that are owner-occupied, and 'residential units used for commercial or non-residential purposes'. Different compensation plans should be devised based on the condition of these units. For example, only owner-occupiers have the priority to choose 'return after redevelopment' or 'home swap in adjacent districts'. In fact, different plans are offered to these two groups of occupiers in the Hong Kong Government's compensation policies for redevelopment projects, which can be taken as reference. Reducing the number of residents returning after redevelopment can help alleviate the population density of the district in the long run, and give greater flexibility to the usage of the land.

The issue of 'residential units used for commercial or non-residential purposes' can also be contained to a certain extent through relatively flexible policies, and different compensation plans should be devised for 'residential units used for commercial or non-residential purposes' and 'real shops' with a similar approach to that stated above. However, the premise is that MUR and the relevant authorities must obtain a continuous and precise understanding of the units' status for a certain period of time before announcing the redevelopment plan, so as to prevent future disputes.

6-6 Continue Monitoring the Buildings' Structure

The Lao Hon Estate buildings are in a poor condition, as indicated by the data in the previous sections. Urban renewal laws and policies have yet to be formulated, and it is foreseeable that there is still some time before the redevelopment project is commenced.

The research team recommends:

- Conducting structural inspections of Lao Hon Estate and undertaking structural reinforcement wherever necessary;
- Continuously monitoring the condition of the buildings to prevent major accidents;
- Giving higher redevelopment priority to the buildings in poorer condition.

6-7 Factors to Consider in Determining the Order of the Estate's Redevelopment

A number of factors need to be considered in determining the order of the estate's redevelopment, and six prioritised factors are listed in this report: fewer registered flats; worse structural condition; higher level of support for redevelopment; fewer residential units used for commercial or non-residential purposes, and fewer rooftop flats; greater convenience in construction; higher ratio of residential units.

■ Number of registered units

For buildings with fewer registered flats, it will be easier to reach a consensus on the redevelopment and proceed with resettlement, which will help the executing entities to accumulate experience.

■ Condition of buildings

Buildings in worse structural condition should be prioritised for redevelopment to avoid major accidents.

■ Support for redevelopment

For buildings with the highest level of support from residential unit owner-occupiers, it will be easier to advance the project by making use of neighbour relations.

■ Residential units used for commercial or non-residential purposes and rooftop flats

Residential units used for commercial or non-residential purposes and rooftop flats are a legal grey area. It may take longer to formulate a compensation plan satisfactory to both parties, and it may be relatively difficult to reach a consensus if any dispute arises.

■ Convenience for construction

Areas with a sitting-out area should be prioritised as they offer a convenient area to store construction equipment and materials.

■ Ratio of residential units

At present, the units registered for non-residential purposes are mainly used for business activities. Based on the redevelopment experience in various regions, shop owners are less inclined towards redevelopment than residential unit owners, which may be attributed to the fact that they enjoy the stable footfall and customer groups in the old districts and relocation may not be in their best interests, whereas the decoration, relocation and licence application process takes considerable time and money. For this reason, it will be easier for buildings with a higher ratio of residential units to reach a consensus.

