



Analysis and Implications of the Successful Application of Government Public Housing: A Case Study Based on Singapore

Xiwen Zhang

Guangdong Country Garden School, Foshan, 528000, China

zhangxiwen@gcgsedu.com

Abstract. In 1960, most Singaporeans living in slums and crowded settlements. The Housing & Development Board (HDB) was set up in 1960 to solve Singapore's housing crisis. Within 10 years, HDB built a large number of houses which successfully solved the housing crisis. Now HDB has built more than 1 million flats across the whole nation with 24 towns and 3 estates. Utilizing limited land to meet housing needs is a challenge, and Singapore's HDB, which meets the housing needs of 80 percent of the population, is a good model. This study analyzes the history of the system's development, its operational mechanisms, and its goals and objectives to understand how housing is allocated in Singapore. The study found that strict application requirements, multiple policy applications and computerized balloting with priority schemes mutually shape the public housing allocation system. The success of HDB flats may apply to other regions with large numbers of populations with limited land to have better living experience.

Keywords: Singapore Housing, Public House Allocation, HDB Flats.

1 Introduction

According to the United Nations, 2.8 billion people in the world, or 40% of the global population, do not have adequate housing. As the population continues to grow and the cost of living continues to rise, public housing seems to be a good solution to solve the housing problem. Singapore's public housing system seems to be a good example to solve this problem. Before 1960, the majority of people in Singapore living in slums or squatter settlements with poor hygienic conditions, and the shortage of housing also lead to social conflicts like territorial disputes. Besides, the entire Singapore society is also in turmoil. Many violent incidents between different races have occurred resulting in many injuries and deaths. The HDB was found on February 1, 1960, to improve the living conditions and address the root of turmoil-shortage of housing. Within 10 years, HDB solved the housing crisis and now more than 80% of residents live in HDB flats. Now, it has built 1.25 million flats with basic amenities like schools and hospitals in the neighborhoods. This research aims to explore how HDB flats allocation mechanism operates and insights those regions with similar challenges from Singapore's model. This study will analyze how HDB allocated public housing and successfully solved the

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housing crisis by using document analysis methodology and case study. It also compares Singapore's public housing model with those in New York and Malaysia to highlight key lessons. Therefore, some measurements also can be taken from the public housing system in Singapore. In the end, the goal of this study is to inspire regions facing similar challenges: large number of populations, limited land and diverse ethnicity.

2 The Introduction of Public Housing in Singapore

2.1 The Origin of HDB Flat in Singapore

Colonized by the British in the early 19th century, Singapore was a free-trade port. This opportunity allowed a large number of people to migrate to Singapore including Chinese and Malays [1]. Most people live in slums or squatter settlements with poor sanitary conditions, where infectious diseases (cholera, malaria...) and even fires are common (most of settlements made of wood) [2]. According to historical statistic, in 1959 the average living area in Singapore was less than 6 square meter which was less the world standard. Due to the housing shortage, some ethnic conflicts occur and cause deaths and injuries. Lee Kuan Yew, the founding prime minister of Singapore proposed that everyone should have a house to live in, so that there would be a sense of belonging. In this way, during war time people will fight for themselves. Therefore, HDB was established on February 1, 1960, to solve the housing crisis and develop the economy while allowing multicultural Singapore to develop a national identity. HDB replaced Singapore Improvement Trust (SIT) which was a colonial public housing authority. HDB was mandated to build a large number of low-cost houses with good living conditions like modern sanitation and amenities [2]. HDB should construct 15,000 new homes every year, while maximizing land use and keeping cost low [2].

2.2 The Development of HDB Flat

HDB has built a total of 1.25 million flats with more than 80% of Singaporeans living in those flats since 1960 (data from: Housing & Development Board (HDB). Annual Report 2023/2024). To meet the population's need for better quality housing and environmental protection, in addition to some renovation programs such as Remarking Our Heartland, HDB has also launched senior-friendly programs, solar leasing tender, Sample Household Survey (SHS), etc. to achieve a more sustainable and modernized housing environment.

3 HDB Flat Design Mechanism and Framework in Singapore

3.1 Eligibility Conditions for Proposed Flat Owners

Whether they are buying build-to-order (BTO) or resale flats, there are certain criteria that need to be met in order to apply for a purchase. The criteria for couples and families, seniors and singles are not the same and there are restrictions on the type of house

that can be purchased, but what is certain is that only Singaporean citizens (SCs) or Singapore Permanent Residents (SPRs) in special circumstances can buy a house [3]. For Singapore Permanent Residents, there are more restrictions. For example, they are only allowed to buy resale houses rather than BTO and they must live in Singapore for certain years. The criteria also have requirements for age, income and property ownership [2]. In the case of a single person buying BTO flats, all the following conditions must be met: 1. He or she can only buy a 2-room Flexi flat 2. He or she must be 35 years of age or above 3. Income ceiling at SGD 7,000 per month [3]. For families, the income ceiling would be higher at SGD 14,000 and they can also apply for larger houses. Those conditions ensure that house prices will not be inflated to make people unaffordable.

