

HOSTED BY



ELSEVIER

Gulf Organisation for Research and Development
International Journal of Sustainable Built Environment

ScienceDirect
www.sciencedirect.com



Original Article/Research

Phu My Hung New Urban Development in Ho Chi Minh City: Only a partial success of a broader landscape

Du Huynh *

Fulbright Economics Teaching Program in Ho Chi Minh City, Viet Nam

Received 16 September 2014; accepted 27 March 2015

Abstract

The Phu My Hung New Urban Development (PMH) in Ho Chi Minh City is a rare successful case in many ways. The developers were able to assemble large tracks of land and secure financial means to finish big components of a megaproject. They have also had motivation to provide ample and affordable public goods and urban services to earn huge profits. However, these incentives can decrease altogether as the developments become sold out. Moreover, PMH is only a part of the Saigon South Master Plan, whose implementation has essentially failed. There are also serious social and environmental concerns.

© 2015 The Gulf Organisation for Research and Development. Production and hosting by Elsevier B.V. All rights reserved.

Keywords: Internalizing externalities; New town development; Ho Chi Minh City; Phu My Hung; Vietnam

1. Introduction

Numerous complimentary words have been ascribed to Phu My Hung New Urban (PMH), especially in its twentieth year ceremony in 2013 (HIDS & PMH Corp., 2013). Foreigners usually express their surprise when they see such a modern town in Vietnam. The 409 ha luxurious urban area in Ho Chi Minh City (HCMC) has been considered highly successful in several major aspects. The city has a prestigious urban area; the residents enjoy high quality amenities; the government has received large budget revenues; and the developers have earned lucrative profits. Moreover, it also creates a positive impact on real estate values in the region as proximity to PMH is considered a

valued characteristic for surrounding projects and is a feature commonly referred to in advertisements (Huynh, 2012).

Peiser and Chang (1999) found that it is possible to develop financially successful new towns, but it is extremely difficult. Interestingly, PMH is a rare successful case: the swampland over five kilometers from downtown to the south of HCMC was valued at almost nothing two decades ago but has now become one of Vietnam's most coveted residential areas (Nguyen, 2008). The vacant land in 2011 was valued on average USD 4000/SQM, higher than those from USD 1200–2500/SQM of the surrounding projects (World Bank, 2011) and HCMC's GDP per capita at about USD 3000 (HIDS, 2012). As estimated in following sections, the average value of apartments in PMH in the fourth quarter of 2011 was about 43% higher than that of surrounding developments; and the project's financial net present value (NPV) is highly positive.

* Tel.: +84 89325103.

E-mail address: duht@fetp.edu.vn

Peer review under responsibility of The Gulf Organisation for Research and Development.

More importantly, PMH's success has changed the landscape of urban development in HCMC. When the project was proposed in the early 1990s, Saigon South was not one of the municipal government's major considerations as the northeast quadrant had been determined as the city's major direction of expansion in the 1993 Master Plan. However, this has completely changed. The southeast quadrant was later chosen as the major expansion direction in the city's 2010 Master Plan and PMH has been chosen as a typical urban development model by the Vietnamese Government (Ministry of Construction, 2008).

PMH's success is undeniable. However, this urban area is only a part of a megaproject consisting of a 2600 ha master plan of Saigon South with a ten lane road, a 375 MW power plant, and a 300 ha export processing zone (EPZ) (SOM, 1993). Holistically, placing PMH in a fragmented development of Saigon South, having an unprofitable power plant, and facing the challenge of assembling the rest of the 600 ha of land promised by the municipal government to be granted for the developer, shows clearly that PMH's success is only a part of the whole story. Moreover, the development of Saigon South is also causing undesirable externalities (Douglass and Huang, 2007; Waibel, 2004). The leapfrog construction on wetland creates several issues. These include: the burdens on infrastructure, segregation due to gated communities, environmental problems from filling swampland and increasing flood risk by situating developments on low-lying land despite sea levels rising is a highly dangerous issue for HCMC (Huynh, 2012).

What has happened in PMH echoes what DiPasquale and Wheaton (1993, p.358) describe:

When land is developed at a larger scale, it is more likely that compatible design, landscaping, infrastructure, and other public goods will be provided, assuming that these features really do add to the net collective value of the property being developed. [However], there are two problems with relying on a larger scale of development. First, it is sometimes difficult both to assemble large tracts of land and to acquire the capital resources for such large-scale development. Second, this solution

works only to internalize externalities and provide initial public goods at the time of development.

This research seeks to demonstrate that DiPasquale and Wheaton's (1993) arguments have actually happened in the case of PMH and the issues raised need to be addressed. Thus, the rest of this article is structured as follows: the second section shows the empirical evidence of the real estate price premium in PMH; the third section shows the way to create a desirable living amenity; the fourth section presents outcomes along with concerns; and conclusions and lessons are in the final section.

2. The real estate premium in Phu My Hung

PMH is located in District 7 which has now become the most vibrant real estate market in HCMC. The district is 36 SQKM large, roughly the same size of five districts that make up the current downtown and among the least dense districts of the inner city. Originally, it used to be one of the city's poorest districts, but is now a favorite choice of the affluent due to the PMH development. The district's budget revenue is among the highest of any district and most households live in newly built condominiums or new urban areas and enjoy middle and high incomes (DOS-HCMC, 2011).

A major proportion of District 7's area was once swampland, but most of its land is now highly valued real estate. According to information posted on the website www.muabannhadat.com.vn – the most popular newspaper for real estate advertisement in Vietnam – as of November 8, 2011, District 7 had 102 real estate projects while the other 22 districts in HCMC shared 454 projects. The information also shows that despite being a peripheral district further from the central business district than Binh Thanh and Phu Nhuan, its arithmetic average real estate property prices are significantly higher. The high value of real estate in District 7 is primarily due to the PMH urban area (Huynh, 2012) where apartment prices in PMH are significantly higher than similar apartments of its neighbors (Fig. 1).

