

# Optimising the Design of Starter/Core Houses

Informal Settler Families in the National Capital Region  
of the Philippines



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## 1. Shelter Situation Analysis

### 1.1 Basic General Data

#### *Geography and Administration*



The Philippines constitutes an archipelago of 7,107 islands with a total land area of approximately 300,000 square kilometers (116,000 sq. mi). It lies between 116° 40' and 126° 34' E. longitude, and 4° 40' and 21° 10' N. latitude, and borders the Philippine Sea on the east, on the South China Sea the west, and the Celebes Sea on the south.

The islands are divided into three island groups: Luzon (Regions I to V, NCR and CAR), Visayas (VI to VIII), and Mindanao (IX to XIII and ARMM). The busy port of Manila, on Luzon, is the national capital and second largest city after its suburb Quezon City.<sup>[1]</sup>

The local climate is hot, humid, and tropical. The average yearly temperature is around 26.5°C (79.7°F)/

## Demography and Health

The Philippines is the world's 12th most populous country, with a population of over 85 million as of 2005. Roughly two-thirds reside on the island of Luzon. Manila, the capital, is the eleventh most populous metropolitan area in the world. The literacy rate was 92.5% in 2003, and about equal for males and females.<sup>[29]</sup> Life expectancy is 69.91 years, with 72.28 years for females and 66.44 years for males. Population growth per year is about 1.92%, with 26.3 births per 1,000 people. In the 100 years since the 1903 Census, the population has grown by a factor of eleven. This represents a much faster rate of growth than other countries in the region (Indonesia has grown fivefold over the same period).

## Economy

The Philippines is a newly industrialized country with an agricultural base, light industry, and service-sector economy. It has been listed in the "Next Eleven" economies. The Philippines has one of the most vibrant business process outsourcing (BPO) industries in Asia. Numerous call centers and BPO firms have infused momentum into the Philippines market, generating thousands of jobs, including Fortune 500 companies.<sup>[13]</sup>

The resiliency of the Philippine economy is due to low foreign fund inflows and its agriculture-based economy that allowed it to snap back from Asian Financial Crisis as evidenced by a 3% growth in 1999 and 4% in 2000. By 2004, the

Philippine economy catapulted to over 6% growth after the East Asian financial crisis of the late 1990s. In 2005, the Philippine peso was said to be Asia's best-performing currency. In 2006, the Philippine economy expanded at a rate of 5.4%, higher than of the previous year. The government plans to accelerate the country's GDP growth by 7% in 2007. The government forecasts the economy to grow at 9% by 2009.<sup>[16]</sup>

Strategies for streamlining the economy include improvements of infrastructure, more efficient tax systems to bolster government revenues, furthering deregulation and privatization of the economy, and increasing trade integration within the region and across the world.

Despite the growing economy, the Philippines will have to address several chronic problems in the future. Income inequality remains persistent; about 30 million people lived on less than \$2 per day in 2005. China and India have emerged as major economic competitors, siphoning away investors who would otherwise have invested in the Philippines, particularly telecommunication companies. Regional development is also somewhat uneven, with the main island Luzon and Metro Manila gaining most of the new economic growth at the expense of the other regions.

The Philippines is a significant source of migrant workers; as of 2004, the Philippine government has estimated that there are over 8 million Overseas Filipinos, while independent estimates by various Philippine civic organizations estimate the number at 11 million. The Filipino Diaspora is present in 190 nations worldwide. In 2006, Overseas Filipinos, recently known as **Overseas Filipino Investors**, remitted \$12.8 billion back home and represents an almost 20% increase from the previous year. The government forecast for 2007 that at least \$14 billion will be sent to the Philippines by Filipino workers.

