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Formulation of an Assessment Tool on Basic Service-Level Standards for Resettlement Projects

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Abstract

The Philippine government has promoted and institutionalized the delivery of basic services in resettlement sites through various flagship housing programs and the issuance of policies, guidelines, and/or standards. Existing literature suggests, however, that most resettlement sites lack the basic services and the social and economic opportunities to ensure the development of liveable and sustainable communities. The study notes that resettlement projects must be carefully planned in terms of both the processes and the physical design. Government laws and policies must be translated into clear minimum standards that are adopted at the national and subnational level. To formulate these standards, the authors reviewed existing local and international policies and guidelines on resettlement housing and examined the good practices in selected resettlement projects and among project implementers. The policy mapping and case study led to the identification of policy and implementation gaps, which were used in the development and refinement of the assessment tool for resettlement planning.

Keywords: social housing, resettlement projects, settlement planning, resettlement standards

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1. Introduction

The delivery of basic services identified in the Urban Development and Housing Act of 1992 (UDHA) or Republic Act No. (RA) 7279, including the availability of employment opportunities and decent housing at affordable cost, is expected to improve the conditions of the homeless and underprivileged in resettlement sites [Section 2(a), UDHA]. Section 21 of the law indicates that the local government unit (LGU) or the National Housing Authority (NHA), along with other relevant agencies and private developers, shall provide socialized housing or resettlement areas with basic services and facilities including potable water, power, electricity, sufficient power distribution system, sewerage facilities, sufficient and efficient solid waste disposal system, and access to primary roads and transportation facilities. It further indicates that the LGU and relevant agencies, along with the beneficiaries and private sector, shall prioritize the provision of other basic services and facilities including security, communications, education, health, relief and welfare. Given the scope of these services, the government and other stakeholders must work collaboratively to make this happen.

Since the enactment of the UDHA law, the national government has institutionalized the delivery of basic services in resettlement sites through their flagship housing programs. These programs include the Oplan Lumikas para Iwas Kalamidad at Sakit (Oplan LIKAS) under former President Benigno Aquino III's administration; the Building Adequate, Livable, Affordable and Inclusive Filipino Communities (BALAI) under former President Rodrigo Duterte's term; and the Pambansang Pabahay Para sa Pilipino Housing (4PH) Project of current President Ferdinand Marcos, Jr.'s administration.

The concept of completeness of resettlement support has been an overarching theme in these housing programs. The Aquino administration highlighted the concept of "Build Back Better" (NEDA 2013; DBM 2014), which was translated in the housing sector into the theme "Gaganda ang buhay kung may bahay at hanap-buhay (life will improve with housing and livelihood)" as seen in the Philippine Development Plan (PDP) 2011-2016 (NEDA 2011, p. 174). The focus was not only on livelihood but also on the integration of basic infrastructure support (NEDA 2011). In the Duterte administration, livability and the adequacy in terms of quality were emphasized (NEDA 2017; Department of Human Settlements and Urban Development [DHSUD] 2021a). The PDP 2017-2022 and the 20-year National Housing and Urban Development Sector Plan (NHUDSP) promoted sustainable communities, human settlements, and urban development, with DHSUD programs supporting "sustainable housing in well-planned communities for every Filipino family" (NEDA 2017; DHSUD 2021b, p. 29). The NHUDSP also highlighted a transit-oriented development and national open, public, and green space network programs (DHSUD 2021b). With the Marcos, Jr. administration, a similar concept of completeness and sustainable communities are promoted. Building well-planned and livable communities is one of the objectives of the current government (Office of the Press Secretary as seen in Pinlac 2023; PDP2023-2028).

Despite objectives to provide basic services to the homeless and underprivileged in resettlement and urban areas, some studies on resettlement sites in the country noted numerous issues related to outputs under site selection and settlement planning. Some sites do not have a consistent supply of water and/or electricity (Mangada and Cuaton 2022; Ferrer and Lagos 2019). Mangada and Cuaton (2022), who examined the pandemic period situation of resettled Typhoon Haiyan survivors in Tacloban North, also pointed out that the small size of resettlement houses and need for physical distancing led some households to make non-engineered house repairs. There have also been accusations that substandard materials were used in Typhoon Haiyan housing (Cervantes 2017; Conserva 2018). Additionally, accessible healthcare facilities are said to be sometimes lacking (Mangada and Cuaton 2022). Also found lacking in some cases are public transportation systems or private transportation subsidies (Thomas 2015). Such limitations can prevent resettlement areas from becoming livable and thriving communities.

Difficulties related to the institutional setup and collaboration of stakeholders in resettlement projects have been found to influence the delivery of basic services. As relayed by Thomas (2015), the completion of some projects has been slowed down because of the unclear roles and responsibilities of the national and local government, and some LGUs have relied on funds from the national government. The lack of clarity in the institutional setup and commitments is recognized as an obstacle to the delivery of basic services.

Another key issue is the lack of social preparation or community engagement. Ferrer and Lagos (2019) pointed out that many of the persons were not used to living in a rural area and were displaced without enough preparation. Employment-related problems are also present. The Terms of Reference of projects of NHA with private developers have been noted to lack guidelines or standards on employment opportunities in the selection of resettlement sites (Ballesteros and Egana 2013). There are even resettled households that leave the site because of lack of livelihood opportunities in the area (Ferrer and Lagos 2019). Meanwhile, for Typhoon Haiyan survivors, some of those who remain on site have engaged in unsustainable livelihood (Mangada and Cuaton 2022). A study conducted by the Environs Systems Group, Inc. (2016) through a World Bank technical assistance to the NHA also showed livelihood-related findings including the disconnect between the contextual economy and the provided interventions, inclination towards the interventions' supply over demand orientation, uncustomized and unsustainable interventions, uncoordinated stakeholder efforts, and lack of monitoring. Such factors can also have implications on the sustainability of resettlement sites.

Issues arising from recent resettlement projects rationalize the need to further investigate existing policies, guidelines, and standards on resettlement housing in the Philippines. Aside from the design aspect, the resettlement process itself should be considered as issues associated with the provision of basic services reflect its importance, in particular, the institutional set-up and partnerships, site selection process and settlement planning, among others. The process and design may vary based on location, the type of development (vertical/horizontal), and the reason for resettlement.

For instance, increasing proximity to original settlements can reduce extent of services to be provided as less adaptation is required from affected persons. Turnover concerns and expenses are also minimized as target beneficiaries are already residents of the city or municipality. This

advantage has been reflected by recent developments in the executive and legislative branches of the government. In the 4PH Program, onsite, near-site and in-city locations for resettlement are promoted (Cruz 2023; De Leon 2023; DHSUD 2023). On November 14, 2022, House Bill No. (HB) 5, which is proposed to amend the UDHA and aims to establish an onsite, in-city, near-city, or off-city local government resettlement program for ISFs in line with a people's plan, was approved by the House of Representatives (House of Representatives n.d.). Section 1(a) and Section 26 of the UDHA is proposed to be amended, among other things, to emphasize prioritization of the following urban renewal and resettlement locations in descending order; (1) onsite, (2) in-city, (3) near-city, and (4) off-city (HB 5). Representatives Ferdinand Martin Romualdez, Yedda Marie Romualdez, and Jude Acidre discussed in an explanatory note that off-city resettlement sites lack social services, livelihood, and employment opportunities (House of Representatives Committee on Housing and Urban Development 2022). Senate Bill No. (SB) 1283, to be known as the On-site, In-City, or Near-City Resettlement Act and filed on September 6, 2022, also proposes a similar prioritization (Senate of the Philippines n.d.). In an explanatory note, Senator Joel Villanueva, who introduced the bill, reasoned out that offsite resettlement has led to delays in the delivery of basic services and an increase in unemployment in target communities (SB 1283). From the bills and explanations, it can be deduced that off-city resettlement may become obsolete.

Classification in terms of urban/rural also matters in the Philippines given different environments and are therefore associated with different resettlement requirements. Based on the Inventory of Statistical Standards in the Philippines (ISSIP), a barangay is considered urban in the following cases: (1) 5,000 population size or more; (2) at least one establishment with at least 100 employees; or (3) at least five establishments with at least ten employees and at least five facilities (PSA n.d.-a). Chua (2004) mentioned that insufficient formal establishments, services, and facilities is generally the reason why people in rural areas stay in agricultural and informal service sectors. Barrios (2007) suggested that the starting point to mitigate economic vulnerability of households in rural areas be a comprehensive enhancement of accessibility that significantly reduces isolation from basic welfare services and reduces transportation cost. In a study of Chua et al. (2015), they found that urban-rural wage and income gaps in the country are influenced by individual attributes of households and workers on experience, skill, and schooling. The discussion also suggests that persistent urban-rural income gaps can be explained more by land market failure instead of labor market failure. Aside from urban/rural, another classification in terms of location is peri-urban which refers to those areas that surround cities and are within daily commuting reach of city core (Padilla 2006). However, barangays are categorized into either urban/rural only in the 2020 Census (PSA n.d.-b). The more defined urban/rural classification makes it preferable for assessment.

High-density/vertical housing is promoted under the 4PH project (Cruz 2023; DHSUD 2022a). Under the 4PH Operations Manual, requirements include ten to 30-storey buildings for projects in highly urbanized cities, component cities, and regional centers; and four-story low-rise buildings in other urban and urbanizing areas (DHSUD 2023). DHSUD Secretary Jose Rizalino Acuzar noted the spatial constraints alongside the fast population growth in the Philippines (De Leon 2023). Vertical developments, nevertheless, are expected to have differences with horizontal developments in terms of required facilities, uptake, and maintenance, among others.

Resettlement is undertaken due to reasons related to infrastructure development and/or disaster related factors such as danger zones and conflict-stricken areas. Given that the Philippines is a country that frequently get struck by typhoons, special attention is given to areas that is prone to flooding. Similarly, with increasing urbanization in most cities across the country, new townships, expansion of infrastructure and urban renewal projects are taking place in different areas.

With these deliberations considered, this study aims to assess the existing resettlement guidelines, policies and standards and develop an assessment tool to guide resettlement planning to ensure that basic service-level standards are applied in resettlement projects. The specific objectives of the study are as follows: (1) examine international and local policies, guidelines, and/or standards for resettlement projects; (2) assess practices, issues, and challenges in existing resettlement projects; and (3) recommend minimum and good practice standards for resettlement planning. Section 2 of this study lays out the principles of a human settlement framework to guide the formulation of the resettlement guidelines and standards. Section 3 elaborates on the methodology designed to realize this expectation. Section 4 provides details on local resettlement policies and policy gaps. Section 5 discusses findings from the case study and interviews, which provides insights into the implementation gaps, issues, or challenges in operationalizing the existing policies, guidelines, and/or standards. Section 6 presents the key resettlement components and the related indicators to ensure the delivery of adequate basic services in resettlement sites. Section 7 provides the conclusions and ways forward.

2. The Resettlement Policy Framework: Principles for a Human Settlements Development Approach

The resettlement policy framework is anchored on the vision and goals of human settlements and urban development. In the Philippines, this vision is stated in the Philippine National Urban Development and Housing Framework and *AmBisyon Natin* 2040 or the Philippine long term development plan. The NUDHF from the HLURB (2017, p. 12) aims for "better, greener, smarter urban systems in a more inclusive Philippines" while *AmBisyon Natin* 2040 targets the achievement of SDG 11. These principles call for the adoption of a broader human settlements' development approach.

The translation of these goals in resettlement programs is challenging given that the target beneficiaries of the program are the marginalized sectors, and that government and other implementers may have to deal with large urban poor communities and informal settlements.

Nevertheless, international guidelines and good practices in developing countries could provide some basis in identifying key principles to ensure that resettlement projects would be livable and thriving and that displaced communities would have improved standards of living. Table 1 provides a summary of the principles adopted by the World Bank and other multilateral development agencies. These agencies finance major development projects that may result in displacement of communities both households and small businesses. Development projects especially in urban areas often lead to large scale displacement. As such, finance agencies, require governments to provide a resettlement action plan (RAP) for involuntary displacement. This plan

details the process and strategies on how governments or the project proponents apply the key principles to proposed development projects. We note that for all multilateral development agencies, the principles pertaining to restoration of livelihood and improvement of living conditions is a must. The roles and responsibilities of organizations and agencies involved in the process must be well-defined. Attention to community participation and the monitoring and evaluation of resettlement sites are also emphasized. Another key principle is the integration of displaced households to host community in terms of socioeconomic and even political aspects.

Table 1. Key Principles for Involuntary Resettlement by Multilateral Development Organizations

Multilateral Agency	Principles on Resettlement
World Bank (WB)	• A well-planned resettlement program • Community participation in planning and implementing resettlement plans • Social and economic integration of resettlers in host communities • Compensation to include land, housing, infrastructure, and other forms to affected population specifically disadvantaged groups
Inter-Development Bank (IDB)	• Meaningful consultation with affected population • Assessment of alternative options of resettlement • Baseline survey and impact assessment of risks and vulnerabilities • Clear roles and responsibilities of organizations/agencies involved
African Development Bank (AfDB)	• Equitable treatment of affected households • Minimum disruption of livelihood • Provision of assistance to improve living standards • Compensation of full replacement cost for loss of land and other assets • Mechanism for monitoring performance of resettlement projects • Socioeconomic and political impact on host communities • Awareness of and assistance to disadvantaged groups (women, children, disabled, etc.) in the community • Community participation in the design of resettlement plan
Australian Aid for International Development (AusAID)	• Enhance standard of living • Restoration or improved livelihoods • Monitoring and review of resettlement outcomes
Japan Agency for International Cooperation (JICA)	• Valuation of and compensation for losses • Socioeconomic survey of affected population • Organizational roles and responsibilities • Site selection, site preparation and relocation • Housing, infrastructure, and social services • Environmental protection and management • Integration of the community • Community participation

	• Grievance mechanism • Monitoring and evaluation
Asian Development Bank (ADB)	• Valuation of and compensation of livelihood and assets (including property not owned) • Assistance for relocation • Assistance for better social and economic future • Provision of appropriate land, housing, infrastructure, other compensation • Attention to disadvantaged groups • Affected population are consulted and well-informed

Source: Author's summary
Social Development Sector and the Rural Development, Natural Resources and Environment
Sector of the Sustainable Development Department, East Asia Pacific Region of the World Bank, Philippines: Involuntary resettlement: Policy and institutional frameworks, practices, and challenges, 2008.
Inter-American Development Bank, Procedures for the Preparation and Disclosure of Resettlement Plans, 2014.
African Development Bank, Involuntary Resettlement Policy, 2003.
Australian Aid for International Development, Integrating Displacement and Resettlement Safeguards, 2011.
JICA, JICA's Requirements for Resettlement Action Plan, November 2012.
Asian Development Bank, Involuntary Resettlement Policy, August 1995.

Given that most development projects involve land use changes, urban renewal and expansion of land areas, involuntary resettlement usually accompanies these projects. Globally, we find different resettlement practices and most development agencies evaluate resettlement outcomes and highlight good practice for knowledge sharing. Good practices in resettlement shed light into the application of the key resettlement principles adopted by multilateral agencies. A major strategy or policy adopted as good practice to restore livelihood of affected population is the payment for losses from land, livelihood, and other assets regardless of ownership on land (Table 2). Compensation involves housing, infrastructure and other support that goes beyond simply ensuring livelihood for them but ensuring better standards of living from their pre-resettlement situation. Fully-serviced resettlement area is part of the compensation for displacement. Related to compensation and restoration of livelihood is the assessment (notably in-depth) of the needs and livelihood of the affected population. Baseline surveys are utilized to determine the government interventions that are relevant, which may vary by community or group.

Moreover, the cost of resettlement is usually included in the total budget of development projects, thus the budget for the implementation of the resettlement plan is already provided upfront.

Another good practice strategy is building inter-agency cooperation. Resettlement requires a collaborative process, such that the national, regional, local government and civil society organizations are expected to formulate and implement together the resettlement plan. Capacity building for government, professionals and paraprofessionals is necessary for the preparation and implementation of resettlement activities.

Extensive consultation with affected people and local government bodies is also a good practice. Peoples' participation is a key factor in the social mobilization process and in the development of housing societies (or homeowners' association). The participatory approaches reflected in the

sample projects dealt mostly with engaging the affected population in identifying the losses and needs of the household and community.
Global good practice also highlights the need for monitoring and evaluation of resettlement projects to ensure adequacy of services and interventions and resettlement impact.

Table 2: Global Good Practice Resettlement Policies by Country

Country/Project	Good Practice Policies
China/ Dalian Water Supply Project	• Compensation for losses is based on socio-economic surveys and extensive consultations with affected households • Clear procedures for land acquisition • Provision of guidelines for appeals and grievances
China/ Yunnan Expressway	• Extensive consultation with affected people and local government bodies • Active facilitation on access to new economic ventures combining rural farming with employment opportunities outside agriculture • Innovative compensation scheme for lost assets; i.e. combination of cash compensation and stocks on expressway company
Brazil/ Creation of Ordinance on Resettlement Regulations by the Ministry of Cities	• Capacity building for inter-institutional cooperation at the national and local level for improved resettlement standards • Compensation rights go beyond replacement of lost assets • Affirms the right to housing, beyond mere physical dwelling • Requires measures to restore the social and livelihood conditions of affected families and individuals • Analysis of alternatives to development projects and their corresponding impact on displacement • Stresses peoples' participation in the resettlement plan • Requires resettlement budget to be included in the main project budget and its completion tied to full implementation of the actions in the resettlement plan • Development of social work project in parallel to the resettlement plan to address social and economic sustainability over time at the family and community level
India/ Mumbai Urban Transport Project	• Use of self-administered socioeconomic baseline surveys for resettlement (with the assistance of local NGOs) • Capacity building of Mumbai Municipal Resettlement Authority • Peoples' participation through consultation and participation of civil society organizations • Full compensation for loss of land and assets Provision of alternative compensation: (a) free housing with title; (b) transfer of development rights for investment; (c) purchase of additional space in the area • Periodic resettlement impact assessment to determine adequacy of solution and actions to fill gaps

	• Registration and training of HOAs and one-time financial assistance for managing buildings and HOA affairs
Mauritania / Urban Development Program in Nouakchott	• Integrated urban planning • Participatory approach • Provision of registered land titles Provision of fully serviced urban resettlement area (streets, upgrading of water supply, public network lighting, primary and secondary schools, health centers, sanitation facilities, cemeteries)
Pakistan/ Sustainable Development of the Walled City of Lahore	• Stakeholder engagement and adaptive management of contentious issues, innovative solutions, and implementation of resettlement plan • Systematic analysis of urban livelihoods through social mobilization processes • Capacity building of government officials, professionals, and paraprofessionals of specialized skills for preparation and implementation of resettlement activities • Provision of new municipal infrastructure and services including electrical, communication, water supply, storm drainage, sewerage, and gas supply networks • Rehabilitation of the urban fabric through facade and street improvement
Morocco/ Artisan and Fez Medina Project	• Participatory approach • Livelihood restoration approach (i.e. full support on the restoration of livelihood) ○ maintaining livelihoods of copperware artisans and employees during the transition period and improving livelihood through upgraded production facilities and enhanced working environment ○ providing improved housing conditions to relocated residential households, focusing on the needs of the most vulnerable artisanal employees (elderly, women, apprentices aged 15 to 18, and children under 15) ○ daily on-site presence of a local social NGO and making use of a credible grievance mechanism to resolve issues during resettlement implementation ○ providing flexible, adaptive, and well-funded management of resettlement implementation • Support by the national, regional, and local authorities and by local artisan associations on resettlement planning and implementation process • Resettlement activities were planned out based on in-depth socioeconomic surveys and asset inventories.