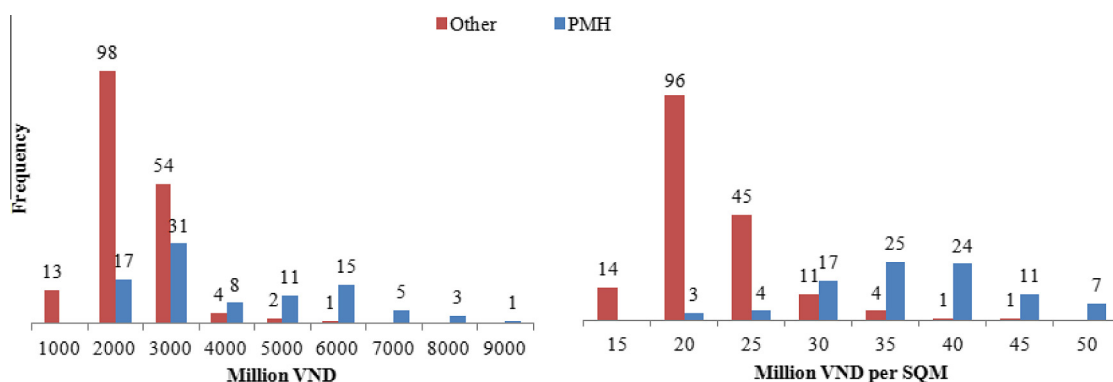


Fig. 1. Price distribution of PMH's apartments and surrounding ones'. Source: Author's.

2.1. Data description

To test whether there are significant differences between real estate prices in PMH and those in the surroundings, a quantitative analysis based on a hedonic model is pursued. The data used in this research were collected from www.muabannhadat.com.vn in the fourth quarter of 2011 and some supplemental data points such as the completion years of certain buildings were collected from other sources. All chosen buildings are in District 7, as illustrated in Fig. 2.

The sample consists of 263 apartments for sale in 36 buildings, in which 91 apartments are in 20 buildings of PMH, and 172 apartments are in 16 surrounding buildings. The data set contains information on the characteristics of the apartments, of the buildings in which these apartments are located, and of the projects where buildings are located. All variables and statistics are explained in Table 1.

2.1.1. Dependent variables

Prices of apartments and prices per square meter of apartments are two dependent variables and are denoted

by P and P-SQM, respectively. The mean asking prices for the sample are VND2,490 million per apartment and VND25.2 million/SQM.

2.1.2. Differentiating variables

PMH is denoted as a dummy variable and LAND is measured as land areas of projects; both are two differentiating variables used to measure the real estate price differences between PMH and its neighbors. It is expected that the coefficients of these variables will be positive and statistically significant. The number of apartments in PMH accounts for 35% of the sample. The mean land area is 146.2 ha; however, this is a misleading number because the size of PMH is 409 ha while the other projects are much smaller (most of them are less than 1 ha). The LAND variable, in fact, plays a similar role of the PMH variable as the correlation between these two variable is 0.999. Therefore, they cannot be in the same regressions due to multicollinearity.

2.1.3. Other characteristics

Besides the above variables, basic characteristics for hedonic regressions are included as presented in Table 1.



Fig. 2. Condominium Buildings in District 7. Source: Author's building in Arcmap 10.

Table 1
Data description.

Variable	Description/Unit	Mean	Std. Dev.	Min.	Max.
<i>Dependent variables</i>					
P	Price per apartment (VND million)	2490	1395	899	8400
P-SQM	Price per SQM (VND million)	25.2	8.7	13.3	51.2
<i>Differentiating variables</i>					
PMH	Projects of PMH = 1; other = 0	0.35	0.48	0	1
LAND	Land area of projects (ha)	146.2	191.6	0.2	409
<i>Other variables</i>					
Area	Area of an apartment (m ²)	96	25	51	178
Bed	Number of bedrooms (#)	2.4	0.6	1	5
Bath	Number of bedrooms (#)	2.0	0.6	1	5
Grade	Grade of building (A = 1; Others = 0)	0.35	0.48	0	1
Age	Number of years (2011 = 1)	2.98	2.64	0	12
FAR	Floor area ratio (built area/land area)	5.73	1.35	3.08	8.28
To-CBD	Distance to CBD (km)	7.32	1.61	4.26	10.74

Source: Author's collection from the Internet in the fourth quarter, 2011.

2.2. Regression results

The semi-log hedonic regression model is chosen as follows:

$$\begin{aligned} \ln(\text{Price}) = & \beta_0 + \beta_1 \text{PMH}/\text{LAND} + \beta_2 \text{Area} + \beta_3 \text{Bed} \\ & + \beta_4 \text{Bath} + \beta_5 \text{Grade} + \beta_6 \text{Age} + \beta_7 \text{FAR} \\ & + \beta_8 \text{To-CBD} + \varepsilon \end{aligned}$$

The regression results are presented in Table 2 below. The adjusted R-Squares of the regressions are around 0.9 for regressions of log of total price; and over 0.8 for regressions of log of price per SQM, which means that the chosen variables almost explain the price of apartments. As expected, all variables are highly significant except the number of bedrooms and the number of bathrooms.

The LAND variable basically plays a similar role as the PMH variable. After multiplying the magnitudes of coefficients by 409 ha – the size of the PMH project – the values are similar to the coefficients of the PMH variable. Moreover, the significant levels and magnitudes of the other variables in each pair of regressions are very similar to one another.

The results demonstrate that the average value of apartments in PMH is over 43% higher than that of surrounding developments as a whole, and 47% for price per SQM. We hypothesize that the difference is that PMH has been able to internalize externalities. The positive outcomes of PMH comes from how the developer has strategically planned and implemented key processes including urban planning, financing mechanisms, construction activities, marketing, and urban service provisions. Providing public amenities and public goods helps increase the real estate value of the development.