3.2 Computer Balloting and Priority

The allocation mechanism has been modified several times over time, but today a computerized balloting system with priority schemes is used [4]. First of all, the computerized system checks the eligibility, and if necessary, contact the applicant to submit more information to ensure the qualification [5]. The system then considers a number of factors to ensure that the shortlist includes whether the applicant is a first-time buyer and whether they are in the priority schemes [5]. Each applicant has a base weight of 1.0 and if they fulfill some priority schemes the weight will increase and increase the probability of selection in the end. There are approximately ten priority schemes to meet the needs of specific groups such as first-timers, multi-generational households (multi-generation priority scheme), etc. If certain priority schemes are met, the chances of ballot will be increased, like the first timer will get an extra point, it is worth noting that some priority schemes can be combined with other schemes if there are no conflicts between schemes [6].

3.3 Land and Financial Support

To provide public housing for the majority of Singaporeans, the Singapore Government has introduced the Singapore Land Acquisition Act, and the Central Provident Fund (CPF) approved housing scheme. These two policies provide a solid guarantee for the construction and popularization of public housing.

Land Acquisition Act. A large amount of land is necessary for public housing. Singapore is a tiny and highly populated country with about 700 square kilometers area (including reclaimed land area), of which only about 15-17% is allocated for residential use. (data from: Singapore Urban Redevelopment Authority). Even back to 1961 when HDB was established, Singapore had over 1.7 million population with a population density of 2,540 per square kilometer. Land is even more important in this context. The Land Acquisition Act grants Singapore the power of eminent domain, stating the principles of using land-for public interest [7]. The Act ensures that large areas of land are purchased at low prices at below the market price, providing the foundation for public housing construction. This kind of behavior is undoubtedly controversial, therefore, at the same time, the government provided compensation to the occupants to alleviate

their complaints- including priority allocation of rental housing, livestock, and so on [7]. From the act, now Singapore's government owns about 90% of the land in Singapore which ensures the long-term strategy and continuous supply of public housing.

Central Provident Fund. The Central Provident Fund (CPF) is a compulsory savings for its citizens in Singapore. There are four CPF accounts including the Ordinary Account (OA), Medisave Account (MA), Special Account (SA) and Retirement Account (RA). The OA which can be used to purchase a home [8]. At the same time, the Ordinary Account receives a return from holding government bonds and the rate of return is almost the same as the interest rate on home loans [8]. Through CPF, people are able to purchase homes at a lower cost, thereby realizing the goal of home ownership scheme.

3.4 Ethnic Integration Policy (EIP)

In 1964, there were multiple incidents of ethnic violence between Malays and Chinese that led to many deaths and injuries [1]. One of the goals of HDB is to keep people of different incomes and ethnicities together to avoid reemergence of ethnic enclaves [7]. EIP is a good policy to promote racial integration. This policy restricts the percentage of Chinese, Malays and Indians in HDB blocks and neighborhoods [4]. The proportion is basically similar to proportion of different races in Singapore. For BTO flats this kind of policy would be easy to implement because a portion of the race would not be able to buy a house because the quota is full [7]. For resale flats the buyer and seller must be of the same race if the quota has been filled [4]. This policy not only prevents the formation of ethnic ghettos but also promotes daily communication between different ethnic groups. Since different races study together, they understand each other's cultures.

4 Effectiveness of Implementation

Singapore's public housing policy has had a positive impact both politically and economically. Singapore's home ownership rate is among the highest in the world due to the collaboration between HDB and CPF. Since loans require people to have stable jobs and wages, but there is no minimum wage in Singapore [9]. A stable housing environment makes employees work hard, and enterprises can also retain talents more easily, which promotes the development of industries such as manufacturing and services. This has a positive impact on employment rates and economic growth. Secondly, since the CPF housing subsidy reduces wages, the lower cost of production attracts more foreign direct investment (FDI) [9]. At the same time, the CPF rate is a good macro-adjustment tool as it has an inflation-adjusting effect [7]. From political perspective, HDB flats owners tend to be stable, and they would be concerned that a new party would stop refurbishing the flats. This makes the People's Action Party (PAP) political capital stronger [9]. The importance of HDB flats was also illustrated by Lee Kuan Yew after his election victory in 1963: two unfinished HDB blocks made people realize that he could bring hundreds of homes to the people, and he was elected [10]. In addition, the

EIP which makes each neighborhood a smaller version of society, has also helped to alleviate racial tension and create stability [11].