## 1.2 Shelter Related Fact and Figures

### Housing Situation

Against a target of 1.2 million units of housing assistance or shelter security units (i.e., a house, house and lot, or lot only), the housing sector, through the National

Shelter Program, was able to provide 882,823 shelter security units or an accomplishment rate of 73.6 percent as of June 2004 (Table 1). Of the total output, 60 percent or 493,496 units went to socialized housing of which 93 percent (219,268 units) benefited the informal sector (i.e., non-members of Home Development Mutual Fund-Pag-IBIG, GSIS or SSS) mainly through the Presidential Proclamation of 73 sites. Forty percent (389,327 units) went to formal housing. It may be noted that 52 percent of this (200,865 units) was provided by Pag-IBIG, the largest output by a single institution involving PhP48.53 billion.

In support of the Millennium Development Goal target to significantly improve the lives of at least 100 million slum-dwellers by 2020, the government and the private sector through their programs provided shelter security units to 382,285 households during the period 2001 to 2004.

The table hereunder details the magnitude of informal settlers all over the country as of 2006 numbering to a total of 1,408,492 Million, more than half of whom are found in NCR.

REGION		NO. OF INFORMAL SETTLERS (Households)	Percentage to Total
<b>GRAND TOTAL</b>		<b>1,408,492</b>	<b>100.00</b>
<b>LUZON</b>		<b>1,074,061</b>	<b>76.26</b>
NCR		726,908	51.60
Northern and Central Luzon		145,617	10.30
	CAR	15,017	
	Region 1	21,489	
	Region 2	19,577	
	Region 3	89,534	
Southern Luzon and Bicol		201,536	14.30
	Region 4	173,185	
	Region 5	28,351	
<b>VISAYAS</b>		<b>180,842</b>	<b>12.80</b>
	Region 6	113,639	
	Region 7	45,159	
	Region 8	22,044	
<b>MINDANAO</b>		<b>153,589</b>	<b>10.90</b>
	Region 9	16,373	
	Region 10	34,375	
	Region 11	67,748	
	Region 12	11,978	
	Region 13 (CARAGA)	20,115	
	ARMM	3,000	

The housing need in the country is estimated to reach a total of 3.75 million units by 2010.<sup>1</sup> Demand for new houses, for the said period, is 2.6 million of the total while housing backlog accounts for almost a million.

According to the MTPDP 2004-2010, the government is expected to provide shelter assistance to 1,145,668 households for the period 2005-2010. This is approximately 30 percent of the total housing need for this period.

Housing Package	Number of Units	Percentage Share
Socialized Housing (below P225,000)	780,191	68.10%
Low Cost Housing (P225,000 – P2 million)	365,282	31.80%
Medium Housing (P2 million – P4million)	195	0.01%
<b>Total</b>	<b>1,145,668</b>	<b>100.00%</b>

Source: HUDCC (as cited in the MTPDP 2004-2010)

## Housing Occupancy<sup>2</sup>

### Nine out of ten were single houses

Most of the occupied housing units were single houses (87.73 percent). Multi-unit residential and Duplex comprised 6.92 percent and 3.54 percent, respectively. The remaining 1.81 percent was either commercial/industrial/ agricultural, institutional living quarters or other type of housing units.

### Median floor area of housing units was 29.63 square meters

Of the total occupied housing units, 23.45 percent had floor area of 10 to 19 square meters; 18.78 percent with 20 to 29 square meters; 17.52 percent with less than 10 square meters, and 16.56 percent with 30 to 49 square meters. On the other hand, the proportion of housing units with floor area of 90 to 119 square meters was 3.21 percent.

Occupied housing units had a median floor area of 29.63 square meters. This meant that, half of the housing units had floor area of below 29.63 square meters.

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<sup>1</sup> Philippine MediumTerm Development Plan 2004-2010, NEDA 2004.

<sup>2</sup> National Statistics Office, 2000.

## Roof and outer walls were made of strong materials

As to the construction materials used, more than 30 percent of the housing units used concrete/brick/stone for the outer walls. This registered 14.49 percentage point increase from the 1990 figure. In addition, close to 68 percent had roof made of galvanized iron/aluminum, an increase of 17.29 percentage points as compared to the figure ten years ago.