The coefficients of other variables follow expectations. On average, a 1 m² increase in the apartment area results in about a 1% increase in the apartment price. Each year progressively causes the price of apartments decreases about 2%. If the floor area ration (FAR) increases one

time, the apartment price decreases 7%. Prices of apartments in Grade-A buildings are about one quarter higher than those of lower grade buildings. One kilometer away from the CBD, the real estate value decreases over 2%.¹

3. The process to create a desirable living amenity

3.1. A brief history of the project

The initial initiative of the PMH project was to build an export processing zone (EPZ) to attract foreign direct investment and generate export revenue and it has been evolved over time. In 1988, the Friday Group – led by Mr. Phan Chanh Duong, who later became a founder of the PMH project – conducted “*The Study of Building EPZs in HCMC*” (Nguyen et al., 2006). With support from the city's leaders, this idea was put into the pilot list of the city to pursue new policies when Vietnam started to transform from the central planning model to a market economy. Since then, Mr. Phan and his colleagues began seeking foreign partners. After painstaking efforts with many proposals and rejections, they finally found a competent Taiwanese investor – the Central Trading and Development Corporation (CT&D)-owned by Kuomintang (KMT), the ruling party in Taiwan at the time. However, it was not the CT&D but the Pan Viet Corporation who was Vietnam's first Taiwanese partner. The Pan Viet Corporation specialized in growing bananas in Vietnam to export to Japan but did not have experience in building EPZs. Nonetheless, it supported the PMH project in order to have favorable conditions for its main businesses in Vietnam and withdrew shortly after CT&D's appearance (IPC, 2001).

¹ A variable of the distance to the sub-CBD has been tested. The place chosen as the sub-CBD is the Crescent, the Iconic place of PMH (Waibel, 2010). However, it is not statistically significant and R² does not change. Therefore, this variable was not included in the chosen regressions.

Table 2
Regression results.

	Log of total price		Log of price per SQM	
PMH	0.43 ^{***} (14.84)		0.473 ^{***} (17.6)	
LAND		0.0011 ^{***} (14.72)		0.0012 ^{***} (17.32)
Area	0.01 ^{***} (15.98)	0.011 ^{***} (16.15)		
Bed	-0.025 (-0.91)	-0.026 (-0.94)	-0.021 (-1.03)	-0.017 (-0.84)
Bath	0.026 (1.2)	0.022 (1.03)	0.025 (1.24)	0.022 (1.08)
Grade	0.248 ^{***} (10.91)	0.237 ^{***} (10.39)	0.247 ^{***} (12.57)	0.239 ^{***} (12.07)
Age	-0.026 ^{***} (-5.48)	-0.026 ^{***} (-5.55)	-0.031 ^{***} (-6.97)	-0.031 ^{***} (-7.04)
FAR	-0.07 ^{***} (-7.76)	-0.069 ^{***} (-7.55)	-0.072 ^{***} (-8.75)	-0.071 ^{***} (-8.59)
To-CBD	-0.022 ^{***} (-3.12)	-0.025 ^{***} (-3.46)	-0.023 ^{*****} (-3.5)	-0.027 ^{***} (-3.87)
Constant	7.117 ^{***} (86.53)	7.12 ^{***} (86.27)	3.59 ^{***} (47.69)	3.601 ^{***} (47.65)
Adjusted R-square	0.8981	0.8973	0.8166	0.8150

Notes: Coefficients are standardized betas; T-stats in parentheses.

**At 5% significant level.

*** At 1% significant level.

The reason CT&D assumed this venture was due to the special context transpiring within Taiwan at the time. The tension across the Taiwan Strait was serious. From the Taiwanese perspective, especially government officials, a preparation for unexpected scenarios was not redundant. It would not be surprising if Taiwan's government had plans to build backup facilities abroad (Nguyen et al., 2006). Because of its political and security concerns, it was explainable for KMT to spend some venture capital in one of the least developed real estate markets in the world at the time (Kim, 2008).

The project made progress only after the appearance of CT&D in late 1989. After some zigzags because of the novelty of the project and the circumstances in Vietnam, Tan Thuan joint venture was established to build the EPZ. Vietnam's side contributed 300 ha of land to receive 30% interest of the joint venture, and CT&D contributed financing and expertise to own 70%. The investment cost was estimated at USD 89 million and the investment license was officially issued in July 1991 (IPC, 1992).

Construction of the EPZ was completed in 1992. However, the main objective was the PMH urban area. The excuse for building the 17.8 km road 10-lanes wide was to connect the EPZ to the national highway No. 1. Commercially developing land along two sides of the road was to partly finance the road along with the toll revenue. The arrangement was that the developer would receive 600 ha of land with a 50-year lease term for real estate development in exchange for the road and 150 ha of built infrastructure land for public use. This public land is mixed in with the commercial land of PMH and the

600 ha of PMH's land are divided into five lots A, B, C, D and E as illustrated in Fig. 3. Another joint venture named Phu My Hung Corporation was established in May 1993 to pursue the project. CT&D also holds 70% of the interest while the municipal government holds the remainder.

Financing in such high risk projects is crucial, particularly at the initial investment stage. The developer was lucky to have the early involvement of the KMT as them bearing the risk helped other endeavors have more confidence to go ahead. In five years, CT&D had invested a significant amount of money in these projects (Chang, 2010). However, due to the political change in Taiwan, the KMT completely pulled out its investments in 1994 (Vo and TU, 2004). This caused some troubles for the development. However, the foreign partners were able to set up subsidiaries in the Cayman Islands and the British Virgin Islands, and borrowed about USD 200 million from Taiwanese banks to make up for the financial needs (Nguyen, 2008). Since then, the financing for further development has not been a major obstacle because the company has been making huge profits as international accounting firms estimated that its annual revenue is over USD 1 billion (Chang, 2010).

Eventually, a megaproject was formed. It consisted of four key components: a 300 ha EPZ, a 600 ha real estate project, a 375 MW power plant, and a 10-lane road besides the municipal government's ambition to develop an area of 2000 ha. The results of these projects are mixed as analyzed latter.