Source: Authors' compilation

Resettlement projects are commonly development induced and/or disaster related. The involuntary nature of such resettlements implies displacement of population that requires a careful approach to minimize the socioeconomic including political impact of resettlement. The international principles aim to cover the adverse effects on the affected population including the host communities, where the displaced families will be resettled. Moreover, the extent of activities and involvement of different organizations show the need for efficiency in the resettlement process such that the expected improvements in living standards and the restoration or improvement of livelihoods are realized.

The international principles and good practices have shown that the provision of basic services in resettlement sites and development of livable and sustainable resettlement sites involves not only standards on the physical design of settlement and housing but the process of delivery itself. Resettlement as a collaborative process requires inter-institutional involvement and extensive consultations among different stakeholders.

Based on international principles and good practice policies and strategy, we note that the efficient and effective delivery of basic services (including social and economic aspects) is influenced by the following components of the resettlement plans: (1) the institutional set-up and partnerships formed among stakeholders; (2) site selection; (3) settlement planning; (4) nature of community or peoples' participation; and (5) estate management or the development of housing societies or associations in resettled communities. The guidelines and standards that comprise these components define the success of resettlement projects.

3. Methodology

A case study on select resettlement sites and key informant interviews with key players or collaborators in resettlement projects were conducted. The authors targeted to conduct the case study on sites with good practices based an initial review using online resources to provide guidance on acceptable standards in communities. Also targeted for the case study were projects developed in recent years but completed before the Coronavirus disease (COVID-19) pandemic. The choice of recent projects coincided with the policy changes that have been undertaken since 2010. Adjustments were made given the difficulty of finding sites that are associated with good practices, as well as finding projects that started in recent years but completed before the pandemic.

The resettlement projects in the case study are as follows: (1) Disiplina Village, Valenzuela City; (2) Family Townhomes, Taguig City; (3) Alpas Phase 1, San Jose Del Monte City; (4) Developed, Resilient, Empowered with Accomplished Mission (DREAMVille), Tacloban City; (5) Xavier Ecoville, Cagayan de Oro City; and (6) Pamayandeg sa Ranaw Residences at Dansalan Village (PRRD) Permanent Shelters, Marawi City. These projects generally appeared to be with good practices based on an initial review using online resources. The case study sites involve resettlement projects constructed within 2004 to 2018 and completed/turned over to beneficiaries within 2008 to 2022. Table 3 presents the projects with tags related to location, resettlement reason, and type of development, which were considered in the selection. Disaster was a component that greatly influenced the resettlement of beneficiaries of four sites, while infrastructure development was a factor for those of two sites. Among the sites in the case study, three are vertical

developments and the other three are horizontal developments. Majority of the sites are in urban areas based on the 2020 census (PSA n.d.-b). Majority of them are also in-city projects, *i.e.*, beneficiaries were transferred within the same city of their previous dwelling. Additionally, Table 3 reflects that based on the LGU segmentation into capacity-performance quadrants from the Local Government Academy (LGA) (2022), most of the cities in which the sites are located belong to the first capacity-performance quadrant (high capacity and high performance). One belongs to the second quadrant (low capacity and high performance), and another belongs to the third quadrant (low capacity, low performance) (LGA 2022).

Table 3. Case study site details

Site	Resettlement Reason	Building type	In-city / Off-city	Urban / Rural	Capacity-Performance Quadrant
Disiplina Village, Valenzuela City	Disaster / Danger Zone	Vertical	In-city	Urban	1
Family Townhomes, Taguig City	Infrastructure Development / Danger Zone	Vertical	In-city	Urban	2
Alpas Phase 1, San Jose Del Monte City	Disaster / Danger Zone	Vertical	Off-city	Urban	1
DREAMVille, Tacloban City	Disaster / Danger Zone	Horizontal	In-city	Urban	1
Xavier Ecoville, Cagayan de Oro City	Disaster / Danger Zone	Horizontal	In-city	Urban	1
PRRD Permanent Shelters, Marawi City	Conflict / Infrastructure Development / Danger Zone	Horizontal	In-city	Rural	3

Source: Authors' summary of reviewed literature and findings from site visits and interviews

The NHA Resettlement Project in Disiplina Village, Barangay Ugong, Valenzuela City was developed for families whose houses along Tullahan River in Valenzuela were destroyed when Typhoon Ondoy hit the Philippines (Ponce and Codera 2015). In the resettlement site, there are around 540 units in the 17 buildings built by the NHA. Each unit is sized around 27 square meters inclusive of 11 square meters of mezzanine space. The village has a basketball court, and a multi-purpose building with a day care center.

The Family Townhomes at the Food Terminal Incorporated (FTI) Compound in Taguig City was a project of the LGU of Taguig with support from Habitat for Humanity Philippines. It catered to informal settler families along the Philippine National Railways (PNR) in Western Bicutan and Bagong Tanyag, and other illegal occupants of danger zones and private/public lands (Galing Pook 2008). Around 72 units in six buildings were built by the Habitat for Humanity Philippines. Each unit has a size of around 26.1 square meters.

Alpas Phase 1 in San Jose Del Monte City, Bulacan is a SHFC project. Resettled persons include families who lived near a creek, waterway, or danger zone in Caloocan City (Reyes-Estrope 2017). There are 26 buildings with a total of around 546 units with size of around 35 square meters each (SHFC 2017). The buildings are three stories high, and units are inclusive of a loft (SHFC 2017).

The DREAMVille Project in Tacloban City is a project of the Catholic Relief Services (CRS) that caters to persons affected by Typhoon Yolanda and previous dwellers of Anibong coastal district, which was declared as a no-dwell zone (Catholic Relief Services [CRS] n.d.). In total, there are around 884 households in the site. There are four housing designs, including two-storey duplex and single-detached, made suitable to the number of family members. Floor areas are around 29.25 to 58.5 square meters (CRS n.d.).

The Xavier Ecoville in Cagayan de Oro City is a project implemented by Xavier University for families affected by Typhoon Sendong and those previously settled in now-declared no-build zones (Presidential Broadcast Staff – Radio Television Malacañang 2013). There are around 568 units built (Presidential Broadcast Staff – Radio Television Malacañang 2013). Each unit has 20 square meters of floor area, 15 square meters of front yard, and 15 square meters of backyard (Legaspi et al. n.d.).

The PRRD Permanent Shelters in Barangay Kilala, Marawi City is part of the Rebuilding Marawi Project of the United Nations Human Settlements Programme (UN-Habitat). Resettled families include those affected by the 2017 Marawi siege, previously settling within the three to six meters no-dwell zone easement along Lake Lanao and Agus River and affected by development projects in the post-war ground zero (Duran 2022). There were around 250 houses constructed in Barangay Kilala, and each unit is around 46 square meters.

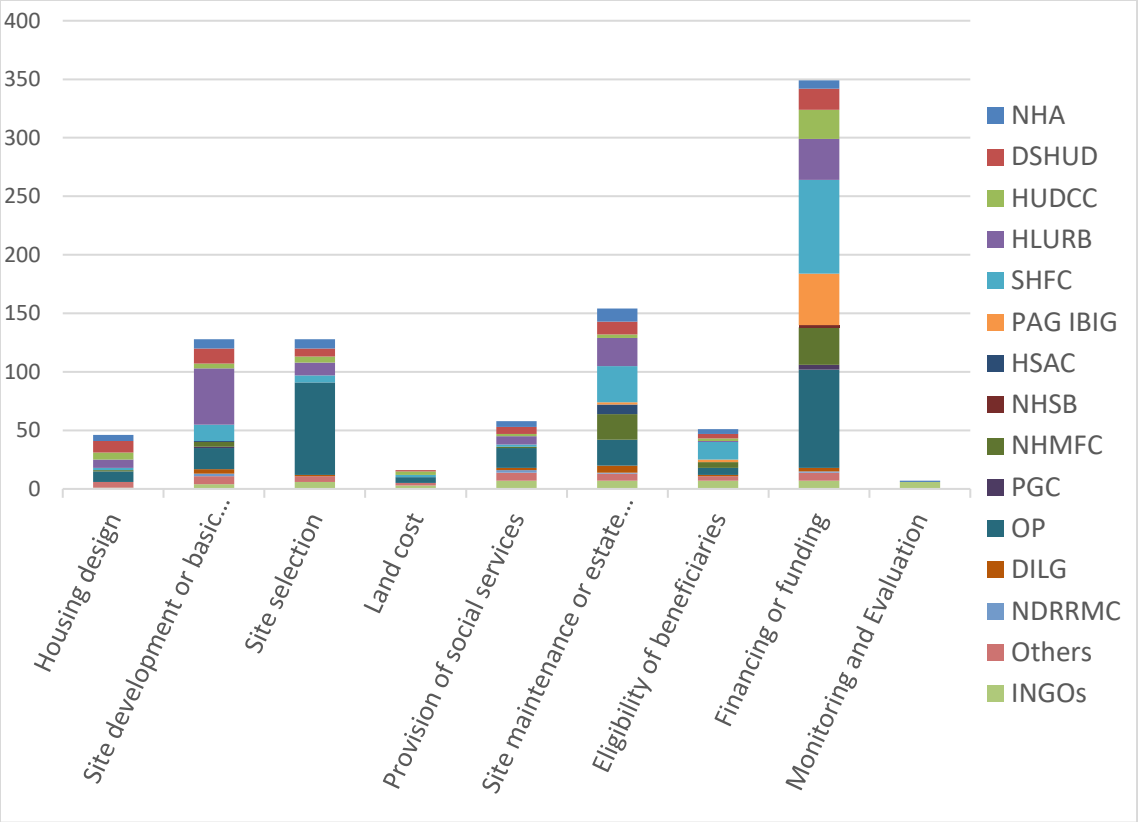
The key informant interviews are intended to uncover insights and experiences of different stakeholders and implementers from the national and local level. These were conducted online using Zoom or face-to-face, depending on the availability of the respondents. The key informants were grouped into four (4) types: KSAs/NGAs; Private Developers, NGOs, and representatives from the LGUs of the selected sites. For NGAs, representatives from DHSUD, NHA, Social Housing Finance Corporation (SHFC), and Department of the Interior and Local Government (DILG) were interviewed. Officers of homeowners' association (HOA) of selected resettlement sites were interviewed to learn practices within the resettlement process. Responses from all the interviews formed part of the information assessed in determining the policy and implementation gaps in resettlement projects.

Focus group discussions were conducted with select households in each resettlement site visited to talk about their satisfaction with the features and services they received when they transferred to the site. Participants were asked to express their sentiments on specific resettlement features using the three emojis: 😊 – satisfied/happy; 😐 – neutral; and ☹️ - sad/not satisfied. General sentiments per resettlement site were generated using transcripts uploaded to QSR NVivo 11 ™. Aside from the group discussions, a mapping exercise with the households were also conducted to determine the location of basic and social services available in their areas with the aid of printed maps of their communities using Google Earth™.

All interviews and focus group discussions were transcribed verbatim and all transcripts were uploaded to NVivo 11™ for thematic analysis. Transcripts were coded, and coding hierarchies were compared and merged. The general sentiments on resettlement characteristics were produced by summarizing the FGD responses of the households for each site. For the key informant interviews, the implementation issues and challenges were identified aside from determining the policy gaps. For the mapping exercise, the identified facilities and areas by the respondents were digitized using Quantum GIS™ and Open Street Map.

A policy mapping of resettlement policies, standards, and/or guidelines in the country was also undertaken to provide another foundation for the development of the assessment tool. Official websites of KSAs and other relevant agencies were visited to collect published policies about resettlement. Figure 1 shows a summary of the policies collected by source agency and by resettlement activity-related themes. A total of 614 documents from different government agencies, as well as some international organizations, were considered. These include executive orders, implementing rules and regulations, circulars, guidelines, manuals, reports, plans, and other policy-related documents. The documents were uploaded to NVivo 11 ™ and were coded according to the initially identified themes. The information coded was then summarized to come up with an overview of existing resettlement-related policies.

Figure 1. Summary of Policies Collected by Agency and by Themes



Source: Authors' compilation

These local policies, standards, and/or guidelines were then categorized according to the relevant resettlement process: (1) institutional setup and partnerships, (2) site selection, (3) settlement planning, (4) community participation, and (5) estate management. International policies, standards, and/or guidelines were also reviewed to present a basis in identifying key principles to ensure that resettlement projects would be livable and thriving, and that displaced communities would have improved standards of living. These activities were complemented by the other study activities, including key informant interviews and focus group discussions, in identifying policy and implementation gaps in resettlement sites.

Overall, the key informant interviews, focus group discussions, site visits, and policy mapping conducted for this study ultimately led to the development and refinement of the assessment tool.

4. Philippine Resettlement Policies and Policy Gaps

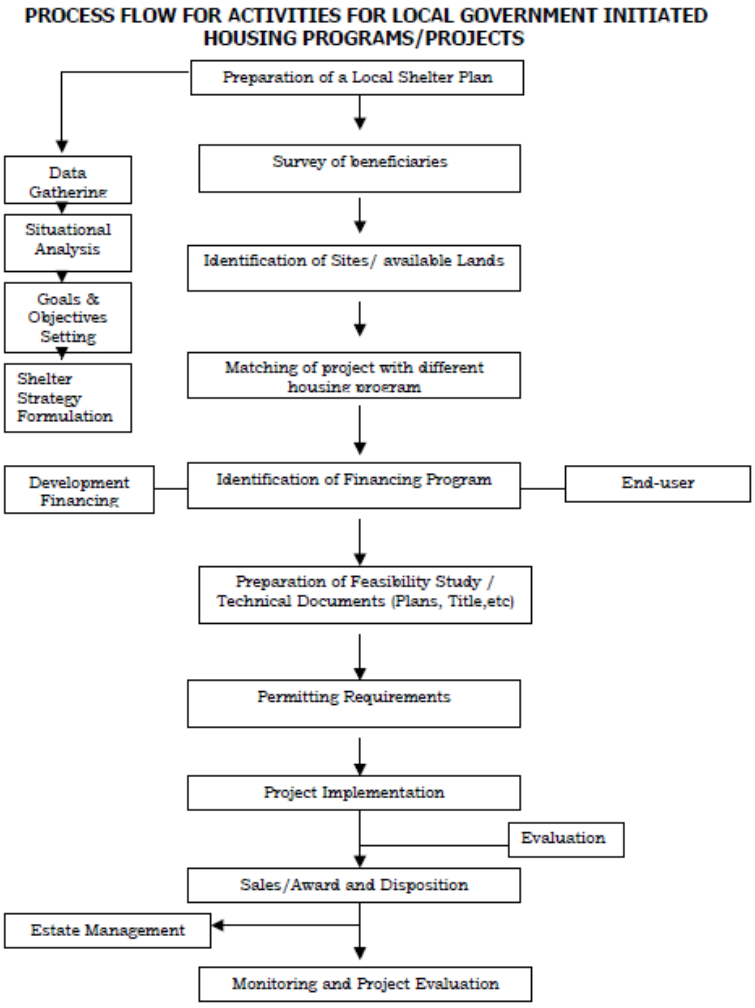
4.1. *Institutional Setup and Partnerships*

As mentioned, resettlement of communities is a collaborative process that requires policies and guidelines on the organizational set-up, coordinating mechanisms and partnership strategies that are relevant to the success of resettlement projects. In particular, the national government through the National Housing Authority (NHA) plays a major role in resettlement projects given the latter mandate as the sole national government agency to engage in shelter production focusing on the housing needs of the lowest 30% of the urban population. In recent years, however, the Local Government Units (LGUs) have increasingly assumed their roles in shelter planning and delivery of socialized housing as provided under UDHA. This role is further reinforced by the proposed renewal of the NHA Corporate Charter by 2025, which will reduce NHA direct role in the housing delivery process and a greater participation of LGUs in resettlement planning. Thus, it is relevant to examine the capacity of local government units to manage and implement resettlement projects as well as oversee the resettlement outcomes overtime.

4.1.1. Local Offices / Coordinating Bodies

The local government, as the entity tasked to manage urban and housing development at the local level, is involved in all aspects of the housing development process specifically for resettlement or public housing. The responsibilities include land use planning; shelter planning; site identification; community preparation and organization; relocation; and provision of access, community facilities, and social services in the housing sites. The LGUs Guidebook for Local Housing (HUDCC) is a comprehensive guide to LGUs for starting and implementing their housing projects. Figure 2 provides a process guide.

Figure 2. Process Flow for Activities for Local Government Initiated Housing Programs/ Projects



Source: LGUs Guidebook for Local Housing

National government has typically taken on the funding and construction of the site development and housing especially for resettlement projects related to large infrastructure projects or post-disaster rehabilitation. But the recent Mandanas-Garcia Supreme Court Ruling can improve the capacity of LGUs for housing delivery. Furthermore, under the current government's *Pambansang Pabahay Para sa Pilipino* (4PH) Program, LGUs and the private sector are expected to take on a bigger role, particularly in the development of low, mid- to high-rise projects in urban areas.

DHSUD Department Circular 2022-004 empowers LGUs to address housing problems within the jurisdiction of their administrative boundaries. Under Section 4.5(a) (p.4) of the circular, each partner LGU will "act as the lead/main proponent in the implementation of the housing projects under the 4PH Program". Section 4.5 (b-f) further provides that the LGUs develop programs and policies to aid funding, building, and management of the property; formulate project concept; ease the intended beneficiaries' application; apply for project developmental loans; and find appropriate project sites.

There are two multisectoral bodies that may be formed locally to take on the task of housing provision: the Local Housing Board (LHB) and the Local Interagency Committee (LIAC). DILG Memorandum Circular 2008-143 mandated cities and municipalities, particularly the first to third class ones, to create and institutionalize their LHBs to engage communities in resettlement activities. The LHB is chaired by the Local Executive with representatives from Philippine Commission for the Urban Poor (PCUP), People's Organizations (POs) and NGOs as members. Ballesteros and Ancheta (2021) highlighted the LHB functions of regulation, coordination with the families, and oversight on demolitions and evictions under DILG Memorandum Circular 2008-143. They further noted that the Philippine Development Plans for 2011 to 2016 and 2017 to 2021, and HUDCC Local Shelter Planning Manual encourage LHB creation. The HUDCC Guidebook for LGUs for Local Housing Projects also requires the LHB's creation of an LHO for the implementation of LHB-adopted programs, plans, and policies. Table 4 is the proposed organizational setup for a Local Housing Office, with the related responsibilities.