Housing units using the combination of galvanized iron/aluminum for the roof and concrete/brick/ stone for the walls contributed 29.03 percent.

### *Household Size*

- 1995            5.07 persons/household
- 2000            5 persons

## Building Construction Materials

A lot of building materials are available in the Philippines either locally manufactured or imported. However, the most common and what is usually used in the “conventional” system of construction are the concrete hollow blocks, steel reinforcements, cement, galvanized roofing sheets, gravel, sand, and plywood. Other innovative materials have been introduced but though these proved to be of equal or sometimes, of better quality, they are not affordable. Construction technologies are generally not acceptable by the poor and low-income group as these technologies are often expensive and are perceived as not durable and very limiting in terms of expansion.

At present, innovative housing/building systems and materials require accreditation with the Housing and Urban Development Coordinating Council prior to utilization in government housing projects. The NHA, in this process renders technical evaluation of the proposed technologies. The Department of Science and Technology (DOST) likewise evaluates new construction materials. Although there may already be a long list of these technologies, adoption of these technologies in massive socialized housing projects are very limited. In fact, NHA still adopts the conventional system due to the issue on the target beneficiaries’ acceptability of the same and also to the issue of transparency as no monopoly of the adoption any system is allowed. Therefore, selection of these proposed technologies can only be undertaken through public bidding.

## Access to and cost of Basic Services/Infrastructure

In 2000, studies show that an average of 22.2% of the combined population of the low-income and urban poor households in Metro Manila does not have direct access to water supply. Of this same number, 40% however, have their own water connections to the community water system, which are provided either of the two existing private water concessionaires.

Said data further reflect that water –sealed toilet facilities were exclusively used by 83% of the same population, followed by 4.5% who had closed pits. Despite this number, 7% of the urban poor population who are house owners still do not have their own toilet facility.<sup>3</sup>

The table hereunder details the above information:

Housing Facilities of the Low-Income Group, Metro Manila (in percent)

	LOW-INCOME		URBAN POOR	
	OWNERS	TENANTS	OWNERS	TENANTS
<i>Source of Water</i>				
Own use, faucet, community water system	45.0	46.1	33.6	35.1
Shared, faucet, community water system	28.8	33.5	35.0	42.9
Own use, tubed/piped well	1.3	0.4	1.4	0.8
Shared, tubed/piped well	1.3	0.9	1.3	1.2
Dug well	0.6	0.3	1.6	-
Spring, river, stream, etc	-	-	-	-
Rain	-	-	-	-
Peddler	23.1	18.7	27.1	19.9
All	100.0	100.0	100.0	100.0
<i>Toilet Facility</i>				
Water sealed	88.2	87.0	79.9	77.5
Closed pit	3.7	4.3	3.8	6.2
Open pit	0.9	1.0	1.0	1.5
Others (pail system, etc.)	4.6	6.0	8.3	9.6
None	2.7	1.7	7.0	5.3
All	100.0	100.0	100.0	100.0

Source of basic data: FIES 2000

<sup>3</sup> National Statistics Office, 2000.

### 1.3 Housing Policy

The Urban Development and Housing Act (Republic Act 7279) became into law in 1992 and provided, among others that the NHA, together with all local government units, shall jointly identify sites for possible socialized housing development. Said law further provide that the NHA, with respect to lands belonging to the national government, and the LGUs with respect to lands within their respective localities, shall coordinate with each other to formulate and make available various alternative schemes for the disposition of lands to the program beneficiaries, which shall not however, be limited to those involving transfer of ownership in fee simple, but shall include lease with option to purchase, usufruct, or such other variations.

The current administration has identified several infrastructure projects for immediate implementation. As such, the resettlement of the large number of families affected by these projects is crucial and is given top priority, in which case, NHA takes lead. Among these projects are the Northrail Project which stretches from Clark in Pampanga to Caloocan in Metro Manila, the North-Southern Linkage Project from Caloocan to Calamba, Laguna which involves the relocation of some 81,300 informal settler families (Metro Manila – 32,763, Laguna – 16,282, Bulacan – 12,878, and Pampanga – 19,377).<sup>4</sup> Another priority project being undertaken is the Northern Luzon Expressway Project where some 7,205 families will be affected.