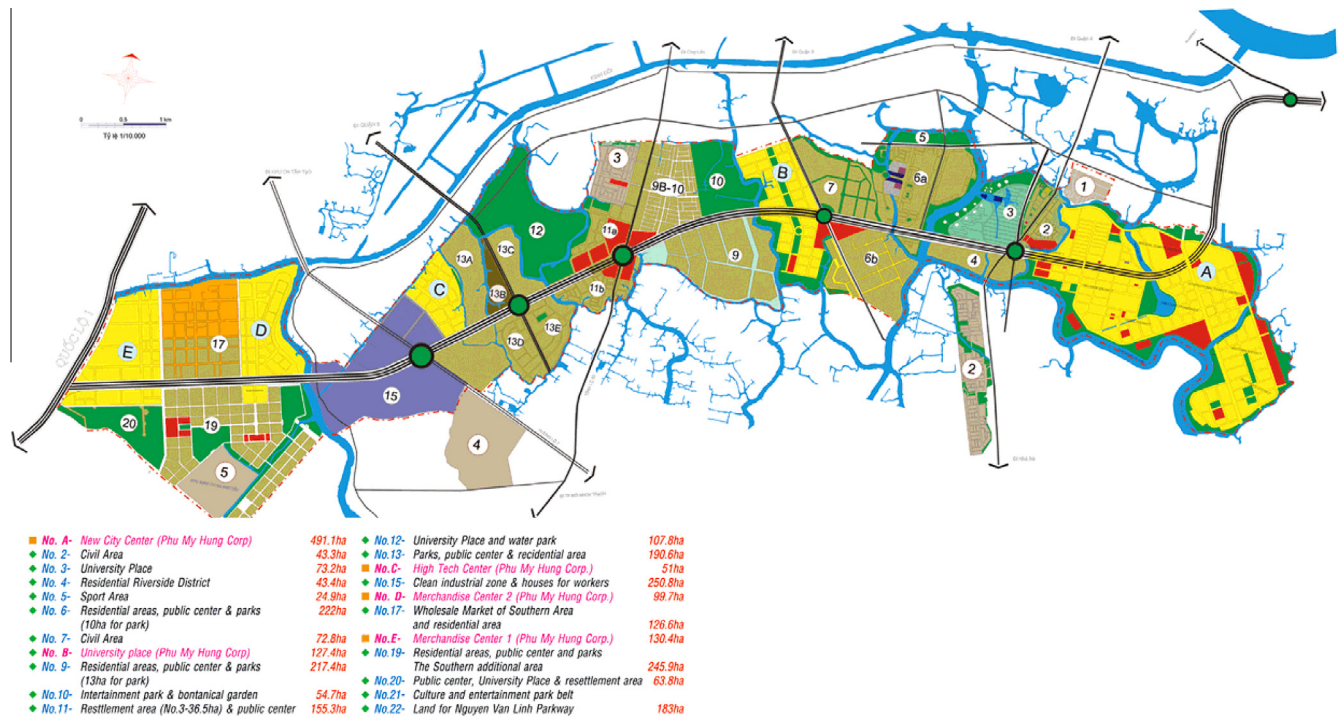


Fig. 3. The Saigon South Master Plan. Source: Phu My Hung Corporation.

3.2. The development process

The first strategic step was the planning and design. In July 1993, PMH Corporation hosted an international urban design competition, the first ever competition in Vietnam after the reunification in 1975. The winners were a team of respected architectural firms including: Skidmore, Owings and Merrill; Koetter, Kim and Associates; and Kenzo Tange Associates. The design received two honorable awards for best urban design, one was the Progressive Architecture Citation in 1995 and the other from the American Institute of Architecture in 1997 (PMH Corp., 2011).

The design was for a grand plan of 2600 ha of land (illustrated in Fig. 3) in which PMH would be granted 600 ha for its commercial development and the rest would be developed by the government. The plan aims to create a harmonious built environment. The density is much lower than surrounding projects. Moreover, the developer has wisely agreed to give the municipal government 150 ha of built infrastructure land that is mixed with its commercial land as a part of the deal to acquire the land. However, the land designed for public purposes such as parks, squares and schools has indeed helped increase the value of commercial land. In fact, due to the possibility to internalize externalities, the developer would still have reserved a significant proportion of its land for public facilities even without the agreement.

The construction process has been carefully implemented and strictly followed the design and planning. Moreover, to mitigate risk, construction has been planned

and implemented in phases. Instead of building the ten-lane road immediately, a two-lane road was built first then expanded after seeing successful signs of the real estate projects. Eventually, completed infrastructures have been built. A good road and sewage system have been completely constructed. And the same approach has also been applied for building real estate projects. At the beginning, the developer only built medium quality apartment buildings and sold service land. Since the real estate market became more vibrant, luxurious villas, condos and office buildings have begun to be built (Nguyen et al., 2006).

In order to secure the electricity supply, given that power blackouts were one of the most obsessive issues in Vietnam at the time, the developer had cooperated with other investors to build and operate a 375 MW power plant named Hiep Phuoc Power Plant. Thanks to this plant, a power supply free from blackouts had been secured for over a decade. The power price there had been higher than the general regulated tariff of the government, but the residents seemed satisfied for a long time. This plant has contributed significantly to PMH's success (Macomber, 2011), but why the business failed is discussed later.

Furthermore, the developer also made contracts with water suppliers to ensure uninterrupted water supply. Telecommunication and cable TV were also given the same approach. The developer has also granted land and other favorable conditions to attract schools and hospitals. For instance, there is an international university – RMIT – and many high quality schools from elementary to high school levels. Furthermore, FV Hospital which is owned by French doctors is perhaps the most well equipped

hospital in Vietnam. Moreover, PMH Corp. has usually organized social and cultural events actively and purposefully and has also been very active in the charity sector.