Table 4. Proposed Organizational Setup for a Local Housing Office

PROPOSED ORGANIZATIONAL SET-UP FOR A LOCAL HOUSING OFFICE

ADMINISTRATIVE	TECHNICAL	COMMUNITY AFFAIRS
Administrative Support to the Office (GSD, Finance, Accounting, Personnel)	Planning: Physical Planning, Physical Surveys	Community Organization and Community Preparation
Receiving and Releasing Documents	Implementation	Census/Tagging
Budgeting/Accounting	Feasibility Studies Preparation	Beneficiary listing
Preparation of Bid Documents for Project Contracts	Land/Title Research	Social Preparation
Records Management	Liaison with key shelter agencies and other government agencies	Conduct of Consultations
Collection of Amortization Payments	CSW for permits, compliance with BP 220 and PD 957	Leadership Training/ Empowerment
Database Management	Conduct of demolitions	Accreditation of community housing associations, private CMP originators, developers
Beneficiary Profile	Preparation of Annual Reports	
Inventory of lands		

Source: LGUs Guidebook for Local Housing

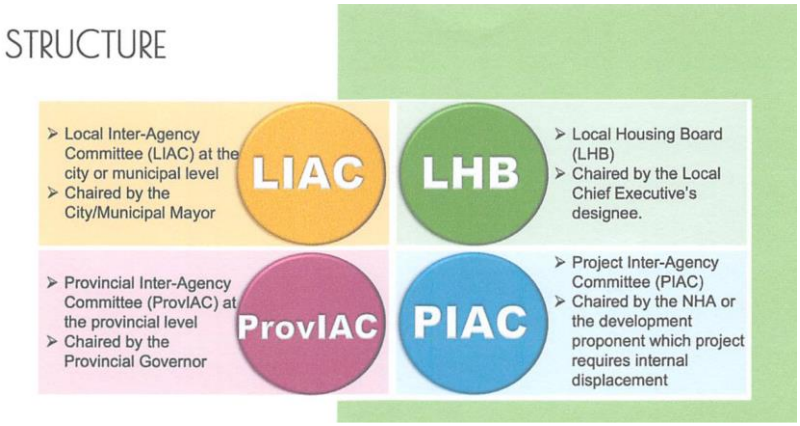
Some LGUs have also formed an Urban Poor Affairs Office, which may have similar functions to the Local Housing Office. The formation of local Urban Poor Affairs Office is a response to E.O. No. 708, s. 2008, which devolved the clearing house functions for the conduct of demolition and eviction activities of the Philippine Commission for the Urban Poor (PCUP) stated in Section 1 of EO 152, s. of 2002. The LGUs must create their own Local Housing Boards or any other similar body before conducting the clearing house functions.

Apart from the LHB, NHA also encourages LGUs to form a Local-Interagency Committee (LIAC) to serve as the focal structure for coordination and clearinghouse for relocation and resettlement planning and implementation, monitoring, and evaluation. While the LHB tackles broader shelter concerns, the LIAC is project-based (NHA, 2023). LGUs have also formed the LIAC in response to the need to coordinate multiple post-disaster relocation projects, where the composition of the

committee has also included local and international humanitarian partners aside from the national agencies, civil society organization and people's organizations.

The Department of Interior and Local Government (DILG) also issued Memorandum Circular 2020 – 160 which mandates that both sending and receiving LGUs of resettlement sites should form their LIAC (This M.C. however has recently been revoked by DILG M.C 2023 – 113, which states that the DHSUD under its mandate should now supervise and guide such activities – still the formation of the LIAC by sending and receiving LGUs remains relevant).

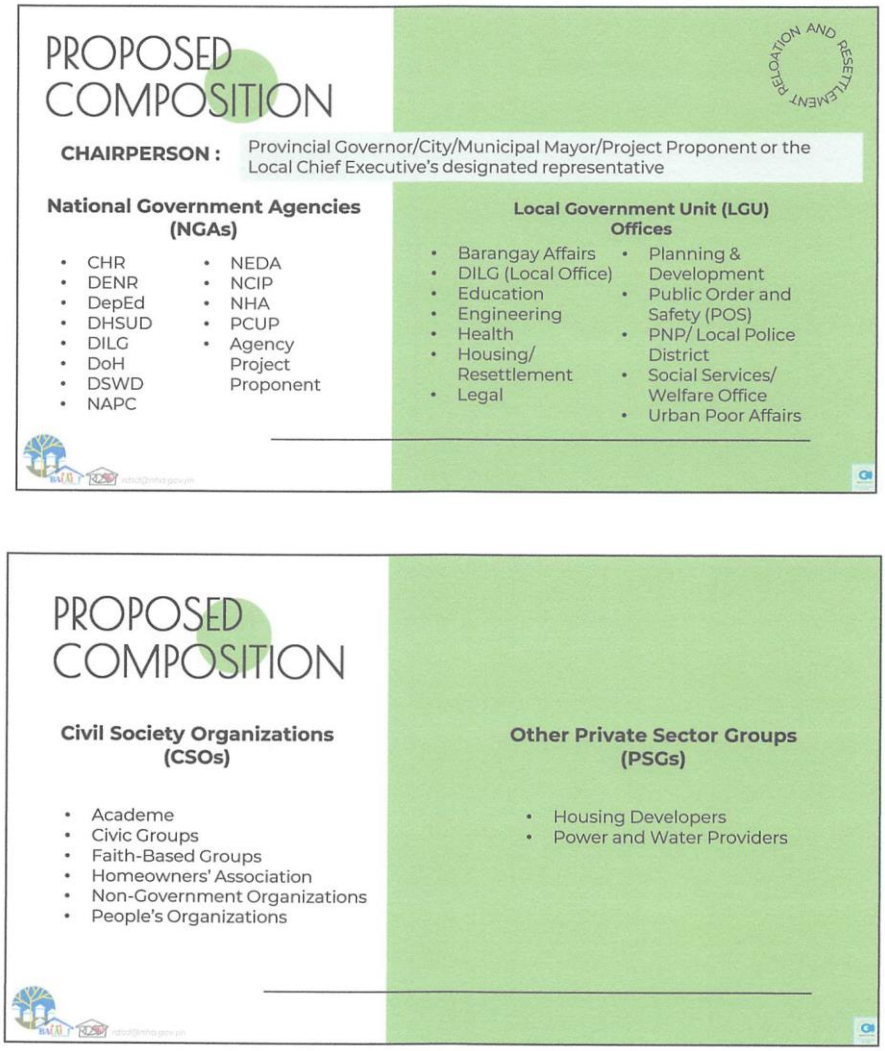
Figure 3. LIAC Structure



Source: Firmalino 2023

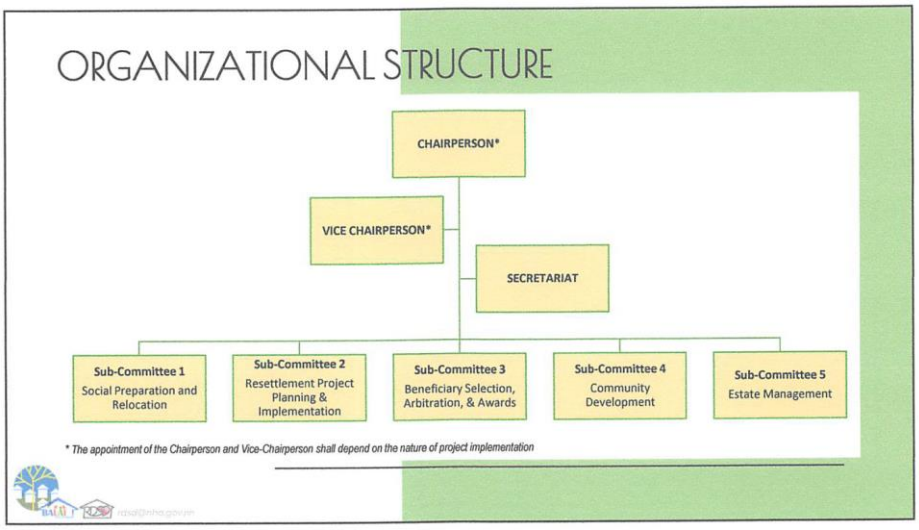
The LIAC is headed by the Mayor, and is usually comprised of subcommittees for social preparation, beneficiary selection, resettlement planning, estate management, social services and livelihood. Its main function is to formulate a Relocation and Resettlement Action Plan (RRAP); formulate applicable policies and guidelines for permanent housing such as housing design standards and parameters, and beneficiary selection guidelines; and oversee project implementation.

Figure 4. LIAC Proposed Composition



Source: Firmalino 2023

Figure 5. LIAC Organizational Structure



Source: Firmalino 2023

While policies are in place for the institutional/ organizational setup, implementation varies widely, either because the national government takes the lead on the project, or historically the LGU has not implemented or has had little experience in implementing resettlement projects, or housing is not a priority of the local administration. LGUs may need further support in setting up and strengthening these bodies.

Not all LGUs have organized or active Local Housing Boards, and not all LGUs have a Local Housing Office with recommended divisions or sufficient staff. The setup of Local Housing Offices may also differ depending on how invested the LGU is in the local housing program. In some cases, LGUs are not involved in the pre-feasibility, planning, design, or construction stages of housing projects (which may be done by NHA or SHFC). There may also be LGUs who have Housing Offices but have not continued with implementing housing programs due to other priorities of the chief executive, such as in the case of Taguig.

Those engaged in resettlement are more likely to have the LIAC. The LGU may function mainly as coordinator/ partner for NHA/ SHFC who want to implement housing programs, such as the case of San Jose del Monte which has been the receiving LGU for several resettlement projects with settlers coming from Metro Manila in the past decade. The way the LIAC functions also depends much on the Mayor and the national agency partners.

LGUs may eventually increase their capacity after having gained experience implementing projects through partnerships with national agencies and NGOs/ INGOS, as in the case of Cagayan de Oro and Tacloban, who now have several sub-departments and substantial staffing for their Local Housing Offices. For Marawi, the post-conflict rehabilitation after the Marawi siege was also an opportunity to learn about implementing a resettlement housing program with national agency and INGO/ NGO partners.

Post-Disaster/Post-Conflict Coordinating Mechanisms

The Post Disaster Shelter Recovery Framework (produced by the World Bank with DHSUD) lays out existing mechanisms and sets out recommendations for improving shelter recovery in the Philippines post-disaster. The post-disaster coordinating system in the Philippines has three main mechanisms: the one under the Office of Civil Defense, ad-hoc bodies formed by the national government/ local government per event, and the cluster system.

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The Office of Civil Defense (OCD) serves as the Secretariat of the National Disaster Risk Reduction and Management Council (NDRRMC), overseeing the development and execution of the National Disaster Risk Reduction and Management Plan (NDRRMP) and ensuring alignment of local government units' (LGUs) DRRM strategies with the national framework. The NDRRMC has vice-chairs responsible for each of the four key domains of the NDRRMP. The National Economic and Development Authority (NEDA) holds the vice-chair position for rehabilitation and recovery.

The designated leads for thematic areas concerning shelter provision are as follows:

- The Department of Human Settlements and Urban Development (DHSUD) is responsible for granting affected families and individuals access to either a) affordable disaster-resilient housing situated in secure zones with readily available social services and public amenities, or b) financial aid to reconstruct homes in areas officially designated as safe zones.
- The Department of Social Welfare and Development (DSWD) is tasked with ensuring that affected individuals, families, and communities have access to responsive, suitable, and sufficient education, healthcare, and social protection services.
- The Department of Public Works and Highways (DPWH) is mandated to uphold disaster-resilient standards in infrastructure during the phase of rehabilitation and recovery.

(Post Disaster Shelter Recovery Framework).

In specific disasters, a dedicated temporary body was established at the national level to manage reconstruction efforts. Following Typhoon Yolanda in 2013, this entity was the Office of the Presidential Assistant on Rehabilitation and Recovery (OPARR), responsible for drafting the Comprehensive Rehabilitation and Recovery Plan (CRRP). Similarly, in 2017, the Task Force Bangon Marawi (TFBM) was formed to supervise the rehabilitation and recovery initiatives in Marawi City and neighboring areas impacted by the Marawi siege (Post Disaster Shelter Recovery Framework).

In previous major disasters in the Philippines which needed massive humanitarian assistance, the Shelter Cluster was formed by the United Nations and the national government. It was first formed in 2006 (Typhoon Durian), and the most recent activation was for Typhoon Odette (2021). The National Disaster Coordinating Council (NDCC) noted that the Inter-Agency Standing Committee recognized the cluster approach's capacity to enhance humanitarian action quality and address gaps. The NDCC further added that through a cluster approach, stakeholder groups are organized to act in a systematic manner to increase effectivity and coherency in response at the national level (NDCC Circular No. 05 s-2007, pars.1-2).

In the Philippines, the Shelter Cluster is co-chaired by IFRC (alternately UN-Habitat/ IOM), and DSWD in behalf of the national government. Unlike the LIAC which is focused on permanent shelter, the Shelter Cluster is geared towards coordinating immediate or transitional shelter assistance and typically involves humanitarian organizations. It does, however, also go into coordinating permanent housing solutions particularly when there are humanitarian actors interested in permanent shelter provision (Shelter Cluster, n.d.).

Government housing partners may also form their own project-specific coordinating mechanisms. For example, UN-Habitat forms a separate Project Steering Committee for the implementation of their post-conflict and post-disaster housing projects (recent projects include those in Marawi in partnership with SHFC and Capiz in partnership with DSWD). This Project Steering Committee includes local government and national agencies, as well as representatives from key local organizations and internally displaced persons (IDPs) targeted to be beneficiaries. UN-Habitat implements a community-driven approach to the provision of housing assistance, and thus involves a higher level of community participation and community organization than typical government housing projects.

A paper which studied the process of recovery in Tacloban after Haiyan (Paragas et al. 2016) identified the following challenges terms or coordination and recovery post-disaster:

- The systems of organization between international humanitarian organizations and the government were not considered integrated partly because of the diversity in capacities at the different government levels and the increase in international humanitarian expertise. Also, there were some instances wherein support was focused in specific places and activities were duplicated because some organizations directly engaged communities.
- The LGU had little time to plan, and it coordinated humanitarian support and carried out recovery planning simultaneously.

The variety of coordinating structures formed for post-disaster recovery can provide discretion but can also slow recovery by requiring NGAs and partners to determine the unique setup in each LGU. There needs to be clearer definition and allocation of recovery responsibility at the local levels (province, city, municipality) and a possible consolidation of organizational models to increase consistency (World Bank, Post Disaster Shelter Recovery Framework). The transition in coordination of emergency/ transitional/ temporary housing which typically fall under DSWD, to planning and coordination for permanent shelter (under the DHSUD and other shelter agencies and the LGU) also needs more clarification.

4.1.2. LGU Planning Capacity

Local government units have the primary responsibility on shelter planning as embodied in the Local Government Code of 1991 (Republic Act 7160) and the Urban Development and Housing Act of 1992 (Republic Act 7279).

Aside from the general land use and development plans required from LGUs, the Local Shelter Plan is the one required specifically for housing and resettlement. LGUs should formulate a Local Shelter Plan (LSP) which provides “a grounded perspective of the shelter situation through a

purposive analysis of shelter issues and concerns. It enables the LGU to determine their housing need, conduct an inventory of its resources that may be earmarked for shelter and develop strategies to address their housing and urban development concerns based on an assessment of the capacity of the LGU and existing local dynamics" (Local Shelter Planning Manual, p.2).

Further, the Climate Change Act of 2009 (Republic Act 9279) and the Disaster Risk Reduction Act of 2010 (Republic Act 10121) oblige LGUs to conduct risk-sensitive land use and housing and infrastructure planning and development in their respective localities.

Not all LGUs however have an updated Local Shelter Plan. Further, while the LSP can give the LGU a picture of the resources needed for land banking and housing, it stops short of providing physical planning guidelines for housing areas.

Settlement planning at a larger scale could help address challenges in finding suitable sites for housing. The Comprehensive Land Use Plan allocates various land and water uses within the city/municipal territory to aid various development objectives. Its output is a physical structure or concept plan for the territory, as well as a general land use plan and detailed land use plan for urban areas. The CLUP Guidebooks however lacks detailed guidance for planning at the city extension or planned unit development (PUD) levels, which ought to guide the proactive planning of new settlements and townships. City extension or PUD plans are also not mandated by current policies or laws.

There was an effort by UN-Habitat through its program Achieving Sustainable Urban Development (ASUD) in 2013 – 2015 to develop a guide: "Planning City Extensions for Sustainable Urban Development: A Quick Guide for Local Governments in the Philippines". It was intended primarily to help local government units in addressing the challenges of urbanization through well-guided planning of city extensions, and was piloted in Cagayan de Oro, Silay, Iloilo, and Zamboanga City.

In the Philippines, although local government units have the mandate for urban planning, planned unit developments are usually led by large private developers, and it is rare for local governments to initiate detailed area master plans apart from the city/ municipal land use plan. There are however indications that some local governments in the Philippines are attempting to implement this township model.

Tacloban, as part of its response to Typhoon Haiyan, planned Tacloban North, an area about 10 km north of the city where most of those who were affected by the storm surge in the coastal areas were relocated. This was targeted to accommodate about 14,000 new households, with plans to build new roads, public service facilities and well as an industrial park area. The planning and development of this area is still currently ongoing, with about 70% of target households having been relocated as of 2022.

Recently, as part of its 4PH (*Pambansang Pabahay Para sa Pilipino*) Program the government also inaugurated housing within planned townships in Naga City and Palayan City in Nueva Ecija. The new township in Naga is the Balatas New Development Area (BNDA), which was established by the Naga City government in partnership with the private sector. The area will be the site of 7

medium or high-rise condominiums – each to have 12 storeys or more with over 220 units at an area of 24 sqm. The area will also have schools, a hospital, evacuation center, and government offices (Naga City Government, 2023).

The 11-hectare Palayan City township project features a housing community equipped with amenities and infrastructure for economic and social activities. To be built in three phases, it is composed of 44 towers with 11,000 housing units. The first phase is for 5,000 housing units. An elementary school, livelihood center, administrative offices, central park, basketball court, mini mart and a hawker area, aquaponics area, sewage system, and materials recovery facility are also planned to be established. It aims to cater to residents of nearby Cabanatuan City and the municipality of Bongabon (Galang, 2022).

There have also been moves from the national government to enable forward planning of transport services, through the preparation of a Local Public Transport Route Plan (LPTRP). The LPTRP is a reference for the minimum requirement in the issuance of public utility vehicle franchises, and it presents a route network with particular transportation modes and the corresponding number of units (Mariano 2024). The LPTRP should be based on the CLUP and CDP of LGUs, who will now have the authority to propose routes based on demands (Pontawe).

LGUs will need further institutional and operational support for pro-active new settlement/ new township planning, land banking; and planning guides for the barangay, neighborhood level, city extension, new township, planned unit development, and transit-oriented developments – with sufficient consideration for resettlement sites/ socialized housing projects.

4.1.3. LGU Project Management Capacity

Aside from processing the required plans and permits, LGUs also need other capacities to implement housing projects. These include project planning, management, and documentation.

The LGUs Guidebook for Local Housing Projects recommends that LGUs conduct project feasibility studies on housing developments. Other planning/ design-related duties and responsibilities include: (a) Identification of prospective sites for projects related to shelter development and land acquisition; (b) Preparation and formulation of plans and programs for the upgrading of specific and existing projects and/or programs; and (c) Preparation of plans, lot surveys, on-site inspection, and (partial) supervision of projects to ensure that these conform to the approved specifications and existing regulations as embodied in the local development plan.

Tasks related to documentation include:preparation and monitoring of deeds of sale; and the monitoring of the same; utilization and individualization of titles and housing loans; preparation of bid documents for project contracts; records management; collection of amortization payments; and inventory of lands. Other documentation tasks relate to legal and financial services such as: collection and servicing of loan accounts; preparation of contracts of qualified beneficiaries; and all other documents pertinent to the financial accountabilities and obligations of beneficiaries.

The above tasks are ideally handled by the Local Housing Office, with a Technical Planning and Development Division, Administrative and Records Division, and Financial and Legal Division. If there is no Housing Office, the Mayor may assign these tasks to specific offices.