In the implementation of the relocation of these families, NHA has been designated to be the implementor of the said activity. Two (2) resettlement options are provided for these qualified beneficiary families, namely: “in-city” resettlement, the site to be identified by NHA and the Balik Probinsya (“Back to the Province”) Option. Initially, each of these families are given standard entitlements amounting to PhP 188,000.00 (\$ 4,000) which consisted of a loan for a developed/serviced lot – SLL - (PhP 100,000.00 - \$ 2,128), a housing construction loan – HCL - (PhP 60,000.00 - \$ 1,277), financial assistance (PhP 1,000 - \$ 21), the relocation cost (PhP 12,000 - \$ 256), water and power connection fees (PhP 5,000 - \$ 107), and community facilities (PhP 10,000 - \$ 213).

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<sup>4</sup> Status Report on the Northrail and the North-Southern Linkage Projects, National Housing Authority, August 2008.



Due to remarkable increase in the price of construction materials during the first quarter of 2008, specifically those for the housing construction, the amount of HCL was increased from PhP 60,000 (\$1,277) to PhP 75,000 (\$ 1,596).

Given the SLL in the amount of PhP 100,000 and the HCL in the amount of PhP 75,000, only PhP 75,000 and PhP 65,000, respectively, are to be repaid by each of the project beneficiaries to government. Hence, a subsidy PhP 25,000 and PhP 10,000, or a total of PhP 35,000 is granted each family-beneficiary.

#### 1.4 Actors in Shelter Delivery and their Roles

The housing delivery in the Philippines involves the participation of several groups, which can be categorized into two (2). The first is the Government Sector group headed by the Housing and Urban Development Coordinating Council (HUDCC), created thru Executive Order No. 90 and is the highest policy making and coordinating office on shelter. It is an umbrella organization which originally consists of the following agencies: the National Housing Authority (NHA), the Home Guaranty Corporation (HGC), National Home Mortgage Finance Corporation (NHMFC), and the Housing and Land Use Regulatory Board (HLURB), support agencies and private sector representatives consisting of Non Government Organizations (NGO) and private developers. Latest addition to the organization is the Social Housing Finance Corporation (SHFC), a subsidiary of the NHMFC.

The HUDCC is tasked in coordinating the formulation and application of a national urban policy framework and enabling the delivery mechanism/markets of affordable and accessible SHELTER with special concern for urban households qualified for social housing namely informal settlers, homeless and income poor i.e. bottom 30%.

Hereunder are the agencies under HUDCC:

1. NHA - sole government agency engaged in direct shelter production focused on providing housing assistance to the lowest 30% of urban income-earners.
2. NHMFC - the major government home mortgage institution. Formerly the Home Insurance and Guaranty Corporation
3. HGC - mobilizes all necessary resources to broaden the capital base for the effective delivery of housing and other related services, primarily for

the low-income earners through a viable system of credit insurance, mortgage guarantee, and securitize

4. HDMF or the Pag-Ibig Fund - focuses on the administration of a nationwide provident fund for the government's housing program, and formulates other investment strategies relative to housing as well as improve its collection efficiency.
5. HLURB - sole regulatory body for housing and land development. It ensures rational land use for the equitable distribution and enjoyment of development benefits.

Local Government Units have been empowered by virtue of the Local Government Code of 1992 which required all national agencies to conduct consultations with nongovernmental and people's organizations, and other concerned sectors of the community before any project or program is implemented.

This is followed by other support offices that support efforts of the shelter agencies in its housing delivery.

The second group is composed of Non-Government Organizations (NGO's). At present, affordable housing is provided by 2 active NGO's who assist government, namely the Habitat for Humanity Philippines and the Gawad Kalinga. Both organizations require the "sweat equity" to be provided by the prospective household beneficiary.