The developer has also been the supplier of most urban services including: security, maintenance, street cleaning, landscaping and so forth. PMH has established a big customer service center along with service companies such as a tree and landscape company, sanitation companies and so on. The security is perhaps the best service of PMH. It invited veterans from United Kingdom to train its bodyguards to build a professional security team (Nguyen et al., 2006). PMH has even built a bus company to provide service to the CBD. The ticket fare is three times higher than that of regular buses, but its service is much better and more reliable.

The information in www.phumyhung.com.vn is much richer and more up-to-date than those of the web pages of other projects. For example, announcements of safety, preparation for the rainy season or information about power supply have been very recent in PMH, while there is no updated information about urban services on www.vanphathung.com.vn, the webpage of the developer of Phu My urban area, the second largest urban area after the PMH in the region.

In summary, urban service provision in PMH is much better than those of surrounding buildings in particular and urban services provided by public companies in the whole city in general. However, the problem is that most urban services have been heavily subsidized. This raises the question about the quality of services along with their financial sustainability after the developer sells all properties, which is analyzed subsequently.

4. Outcomes along with concerns

Tan Thuan EPZ and PMH New Urban are considered highly successful for the city and the developers, but Hiep Phuoc Power Plant has been losing money and the implementation of the Saigon South Master Plan has essentially been failed. Furthermore, there are concerns about the financial sustainability of the urban service provision, urban sprawl, segregation and environmental issues.

4.1. Mixed outcomes

On the successful sides, Tan Thuan EPZ has almost been fully built and is generating huge benefits for Vietnam's economy. It was rated as the best industrial zone in Asia by Euromoney's Corporate Location Magazine (TTC, 2011). 179 investors have invested USD 1.559 billion to generate 64,000 jobs and USD 2.1 billion export revenue. It is impressive that Tan Thuan EPZ's net export revenue in 2013 (after subtracting imported inputs) was USD 500 million while the whole country net export was only USD 853 million, but it has recently generated modest financial profits (IPC, 2014).

PMH has become the most successful case in major aspects. Initially, many people, including some of PMH's senior officials, were not optimistic. But now, they have been impressed by its success.² Regarding Vietnam's economy, this is the most desirable urban development. It has been generating huge revenue for the state budget and officially recognized as a national model for urban development by Vietnam's government (Ministry of Construction, 2008). From the business perspective, it is one of the most profitable real estate projects. International accounting firms estimated that its annual revenue is over one billion dollars (Chang, 2010). From 1998 (the time when revenue generation started) through to 2009, the government has received about USD 500 million from tax revenues and dividends (Ngo and Huynh (2010)). An estimate based on several sources shows that from 1998 to 2009 PMH's aggregate revenue, cost and profit was around USD 1.3 billion, USD 560 million and USD 500 million respectively. The internal rate of return (IRR) of the net profit, including incurred loss and costs, of this period is 125%. Even assuming conservatively that the cost of the road was wholly disbursed at the beginning, the IRR is still 30%, much higher than required rate of return around 20%. This is a uniquely successful example of new town developments.

On the opposite side, Hiep Phuoc Power Plant is a problematic case. It has been losing money due to the wide gap between costs and tariffs (Dong-Anh, 2011). The operating cost of this fuel powered plant is much higher than that of hydro-powered or gas-powered ones. According to the contract with Vietnam Electricity Corporation (EVN), the price to obtain a fair profit margin in the first quarter of 2011 was 17 cent/kWh, while the retail price charged to industrial plans in the Tan Thuan EPZ was only 5 cent/kWh, and the retail price for households in PMH was less than 10 cent/kWh (Quang-Khai, 2011). To limit the losses, the power company has transferred the responsibility for supplying power for PMH and Tan Thuan to EVN (Lam, 2011). This means that the advantage of having its own power plant was dissolved and since then the residents in PMH started to bear the risk of blackout.

4.2. Failure of implementing the master plan of the whole region

As mentioned above, the designed plan is for an area of 2600 ha, which is equivalent to the area of five districts in the downtown (1, 3, 5, 10, and Phu Nhuan). PMH's five lots of land are dispersed across this area. This was a wise intention for the city because if PMH successfully develops their land, and the remainder as expected goes according to plan, a good and solid urban area for over two million

² Author's interview of retired senior officials of the company in Summer 2011.

people would be created (Nguyen et al., 2006). However, the actual development of Saigon South has no longer following the master plan. Mr. Hoang Minh Tri, a former head of HCMC's Urban Planning Institute bitterly commented: "The planning for Saigon South proposed by the city's urban planning institute and Phu My Hung Corporation along with SOM (an American Consultant) to the Prime Minister's approval in 1994 has almost had no role in the current development of Saigon South." (Nguyen-Khoa, 2012).

Parallel with PMH, the establishment of South Saigon Development Corporation (SADECO) in 1994 to develop the rest of the 2600 ha master plan along with the responsibility of land clearance for the whole plan would have been a strategic step (IPC, 2001). The joint stock company was designed to invite prominent investors including the municipal government, district governments and big corporations to share in the ownership of the company (Nguyen et al., 2006). This aim was to create a strong supporting coalition – a critical condition for a megaproject as argued by Altshuler and Luberoff (2003). Unfortunately, such a desirable coalition had not been formed because there were no direct interests for those in charge of power and influence while interests by acquiring specific pieces of land in the SADECO area have been more obvious. Moreover, there has been no financial support such as that witnessed in the PMH project. The Management Authority of Saigon South Development was established in 1997 by Vietnam's Prime Minister, but, its role has not proven to be effective. Many pieces of land have been divided fragmentally and assigned for numerous developers dispersedly to build some types of real estate and sell them quickly without concern for the impact on other infrastructure or amenities (Huynh, 2012). Consequently, their real estate values have been significantly lower than equivalent ones in PMH as proved above.