LGUs also have a regulatory function in providing necessary permits for housing developments. In terms of permits, project proponents of housing subdivisions or vertical housing developments need to get from the LGU a Development Permit or Locational Clearance and Building Permit (prior to building) and Certificate of Occupancy, post-construction and before occupation. The approval of subdivision plans has been devolved to LGUs through E.O. 71 (s. 1993, Sec. 1), which has given authority to LGUs over some activities previously assigned to the Housing and Land Use Regulatory Board such as:

"Approval of preliminary and final subdivision schemes and development plans of all economic and socialized housing projects as well as individual or group building and occupancy permits covered by BP 220 and its implementing standards, rules and regulations"; "Evaluation and resolution of opposition against the issuance of development permits for any of the said projects"...; and "Monitoring the nature and progress of land development of projects it has approved, as well as housing construction in the case of house and lot packages, to ensure their faithfulness to the approved plans and specifications thereof, and, imposition of appropriate measures to enforce compliance therewith"

The LGUs may not always have the technical capacity to be involved in the pre-feasibility, planning, design and supervision of housing projects. As such, they can engage consultants/professionals to support or partners can provide the expertise and capacitate the LGUs for these tasks. Due to the absence of dedicated offices for record keeping of housing documents, some records (such as individual household contracts) may be lost or misplaced during turnovers between administrations. If projects are turned over to LGUs, ensuring sufficient local capacity for keeping records is a must.

Developers have cited that some LGUs have difficult in permitting processes and a lack of transparency and efficiency in processing. Further, many documentary requirements still come from national government agencies, and projects may take time to mobilize due to the processing of necessary permits and clearances. This can be an issue when resettlement needs to be done within a brief time, particularly during post-disaster or post-conflict scenarios. There is a need to improve transparency and efficiency of permitting processes, to expedite implementation of resettlement projects.

4.1.3.1. *Conduct of surveys and management of beneficiary database*

Local government units in coordination with the DHSUD are mandated to design a database system for the registration of qualified housing beneficiaries in accordance with the framework of RA 7279. Aside from these, there other considerations for data collection are mentioned in resettlement policy documents by international organizations.

Relevant to ensuring suitability is data collection. The International Finance Corporation (IFC) (2002) and United States Agency for International Development (USAID) (2016) require an identification of adverse impacts of the resettlement. Some international

documents also add that people and groups that will be affected should be identified, tagging those who will be disproportionately and differentially influenced (AIIB 2022; IFC 2002; UN Habitat 2021). The Asian Development Bank (ADB) (1998), IFC (2002), and WB (2018) further require the conduct of a census or survey. Internationally, the development and valuation of an asset inventory is also sometimes a product of the consultation with persons to be resettled and local authorities (IFC 2002; WB 2018).

Timeliness is considered in properly implementing a census or survey. The ADB (1998) notes that it should be conducted early in the project preparation. The WB (2018) also opined that if a significant gap in terms of duration between the fulfillment of the census and implementation of resettlement and livelihood restoration plan, the conduct of the census should be repeated, and the resettlement plan updated accordingly (WB 2018).

Local documents also reflect the value placed on data collection. The NHA Quality Manual mentions of the following activities: survey/community profiling, data validation, and scanning the socio-economic political environment (NHA 2021a). The activities further include needs assessment, inventory of skills and livelihood opportunities, leadership profiling, environmental scanning, and inventory of community and livelihood facilities (NHA 2021a). The National Resettlement Policy Framework also encourages having a database of community skills (DHSUD 2022b). These documents are indeed specific on the type of data that should be collected.

When national agencies need to turnover projects to the LGU, issues include the synchronization of beneficiary databases, which need verification and validation especially after substantial time has passed from project inception to actual relocation. There may also be changes in beneficiaries during occupancy, which need to be monitored. There may be a need for further support to improve LGU technical capacity for conducting beneficiary surveys and establishment and synchronization of beneficiary databases.

4.2. *Site Selection*

The negative impact of off-city resettlement is already acknowledged by government policy documents – the National Resettlement Policy Framework (NRPF) states that off-city resettlement should be the last resort, and that in-city or near-city relocation and resettlement should be primary options to maintain ISFs' and affected families' access to jobs, services, and social networks.

Based on this recognition of the reality of off-site resettlement, the NRPF states that resettlement site locations shall be rationally identified and planned by local governments based on Land Use and Development plans of the receiving host/ regions, provinces, city, or municipality that will be affected by the resettlement program. The local plans that should guide the identification of resettlement sites include but are not limited to:

- Comprehensive Land Use Plan (CLUP)
- Comprehensive Development Plan (CDP)

- Local Shelter Plan (LSP)
- Local Climate Change Action Plan (LCCAP)
- Geo-Hazard Maps

In addition, the NRPF states that the key considerations in site selection should be:

- Existing physical and social infrastructure and development direction of receiving host/ locality;
- Proximity to urban areas and sources of livelihood;
- Convenient access to modes of transportation; and
- Exposure to natural hazards

The NHA MC 2015-0015 aims to make site selection more purposive by the creation of a Housing Sites Map (HSM), which are mapped out locations (exact or indicative) of housing sites for three years. A longer-term plan of 6-30 years may also be programmed, based on approved long-term plans. The densities applicable for selected sites should be indicated. This Housing Sites Map is assigned to be done by NHA Regional Offices, Operating Units, the Housing Technology and Development Office, and CPO. Other housing sites recommended by the LGU, or other partners may also be reviewed. According to Section 8 of RA 7279, all city and municipal governments "shall identify lands for socialized housing and resettlement areas for the immediate and future needs of the underprivileged and homeless in the urban areas, taking into consideration the degree of availability of basic services and facilities, their accessibility and proximity of job sites and other economic opportunities, and the actual number of registered beneficiaries".

4.2.1. Location Criteria

Site suitability assessment is a required process once initial sites are identified for resettlement. National agencies have similar guidelines for site suitability assessment for their own projects. These include the SHFC Construction Manual, which have parameters and criteria for site assessment; NHA MC-2015-0015 or Guidelines for Site Selection, Site Suitability and Site Planning of NHA Housing Development Projects; and the HUDCC Guidelines for Inventory and Identification of Lands and Sites for Socialized Housing (pursuant to RA 7279), which are site selection criteria directed to city and municipal governments. Site selection criteria (including provision of basic infrastructure) is also codified into law under B.P. 220 with its Revised Implementing Rules and Regulations.

According to the SHFC Construction Manual, site suitability assessment should be conducted upon receipt of the initial documentary requirements and upon completion of initial hazard assessment. NHA MC 2015 – 0015 states that site suitability analysis shall be conducted when a project is targeted in the work program.

The above-mentioned guidelines are comprehensive but lack depth in the analysis of the capacity and condition of existing utility infrastructure and basic services. These guidelines state that basic services be of "reasonable distance" from the site. But definitions of catchment areas for these services are not indicated. There are no specifics with regards to the ideal maximum travel distances/ travel times/ travel cost to city center, as well as to public service facilities such as public

schools, health centers, hospitals, barangay/municipal/city halls, police precinct or outposts, public markets. Guidelines merely state that these public service facilities should exist within a reasonable distance from the site.

According to the Local Shelter Planning Manual, it is also the responsibility of the local government as part of local shelter planning to estimate the capacity of local infrastructure and services for housing, to determine if there are sufficient resources. The LSP states that problems should be clearly identified so that strategies on how to solve the deficiencies will be generated.

In terms of transport, Department Order No. 2017-011 (Section 3.1.2) of the Department of Transportation states that "cities and municipalities shall be responsible for collecting data, analyzing public transport supply and demand, and identifying specific public transport supply gaps for travel within their territories and for capturing this in city and municipal transportation plans". But receiving LGUS are not always involved in the site suitability assessment process for resettlement sites initiated by national government, and thus may have little option but to accept resettlement projects regardless of local capacity.

Based on the case studies of existing resettlement sites, gaps in basic services in resettlement sites occur because existing providers have insufficient capacity. The local government is tasked to provide many of these basic services, but some may already suffer from inadequate services for their existing population, such as low water pressure/ infrequent water flow, inadequate classroom/ teacher capacity in schools, a lack of doctors in health centers, and no local government hospitals with complete services. They may also have insufficient police-to-population and firefighter-to-population ratio. Some LGUs are also non-compliant with RA 9003 regarding waste segregation and disposal to sanitary landfills.

Local drainage systems are also problematic with the lack of a drainage masterplan, and very few Philippine cities have a local sewerage system separate from the drainage system. Some resettlement sites also need main thoroughfare improvements or a right-of-way to the site which are sometimes not covered in the project budget. It may be difficult to find sites, particularly in receiving local governments outside metropolitan areas, who can adequately fulfill requirements for basic infrastructure and services without additional funding.

Based on various local sources, the following table outlines the common criteria for evaluation of resettlement sites, along with the standards to be applied. There are some information on the catchment areas/ appropriate distances of transport, health, education, protective service facilities and markets available in other sources particularly with specific agencies responsible for these, but not all information is applicable for site suitability analysis.

Table 5. Location Criteria for Resettlement Sites and Local Policies/ Standards

LOCATION CRITERIA	LOCAL POLICY/ STANDARDS
Land cost/ price	MC Circular No. 1 (Price Ceiling for Socialized Housing) Php480,000 for 22 sqm with loft or 24 sqm; Php 530,000 for 24 sqm with loft or 28 sqm.; or P580,000 for 28 sqm. with loft or 32 sqm. MC Circular No. 2 (Price Ceiling for Socialized Housing – Condominiums Php700,000 for 22 sqm in NCR and surrounding areas; Php750,000 for 24 sqm. in NCR and surrounding areas; Php600,000 for 22 sqm. and Php 650,000 for 24 sqm. in other areas
Legal status and property boundaries	LGUs Guidebook for Local Housing Projects: An important step in ensuring the validity and sustainability of housing projects is extensive title research on lands. SHFC Construction Manual Must be consistent with the metes and bounds appearing on the title, on the lot/subdivision plan issued by DENR LMB or /LRA and on the landmarks shown in the vicinity map submitted by the HOA/ Mobilizer/Contractor. Must be accurately marked by temporary fence and/or lot monuments to minimize land dispute problems. Encroachments, occupants, and claimants must also be noted to avoid land conflicts.
Conformity with land use	NHA MC 2015 -- 0015 Sites to be offered for housing development should be residential in land use classification based on the approved CLUP of the concerned LGU. Should there be no approved CLUP for the locality, the same site must be approved for housing development purposes by the concerned LGU's *Sanggunian Bayan*/*Panglungsod* prior to inclusion in the map. SHFC Construction Manual Must be located within a non-agricultural zone area per City/Town Comprehensive Land Use Plan…For resettlement projects, property that is classified as residential after June 15, 1988 must be covered by DAR Conversion Clearance.
Availability of transport system in the area	NHA MC 2015 -- 0015 The sites should be able to link to an existing or proposed public transportation system. Transportation cost to workplaces and other services should be affordable considering that the target beneficiaries are the homeless and underprivileged. DILG and DOTR JMC No. 001 2017 Guidelines on Preparation and Issuance of Local Ordinances, Orders, Rules, and Regulations Concerning the Local Public Transport Plan: LGUs shall be responsible for collecting data, analyzing public transport supply

	and demand, and identifying public transport supply gaps for travel within their territories and for capturing this in city and municipal transportation plans
Road access	NHA MC 2015 – 0015 The sites must have an existing legal road ROW from a major thoroughfare. SHFC Construction Manual In no case shall a proposed project be approved, and loan proceeds be released without necessary access road/right-of-way to a city, municipal, or barangay road. It must be legally established either through a Deed of Donation or execution of Grant of Road Right-of-Way in favor of the HOA. In case the landowner of the existing road cannot be found, if unknown, or deceased in cases where the estate has not been settled, after exerting due diligence, a certification from LGU must be secured stating the existing road being used as direct access to the site for a period of time and that it is being maintained by LGU for public use. The HOA may opt to include the acquisition of its access road as part of their loan, provided that the title covering the subject road lot is identified as private lot In case road networks are not compliant with BP 220 standards or not passable to Fire truck/light vehicles or with obstruction i.e., structures, etc. require Barangay/ LGU mitigating measures, e.g. fire hydrant or small fire truck; coordinate with local government in clearing of obstruction. B.P. 220 Interior subdivision project must secure right-of-way to the nearest public road and the right-of-way shall be designated as interconnecting road with a minimum width of 10 meters. This fact shall be annotated on the title of the said road lot and must be donated and deemed turned over to the LGU upon completion of the said interconnecting road The interconnecting road must have at least a ROW of 10m for project sizes 15 has. and below, 12m for projects 10-15 has., and 15m for projects above 30 has. It should have a 15-centimeter mix gravel (pit run) basecourse on well compacted subgrade.
Physical characteristics	SHFC Construction Manual Should not impose high cost of development and with assurance of structural stability for house-building construction. The site shall not require excessive levelling, cutting, and filling. Sites requiring excessive engineering works shall be avoided. Likewise, sites on steep slopes and/or on weak soil foundation shall not be considered.

	NHA MC 2015 -- 0015 Topography Topography must be relatively flat, and slopes of proposed sites should not exceed the 15% maximum gradient considered as buildable slopes for housing development. For sites with rolling terrain, there should at least be filling requirement that should not exceed the cost parameters set by the NHA for a developed lot. Slope For projects with above 300 to 600 units per hectare, slope should be below 5%. For projects with density of 300 units and below per hectare, sloping area could be 5% to 15%. Sites with sloping area should be developed at a reasonable and affordable costs, with the assurance of soundness and structural stability for vertical construction. Soil characteristics Soil characteristics must conform to the suitability standards specified for construction and development by the MGB-DENR to avoid hazards not only in terms of location but in terms of local soil conditions. This is to avoid or lessen the introduction of mitigating measures that will heavily impact on production costs which will eventually redound upon the project beneficiaries or to the NHA and other implementing government agencies.
Proximity or exposure to environmental and health hazards	National Building Code The land or site upon which will be constructed any building or structure, or any ancillary or auxiliary facility thereto, shall be sanitary, hygienic, or safe. In case of sites or buildings intended for use as human habitation or abode, the same shall be at a safe distance, as determined by competent authorities, from streams or bodies of water and/or sources of air considered to be polluted; from a volcano or volcanic site and/or any other building considered to be a potential source of fire or explosion. SHFC Construction Manual: Must have minimum of at least 5 meters buffer zone on both sides of the fault trace or from its zone of deformation. Must be outside of the critical areas such as but not limited to the following: • very high susceptibility to hazard per DENR-MGB & PHIVOLCS maps. • garbage dump site, heavy industrial center and the like • transmission line right-of-way • large gullies/ravine and the like If in a hazard area, the HOA/ Mobilizer/Contractor must submit HOA and LGU Disaster Risk Reduction Management plans to reduce the impact of those identified hazards and a Certification from LGU/DRRM Office stating that the site IS suitable for socialized housing development to ensure safety of the project beneficiaries. HLURB CLUP Guidelines Volume 1:

	Not located in areas where risk is unmanageable/ unacceptable: • Flood—defined floodway; 10-year flood extent; or flood-prone area where flood height and velocity combine to make safe evacuation difficult during flood • Sea level rise and coastal erosion—area projected for permanent inundation • Storm surge — high susceptibility • Landslide — high susceptibility • Lahar – high susceptibility • Volcanic danger zone • Fault danger zone Areas where risk is manageable/ acceptable (for limited or low-intensity development) • Floodplain Area—flood-prone area where safe evacuation is possible during flood • Landslide—medium susceptibility • Storm surge—medium susceptibility • Liquefaction prone areas • Tsunami prone areas • Ground subsidence prone areas
Proximity to employment / livelihood/ income opportunities	NHA MC 2015 -- 0015 To the extent feasible, socialized housing and resettlement projects shall be in new areas where employment opportunities are available. HLURB CLUP Volume II: Recommended distances from residential zone: Neighborhood center – 750 meters of 15 minutes travel time on foot Minor CBD – 12 km; 15-30 minutes travel time by public transport service Major CBD – 45 minutes to one hour travel time from the farthest areas served by the center by public or private transport
Availability of water supply	NHA MC 2015 -- 0015 Steady and sufficient supply of potable water; sources, whether water company, ground, or alternative source – established prior to planning; secondary data provided such as water testing results in site vicinity; water supply provided and in conjunction with program schedule of local water service provider; certification to availability should be provided. SHFC Construction Manual Reasonable distance to local water system; Must have a certification from the concerned utility provider as to water availability and the estimated cost requirement, if any.
Availability of power supply	NHA MC 2015 -- 0015 There must be a utility company that will serve the needs of the new community, and that access for power facilities to and from the site must be identified as a requirement for the approval of the identified site for housing project. Provision of these facilities is imperative in the selection of site. Power supply must be provided

	and ensured in conjunction with the program schedule of the local power service provider. Certification as to its availability must likewise be secured. SHFC Construction Manual Must be of reasonable distance to local power system. Must have a certification from the concerned utility provider as to power availability and the estimated cost requirement, if any. In the absence of any of these, definite alternative should be identified by the HOA/ Developer/Contractor.
Availability of drainage outfall	NHA MC 2015 -- 0015 Natural waterways and outfalls shall be established on ground and as far as practicable identify the legal access with regard to outfalls, to and from the site to facilitate the planning of the drainage system. Flooding levels of the identified sites and its immediate vicinity should also be determined prior to site planning. The natural waterways should be retained to preserve the ecological balance within and around the site. Drainage outfall should be extended directly into the main waterways. Certification of availability of a legal right of way for the drainage outfall from the project office, lot owner, or local government unit concerned shall be submitted. SHFC Construction Manual Must be of reasonable distance to local drainage and drainage outfall. Legal right-of-way for the drainage outfall, if necessary, must be established prior to approval or release of loan. In the absence of any of these, definite alternative should be identified by the HOA/ Developer/Contractor.
Availability of sewerage treatment and disposal	SHFC Construction Manual Must be of reasonable distance to local sewerage systems. For resettlement sites, there must be a space provided for possible wastewater treatment facility for future development. In the absence of any of these, definite alternative should be identified by the HOA/ Developer/Contractor.
Availability and adequacy of day care center	RA 6972 A day care center in every barangay with a total development and protection of children program as provided in this Act instituted in every barangay day care center. HLURB CLUP Guidelines Volume II Requirements for Day Care Centers: (Source: DSWD) a. Every 500 families must have 1 day care center; b. Majority of parents are both working; c. The community has no form of socialization (no social activities); d. Plenty of street children ages 3 to 6; e. Emotionally unprepared parents; and f. The community is willing to put-up day care center. DSWD A.O. 2004 – 029 Standards for Day Care Centers Ensure the appropriate ratio between indoor room space and children is maintained in the center a. For 0-1.5 year olds: ratio is 1 child: 2 sq. meters b. For 1,6- to 5-year olds: ratio is 1 child: 1 sq. meter

	Maintains or provide access to an outdoor play area that: Has ample space for children to run, walk, jump, hop, turn around, throw, and catch: a. 4-5 sq. meters: 1 child, for the number of children who are outside at any one time.
Availability and adequacy of public elementary and secondary school	Department of Education Order No. 024 s. 2021 (Guidelines on the Coordination for Establishment of Schools in Resettlement Sites) Catchment area is defined as 1km and 2km from existing public schools The use of existing schools whose catchment area overlaps with any portion of the resettlement site and can accommodate additional learners and/ or new school buildings shall be prioritized over the establishment of a new school DepEd region and/or division DRRM coordinators should ensure coordination with local officials so that DepEd is included and informed about the planning of resettlement of families. Region and/ or division DRRM coordinators should participate in Local Inter-Agency meetings which regularly convene and discuss matters on resettlement so that stakeholders are informed on the needs of the education sector Establishment of schools shall adhere to processes defined in DepEd Order No. 40, s. 2014 or the Guidelines for the Establishment, Merging, Conversion, and Naming/ Renaming of Public Schools, and Separation of Public-School Annexes in Basic Education, with due consideration to the specific context, nature, and timelines of post-disaster response and rehabilitation. The following data should be made available and updated by local offices: schedule of movement of families to resettlement sites, census of school age children, status of transitional or temporary sites, Deed of Donation and Acceptance for resettlement school site In the absence of data, regions and divisions may use the assumption of 2 school-aged children per family with 45 learners per classroom
Availability and adequacy of Barangay Health Center/ Rural Health Center	HLURB CLUP Guidelines Volume II: Barangay Health Station (BHS) –the BHS is the initial unit which dispense basic health care i.e. maternal and child care, immunizations, treatment of simple medical conditions, nutrition, family planning, sanitary health care, emergency treatment and health education. The recommended service zone is from three (3) to five (5) kilometers considering transport availability for both the patient and medical staff and serving a population of 5,000. The BHS is manned by full-time rural health midwife. It should be centrally located and grouped with the other institutional facilities such as chapel, school, and park/playground. RA 1082 There shall be created rural health units of two classes: one of category one or senior rural health unit consisting of one municipal health officer as head of the unit, one public health nurse, one midwife, and one sanitary inspector; another of category two or junior rural health unit consisting of one physician or public health nurse as head of the unit and one midwife or sanitary inspector. Each municipality or group of municipal districts having a population of not less than five thousand shall have a rural health unit of category one: Provided, however, that a municipality with more than thirty-five thousand inhabitants shall have an additional rural health unit of category two.