## 1.5 Shelter Design

Aside from the regular planning laws governing the country's planning and construction industry such as the National Building Code, the Structural Code, the Sanitary Code, the Electrical Code, and other pertinent laws like the Accessibility Law, the planning for affordable and decent housing in the Philippines specifically catering to the lowest sector of its population is covered by the provisions of Batas Pambansa (BP) 220. Additional planning considerations are existing local zoning regulations and ordinances.

BP 220 prescribes the minimum size of a lot to be 32.0 square meters, while that for a housing unit in multi-family dwellings to be 18 square meters. Once a plan for a low-cost housing project is completed, permits and other licenses need to first be secured prior to the project's actual implementation.

## 2. Organisation

By virtue of Presidential Decree 757 dated 31 July 1975, the NHA, categorized as a government-owned and controlled corporation (GOCC) was created and has been implementing a housing program for the extremely poor population of the country. NHA was likewise, under EO 90 dated 17 December 1986, mandated as the sole national government agency to engage in shelter production focusing on the housing needs of the lowest 30% of the urban population.

It has presently a workforce of some 1,600 highly competent and motivated employees deployed all over the country, 13.2% of whom are in the managerial positions, 38.3% are technical employees, and the remaining 48.5% are occupying administrative positions. Most of these employees have been with the organization for an average of 20 years, thereby possessing incomparable experience in their own fields. They are considered the backbone of the organization and the pillars of the socialized housing industry.

The NHA takes pride in its employees, who approximate an average age of 45 and who have mostly spent their prime years with the corporation. However, the ever-increasing housing problem in the country poses a need to beef up its present personnel with young employees who are ideal and who possess fresh ideas.

Currently, I am Team Head of the Planning and Monitoring Team of the NBP Resettlement Project, NCR Area Management Office. My task primarily entails the preparation of the designs for the various aspects required for the project, to include the utilities and plans for the housing units to be constructed on the lots with a modal size of 32 square meters and to submit for Management approval proposals that are deemed best and would optimise the benefits for the target project beneficiaries.

## Shelter Problem

One of the main problems being faced by government is the provision of the standard entitlement to families affected by national flagship projects. Resettlement of the families affected by these identified projects therefore takes top priority.

At present, of the total 54,246 families affected by the NSLP and the 7,205 families affected by the NLEX Project, 30,530 and 1,620 families, respectively, have been provided assistance as of August 31, 2008, which included the PhP 75, 000 housing construction loan.

Initially, the PhP 75,000 (originally PhP 60,000)-entitlement was given as a housing material assistance loan to the qualified affected families. However, it has been observed that the houses of the families who have been provided such assistance were not able to completely finish their houses as they are not technically capable of building one, or the sad part of it is that the assistance given is used for other purposes which the beneficiary see as of more priority than living in a complete house.

Based on these findings, government had decided on the modification of said assistance to be as follows:

1. the loan of PhP 60,000 (original amount) shall now be given for the construction of a complete core housing unit which shall be undertaken through “Community-Initiated Approach”. The choice of the beneficiaries on who shall undertake the construction of their units shall purely be their option, with NHA providing technical assistance.
2. Relocation shall not be undertaken until the housing units and all other basic facilities in the resettlement sites are in place.

Considering the urgent need for these resettlement sites based on the target project implementation schedule of rail projects, NHA went into the scheme of procuring developed sites with completed housing units based on certain minimum requirements provided for by law from private developers.

Some of the resettlement sites which have been allocated to the affected families are as follows:

1. Northville 1 and 2, Valenzuela
2. Northville 3-9, Bulacan
3. Northville 10-16, Pampanga
4. Southville 1,4, and 5, Laguna
- 5. Southville 3, Muntinlupa, Metro Manila**

6. Southville 2, Cavite
7. Southville 6, Caloocan

However, the scheme of procuring developed sites with houses was not adopted by NHA in its 50-hectare Southville 3 (New Bilibid Prison) Resettlement Project in Muntinlupa City, Metro Manila as the said site was covered by Presidential Proclamations 234 and 335. These proclamations segregated said portion from the prison's reservation area and declared the same for housing development to benefit qualified Muntinlupa City families affected by the North-Southern Linkage Project of the Philippine National Railways, with NHA as administrator.