Ironically, SADECO was able to help the Tan Thuan and PMH joint ventures to assemble large tracks of land (nearly 1000 ha) to become the most successful developers in Vietnam, but it has not been able to run itself well. Its revenues of over four million dollars and profits of over one million dollars in 2014 posted in its webpage (<http://www.sadeco.com.vn/>) were modest in comparison to PMH's. SADECO has neither achieved lucrative business nor has the municipal government been able to implement the Saigon South Master Plan as designed. This is indeed a disappointing failure.

4.3. Concerns

There are at least four concerns arising at present. The first concern is the future financial sustainability of urban service provision in PMH. Huynh (2012) points out that the developer has heavily subsidized many urban services in the area, which has helped maintain a higher quality of urban service provisions while the costs incurred to residents have been lower than those of surrounding projects.

For example, the maintenance fee including parking of My Khang building in 2011 was about USD 25 for a 100 SQM apartment in comparison to USD 40 excluding parking of neighboring complex Phu My.³ Even the monthly fees at PMH have been significantly increased recently and is only barely enough to fund the services within buildings. Disputes have become more frequent as the developer has begun to transfer the responsibility for some services, such as security within buildings, to other providers. The developer has also started to transfer the management responsibility to building management boards nominated by the residents in each building or block. More seriously, the major burden is the expense of maintaining the landscape and infrastructure outside buildings in an area of four SQKM. There is no sustainable revenue for it yet and the burden is on the developer's shoulders now. As urban services are outsourced their quality seems to be deteriorating. If the trend continues, the difference between the quality of the urban services provided in PMH and the others may not be so significant over time, especially after the developer sells all its real estate products and is no longer subsidizing urban services. Thus, the city's government should think about a more reasonable policy to generate enough revenues to maintain the current quality of the urban service provision when the lease is terminated. Otherwise, the problem of poor service quality elsewhere in the city may happen in PMH in the future.

The second concern is urban sprawl, which is defined as the wasteful use of land through uncontrolled, uninterrupted monotonous expansion (Peiser 1989). Urban sprawl is perhaps a big problem for the Saigon South now and burdens on infrastructure can be very heavy (Huynh, 2012). Urban sprawl has become the catch phrase for everything that is bad about urban growth today (Peiser, 2001), and a global problem (UN-Habitat, 2010). It has negative impacts for the whole society. From an economic perspective, urban sprawl creates a burden on infrastructure and requires more energy and materials to maintain than a compact city due to homes, offices and utilities being further apart (UN-Habitat, 2011). Burdens on transportation frameworks have a major negative impact of urban sprawl (Newman and Kenworthy, 1989; Ewing, 1997).

The third concern is segregation and gentrification. Gated communities are residential areas with restricted access in which normally public spaces are privatized (Blakely and Snyder, 1997; Blandy et al., 2003). The most obvious problem is segregation as the rich and the poor are separated into two different worlds. It is hard to find any study of gated communities that does not raise the concern of segregation (Blakely and Snyder, 1997; Blandy et al., 2003; Logan, 2009; Sassen, 2010; Sardar, 2010; Bagaen and Uduku, 2010). Social segregation in urban areas is considered undesirable (Goldsmith, 1997). David

³ Author's collection of information from residents living in the two buildings in August 2011.

(1990) raised the concern of the spatial segregation by gated communities. Another objection is the loss of public spaces, which are the sites of social and ritual interaction of the heterogeneous population, and the place for public consciousness of mutual obligation (Sardar, 2010). Because of privatization and restrictions, public spaces such as parks within gated communities are open only to residents in those communities (Landman, 2010). Cities of walls and urban fortresses are common terms referring to the negative impacts of gated communities (Blakely and Snyder, 1997; Blandy et al., 2003; Caldeira, 2000; Foldvary, 1994; Huang and Low, 2008). A final objection is that gated communities generally have low-density populations that place a strain on infrastructure. The development of Saigon South, as Waibel (2004, 2009) points out, is contributing to the increasing process of physical, functional, and social segregation within the municipality of HCMC. Moreover, gentrification has been happening since the poor have been pushed out to reserve the land for the wealthier populations (To et al., 1997).

The fourth concern is that building towns on wetland causes environmental problems and exacerbates the potential danger of flooding due to rising sea levels. Wetlands provide many important if not vital nature-related services to human society such as flood protection, wildlife habitats, nutrient storage, related pollution control, shoreline protection, and storm buffer zones (Shin et al., 1997; Turner, 1991; Turner et al., 2000; Department of Ecology – Washington State, 1997). Unfortunately, the role and significance of wetlands are not always fully recognized by policymakers. Thus, wetlands are routinely reclaimed for residential and industrial uses that are of higher commercial value (Shin et al., 1997). Wetlands have been lost because of urban and industrial sprawl all over the world (Pinder and Witherick, 1990) as local governments usually have strong motivations to expand built-up and industrial zones (Hesslink, 1996). However, wetland destruction damages health, safety, productivity, amenities, and ecological value. In HCMC, flooding and sea level rising have become much more serious recently. Saigon South is considered both the culprit and bearer of the problem. Moreover, the longer term ecological impacts of building a massive city on swampland have not been assessed and are of potential concern (Douglass and Huang, 2007).

5. Conclusions and lessons

Phu My Hung New Urban Development is a rare successful case in some major aspects as internalizing externalities has worked there. The developer was able to assemble large tracks of land and secure financial needs to finish big components of a megaproject. They have also been motivated to provide ample and affordable public goods and urban services by increased real estate value and earned significant profits. However, these incentives can decrease altogether as the developments are sold off. Moreover, PMH is only a part of the Saigon South

Master Plan, whose implementation has essentially failed. There are also serious concerns on urban sprawl, segregation and environmental issues arising at present. At least four lessons can be drawn from this case study.