Availability of Main Health Center/ Public Hospital	DOH AO 2006 – 0004 Guidelines for the Issuance of Certificate of Need to Establish a New Hospital The bed to population ratio must not be more than 1 bed: 1,000 population. Additional beds may be put up if the average occupancy rate of all hospital in the past two years is more than 85%. The proposed hospital shall be at least 1 hour away by the usual means of transportation during most part of the year from the nearest existing hospital. HLURB CLUP Volume II: Location Criteria for Hospitals and Health Facilities: Main Health Center/ City Health Center – preferably near the commercial area of the municipality/ city where public transportation is available; 1 MHC/ CHC for every 50,000 population; close to market center, accessible to major roads and bus routes Municipal Hospital – Service zone of approximately 30 km; located in settlements not provided with hospital services; in special cases may be located in remote area provided with adequate transport facilities Secondary Care District Hospital – Service radius of at least 35 kilometers servicing the municipality or municipalities where it is based Tertiary Care Provincial Hospital – located at the capital town, catchment area whole province Tertiary Care Regional Hospital – Located in regional center
Availability of protective services for crime	HLURB CLUP Volume II: The average manning levels of the PNP nationwide shall be: Ideal police-to-population ratio – 1 policeman: 500 persons Minimum standard police-to-population ratio: 1 policeman: 1,000 persons Barangy tanod-to-population (20 tanods: 1 barangay) Standard Lot Requirements: Police Station Type A – 2,500 sqm Police Station Type B – 600 sqm Police Station Type C – 400 sqm Mobile Force Coy – 500 sqm
Availability of protective services for fire incidence	Bureau of Fire Protection standards a. 1 Fire Fighter: 2,000 population b. Fire truck to Population ratio is 1:28,000 c. Fire Truck to Fireman Ratio is 1:14 Establishment of Fire Station- There shall be established at least one (1) fire station with adequate personnel, firefighting facilities and equipment in every provincial capital, city, and municipality subject to the standards, rules and regulations as may

	be promulgated by the Department. The local government unit shall, however, provide the necessary land or site of the station. In the case of large cities and municipalities, a district office with subordinate fire stations headed by a district fire marshal may be organized as necessary Ideal response time: 5-7 minutes
Availability of public market/ other commercial areas	HLURB CLUP Volume II: Site Selection Criteria for Market/ Trading Sites or Trading Centers: It should be in urbanized area There should be relatively developed economic and servicing capacity as well as an established link with other areas of the municipality It should be in a strategic and convenient location preferably along existing and proposed land and other modes of transportation It should be along major arteries and with more than one line of access Recommended distances from residential zone: Neighborhood center – 750 meters of 15 minutes travel time on foot Minor CBD – 12 km; 15-30 minutes travel time by public transport service Major CBD – 45 minutes to one hour travel time from the farthest areas served by the center by public or private transport

Source: Authors' summary

4.3. *Settlement Planning*

This section discusses the physical aspects of resettlement projects – the settlement/ site design and development, and the housing design.

4.3.1. Settlement Design

Sites meeting location criteria mentioned in the previous section often tend to be in urban or peri-urban areas with higher land prices than affordability ranges, posing a challenge in providing affordable housing. Sites within the affordability range are often agricultural and require reclassification. The lack of transport services in these far-flung areas is often a problem, as transport services are generally demand-driven and take time to scale up in areas with low population. Thus, a proactive approach to resettlement planning must be adopted if suitable sites are to be created.

Major physical planning decisions made at the beginning of a resettlement project involve the settlement size/ number of households, land use allocation, settlement density, and building height. These decisions must be made within a larger context and further definition of the national policy.

4.3.1.1. *Settlement Size* and Density

This is usually determined by the number of target beneficiaries for a specific project. But the settlement size can also be determined by other factors, such as economy and cost-efficiency. In Singapore, housing estates are planned according to neighborhood units. The neighborhood unit is a planning concept that has been widely used in urban and community planning to organize and deliver services efficiently and effectively.

The Singapore Housing & Development Board (HDB) takes the lead in planning these public housing estates. According to the Singapore HDB (2024), a town center acts as the primary commercial and activity hub surrounded by smaller neighborhoods of around 4,000 to 6,000 residential units. It added that these neighborhoods are comprised of smaller precincts of around 400 to 800 residential units. The Singapore HDB further discussed that facilities at the precinct, neighborhood, and town levels are arranged with a hierarchical concept. It explained that for the precinct and neighborhood levels, the facilities include those that cater to daily needs, while facilities at the town centers include those for recreation and social activities. A town center usually additionally serves as an integrated hub for public transportation, where the MRT station and bus interchange can be found (Singapore HDB, 2024).

In the Philippines, the closest we have to a neighborhood unit is the barangay, which as defined by the Local Government Code should have at least 5,000 inhabitants (for cities in Metro Manila and highly urbanized cities) and 2,000 for other areas. Aside from the barangay unit, we have no planning guides or requirements for minimum or maximum population for housing areas or resettlement.

In terms of population density, the LSP Manual states that in case when available land is insufficient to cater to the housing options proposed, the LGU planners may opt to choose housing options that cater to higher densities. UN-Habitat prescribes a minimum density of 150 persons/ hectare to ensure optimal development density. Locally NHA MC 2015 – 0015 mandates a maximum allowable density per hectare for horizontal development of 150 lots/units per hectare, and up to 420 lots/ unit for five-storey low-rise buildings. There is no distinction however in the guideline, on where these densities can be applied – in which case, the local land use plan or zoning ordinance can provide prescriptions on allowable density per location.

4.3.1.2. *Land use allocation*

The land use allocation for resettlement sites is determine by B.P. 220 and guides such as NHA M.C. 2015 – 0015. According to the Revised Implementing Rules and Regulations for B.P. 220 (2008, p.5), “there shall be no fixed ratio between the saleable portion and non-saleable portion of a subdivision project”. The non-saleable portion are the roads, parks and playgrounds, community facilities, and utility areas. NHA MC 2015–0015 (Sec. 6.5.4) meanwhile states that “the land use allocation for each site should not go beyond the ratio of 60% net saleable area and 40% non-saleable area”.

The Local Shelter Planning Manual further support his, stating that LGUs are encouraged to go beyond the minimum 30% allocation for open or public space. Advance and pro-

active planning anticipates that a neighborhood will grow in terms of population and economic activities. Thus provision for adequate public or open space of at least 40% is recommended. This would prove to be more sustainable in the long-term in maintaining good circulation, environmental stability, and a healthy social mix.

The Asian Development Bank guidelines for the Fair Shared City: Guidelines for Socially Inclusive and Gender-Responsive Residential Development states that neighborhoods should have a mix of uses to include residential buildings, job sites, commercial sites, schools, kindergartens, and recreational spaces with sufficient capacity located at walking distance, close to one another to ensure that the everyday needs of inhabitants are met.

Allocating space for livelihood or commercial activities allows residents to engage in income-generating ventures. This is especially important for low-income communities, as it provides opportunities for entrepreneurship, self-employment, and improved financial stability. Housing developments with on-site commercial spaces can also ensure that residents have easy access to essential goods and services, including groceries, healthcare facilities, and educational support, without needing to travel far from home. But aside from the general requirements for open space and community facilities, there is no requirement for potential livelihood or commercial areas in local codes or guides.

In B.P. 220, commercial spaces are optional. In the case studies of resettlement sites, site observation revealed that open spaces between buildings in the site can be potentially leased or used by residents for small businesses with temporary or mobile structures. Larger lots can be used by the HOA or community cooperatives to operate small grocery stores. Even larger tracts of land can be used for agricultural production, as in the case of the Barangay Balubal relocation site in Cagayan de Oro which used land adjacent to the residential site for silkworm production, operated by the Balubal Sericulture Farmer Association which employs women from the relocation site (Gallardo, 2023).

National policies also point to a desire to promote inclusive communities through mixed-income housing. The National Urban Development and Housing Framework (NUDHF) 2017 – 2022) from the Housing and Land Use Regulatory Board (HLURB) (2017, p.30), states that: "…low-income housing should be mixed with middle-income housing to create a more diverse community and to enable households to upgrade their housing within the community".

The only government guideline for income mix in developments is the balanced housing development requirement in RA 7279 which require housing developers to provide an area for socialized housing equivalent to at least 20 percent of the total subdivision area or project cost. But in the law, low-income developments are not required to be developed in the same area, so this does not guarantee income mix in developments. Socialized and economic housing developments are also constrained by the price ceiling for low-cost housing, leaving no option for mixing in middle-income housing.

4.3.1.3. *Building height*

The number of storeys or building height in housing developments can significantly affect livability. It impacts the layout, space, privacy, natural light, and accessibility of units.

Additionally, building height influences maintenance costs, social interactions, and community dynamics. Developments with taller buildings may use less land and offer more amenities and open space, but can be costlier to construct and maintain, potentially affecting affordability.

Therefore, the number of storeys in housing design should be carefully considered, considering the specific needs and preferences of the community and the context of the development. But aside from the general provisions in the National Building Code, we don't have specific guides for determining the appropriate building height of socialized or economic housing units. Given the current government's direction to build higher with the 4PH program, it is important to clearer on the criteria for determining the appropriate building heights.

4.3.2. Site Infrastructure

The basis for site planning of all economic and socialized housing is the Implementing Rules and Regulations of Batas Pambansa 220, the Batas Pambansa 344 for Persons with Disabilities, the Presidential Decree 1096 or the National Building Code, and the Republic Act No. 9514 for fire code requirements. All site planning must comply with existing laws, rules, and regulation on housing, whether local or national. In cases of conflict, the more specific provision shall prevail over the general ones.

4.3.2.1. *Road Network*

The following tables show the road and sidewalk requirements for B.P. 220. In terms of the road network, local codes need to be updated to reflect non-motorized mobility and pedestrian-friendly environments to create sustainable, safe, and accessible communities. B.P 220 road requirements are still geared towards motorized mobility and urban development. It also has no provisions related to bicycle lanes and bicycle parking.

Bike-friendly road standards that can be looked locally is DPWH D.O. 88, which prescribes design guidelines for design of bicycle facilities such as bicycle lanes and bicycle parking. Internationally, the Urban Street Design Guide by the National Association of City Transportation Officials in the US can be looked at for more pedestrian-friendly options in street design. A look at NACTO standards indicates that the required road carriageway in B.P. 220 can be further reduced to make way for wider sidewalks, bikeways, and planting strips.

Furthermore, in B.P. 220, there are no parking requirements for horizontal subdivisions. Based on observation in the case study horizontal sites, the absence of parking allotments can lead residents to park on streets, and sometimes block the right of way. National Building Code standards can be referred to for car parking requirements. In terms of bike parking, the Singapore Land Transport Authority and Urban Redevelopment Authority have standards for bike parking for dwelling facilities, including provisions for both visitors and residents.

Table 6. Road Right-of-Way Requirements

PROJECT SIZE RANGE (has.)	RIGHT OF WAY (m)					
	ECONOMIC HOUSING			SOCIALIZED HOUSING		
	Major	Collector	Minor	Major	Collector	Minor
2.5 and below	8	-	6.5	8	-	6.5
Above 2.5 – 5.0	10	-	6.5	10	-	6.5
Above 5.0 – 10	10	8	6.5	10	-	6.5
Above 10 - 15	10	8	6.5	10	8	6.5
Above 15 – 30	12	8	6.5	10	8	6.5
Above 30	15	10	6.5	12	10	6.5
	ROW	Carriageway		ROW	Carriageway	
Motor Court	6	5		6	5	
Alley	2	-		-	-	
Pathwalk	-	-		3	-	

Source: B.P. 220

Table 7. Width of Planting Strips and Sidewalks

RIGHT-OF-WAY (m)	ECONOMIC HOUSING		SOCIALIZED HOUSING	
	Planting Strip (m)	Sidewalk (m)	Planting Strip (m)	Sidewalk (m)
15	1.3	1.2	1.3	1.2
12	0.8	1.2	0.8	1.2
10	0.8	1.2	0.8	1.2
8	0.4	0.6	0.4	0.6
6.5	Optional	0.5	Optional	0.5

Source: B.P. 220

4.3.2.2. *Utilities*

Connections to water and power utility providers are mandated by local codes. In general, B.P. 220 has similar provisions to the National Building Code in terms of provision of utilities. These provisions are enumerated in the table below:

Table 8. Standards for Utilities

UTILITY	STANDARD
Street lighting	National Building Code Distances of lampposts for street lighting shall be placed at a maximum of 100.00 meters or as prescribed by the power firm servicing the area. Utility poles shall be installed along sides of streets and pathways. B.P. 220 Provision of street lighting per pole is mandatory at 50-meter distance and every other pole if distance is less than 50 meters.

Connection to water system	B.P. 220: Mandatory connection to public water supply where it exists; each lot/ living unit served with water connection (regardless of water distribution system); potable and adequate supply by local water district; complemented/ supplemented by other sources when necessary such as communal wells; if public water supply system is not available, developer shall provide for independent water supply system within the subdivision project; minimum: 150 liters per capita per day; operational deep well and pump sets with sufficient capacity to provide average daily demand, with spare pump and motor set; required permits from NWRB and LWUA standards complied with; if ground reservoir is put up, an area shall be allocated depending on volume of water to be stored; elevated reservoirs shall contain 20% average daily demand plus fire reserve; alternative sources of water supply may be availed of such as collected rain water and other devices with water impounding capacity; fire protection requirements as per Fire Code; fire hydrants and cistern to be provided with LGU; for multi-storey building, a water tank to be provided if the height of building requires pressure in excess of that in the main water line. (For multi-family dwellings) A main service connection and a piping system with communal faucets to serve the common areas like the garden, driveways, etc. shall be provided. Pipes branching out from the main water line shall service the individual units which shall be provided with individual water meters. IRR, National Building Code (a) Whenever available, the potable water requirements for a building used for human habitation shall be supplied from existing municipal or city waterworks system. (b) The quality of drinking water from meteoric, surface, or underground sources shall conform to the criteria set in the latest approved National Standards for Drinking Water. (c) The design, construction, and operation of deep wells for the abstraction of groundwater shall be subject to the provisions of the Water Code of the Philippines. (d) The design, construction and operation of independent waterworks systems private housing subdivisions or industrial estates shall be governed by existing laws relating to local waterworks system. (e) The water piping installations inside buildings and premises shall conform to the provisions of the National Plumbing Code of the Philippines. National Plumbing Code Whenever water pressure in the main or other source of supply will not provide a water pressure of at least 103 kPa…a hydro-pneumatic pressure tank or an elevated tank and booster tank will provide said 103kPa pressure.
Connection to power supply	BP 220:

	When power is available within the locality of the project site, its connection to the subdivision is required. Actual connection, however, may depend on minimum number of users as required by the power supplier. Installation practices, materials, and fixtures used shall be in accordance with the provisions of the existing rules and regulations of the National Electrical Code of the Philippines or the Local Electric Franchise Holder/ Local Electric Cooperative or the local utility company. Electric bills shall be proportionately shouldered by the users prior to issuance of Certificate of Completion (COC) and turnover of open space to Local Government Unit (LGU). (For multi-family dwellings) A main power service shall be provided with a main circuit to service common lighting as well as common power needs of the dwellings. Like the water system, branch circuits with separate meters shall service the individual living units.
Installation and connection to storm drainage system	BP 220 The drainage system for economic and socialized housing projects shall be made of concrete lined canal with adequate capacity and load-bearing cover…The drainage system must conform with the natural drainage pattern of the subdivision site, and shall drain into appropriate water bodies, public drainage system or natural outfalls… If applicable, underground drainage system shall be provided with adequate reinforced concrete pipes (RCP), catch basins, manholes/inlets, and cross drain for efficient maintenance. Minimum drainage pipe shall be 300mm. 1. Rainwater drainage shall not discharge to the sanitary sewer system. 2. Adequate provisions shall be made to drain rainwater from low areas in buildings and their premises. 3. The drainage pipe installation and sewerage system of any premises and/or connection with any public disposal or any acceptable terminal shall conform to the Revised National Plumbing Code of the Philippines.
Installation of sanitation/ sewage/ wastewater disposal system	BP 220 Individual septic tank conforming to the standards and design of Sanitation Code of the Philippines Whenever applicable, connection shall be made to an approved public or community sewer system subject to the requirements and provisions of the Sanitation Code of the Philippines and other applicable rules and regulations. (For multi-family dwellings) Sewage disposal may be accomplished by any of the following means: discharge to an existing public sewerage system; treatment in a community disposal plant, or communal septic tank;

	treatment in individual septic tanks with disposal by absorption field or leaching pit. National Building Code: 1. Sanitary sewage from buildings and neutralized or pre-treated industrial wastewater shall be discharged directly into the nearest street sanitary sewer main of existing municipal or city sanitary sewerage system in accordance with the criteria set by the Code on Sanitation of the Philippines and the Department of Environment and Natural Resources (DENR). 2. All buildings located in areas where there is no available sanitary sewerage system shall dispose their sewage to "Imhoff" or septic tank and subsurface absorption field or to a suitable waste water treatment plant or disposal system in accordance with the Code on Sanitation of the Philippines and the Revised National Plumbing Code of the Philippines. 3. Sanitary and industrial plumbing installations inside buildings and premises shall conform to the provisions of the Revised National Plumbing Code of the Philippines.
Availability of garbage disposal system	B.P. 220 Provide sanitary and efficient refuse collection and disposal system whether independently or in conjunction with the local government garbage collection and disposal services. RA 9003 (Ecological Solid Waste Management Law) Segregation and collection of solid waste shall be conducted at the barangay level specifically for biodegradable, compostable and reusable wastes: Provided, That the collection of non-recyclable materials and special wastes shall be the responsibility of the municipality or city. Philippine Green Building Code MRF shall be provided for the collection and segregation of solid waste materials. Buildings shall be provided with a minimum area for MRF as specified (1.0 sqm waste storage space per 2,500 sqm TGFA + 50% circulation space) ii. MRF shall be fully enclosed and easily accessible from within the building and from the outside for easy collection of waste. iii. Solid waste containers shall be provided for at least four (4) types of wastes: - compostable (biodegradable) - non-recyclable (to be disposed off in the landfill) - recyclable (paper, cardboard, plastic, metal, wood, etc.) - special waste

Source: Authors' summary

The standards for utility provision are quite clear, except for outdoor lighting. Open space lighting guidelines are lacking for common areas outside of the maximum distance of lampposts along streets stated in the National Building Code and B.P. 220. Outdoor lighting is important for safety, crime deterrence, wayfinding, accessibility, emergency response, and community and social interaction.

