



FEASIBILITY OF RECLAIMING LAND FROM SEA TO EXPAND PUBLIC HOUSING IN HK

為咗公屋，填海可以去到幾盡？

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INTRODUCTION

Hong Kong has many housing problems. It seems like if people choose to rent or buy a house, those with low salary cannot afford the price. And also, the wait period for public house is too long. However, the shortage of land supply is undoubtedly the most significant one. In the mean time, reclamation has been a strong solution for Hong Kong to obtain land over the years. Therefore, here is the question, will it be beneficial for Hong Kong to build more public housing estate by using the land from reclamation ?



COST-BENEFIT ANALYSIS

How Do We Conduct The Analysis

This study compared the Net Cost and Benefit of reclaiming land from sea to build public housing. There are two parts of the total cost, including the public housing construction cost and reclamation cost. The difference between the total cost and revenue gained from land sales to real estate companies is the Net Cost. In terms of the Benefit, it only consists the social welfare part. The researchers took Ma Liu Shui (馬料水) as a specific sample in this study.

Total Cost

According to the 2017 Policy Address from Hong Kong Government, there are approximately 60 hectares land available for reclamation in Ma Liu Shui. Among which, 60% of the land will be used for the public housing construction, and 40% of the land will be used for sale.

People Per Hectare	2173
Per capital living areas	13.1 Square Meters
Living Areas Per Hectare	13.1*2173=28466 Square Meters
Unit Construction Cost/Square Meters	1385 HKD/Square Meters
Total Constructon Cost (建築成本) *36 Hectares in Ma Liu Shui	28466*1385=394,258,255 HKD/Square Meters 14,193,297,180.00 HKD
Reclamation Cost (填海成本) *60 Hectares in Ma Liu Shui	60,000,000.00 HKD/Hectare 3,600,000,000.00 HKD
Total Cost in Ma Liu Shui	17,793,297,180.00 HKD

Land Sales Revenue

Residential Type	Area(m2)	Selling Price (HK\$/m2)	Revenue (Billion HKD)	Total (Billion HK\$)
R1	24*0.23/1.23*10,000	232,000	10.4	39.1
R2	24*1/1.23*10,000	147,000	28.7	

Net Cost (Billion)

$$17.8 - 39.1 = -21.3 \text{ Billion}$$

Benefit-Social Welfare

- Definition: what people could save from living in the public housing, instead of the expensive private housing.
- Calculation: Present Value of Rental Difference (2.1 Billion HKD yearly) during 50 years, which are the maximum life of a public housing. We assume ΔR to increase by 2% yearly. We assume the discount rate to be 4%.
- This study also did a sensitivity test:

Discount Rate	Growth Rate%					
	1%	1.50%	2%	2.50%	3%	
3.0%	70,714,949,181	70,439,501,097	78,126,742,333	87,034,759,079	97,386,277,661	109,447,230,200
3.5%		63,936,132,719	70,577,699,116	78,246,634,508	87,127,476,635	97,440,200,507
4.0%		58,322,439,755	64,084,983,989	70,714,949,181	78,365,626,588	87,219,435,377
4.5%		53,455,899,658	58,477,010,759	64,232,908,527	70,851,260,640	78,483,728,478
5.0%		49,219,025,453	53,612,617,234	58,630,710,992	64,379,914,391	70,986,642,726

- After calculation, the total social welfare is:

$$70.7 \text{ Billion}$$

CONCLUSION

For the financial feasibility, sales revenue of the 36 hectares' land is 39.1 Billion HKD, which is much higher than the corresponding cost (reclamation cost and construction cost, 17.8 Billion HKD). For the social welfare, we calculated the present value of rental difference of public housing and private housing of 36 hectares, which is 70.7 Billion HKD, which is also much higher than the reclamation and construction costs. Consequently, building public housing through reclaiming land from sea is feasible both financially and in terms of the social welfare. Yet, due to the lack of information and hard to quantify, we did not count the environmental costs and other public cost, like hospitals. But we think this will not change our conclusion that reclaiming land is a still good way to build public housing.

Other Recommended Spots