First, internalizing externalities is practical, but there are also problems. Thanks to high autonomy in developing a large area of land, the developers have actively provided compatible design, landscaping, infrastructure, and urban services. These features have created benefits for the real estate business in PMH. However, since development building continues, providing all basic urban services has begun to surpass the capacity and capabilities of the developer. Quality of urban services has begun to vary along with inviting other providers. As discussed with a number of PMH's senior officials and those providing urban services during my research process, the company is struggling to find solutions. Without "forcing" residents to pay for all the services they receive, the urban service provision is not financially sustainable. As a result, PMH may even have to experience the problem of poor urban service provision that the city needs to confront as a whole. This is indeed a huge challenge for PMH. The prediction: "the solution works only to internalize externalities and provide initial public goods at the time of development" by DiPasquale and Wheaton (1993) is likely to occur.

Second, favorable conditions in unique circumstances are also significant. The project has been successful partly due to first mover's advantage and at least three favorable conditions mentioned below. Firstly, privacy and shielding from the public's focus was important. During the preparation time of Tan Thuan and PMH, only a few believed those projects to be successful. This helped the developers avoid troubles. Whereas the situation was opposite when SADECO was established as interests in the land were obvious. Therefore, many tried to get their own interests instead of collectively and comprehensively implementing the Saigon South Master Plan. Secondly, not only did the municipal government grant high autonomy for the developer to determine how they wanted to build it, but they also invested huge efforts and resources into the project. In particular, the government was in charge of the land clearance, usually labeled as one of the most difficult tasks (Nguyen et al., 2006). Nearly 1000 ha of land were assembled with only some minor issues (IPC, 2001). Thirdly, it was fortunate to have the involvement of a public entity like KMT as the initial financial need was beyond the scope of the Vietnamese investors and it was particularly hard for private investors to spend millions of dollars in such a risky investment environment. The public-like money from KMT played the prominent role in the area of financing. When KMT withdrew in 1994, the project's prospect was already clear. Therefore, the Taiwanese investors who remained were motivated and were able to mobilize capital to continue their investment. These favorite and unique conditions make it extremely difficult to mimic the PMH model comprehensively, although some aspects are learnable.

Third, the untold stories behind the successes are also part of the picture. As the saying goes, “every coin has two sides”. Risk and uncertainty will always be a matter, especially when doing business in a developing country. There was a dispute on the corporate income tax due to the ambiguity of regulations and laws in the early 2000s. Eventually, PMH had to pay a 25% tax rate instead of 10% written in the initial investment license. Furthermore, there has been a dispute on paying fees to transfer land using legal rights since 2008. It has become complicated now (Ngo and Huynh, 2010). Finally, the outlook to get the rest of land promised for PMH (300 ha) is unclear now.

Finally, the result should be put in a comprehensive picture. Obviously, PMH is a successful case, but it is only a part of the Saigon South Master Plan, whose implementation has essentially failed. There are also serious concerns on urban sprawl, segregation and environmental issues arising at present. Therefore, the prestige and luxuriousness of PMH is the pride of HCMC, but undesirable externalities should be considered and mitigated. Being put in the Saigon South Master Plan and related issues, Phu My Hung is only a partial success of a broader landscape indeed. The hurdles and problems happening in this case are quite common in many other places.

Acknowledgement

This article was developed from a major chapter of my Doctor of Design Dissertation at Harvard Graduate School of Design. I am particularly grateful to my advisors. I thank my colleagues and friends for their help and support.