The issues in utility provision are mostly implementation, particularly in water supply, sewage systems, and storm drainage. Electricity and water connections in the housing units are dependent on the local utility providers. Issues in electricity and water connection are usually due to lack of coverage in the area, the number of beneficiaries not meeting the minimum number required for connection, and lack of budget for additional infrastructure required to serve the development. In the case studies, those who were connected to local electricity providers experienced no issues. However, some of those connected to local water providers did not get the expected level of service, possibly due to lack of capacity on the part of the water provider. Apart from the Certificate of Commitments required from utility providers, there's no required feasibility study on utilities or water supply for government housing developments.

Water supply, sewerage and storm drainage systems were the top maintenance issues in the case study sites. These systems are vulnerable to leaks, clogs, and malfunctions in any part of the network, from the source (water supply) to disposal (sewerage). These occurred particularly in vertical developments where there are multiple households using one network. These issues are due to improper usage and possibly inappropriate sizing and capacity (for further verification as the scope of the study did not include looking at the design of plumbing and drainage systems in detail). Aside from the local Sanitary Code which sets out minimum standards, there are no government design guidelines setting out the design goals for these systems in vertical housing developments.

Water issues may stem from a larger district-wide supply issue as well as the capacity of the local water provider. Due to the difficulty of ensuring a consistent water supply, other international guides for minimum standards that can be looked at is the ILO Community Infrastructure in Urban Areas (directed towards urban poor communities), and SPHERE standards (for post-crisis or post-conflict response). Standards in these documents tend to be more flexible than our local codes and could be considered for scenarios such as temporary housing, or a new resettlement area in transition to a more developed state. For example, these are alternative standards related to water supply:

- Direct household supply based on 100-150 liters per person per day, or standpipes to be no further apart than 200m (approximately 100m from the furthest household to the standpipe). The number of people served by a single-inch tap should be limited to 125. Where the municipal water supply does not reach the area, shallow wells and boreholes are options but both sources of water need to be tested to see if they are safe (ILO Community Infrastructure in Urban Areas)

- Minimum of 15 liters/ person/ day, with less than 500m distance from any household to nearest waterpoint, less than 30 minutes queuing time at water sources, 250 persons per

tap (flow rate of 7.5 liters per minute), 500 people per hand pump (based on flow rate of 17 liters per minute), 400 people per open hand well (based on flow rate of 12.5 liters per minute) (SPHERE Standards)

When replaced by direct household connections, communal water facilities stated above could still be used as alternative sources by the community in times of water scarcity. Rainwater harvesting can also be considered as an alternative – this is discussed further under House Design – Green Infrastructure.

4.3.2.3. *Community Facilities*

Having community facilities within a housing development is important as it provides essential amenities without the need for extensive travel. Multipurpose halls can serve as gathering spaces, as well as host events, that can encourage social interaction and strengthen the sense of community. Our local code for socialized and economic housing (B.P. 220) allots a percentage of the site area for facilities depending on the number of saleable lots or dwelling units but does not provide details on required building areas as well as service standards. Community facilities are also not automatically funded from housing project budgets and may be left to local government and concerned national agencies to provide. This may result in inadequate or delayed provision of the facilities, depending on the capacities and delivery timeline of the local governments/ national agencies.

Some provisions can be found in land use planning documents such as the HLURB Guidelines Volume 2 (it contains location criteria, space standards, and catchment population for educational, health, and recreational facilities) but these are not consolidated in a document focused solely on planning for housing sites and may need updating.

Annex E-1 of NHA MC 2015-0015 has land area requirements and lot and building dimensions for specific facilities depending on the size of the development. It lists 10 facilities that may be included: covered multi-purpose basketball court, elementary and high school, wet and dry market, tricycle terminal and jeepney terminal, police outpost/ sub-station, materials recovery facility, livelihood and training center, health center, day care, and NHA project office. The NHA computation for the area of these community facilities range from 4% - 7% of total project area while the B.P. 220 standard for the allocation of community facilities is lower, ranging from 1% - 2%. These standards however are limited to land and building area and does not include service standards.

The table below lists the existing required provisions for community facilities:

Table 9. Standards for Community Facilities

COMMUNITY FACILITY	STANDARD
Multipurpose Community Hall	BP 220 Mandatory provision of area for neighborhood multi-purpose center both for economic and socialized housing projects with a gross area of 1 hectare and above, or 100 and above dwelling units. NHA MC 2015 – 0015 Annex E Lot area of 1,350 sqm (multi-purpose covered basketball court) provision for projects above 1,000 units; 2 multi-purpose basketball courts for projects above 4000 units
Tricycle/ Pedicab Terminal (First/ Last-Mile Access)	BP 220 Mandatory provision for projects with 1500 units and above NHA MC 2015 – 0015 Annex E Tricycle terminal (shed-type) – 100 sqm area for project sizes below 1000 units; size to be increased as project size increases (see document for more detail)
Talipapa (neighborhood market)	NHA MC 2015 – 0015 Annex E Provision of lot area of 420 sqm for projects with size of 3000 lots and below. For projects larger than 3000 lots, provide public market
Wet and dry public market	NHA MC 2015 – 0015 Annex E Provision of lot area of 1,350 sqm for projects with size of 3000 lots and above, and 1,750 sqm for projects 6,000 units and above.
Parks and Playgrounds	B.P. 220 Mandatory allocation for parks and playgrounds for projects 1 hectare and above, ranging from 3.5% to 9.0% depending on density (no. of lots per hectare), with an addition of 1% for every 10 or fraction above 225 dwellings units per hectare. In no case shall an area allocated for parks and playgrounds be less than 100 sqm. DSWD A.O. 2004 – 029 Standards for Day Care Centers (Outdoor Play Area) Maintains or provide access to an outdoor play area that: Has ample space for children to run, walk, jump, hop, turn around, throw, and catch: a. 4-5 sq. meters: 1 child, for the number of children who are outside at any one time. The outdoor environment is an outdoor area defined and used for children's play and learning and for the development of their gross motor skills—running, walking, jumping, hopping, sliding, creeping, crawling, balancing, turning around, throwing, catching and climbing. Outdoor structures are

	used for children's outdoor play activities which are (1) fixed assets of the program that may be constructed from wood, metal, indigenous materials, or junk items and/ or commercially purchased and (2) natural assets around the center (see document for further specifications on layout and equipment).
Basketball Court	NHA MC 2015 – 0015 Annex E Covered basketball court – 650 sqm for project sizes less than 1000 units; multi-purpose basketball court 1350 sqm for project sizes more than 1000 units, 2700 sqm for project sixes with more than 4000 units
Daycare	RA 6972 A day care center in every barangay with a total development and protection of children program as provided in this Act instituted in every barangay day care center. HLURB CLUP Guidelines Volume II Requirements for Day Care Centers: (Source: DSWD) a. Every 500 families must have 1 day care center; b. Majority of parents are both working; c. The community has no form of socialization (no social activities); d. Plenty of street children ages 3 to 6; e. Emotionally unprepared parents; and f. The community is willing to put-up day care center. DSWD A.O. 2004 – 029 Standards for Day Care Centers Ensure the appropriate ratio between indoor room space and children is maintained in the center a. For 0-1.5-year-olds: ratio is 1 child: 2 sq. meters b. For 1,6- to 5-year-olds: ratio is 1 child: 1 sq. meter Maintains or provide access to an outdoor play area that: Has ample space for children to run, walk, jump, hop, turn around, throw, and catch: a. 4-5 sq. meters: 1 child, for the number of children who are outside at any one time. NHA MC 2015 – 0015 Annex E 2-Classroom Day Care - 180 sqm building; 420 sqm lot for project size 1000 - 2000 units – size to be increased as project size increases (see document for more detail) Combined Health Center/ Day Care for project size less than 1000 units – 145 sqm bldg. on 375 sqm lot

Construction of elementary and high school educational facilities	BP 220 Optional provision (designated as saleable lot) for elementary school for projects with 1500 units and above; high school for projects with 2000 units and above NHA MC 2015 – 0015 Annex E Elementary school area provided - 1285 sqm lot - in project size 450 lots and above, area to increase per increase in number of units (see document for details) High school area provided - 1285 sqm lot - in project size 1500 units and above, area to increase per increase in number of units (see document for details) Department of Education Order No. 024 s. 2021 (Guidelines on the Coordination for Establishment of Schools in Resettlement Sites) Catchment area is defined as 1km and 2km from existing public schools. The use of existing schools whose catchment area overlaps with any portion of the resettlement site and can accommodate additional learners and/ or new school buildings shall be prioritized over the establishment of a new school. Such schools should be capable or accommodating new structures, learners, and personnel, and may or have experienced an increase in enrollment due to temporary or permanent relocation of families in nearby areas. DepEd region and/or division DRRM coordinators should ensure coordination with local officials so that DepEd is included and informed about the planning of resettlement of families. Region and/ or division DRRM coordinators should participate in Local Inter-Agency meetings which regularly convene and discuss matters on resettlement so that stakeholders are informed on the needs of the education sector. Establishment of schools shall adhere to processes defined in DepEd Order No. 40, s. 2014 or the Guidelines for the Establishment, Merging, Conversion, and Naming/ Renaming of Public Schools, and Separation of Public School Annexes in Basic Education, with due consideration to the specific context, nature, and timelines of post-disaster response and rehabilitation. The following data should be made available and updated by local offices: schedule of movement of families to resettlement sites, census of school age children, status of transitional or temporary sites, Deed of Donation and Acceptance for resettlement school site. In the absence of data, regions and divisions may use the assumption of 2 school-aged children per family with 45 learners per classroom.

	Minimum land requirements for schools should be 5,000 sqm for rural areas and 2,500 sqm for highly urbanized cities. DepEd Order No. 64 Series of 2017: Establishing the Minimum Performance Standards and Specifications for DepEd School Buildings Classroom size: The size of the classroom for elementary and secondary schools must be 7 meters in width and 9 meters in length or 9 meters in width/ depth and 7 meters in length measured from the centers of the walls.

Source: Authors' summary

Internationally, we can look at a document such as the Hong Kong Planning Standards and Guidelines for Community Facilities, which lays out the population service ratios or service standard, as well as the required floor and site areas per facility. In the guide, there is clarity on the number and area of facilities to be provided for housing areas developed by the government. For example, for primary schools, it states that: "…For housing estates developed or redeveloped by the Housing Authority, adequate site or sites for primary schools should be provided to cater for the developments' own design population unless there is a surplus of places or school reservations elsewhere in the district. For example, if an estate has a design population that would generate a demand for an 18-classroom primary school, then a large enough site within the boundary of the estate to accommodate the required primary school should be provided" (Planning Department of the Government of the Hong Kong Special Administrative Region 2024, pp.6–7). Included in the guide are required minimum floor areas for primary schools depending on its size.

4.3.2.4. *Parks and Playgrounds*

The allocation and maintenance of open spaces are vital for creating healthy, vibrant, and sustainable urban and suburban environments. Proper planning and management of open spaces are essential to maximize their benefits for residents and the overall livability of a place. B.P. 220 mandates an allocation for parks and playgrounds for projects 1 hectare and above, ranging from 3.5% to 9.0% depending on density (no. of lots per hectare), with an addition of 1% for every 10 or fraction above 225 dwellings units per hectare. In no case shall an area allocated for parks and playgrounds be less than 100 sqm.

Apart from the B.P. 220 requirement, we have no further government guidelines for the design of open spaces in housing developments. We do have some guidelines for the outdoor play area of daycare centers, under DSWD A.O. 2004 – 029 Standards for Day Care Centers.

4.3.3. House Design

Table 10 shows basic housing standards which are covered by international conventions and recommendations. These are performance standards, and our local building codes translate some of these into design standards.

Table 10. Housing Design Standards in International Conventions and Recommendations

Standard	International Covenant on Economic, Social and Cultural Rights	ILO Recommendation No. 115 Concerning Workers' Housing	WHO healthy housing
Safe water[b]	✓	✓	✓
Sanitation/toilet & sewage disposal[b]	✓	✓	✓
Sufficient living space[b]	✓	Persons per room and/or floor area	Persons per room
Durable structure (protection against elements)[b]	✓	✓	✓
Good condition & state of repair [b]	✓[e]	✓[f]	✓
Physical safety	✓		✓
Adequate ventilation		✓	✓
Adequate lighting	✓	✓	✓
Safe food storage		✓	✓
Washing facilities	✓	✓	✓
Separation from animals		✓	✓
Electricity			
No site hazards [b, c]	Drainage Polluted	Earthquake	Many [d]
Refuse/solid waste disposal	✓	✓	✓
Emergency services	✓		✓
Protection from elements	✓[e]	✓[f]	✓

Notes:

[a] UN-Habitat urban slum housing definition is not included in this table, because it includes only five elements: 'inadequate access to safe water; inadequate access to sanitation and other infrastructure; poor structural quality of housing; overcrowding; insecure residential status' in addition to security of tenure.

[b] Element included in UN-Habitat definition of urban slum housing.

[c] According to UN-Habitat the following locations should be considered as hazardous 'housing in geologically hazardous zones (landslide/earthquake and flood areas); housing on or under garbage mountains; housing around high-industrial pollution areas; housing around other unprotected high-risk zones (e.g. railroads, airports, energy transmission lines)' (UN-Habitat, 2003, p. 12).

[d] WHO indicates the following site hazards: earthquakes, hurricanes, wind, noise, pollution, floods, and landslides.

Source: Anker and Anker, 2017

The following are the codes which apply specifically to socialized and economic housing:

- P.D. 1096 (National Building Code)
- B.P. 220 (Revised Rules and Standards for Economic and Socialized Housing)
- R.A. 9514 (Fire Code – Revised Implementing Rules and Regulations 2019)
- B.P. 344 (Accessibility Law)
- Structural Code of the Philippines
- National Plumbing Code of the Philippines
- National Electrical Code of the Philippines

The main intention of these codes is to ensure the safety of occupants and the public. They provide standards and regulation for the design and construction of buildings to minimize the risk of accidents such as structural failures, fires, and other hazards. Additionally building codes can also address issues related to accessibility, such as B.P. 344 which is specifically geared towards persons with disability.

B.P. 220 provides more flexibility compared to the National Building Code, with lower minimum standards in some aspects such as dwelling size. There are cases where local governments also issue their own local ordinances related to building construction, such as in the case of Quezon City, Mandaluyong, Pasig, Mandaue and Cebu, which have green building ordinances which provide incentives for compliant buildings. Due to these variances in standards, developers have been asking for more clarity on the applicability of BP 220, the National Building Code, the updated Fire Code, and LGU local codes where standards differ.

The implementation of these building codes is mostly reliant on the education and training of architects, engineers and contractors, and other allied professionals involved in design and construction; the advancement of material technologies and construction techniques; as well as the local building officials who enforce the code by reviewing plans and conducting inspections. Code violations are usually due to a combination of lapses in the design, material quality/ installation/ construction, supervision, or lack of review/ inspection of the plans and buildings.

NHA and SHFC have standard model housing types compliant to these standards that they have implemented in their own projects and which LGUs can also adopt. But aside from the building code standards and NHA/ SHFC model housing types, there are no local guidelines that outline the key design goals for housing projects. Building codes need to be regularly reviewed and updated to address new challenges and lessons learned, and having a clear set of design goals will set a basis for the updating.

Outlining design goals will also be helpful to ensure that principles of good housing are implemented. Based on a review of international studies and principles, the key design goals could include: affordability; adequacy of living space; flexibility/ adaptability for expansion/ business/ livelihood activities; durability and maintainability; provision for acoustic and visual privacy and protection from excessive noise; safety and security from crime; adequate ventilation and comfortable temperature; reduced environmental impact/ sustainability; inclusivity and cultural sensitivity. These design goals, as well as any applicable policies and policy gaps are discussed in the succeeding sections.

4.3.3.1. *Affordability*

There are local issuances setting the maximum price for socialized and economic housing (See tables below) to ensure affordability. According to developers, however, providing socialized and economic housing in ideal locations while meeting the maximum price level is still a challenge, due to land prices and the rising cost of materials.

However, a recent study indicates that even housing at the socialized housing price level in the Philippines is unaffordable to poor households (Ballesteros, Ramos, & Ancheta, Measuring Housing Affordability in the Philippines, 2022). According to the study those families considered income poor do not have sufficient income to cover housing needs;

and that even if the poor are given the opportunity to avail socialized housing, they will not be able to pay their amortizations. The study recommends that government must undertake reforms on its role in the provision of affordable housing, such as the adoption of direct government subsidies to households and to builders of affordable housing (rent or own).

But there are also indications that there are market segments (within the urban poor sector) who can also afford higher than the maximum price. For example, SHFC's pilot high-rise housing development currently being built in Sta. Mesa Manila, has a higher unit cost than the maximum price level. Yet, SHFC says, this unit price was acceptable to the community HOA.

Further, there are many aspects in public housing that may need further investments to improve livability and sustainability but are challenging to implement in the current price scenario. Some of these are: increase in living space/ flexibility/ adaptability/ providing spaces for income generation; improving resiliency/ durability/ maintainability; development of parks/ open spaces; and green infrastructure. There is a need to reexamine the price ceiling, not just in terms of its level but also in terms of its segmentation with regards to different housing locations and types (urban, peri-urban, rural, high-rise, medium-rise, low-rise, horizontal – single attached/ duplex/ rowhouse).

Table 11. Price Ceiling for Socialized Subdivision Projects

FLOOR AREA	PRICE CEILING
22 sqm with loft of at least 50% of the base structure, or 24 sqm.	Php480,000
24 sqm with loft of at least 50% of the base structure or 28 sqm.	Php530,000
28 sqm with loft of at least 50% of the base structure or 32 sqm.	Php580,000

Source: HUDCC Resolution No. 1 Series of 2018

Table 12. Price Ceiling for Socialized Condominium Projects

FLOOR AREA	PRICE CEILING (National Capital Region, San Jose del Monte Bulacan, Cainta and Antipolo City in Rizal Province; San Pedro City in Laguna; Carmona and the Cities of Imus and Bacoor in Cavite Province)	PRICE CEILING (Other Areas)

22 sqm	Php700,000	Php650,000
24 sqm	Php750,000	Php600,000

Source: HUDCC Resolution. No. 2 Series of 2018

4.3.3.2. *Living Space*

The Revised Rules and Standards for Economic and Socialized Housing Projects (B.P. 220) specifies a minimum floor area of 18 sqm for socialized housing and 22 sqm for economic housing. The National Building Code specifies that habitable rooms need to allot 14 cubic meter of space per person. Given the minimum ceiling height of 2.4m, the area should be about 5.8 sqm. person (around 23 sqm for a family of 4, and around 29 sqm for a family of 5). Given the average household size of 4.8 persons, the B.P. 220 standard falls below the National Building Code standard.