It is important to note that public housing policy is not without its drawbacks. The construction of HDB housing and its subsequent use and maintenance require significant government funding, with HDB running a deficit of S\$4.68 billion in the fiscal year 2021-2022, equivalent to 0.7% of its GDP of that fiscal year [12]. Most of the deficit is mainly due to houses selling prices less than the cost of construction. Although the government has been subsidizing HDB, the long-term deficit may bring pressure to the fiscal budget. In addition, because of the compulsory nature of CPF storage, people are forced to put their income into housing even if they don't need it [2]. This also creates a crowding out effect where people don't have enough liquid cash, a phenomenon reflected in the lack of a strong local start-up industry [12]. Many people find it hard to raise money to start a business.

5 Implications for other Countries

5.1 Housing Problems in Other Regions

This part of the study gives examples of public housing in New York and Malaysia to illustrate the situation and problems of public housing in other regions.

Public housing in New York. In 1934, the New York City Housing Authority (NYCHA) was founded. The reason of its establishment is similar to that of the Singapore's HDB -to address the shortage of housing for people living in unsanitary conditions [13]. Because of the negative attitudes of local officials and the public toward public housing, a bill was passed in 1998 declaring that no new public housing would be built [13]. However, as the population continues to rise, the number of public housing units has not increased and it remains difficult for low-income people to find suitable housing, resulting in a housing shortage that has not been resolved [13]. In addition, due to the very low homeownership and excessive reliance on the private rental market, a large portion of the budget (31%) has been allocated to subsidizing rental housing rather than maintaining public housing, which may make the living environment in public housing even worse [13]. Many public housings in New York are facing problems such as broken elevators, leaking water pipes and inadequate security which affect the living quality of residents.

Public housing in Malaysia. Many government departments are responsible for providing housing in Malaysia including state economic development agencies and Urban Development Authority [14]. Since 1982, the government has allowed people with a monthly income of less than RM 750 to buy low-cost housing and has set a maximum price for it (RM 25000), additionally there is also a certain percentage of low-cost housing in each housing project [14]. But the program was not very successful in Malaysia. One of the important reasons is the lack of coordination between various government

departments. The maximum price of public housing is different among different institutions [14]. Other problems include low loan success rates and developers' desire to build luxury homes rather than low-cost housing in order to make a profit, which has led to a steady rise in housing prices as well [14]. Developers try to reduce the number of low-cost housing or build them in remote areas with poor infrastructure in order to maximize profits.

5.2 Insights from Singapore's Public Housing Model

Mandatory storage of housing funds: Like the CPF in Singapore, people must save a portion of their salary to finance the purchase of a home. This would make it easier for people to save up to a certain amount and help with macro-control of inflation. In addition, it will help with healthcare and future retirement. However, from Singapore's experiences the ratio needs to be flexible. For elderly people the rate can be lower, since they may not need to purchase for house.

Land acquisitions: The government should have enough land to build houses not just subsidize the private housing market. At same time, greater scrutiny should be applied to private developers to ensure they continue to provide low-cost housing. Or sea reclamation for coastal areas like what Singapore did.

Financial support: The government should have enough budget to support public housing projects, both in terms of subsidies for builders and buyers. In addition, interest rates on housing purchases should be lowered to make people more affordable.

6 Conclusion

The research finds that the public housing policy in Singapore brings benefits both economically and politically. The enough land and financial support are the fundamental part of the public system in Singapore. To be more specific, with enough land, the government can build enough flats to improve living standard, and CPF system make sure the majority of people are affordable to buy houses. Moreover, there are strict eligibility conditions while applying for HDB flats. This makes sure that housing prices are affordable. Then, when it comes to deciding which of the eligible candidates can own a house, the computerized balloting system is introduced with some priority schemes. This is a fairer way when allocating houses which give priority for first buyer, couple... At the same time, EIP restricts the proportion of different races, but it also helps with the integration of culture and brings social harmony. When looking housing policy in New York and Malaysia, both regions highly rely on private sector rather than government institutions. This may result in inefficient allocation as private sectors are unwilling to provide low-cost housing. Some experiences may be learned from Singapore's success story including mandatory storage of housing funds, land acquisitions, financial support... However, the drawbacks of Singapore's system also need to be considered. It brings deficit from government budget, therefore countries with limited budget may be hard to enforce the policy. There is also a crowding out effect when people put income into CPF accounts.

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