References

- Altshuler, A., Luberoff, D., 2003. *Mega-Projects: The Changing Politics of Urban Public Investment*. Brookings Institution Press and Lincoln Institute of Land Policy, Washington, DC and Cambridge.
- Bagaen, S., Uduku, O., 2010. *Gated Communities: Social Sustainability in Contemporary and Historical Gated Developments*. Earthscan, London and Washington, DC.
- Blakely, E.J., Snyder, M.G., 1997. *Fortress America: Gated Communities in the United States*. Brookings Institution Press, Washington, DC and Cambridge.
- Blandy, S. et al., 2003. *Gated Communities: A Systematic Review of the Research Evidence*.
- Caldeira, T., 2000. *City of Walls: Crime, Segregation, and Citizenship in São Paulo*. University of California Press, Berkeley.
- Chang, H.-Y., 2010. *Carving Out a Kingdom in Vietnam*. Available from: <<http://english.cw.com.tw/article.do?action=show&id=12356&offset=0>>.
- David, M., 1990. *City of Quartz: Excavating the Future in Los Angeles*. Veso, London.
- Department of Ecology – Washington State, 1997. *The Economic Value of Wetlands*.
- DiPasquale, D., Wheaton, W.C., 1993. *Urban Economics and Real Estate Markets*. Prentice Hall, Englewood Cliffs, NJ.
- Dong-Anh, 2011. *Hiep Phuoc Power Plant: a Difficult Task*. Available from: <<http://laodong.com.vn/Kinh-te/Dien-luc-Hiep-Phuoc-bai-toan-nan-giai/26678.bld>>. In Vietnamese.
- DOS-HCMC, 2011. *Statistical Yearbook, 2010*.
- Douglass, M., Huang, L., 2007. *Globalizing the city in Southeast Asia: Utopia on the urban edge – the case of Phu My Hung, Saigon*. *Int. J. Asia Pac. Stud.* 03 (02).
- Ewing, R., 1997. *Is Los Angeles-style sprawl desirable?* *J. Am. Plann. Assoc.* 63 (1), 107–124.
- Foldvary, F.E., 1994. *Public Goods and Private Communities*. Edward Elgar, Cheltenham.
- Goldsmith, W.M., 1997. *The metropolis and globalization: the dialectics of racial discrimination, deregulation, and urban form*. *Am. Behav. Sci.* 41 (3), 299–310.
- Hesslink, J., 1996. *Sustainability war around Skocjan Bay – economy vs ecology*. Utrecht University.
- HIDS, 2012. *The Report of the Master Plan of Socioeconomic Development of Ho Chi Minh City in the 2011–2020 Period with a Vision to 2025*. In Vietnamese.
- HIDS & PMH Corp., 2013. *Phu My Hung – Twenty Years of Development*. In Vietnamese.
- Huang, Y., Low, S.M., 2008. *Is gating always exclusionary? A comparative analysis of gated communities in American and Chinese cities*. In: Logan, J.R. (Ed.), *Urban China in Transition*. Blackwell Publishing, pp. 182–202.
- Huynh, T. Du, 2012. *The Transformation of Ho Chi Minh City: Issues in Managing Growth*. Harvard.
- IPC, 2001. *Evaluation of Tan Thuan Model*. Available at: In Vietnamese.
- IPC, 1992. *Tan Thuan Document*. Available at: In Vietnamese.
- IPC, 2014. *Tan Thuan EPZ Main Indicators*. In Vietnamese.
- Kim, A.M., 2008. *Learning to be Capitalists: Entrepreneurs in Vietnam's Transition Economy*. Oxford University Press.
- Landman, K., 2010. *Gated minds, gated places: the impact and meaning of hard boundaries in South Africa*. In: Bagaen, S., Uduku, O. (Eds.), *Gated Communities: Social Sustainability in Contemporary and Historical Gated Developments*. Earthscan, p. 133.
- Logan, J.R., 2009. *Urban China in transition*. *Geog. J.* 175 (2), 160–160. Edited by John R. Logan.
- Macomber, J., 2011. *The role of finance and private investment in developing sustainable cities*. *J. Appl. Corporate Finance* 23 (3), 64–74.
- Ministry of Construction, 2008. *Decision No. 860/QĐ-BXD on June 19th, 2008*. In Vietnamese.
- Newman, P.W.G., Kenworthy, J.R., 1989. *Gasoline consumption and cities: a comparison of U.S. cities with a global survey*. *J. Am. Plann. Assoc.* 55 (1), 24–37.
- Ngo, A., Huynh, T. Du, 2010. *Urban Development Through Infrastructure Land-based Financing: Cases in Ho Chi Minh City*, Fulbright Economics Teaching Program.
- Nguyen, L.A., 2008. *Battleground*. Available from: <<http://www.forbes.com/global/2008/0929/024a.html>>.
- Nguyen, V.K., Phan, C.D., Ton, S.K., 2006. *Nha Be Rehabilitation from Industry: Tan Thuan Export Processing Zone – a breakthrough, general publisher, Ho Chi Minh City*. In Vietnamese.
- Nguyen-Khoa, 2012. *Urbanization in HCMC – Article 1: New Face*. *Sai Gon Giai Phong Online*. Available from: <<http://www.sggp.org.vn/moitruongdothi/2012/10/302148/>>. In Vietnamese.
- Peiser, R.B., 2001. *Decomposing urban sprawl*. *Town Plann. Rev.* 72 (3), 275–298.
- Peiser, R.B., 1989. *Density and urban sprawl*. *Land Econ.* 65 (3), 193–204.
- Peiser, R.B., Chang, A.C., 1999. *Is it possible to build financially successful new towns? The Milton Keynes experience*. *Urban Stud.* 36 (10), 1679–1703.
- Pinder, D.A., Witherick, M., 1990. *Port industrialization, urbanization and wetland loss*. In: Williams, M. (Ed.), *Wetlands: A Threatened Landscape*. Oxford University Press, Basil Blackwell.
- >PMH Corp., 2011. *Introduction of Phu My Hung Urban Development*. Available from: <<http://www.phumyhung.com.vn/eng/introduce.php?id=1#3>>.
- Lam, Q., 2011. *Hiep Phuoc Power Plant Gave its Property for Free for EVN*. Available from: <<http://nld.com.vn/20110421114746264p0c1002/dien-luc-hiep-phuoc-bieu-khong-tai-san-cho-evn.htm>>. In Vietnamese.

- Quang-Khai, 2011. Hiep Phuoc Power Plant Proposes to Increase its Tariff 200 Percent. Available from: <<http://tuoitre.vn/Chinh-tri-Xa-hoi/426114/Dien-Hiep-Phuoc-kien-nghi-tang-gia-dien-200.html>>. In Vietnamese.
- Sardar, Z., 2010. Opening the gates: an East-West transmodern discourse? In: Bagaen, S., Uduku, O. (Eds.), *Gated Communities: Social Sustainability in Contemporary and Historical Gated Developments*. Earthscan, p. 133.
- Sassen, S., 2010. Urban Gating: One Instance of a Larger Development? In *Gated Communities: Social Sustainability in Contemporary and Historical Gated Developments*, pp. xi–xii.
- Shin, E. et al., 1997. Evaluating the Economic Impacts of Urban Environmental Problems: Asian Cities.
- SOM, 1993. Saigon South Master Plan.
- To, T.T.T.H. et al., 1997. Assessing the socio-economic and environmental impact of South Saigon urban development project and providing recommendations for redressing environmental and socio-economic consequences, Ho Chi Minh City.
- TTC, 2011. About. Available from: <<http://ttc-vn.com/about/>>.
- Turner, R.K. et al., 2000. Ecological-economic analysis of wetlands: scientific integration for management and policy. *Ecol. Econ.* 35, 7–23.
- Turner, R.K., 1991. Economics and wetland management. *Ambio* 20 (2), 59–63.
- UN-Habitat, 2011. The State of the World's Cities 2010/2011.
- Vo, H.Q., TU, T., 2004. What Pressure had Mr. Ting had to Face? Available from: <<http://tuoitre.vn/Chinh-tri-Xa-hoi/49484/Ong-Lawrence-STing-da-chiu-ap-luc-gi.html>>. In Vietnamese.
- Waibel, M., 2009. Ho Chi Minh City – a Mega-Urban Region in the Making. *Geographische Rundschau International Edition* 5, 30–38.
- Waibel, M., 2010. The Crescent District in Saigon South: a showcase for post-modern urban development in Vietnam. *Pac. News* 34, 2–3.
- Waibel, M., 2004. The development of Saigon South new urban area: a sign of an increasing internationalization and polarization in Vietnamese society. *Pac. News* 22, 10–12.
- World Bank, 2011. Vietnam Urbanization Review: Technical Assistance Report.