The lower low-cost housing space threshold in the Philippines arose out of need to "..allow greater flexibility and economy" in the development of economic and socialized housing (Silvestre, 1991) by relaxing the provisions of existing building laws (PD 957, Subdivision and Condominium Buyers Protective Decree; PD 1216, Defining Open Space in Residential Subdivisions; PO 1096, National Building Code of the Philippines; and RA 9514, Fire Code of the Philippines). This was intended to, as in BP 220, encourage developers, particularly the private sector, to provide adequate and affordable housing units for average and low- income earners in urban and rural areas.

The Philippines' standard for living space for low-cost housing is lower than average compared to other countries. A study which compared standards of living space across low-income counties found that 30-36 meters is the average guideline for low-income households in countries such as South Africa, urban India, Vietnam, and Nigeria (Anker & Anker, 2017). The same study cites that according to the United Nations, the median floor area per person in cities in least developed countries is 30 square meters for a family of 4 and 37 square meters for a family of 5.

The same study cites that the standard for living space for low-cost housing in middle income countries is 36 – 60 square meters, with lower middle- income countries in the 36 – 48 square meter range and upper middle-income countries in the 48 – 60 square meter range (see Table 13. Living space guidelines for lower income households, 16 countries).

Table 13. Living Space Guidelines for Low Income Households, 16 Countries

Country	Development level	Gross National Income (GNI) per capita in PPP, 2014	Income group in country	Living space (square meters)
Malawi (rural)	Low income	790	Low income households	30
Kenya (urban)	Lower middle	2,940	Low income households	35
			Middle income households	53
Vietnam	Lower middle	5,350	Social housing (low income)	30
India (urban)	Lower middle	5,630	Low income households	28–48
			Middle income households	48–80
			High income households	80+
India (Maharashtra)			Low income households	28–45
India (Uttar Pradesh)			Low income households	29–50
Nigeria	Lower middle	5,710	Affordable housing (low income)	30
Morocco	Lower middle	7,290	Social housing (low income, less than twice the minimum wage)	50
Sri Lanka (tea estates)	Lower middle	10,300	Tea estates workers	40
Tunisia	Upper middle	11,020	Low income households (1–2 minimum wage)	50
South Africa (farm workers)	Upper middle	12,700	Farm workers	30
South Africa (urban)			Low income households	30–45 (36 average)
China (Shenzhen)	Upper middle	13,170	Low rent housing	44 (for 2–3 persons); 57 (for 4+ persons)
Brazil (Sao Paulo)	Upper middle	15,570	Minimum size allowed	60
Mexico (urban)	Upper middle	16,840	Affordable housing	50

Table 5.3 (continued)

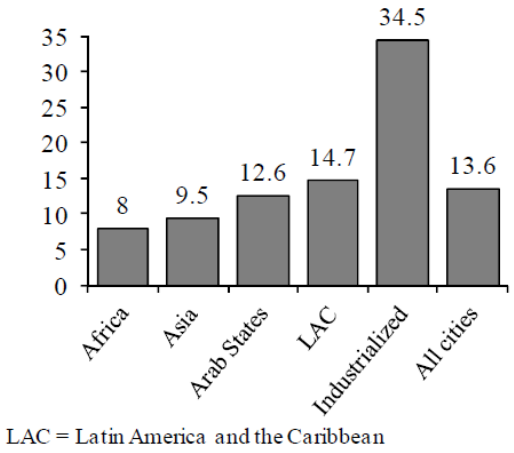
Country	Development level	Gross National Income (GNI) per capita in PPP, 2014	Income group in country	Living space (square meters)
Malaysia (Kuala Lumpur)	Upper middle	24,770	Minimum size allowed	60
United Kingdom	High income	39,500	Social housing for 4 persons (low income)	70
Ireland	High income	42,830	Social housing for 4 persons (low income)	73
USA (New York City)	High income	55,900	Public housing (low income)	90

Notes: Values for Kenya and China assume that gross floor space is 12% more than living space. Value for Sri Lanka was reduced by roughly 20% based on our calculations from a floor plan.

Sources: Woetzel, Ram, Mishke, Garemo, Sankhe (2014), Anker and Anker (2014a), Republic of Kenya (2004), Government of India (2012), Maharashtra Housing and Area Development Authority (2014), Uttar Pradesh Housing and Development Board (2014), Vietnam Government (2005), Hadi (2014), Centre for affordable housing finance in Africa (2015), CABE (2010), Republic of South Africa (1997), Pottie (2003), Moolla, Kotz and Block (2011), Wang (2016), Thibbotuwawa (2016). GNI per capita from World Bank Development Indicators.

Source: Anker & Anker, 2017

Figure 6. Floor Area per Person in Cities



Source: UN Habitat 2001 as cited by Anker and Anker, 2017

The government recognizes that the current minimum standards are not sufficient. HUDCC Resolution 1 (s. 2018, par.3), states that "the minimum floor area of 18 sq.m. for socialized housing as provided in the implementing rules and regulations of Batas Pambansa Blg. 220 is not anymore aligned with and responsive to the thrust of the government of providing decent housing under the BALAI Housing Program." Along this track, the current minimum housing space standard needs to be revised to be more reflective of humanitarian as well as international standards, not just minimum affordability.

Inadequate living space can have consequences on health and safety. A study of post-Haiyan resettlement projects in Tacloban on how people coped during the Covid-19 pandemic reveals that the inadequate shelter space forced people to stay out of the house despite quarantine, lockdown, and physical distancing protocols (Cuaton & Mangada, 2022). With one open space for cooking and sleeping, compliance with physical distancing protocols was almost impossible. According to the study the small space also pushed some households to undertake non-engineered extensions (e.g., back, front yards, or second floor) without considering the structural danger of these repairs.

Structural modifications to housing are common. In a study of resettlement sites in Cagayan de Oro, it was found that about 56% of households modified their houses, which were originally about 21 to 24 sqm in area (about 4.2 to 4.8 sqm per person considering average household size) (Carrasco, Ochiai, & Okazaki, 2016b). The reasons for modification include need for spaces for kitchens and service/laundry areas, additional sleeping space, a shop/ business, and a shaded porch (resting space form the high temperatures inside the house), and security (fencing/ enclosure from intruders).

The area of the extensions ranged from 4 to 18 sqm, depending on the available area for extension and the rules/ regulations governing allowable extensions (although some were in violation of these rules). Extensions were of mixed construction (some more permanent, some more makeshift), and usually made of traditionally available and affordable materials.

These findings point to a need for either increasing the housing area to accommodate larger families; or allotting sufficient space (and structural provisions) for expansion; and guidelines and technical assistance for modification/ expansion of houses.

In terms of the provision for space for income-generating activities in housing buildings, B.P. 220 is silent. The National Building Code allows for around 10 to 30 percent of the house area to be used for the practice of a profession or an in-house business, but this pertains to allowable use and not a required provision.

4.3.3.3. *Ventilation and Thermal Comfort*

The thermal performance of houses is not specified in B.P. 220, but this may need to be examined as urban heat and rising temperatures due to climate change are a concern. Studies of resettlement projects have identified uncomfortable high temperatures inside houses as an issue (Cuaton & Mangada, 2022) (Carrasco, Ochiai, & Okazaki, 2016b). This was due to the houses not being equipped with thermal insulation, low ceiling, lack of ceiling, and improper ventilation to allow air circulation due to the lack of upper windows.

This was also confirmed by an NGO that works with urban poor. They observed these in the rowhouses in the settlement areas of BASECO Tondo where ventilation is limited to typically only one side as the two sides are firewalls, and the rear openings are usually obscured by a house extension (for kitchen, or laundry). They added that additional or openings for ventilation, though, needs to balance with the occupant's need for security/ reducing points for possible entry.

Table 14 is a look at the current provisions on room window openings, ceiling and thermal insulation in Philippine Building Codes. In terms of ceiling height, the BP 220 requirement is lower than the National Building Code. To improve ventilation and thermal performance, the following could be looked at: raising ceiling heights in B.P. 220 to equal the NBC, adding provisions/ guidelines for the strategic placement of windows/ openings to enable cross-ventilation, and provisions/ guidelines for thermal insulation.

Table 14. Provisions for Room Window Openings, Ceiling and Thermal Insulation in Philippine Building Codes

Code	Item	Provision
B.P. 220	Window openings for habitable rooms	At least 10% of the floor area, and not less than 1.00 sq. meter
	Minimum ceiling height	2m (where ceiling is not provided), and 1.8m (where ceiling is provided)
	Provision of ceiling	No requirement
	Thermal insulation	No requirement

National Building Code	Window openings for habitable rooms	At least 10% of the floor area, and not less than 1.00 sq. meter
	Minimum ceiling height	Rooms with natural ventilation should not have a ceiling height less than 2.7m.
	Provision of ceiling	No requirement
	Thermal insulation	No requirement
Green Building Code *(note: applicable only to residential condominium projects 10,000 sqm and above)*	Window openings for habitable rooms	Same as NBC, with the provision that windows are openable
	Thermal insulation	Buildings should be provided with roof insulation so that the average thermal resistance value (R-Value) of the roof is at least R-8 (this requires use of polyisocyanurate or rigid foam insulation).

Source: Author's summary

4.3.3.4. *Use of Alternative Building Materials*

Alternative building materials for housing are to be reviewed and accredited by Accreditation of Innovative Technologies for Housing (AITECH). AITECH accredits these building technologies in view of their potential to reduce housing cost. It also provides technical support to private manufacturers for accreditation of their innovative building materials and technologies (AITECH Committee n.d.).

NHA has issued guidelines for the use of alternative housing technologies through NHA Memorandum Circular 2016-020. These guidelines were issued to ensure the quality and proper application of new technologies which are AITECH-accredited in all NHA housing projects; to provide uniform guidelines to NHA project implementors and inspectors on the proper use of the technologies; and to establish and maintain a reliable AITECH monitoring system.

NHA has issued a Training Manual on the use of some of these new technologies (National Housing Authority, 2017). These are focused on the construction methodologies of the different technologies approved by DPWH for Typhoon Yolanda. These include, among others, steel frame systems, wall systems, and roofing systems.

NHA has also issued an End User's Manual for some of these technologies (AITECH). The manual educates homeowners on the technology and what they can/ cannot do with their houses, and how-to steps on building extensions, hanging items, or making openings. According to this manual these technologies have been used in about 33,000 NHA housing units so far.

There are still challenges to the use of alternative building materials. An NGO cites that some of materials are still not mainstream and not readily available. Most of the alternative technologies being used by NHA are mostly steel or concrete-based, with varying systems of application.

Alternative material options such as treated bamboo are confined to a few suppliers. Alternatives to concrete, such as interlocking earth blocks (no earth block technology is currently accredited with AITECH), have not prospered commercially though these have been manufactured by Habitat for Humanity for their own housing projects. Innovative products, such as wood wool cement board (launched in the late 90s), were unable to compete in the mainstream.

Some also have low social acceptability, as people are still used to conventional materials. There is also limited research on the performance of alternative building materials once used in the building. Further research on how people have altered their houses using these technologies is also needed. The expertise on these technologies is also typically confined to the manufacturer and developer and may not lend themselves easily to a community-driven, more participative building process.

4.3.3.5. *Durability and Maintainability*

The Implementing Rules and Regulations of the National Building Code (2005, p.102) has specific details related to durability and maintainability, under design of public buildings or structures: “choice of finishes should aim to minimize maintenance costs”; and “only the use of good to high quality materials, labor, technologies and construction methods within the approved budget, must be specified by its planners and designers to ensure permanence, long continued use and low maintenance cost of public buildings or structures”.

Common maintenance issues in public housing include clogged drainage/ sewerage pipes; water leaks; roof leaks; deterioration of exterior finishing; damaged stair treads and railings; and broken windows. Durability and maintainability can be ensured through proper design, specifications, and construction. During occupancy, user guides and a maintenance program could also help. There are however no government guidelines and specifications for ensuring durability and maintainability in public housing, also no public housing maintenance guide.

4.3.3.6. *Acoustic and visual privacy*

Common noise complaints in public housing often revolve around excessive and disruptive sounds that impact the peace and quiet of residents. These complaints may include loud music, parties, TV volumes, playing children, or noisy neighbors engaging in activities during late hours. In multifamily living environments such as public housing, the proximity of living spaces can amplify the impact of noise. Aside from the estate management guidelines the level of noise in the development can be controlled or minimized at the design stage.

There are no government design guidelines or requirements for ensuring privacy and protection from excessive noise aside from setbacks and minimum distances between buildings. In other countries, guidelines for development control to ensure acoustic and visual privacy include recommendations on site layout; setbacks; strategic placement of balconies; separation of communal open space; common areas and access routes from house windows; level changes, fencing, and landscaping/ vegetation.

4.3.3.7. *Safety and security (against crime)*

Safety and security are significant concerns in public housing due to various factors that can affect the well-being of residents. Public housing often serves vulnerable populations, including low-income individuals and families, who may already face increased challenges. Issues such as higher crime rates in some urban areas, insufficient lighting in common areas, and inadequate security measures can contribute to an environment where residents feel unsafe. Additionally, the high population density and proximity of living spaces in public housing can make it more susceptible to criminal activities.

Local housing codes don't include any guidelines for ensuring safety and security against crime. The issue is also thought of as a concern for estate management. But safety and security can also start with the site and housing design. According to Oscar Newman's (1973) defensible space theory, there are four key design measures for security and safety: territoriality (the subdivision of buildings and grounds into zones of influence to discourage outsiders from entering and encourage residents to defend their area); surveillance (The design of buildings to allow easy observation of the related territory); image (the design of public housing to avoid stigma) and environment (the juxtaposing of public housing projects with safe zones in adjacent areas).

4.3.3.8. *Green Building/ Sustainable Design*

Green building is the practice of adopting measures that promote resource management efficiency and site sustainability while minimizing the negative impact of buildings on human health and the environment. This practice complements the conventional building design concerns of economy, durability, serviceability, and comfort (Philippine Green Building Code).

The NHUDSP 2040 has stated that the DHSUD will push for an integrated government approach to green infrastructure planning and development, ensuring delivery of services while attaining positive environmental impacts. NHA MC 15 2015 also states that planning shall adopt green building principles.

In the Philippines, the Philippine Green Building Code was approved in 2015 as a referral code of the National Building Code. The GB Code (2015, Sec. 3, page 1) "seeks to improve the efficiency of building performance through a framework of acceptable set of standards that will enhance sound environmental and resource management that will counter the harmful gases responsible for the adverse effects of climate change, throughout the building's life cycle including efficient use of resources, site selection, planning, design,

construction, use, occupancy, operation and maintenance, without significant increase in cost".

The GB Code (2015, Sec. 3) prescribes minimum standards for compliance and should not be used to rate buildings. The provisions listed in the GB Code (2015, Sec. 8) is applicable to new and renovation of buildings that falls within the required minimum Total Gross Floor Areas (TGFA) (See Table 15). Based on this table, the GB Code is only applicable to residential condominiums above 20,000 sqm. It does not apply to horizontal housing subdivisions or multi-storey housing less than 20,000 sqm.

Table 15. Minimum TGFA for Building Occupancy, Green Building Code 2015

USE / OCCUPANCY CLASSIFICATION of any jurisdiction	TGFA as defined by NBC
Residential Dwelling: Condominium [1]	20,000 sqm
Hotel / Resort	10,000 sqm
Educational: School	10,000 sqm
Institutional: Hospital	10,000 sqm
Business: Office	10,000 sqm
Mercantile: Mall	15,000 sqm
Mixed Occupancy [2]	10,000 sqm

Sources: NBC, Baseline Studies, IFC Philippine Green Building Code Project, May 2013

[1] *For Residential Dwelling: Condominium, the TGFA is the sum of the dwelling areas, common and accessory areas within the building.*

[2] *The areas for Mixed Occupancy classification shall have a total aggregate area equal to the TGFA*

Source: Green Building Code 2015 (Section 8, Page 2)

Green building features could include any of the following: use of renewable energy, ensuring energy efficiency, water use efficiency, and rainwater harvesting. There is no requirement for low-cost housing to adopt these features, nor are there government guidelines specific to housing apart from the standards in the Green Building Code (mostly pertaining to energy and water use efficiency). Housing developers state that there is an additional cost to adopting green building features, and that these may be difficult to implement under the price ceiling.

There are some NGOs who have tried to adopt green building features in their projects such as rainwater harvesting and solar street lights. NHA has also mentioned that they have provisions in their housing units that make them rainwater-harvesting ready. The challenge towards adopting green building features is the additional cost, although for some aspects, such as rainwater harvesting, there are low-cost options. There may also be specific contexts where such technologies are more appropriate, such as sites with no access to a water system and water is scarce (for solar, areas which are off grid). People may still prefer convenience through access to piped water and grid connection to electricity and will only be more accepting of these technologies when there are no other options.

Green building features may be encouraged/incentivized. Some local governments have passed their own local green building ordinances with incentives for compliance. Some of these incentives include tax credits (Quezon City), increased building height limit and floor area ratio (Mandaluyong), and real property tax discount (Mandaue and Cebu) (Lamudi, 2021).

Locally, green buildings can be certified by the BERDE Green Rating System.[1] A third-party rating system ensures that claims to being 'green' are substantiated. The certification system is voluntary and not required. Local buildings can also choose to be certified by international green rating systems, such as LEED, or Leadership in Energy and Environmental Design, or Edge by IFC/ World Bank which certifies resource-efficient and zero carbon buildings. Third-party local certification for green buildings is not required in socialized and economic housing.

In terms of solar power use, solar power users can avail of the net metering scheme. For the Net-Metering program under the Renewable Energy Act of 2008 (RA 9513), property owners are allowed to have a renewable energy (RE) facility with a capacity of up to 100kW and in case there is excess energy produce in these properties, it will be exported to a distribution utility (DU) like Meralco which provides compensation in the form of monthly bill credits (Meralco 2018). There are however no national requirements or guidelines for the use of renewable energy specifically for socialized and economic housing development.

The initial cost of solar panels per housing unit is prohibitive for beneficiaries of socialized housing unless subsidy or budget is allocated for the installation of solar panels per household. The current price ceiling for socialized and economic housing do not yet include these features. The installation of solar panels may also be explored in common facilities, as well as public areas (e.g. street lights). The cost of solar features needs to be factored in computations for the budget for the site development and community facilities.

The incorporation of solar panels into open market mass housing has been done in Via Verde, by Imperial Homes in Sto. Tomas, Batangas. In its website, it claims to be the country's first recipient for the Excellence in Design for Greater Efficiencies (EDGE) Certificate given by the IFC/World Bank for meeting global standards for Green Building.

The NUDHF 2017 – 2022 from the HLURB (2017) states that water-sensitive urban design strategies can be used locally. This may include: road layout and streetscape using bio-retention systems, infiltration trenches and systems, sand filters, and porous paving; public open spaces as sedimentation basins, constructed wetlands, swales, buffer strips, lakes, and ponds; and water reuse using rainwater tanks and aquifer storage and recovery. Aside from provisions in the National Building Code and Green Building Code (mainly related to

[1] As discussed by the Philippine Green Building Council (PHILGBC) (n.d., par.1) in BERDE Online, the BERDE Program was established in 2009 by the PHILGBC to "develop the Philippines' own national voluntary green building rating system to facilitate green building projects in the country, inspire confidence in the industry, and build trust in the industry."

requirements for unpaved surface area) there are no government guidelines for water-sensitive urban design, nor is there any provision for it in BP 220.