Based on the plans prepared by NHA for the project, 7,035 lots of 32-square meters (except for end lots) with row houses with a uniform floor area of 20 square meters were generated.

Having divided the entire project into four (4) phases to facilitate its development, NHA bidded out its implementation in July 2007 to 4 private developers with an original target completion date of December 2007 vis-à-vis a target relocation schedule of 1<sup>st</sup> Quarter of 2008.

The construction of the housing units, is, however, being undertaken through the CIA with NHA preparing the plans, technical specifications, and estimates for the housing units. At present, though the land development is almost completed, the construction of the housing units has been delayed. This may be attributed to the fact that the construction of these units, given its plans, specifications, is very tight to implement given its cost.

#### 4. Proposal for Change and Improvement

This paper intends to come up with the most economical design of a prototype housing unit that will optimise the PhP 75,000.00-budget provided for by government for a starter/core house for affected informal settler families of its flagship projects, given the following considerations: space requirements, materials, construction technology, and aesthetic considerations.



### *Basic Considerations:*

#### 1. Space Requirements

- a. The basic spatial requirements of a family composed of 5-6 members. Considering the very limited budget and the area that may be provided, a “one-room affair” concept is the option that may be considered.
- b. The flexibility of the house design for possible expansion in the future. The lives of the families who will live in the houses are foreseen to improve. The layout of the house should be planned in a manner wherein incremental development would be possible.

#### 2. Materials

##### a. Economical yet Durable

Materials to be used should not be very expensive yet durable and should be commercially available. Some materials such as those that are used in innovative construction technologies may also be used since this may considerably reduce the construction period. However, adequate supply of such materials should first be assured, most especially if mass housing production is envisioned.

##### b. Not restrictive in terms of future improvement

##### c. Easy to maintain

##### d. Minimum wastage

Considering that the proposed plan may be adopted in a massive scale, institutional partnerships with suppliers and manufacturers may be undertaken in order to be assured that the materials to be used will suit the specifications required. For instance, wastage in

the concrete hollow blocks to be laid may be minimized through the production of customized sizes of hollow blocks.

### 3. Method of Construction

There are two (2) options that may be considered in the method of construction of the prototype housing units. The first is the conventional system wherein the regular concrete hollow blocks and the reinforced concrete posts and beams are adopted. It is often assumed that this type of construction is more economical in terms of material cost (materials are commercially available). However, this may be more expensive in terms of construction cost given the longer period for the house to be completed.

The second method is the innovative system wherein houses are built using accredited construction technologies. This system may be more expensive in terms of material cost and is generally heavy equipment-intensive, but is more economical in terms of construction period considering that it takes lesser time for the house to be completed. Since the materials utilized in this type of system are not usually available commercially, it is imperative that adequate supply of the materials should first be ensured prior to construction.

Although this may be a suitable option to consider, private companies have “patent” to these technologies and restrictions exist in the use of these systems by government for mass housing development.

The conventional method is, however, proposed to be adopted in the study on the basis of the following considerations: (1) the innovative system is not yet generally accepted by the intended market, (2) materials to be used in the conventional system are locally available, (3) general contractors and developers may be commissioned to implement the project, and (4) since the construction would not require special skills, the contractors may hire workers from the prospective project beneficiaries.

## Enhancing the Sustainability of NHA Resettlement Projects

Relative to the preceding section, this paper also proposes to link the construction of the prototype units using conventional/commercially- available construction materials with the objective of uplifting the image of NHA through the implementation of sustainable projects. This may be concretely achieved through the introduction of livelihood activities for the project beneficiaries. This shall be done through the following:

- a. conduct of skills enhancement activities, specifically, through the holding of seminars on the manufacturing of construction materials like concrete hollow blocks, or, through the training of people given the required manpower ( ex. masons, carpenters, electricians, plumbers).

Such scheme may be comparable to that being adopted by the NGO's (Gawad Kalinga and Habitat for Humanity) wherein their beneficiaries are required to contribute "sweat equity" to the project. This would directly enhance the affordability of the beneficiaries and encouragingly contribute to the sustainability of NHA's projects.

The socio-economic survey conducted by NHA on the prospective project beneficiaries shall be reassessed paying special attention to the various skills of said beneficiaries. Said findings shall be verified/confirmed, adding to the list, the names of other beneficiaries who are interested to undergo the training on specific areas.

NHA, having a direct linkage with its developers and contractors may encourage or require them to utilize local manpower in the construction of their houses.

- b. In order to come up with the most suitable and flexible design of the housing unit for the affected families, expansions and building activities of the project beneficiaries in NHA's past similar projects shall be evaluated. The results of the evaluation shall be assessed and our team will come up with standard plans (several options) for the extensions and improvements of the basic corehouse, together with the material



requirement and present costs. Close monitoring of the actual implementation of these extensions and improvements should be observed in order to prevent the area from becoming future “slums”. This poses to be a big challenge to NHA’s estate management of its projects.

Project beneficiaries shall be required to secure the necessary local permits for improvements which may considered of large scale or extensive.

- c. Portions within the project shall be identified as “green areas” which may be managed by the project beneficiaries. Vegetables and other plants, the produce of which may be sold commercially, shall be grown in the said areas.

This would improve the general environment within the project and simultaneously provide the project beneficiaries a source of income.

As Team Head of the Planning and Monitoring Team of the Southville 3 Resettlement Project, I am tasked to review and evaluate all plans and designs related to the project’s implementation. Based on the said evaluation, I may recommend the most advantageous and appropriate schemes and proposes courses of action for the approval by the NHA Management.

### Issues to Consider

The proposal, in one hand, however, presents issues that may be looked at as strengths, weaknesses, opportunities, or threats. The succeeding paragraphs expound on these issues:

#### Strength

1. NHA takes lead in the relocation activities of government flagship projects and as such, all activities from pre-relocation until post-

relocation, which include among others, planning and project implementation, are overseen and monitored by NHA.

2. NHA, as an agency basically tasked in shelter production for marginalized and low-income families, may forge institutional arrangements with various agencies, both public and private.
3. NHA possesses a list of the qualified developers and contractors who are capable to undertake mass housing production.
4. The job opportunities that the foreseen mass housing production would create for the intended beneficiaries would enhance the image of NHA in terms of sustainability of the projects it implements.
5. The planting of vegetables and other produce which may be sold commercially would improve the aesthetic environment in the area and at the same time uplift the affordability of the beneficiaries

#### Weaknesses:

1. The plan of coming up with a prototype housing unit will make NHA resettlement projects appear too monotonous.

NHA, given its technical capability, may develop standard plans for the extensions and improvements of the corehouse unit in order to prevent said project from becoming “future slums”.

#### Opportunities

1. Due to huge demand for these prototype houses vis-à-vis the considerable number of contractors, developers, and manufacturers of construction materials, the cost of constructing the housing units may be lowered.
2. The massive construction of the housing units would directly translate to more job opportunities to the prospective beneficiaries.

#### Threats

1. The standard cost of PhP 75,000.00 for the proposed prototype housing unit is variable depending on the time of construction. Considering the

projected continuous increase in the prices of basic construction materials dictated by the world economy vis-a vis the low affordability of the project beneficiaries, the recommended housing model may need to be reassessed in terms of the cost (chargeable cost to the beneficiaries and the subsidy provided by government). The value of the HCL entitlement required to construct a liveable house by the qualified affected shall have to be increased proportionately.

To date, evaluations show that the design of the proposed corehouse is the most economical and appropriate for the target project beneficiaries. Although the cost has increased, the NHA Management had decided to pursue the same prototype corehouse.

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