4.3.3.9. *Inclusivity and cultural sensitivity*

The NUDHF 2017 – 2022 from the HLURB (2017, p. 27) states that "housing development should be culturally sensitive and must adhere to appropriate standards and design"; and that "it should pay special attention to the needs of those in vulnerable situations, including indigenous people, persons with disabilities, elderly, ISFs, internally displaced population from disaster stricken or internal conflict areas, women, and children, among others." Similarly, the National Resettlement Policy Framework (Department of Human Settlements and Urban Development, 2022) states that housing and site designs should address the specific needs of vulnerable groups such as women, children, elderly, and persons with disabilities and indigenous peoples.

National policy points to the need for universal design principles in public housing. Universal design refers to the concept of creating environments that are accessible and usable by people of all ages, abilities, and backgrounds, without the need for adaptation or specialized design. The goal of universal design is to ensure inclusivity, allowing everyone, regardless of physical or cognitive abilities, to participate fully in various activities. This approach considers a wide range of abilities and disabilities, including mobility challenges, sensory impairments, and cognitive differences.

However aside from B.P. 344, which are building standards for people with disabilities, there are no specific government design guidelines for women, children, the elderly, and indigenous peoples. In terms of implementation, there have been reports that even government buildings are not fully compliant to B.P. 344 (Sunstar, 2018).

Cultural sensitivity in housing design involves considering and respecting the cultural preferences, values, and lifestyles of the individuals or communities for whom the housing is intended. It recognizes that different cultures have unique needs and preferences when it comes to living spaces, and these should be taken into account during the design process. This sensitivity can encompass various aspects of housing, including architectural styles, spatial arrangements, materials, and even symbolic elements that hold cultural significance. By incorporating cultural sensitivity into housing design, architects and planners can create spaces that not only meet functional requirements but also resonate with and respect the cultural identities of the residents.

Due to variances in culture among the various indigenous peoples of the Philippines it may be difficult to implement a universal guideline. Cultural sensitivity may be better addressed through better community participation, as evidenced by the experience of UN-Habitat, which implemented a community-driven process in their project in Marawi, involving mostly Maranao families. This process resulted in modifications to their site and housing design to ensure space for a mosque, provide adequate space for extended families, and orient the house according to their preferences.

4.3.4. Emergency and Temporary/ Transit Shelters

Emergency shelters house families on a short-term basis (1-4 weeks) before and after emergencies. These can be in evacuation centers or host families. Temporary shelter/ transitional shelter provides an interim physical shelter option between emergency shelter and permanent re-housing, and may last from a few weeks to several months, or even years in some cases (Post Disaster Shelter Framework).

Options for transitional shelter include host families, self-settlement, collective centers (public space, private building, or specially constructed building), and IDP camps, which are usually built by government and/or augmented by NGO or INGO support. In the Yolanda rehabilitation, the government-built bunkhouses and Internally Displaced People (IDP) camps. In the rehabilitation and recovery efforts for Marawi City, the government built temporary shelters complete with basic utilities and services. Government or NGOs manage these IDP camps, providing water, sanitation, and other basic services (Post Disaster Shelter Framework).

Internationally, the Sphere Handbook contains minimum standards in humanitarian response. In terms of shelter and settlement, it contains standards for planning response options, location and settlement planning, living space, household items, technical assistance, security of tenure, and environmental sustainability.

The UN also uses Shelter Cluster standards in the implementation of transitional housing. The document published by the Shelter Cluster (2016), Minimum Standards in Shelter, Settlement and Non-Food Items, lay out guidance notes, standards, actions, and indicators for various response scenarios. Some of the main standards include:

- **Strategic planning.** Shelter and settlement strategies should promote the security, safety, health, and well-being of both displaced and non-displaced affected populations with the intent of recovery and reconstruction as much as possible. There should also be a proper consultation between the affected population and responding agencies on what shelter and settlement solutions will apply in their situation.

- **Settlement planning.** In planning of the settlement, there should be a continued consultation among the sheltered-assisted populations on the location of their shelter or covered area and their access to essential services. All settlement plans should also incorporate potential risks and vulnerabilities in the temporary and settlement areas and how these can be addressed or mitigated.

- **Covered living space.** Affected population shall be ensured of a covered living space that provides proper thermal comfort, ventilation, and provisions to ensure their privacy and safety. This can be in form of providing separate rooms per families and segregation of areas per sex. There should also be provisions on where essential household and livelihood activities can be undertaken. All affected individuals should have an initial minimum covered floor area of $3.5m^2$ per person. Other key indicators for this standard are the shelter building materials minimum technical and performance standards and its design is culturally accepted in the area.

- **Construction.** Participation of the affected population in the construction is highly encouraged without compromising their safety by ensuring that local safe building practices are implemented and utilizing local materials and expertise in the area. This strategy provides opportunities for local livelihood for the affected population.

While the Philippines has no formal transitional shelter policy (Post Disaster Shelter Framework), historically, the DSWD and DPWH have implemented temporary shelter assistance in past disasters in the Philippines. DSWD issuances on the implementation of temporary shelter assistance have been related to beneficiary criteria and selection (DSWD A.O. 09, Series of 2014) as well as camp management (Guidelines on Evacuation Center Coordination and Management, 2013, eventually superseded by JMC M.C. Circular No. 02, s. 2021 Guidelines on Camp Coordination and Camp Management and Internally Displaced Persons Protection). In the DSWD Guidelines, the Sphere Handbook is cited as one of its references.

In terms of shelter and accommodation, the following are the main recommendations of the 2021 DSWD Guidelines:

- The LGU shall ensure that adequate shelter is provided to the IDPs for short- and long-term accommodation;
- Check and ensure connection of electricity and water;
- Consider physical distancing – citing the Sphere standards of 3.5 sqm of living space per person; and
- When designing accommodation areas, consider adequate ventilation, cultural practices, safety, privacy and accessibility especially for senior citizens, women, children, and persons with disability.

Aside from shelter the DSWD Guidelines contain recommendations on toilets and bathing areas, child-friendly spaces, storage area, laundry spaces, water, health services, waste management.

Bunkhouses built by the government have been cited by the Camp Coordination and Management Cluster as falling below Sphere standards, leading to adjustments in their size (Esmaquel II, 2014). The DSWD Guidelines on Camp Management (JMC M.C. Circular No. 02, s. 2021) have cited that Sphere standards on the ratio of toilets to persons (1:20) are difficult to achieve because of resources, space, and other considerations, recommending a ratio of 1:50 for short-term displacement.

4.4. *Community Participation*

4.4.1. Community-driven Development Approach

A community-driven development approach has been encouraged internationally. The World Bank (WB) (2018) advises to have institutionalized arrangements for communication of the community's concerns during the planning and implementation and to ensure adequate representation of the vulnerable. It also recommends clarifying the consultation and participation strategy in the design and implementation of resettlement activities, reviewing the community's selection on resettlement options offered to them, and summarizing feedback on the resettlement

plan. Some international references and practices are more specific in terms of the way a community-driven development approach is carried out. For instance, the Australian Government Aid Program (AUSAID) (2019) emphasizes the importance of considering the various needs of groups of vulnerable and disadvantaged people by indicating that consultations with such groups be in an understandable language and not be influenced by intimidation, coercion, and manipulation. UN-Habitat organizes communities into HOAs (prior to transfer) and lets them handle the funds for construction. Habitat for Humanity typically asks beneficiaries to provide sweat equity. International references and practices indeed show the value placed on involvement of the communities in resettlement projects.

The community-development approach has also been promoted locally. The Philippine Development Plan 2017-2022 stated that the government should adopt a community-driven development approach in shelter provision towards safe and secure communities. The NHA Quality Manual reflects importance to consultations through emphasis on information sharing and consultation meetings (NHA 2021a). According to DHSUD (2022b) and NEDA (2017), shelter provision beneficiaries or resettled persons would be involved in the entire development process – from planning to implementation and even monitoring. The National Urban Development and Housing Framework (NUDHF) 2017-2022 rationalizes the adoption of the approach by highlighting the capacity of community-based or people's plans in stimulating greater participation from all urban stakeholders (Housing and Land Use Regulatory Board [HLURB] 2017). Based on local documents, the community-driven development approach is widely viewed as beneficial in the resettlement process.

4.4.2. RRAP

The government has been moving towards further institutionalizing a participatory process in the preparation of resettlement plans. NHA MC 2019-48 provides the Framework for the Local Stakeholders' Participation and Governance in Relocation and Resettlement Planning and Implementation. There is also a draft bill known as the "On-Site, In-City or Near-City Resettlement Act" which aims to institutionalize the people-centered approach[2] in the conduct of an on-site, in-city, or near-city resettlement program for informal settler families, which will amend the Urban Development and Housing Act of 1992. It sets out the criteria by which people's participation is to be implemented, including the organization of the target beneficiaries and formulation of the People's Plan[3] and the Relocation Resettlement Action Plan (RRAP)[4] in coordination with the implementing local government unit or project proponents. Under this draft bill, the DHSUD is mandated to prepare a template of a People's Plan and RRAP.

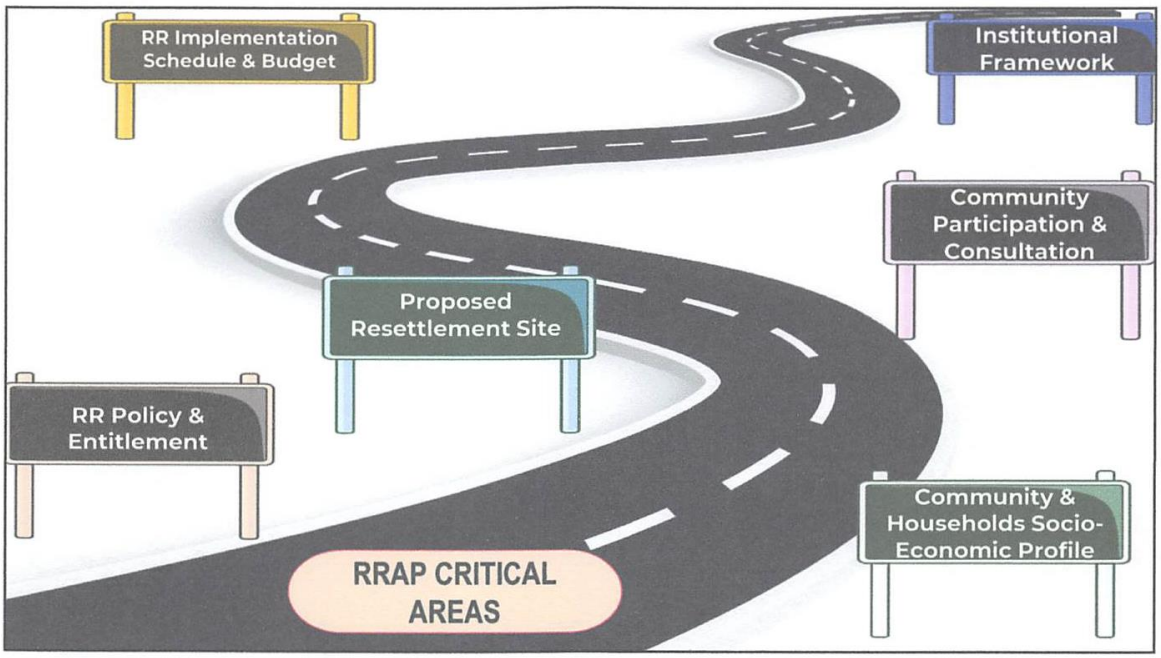
[2] Process of involving all stakeholders in the various stages of relocation and resettlement planning and implementation including the formulation of people's plan and other participatory schemes and mechanisms to ensure to protection and promotion of well-being of affected families considering the legal, social, economic, and cultural implications of the resettlement program.

[3] Plan formulated by the beneficiary association in coordination with the implementing local government or the project proponents, whichever is applicable, which shall contain a site development plan that conforms to the Comprehensive Land Use Plan (CLUP) of the local government unit under whose jurisdiction the project site is proposed to be located, including: community, health sanitation and security plans; non-physical development components such as self-help housing cooperative, livelihood, self-help development, capability building; and a system of allocation of socialized housing units that shall promote and protect the welfare of the elderly, persons with disability, and children.

[4] Comprehensive and integrated plan prepared by the implementing local government unit or the project proponent agency in consultation with the affected ISFs, specifying details on the implementation of relocation including but not limited to the menu of housing options or alternative housing program and other entitlements.

The formulation of the RRAP is already institutionalized in NHA MC 2020-045. The MC covers all new relocation and resettlement projects of the NHA as a direct implementer or in partnership with other government agencies (both at the national and local level). As seen in Figure 7, RRAP critical areas include community participation and consultation.

Figure 7. RRAP Critical Areas



Source: (Firmalino, 2023)

The NHA has also issued M.C. No. 2018-014, which are revised guidelines for the financing and acquisition of developed lots and completed housing units in permanent housing sites through the Community-Based Initiative Approach (CBIA). These provide improvements on the Community Initiative Approach Program (CIAP) which was adopted in 2016 and 2017. The CIAP has previously been approved by the NHA Board for adoption in several housing programs since 2005, including the North-Southrail Linkage Resettlement Program (2005 – 2009); TS Ondoy and Pepeng (2009), Sendong (2011), and Pablo (2012) Resettlement Programs; AFP/ PNP Housing Program; Housing Program for ISFs Living in Danger Areas in Metro Manila (2012); and Resettlement Program for ISFs affected by infrastructure projects in Metro Manila and Danger Areas in Nearby Provinces (2011 -2016). The CBIA is an implementation strategy promoting participation of Community Associations in decision-making and activities including site selection and acquisition of house and lot units (NHA MC 2018-014).

4.4.3. Participatory site planning, housing design and construction

The government does not have detailed guidelines specifically on community participation for site and housing design. Some NGOs involve target beneficiaries in various ways during the technical planning and design process as well as construction. Some participatory activities are in

partnership with government agencies and local governments. For UN-Habitat and TAO-Pilipinas, participatory design usually includes conducting a series of planning workshops involving community representatives in coming up with their own ideas and refining these ideas together with design professionals until a technically and financially feasible plan is produced. The benefits of such a process include increased acceptability of the house and site design and empowerment of communities. The design may also better address the needs, culture, and way of life of the beneficiaries. For organizations such as Habitat for Humanity, involving beneficiaries in the construction allows beneficiaries to provide sweat equity as well as develop construction skills that they can use later on for their own house or for employment.

The government has also experimented with implementing the People's Plan in previous resettlement projects for waterways in Metro Manila. One of the projects, Alpas Phase 1, is included as one of the case studies of this project. The project was delivered through the Community Mortgage Program of the SHFC. In the case of Alpas, the participation of the community in the building and site design consisted of working with and providing feedback and approval to the architect and builder during planning and construction stage.

Government efforts in community participation have been notable, but policy gaps are still present locally. Local policies related to the community-driven approach differ between some agencies. In the Community Mortgage Program (CMP), the homeowner's associations are the decisionmakers in terms of approving the site, housing design, and relocation plan. On the other hand, the NHA's approach allows for community consultation or endorsement via the CBIA approach, membership via the LIAC, and participation in the formulation of the RRAP; however, the community is not the main decision maker. There has also been a roadblock in terms of the government contracting process which does not allow NGOs to act as housing developers. Another policy gap is that implementers of resettlement projects in the country are not required to engage stakeholders or in-house personnel with community-driven housing experience which may have implications in terms of implementation. Given the policy gaps, the government needs to have a clearer definition and a policy framework for when and how to further support community-driven approaches.

4.5. *Estate Management*

4.5.1. Organizational Capacity Building

Estate management requires that organizational capacity building is implemented on resettled persons. The ADB (1998) enumerates social preparation phases as: (1) identification of the vulnerable, (2) mobilization, (3) organization, and (4) institutionalization. Initially, community organizers are needed to help the communities find a common sense of purpose and develop leadership and skills; and then community groups are connected to various agencies for institutionalization (ADB 1998). Local documents also have provisions on capacity building. Under the NHA Community Empowerment Manual, the following trainings are among the capacity building activities to be provided to HOAs: community planning, financial management, and estate management (NHA 2015a). According to SHFC CMP Corporate Circular No. (CC) 19-052 (Series 2019), SHFC projects had community mobilizers that would provide community formation support such as on membership, election process, financial literacy, and creation of by-

laws (SHFC 2019). Based on the PDP 2017-2022, the DHSUD would also provide technical support on community organization using community-led approaches to help HOAs achieve their organizational goals and perform their tasks (NEDA 2017).

In the Philippines, policy gaps exist in organizational capacity building. There is a lack of policies, guidelines, or standards on connecting HOAs to various agencies for institutionalization and providing refresher trainings or activities related to organizational sustainability. Project implementers are also not required to engage stakeholders or have in-house personnel with HOA organizing experience. NGAs do have roles as oversight agencies especially in monitoring and evaluation, but there is a lack of guidelines on how this can be implemented.

4.5.2. Role of HOA and Guidelines on Estate Management

The homeowners' associations (HOAs) play an important role in managing the household beneficiaries in all resettlement phases. During the pre-resettlement phase, they are involved not only in organizing and identifying the beneficiaries, but also in site selection and planning through People's Planning approaches. The leadership of the HOAs are still needed during the resettlement period wherein they represent the community in coordinating with their sending and receiving LGUs. But it is during the post-relocation period wherein they play a central role as they are now responsible for sustaining the leadership and management of the homeowners as well as addressing emerging issues and challenges in their new community.

There are guidelines on estate management, and documents related to HOAs' roles in relevant activities. DHSUD Department Order No. (DO) 2021-007, Series of 2021 notes that HOAs should complement LGUs in providing vital services to its members (DHSUD 2021c). In the Magna Carta for Homeowners and HOAs (RA 9904), Section 10 provides that HOAs' rights and powers include regulating use, maintenance, and modification of common areas; regulating access to village/subdivision roads for security; ensuring availability of quality water services at reasonable price; granting leases to use common areas; and imposing fees on use of facilities. Section 67 of the RA 9904 Revised Implementing Rules and Regulations (IRR) (DHSUD DO 2021-007) provides that HOA modifications of common areas are allowed as long as they do not contradict the subdivision plan. HOA members themselves have responsibilities related to estate management. Under DHSUD DO 2021-007, they are required to attend HOA meetings, comply with rules, and pay monthly dues and fees. There are also prohibited acts including the non-conversion of the use of the residential lot with housing unit as seen in NHA MC 2021-021 (NHA 2021b). Grievance redress mechanisms should be developed based on international and local documents. WB (2018) and AIIB (2022) both value such mechanisms and advise such to be developed as early as possible. WB (2018) adds that these mechanisms should be free and easily accessible even to the vulnerable and disadvantaged. In local documents, grievance redress and alternative dispute resolution mechanisms are valued as a way of ensuring that ISFs have a means for appeal (DHSUD 2022b). For this purpose, the DHSUD Homeowners Associations and Community Development Bureau is tasked to develop strategies to strengthen the grievance mechanism and procedure in HOAs as seen in Section 21 of the IRR of RA 11201 (Housing and Urban Development Coordinating Council [HUDCC] and Housing and Land Use Regulatory Board [HLURB] 2019).

Despite existing policies, guidelines, and/or standards, politics may still have an influence in the selection and substitution of beneficiaries because of the lack of policies to prevent such a scenario. Also lacking are guidelines on penalties and grievance redress mechanisms that will protect complainants and address issues in a timely manner.

4.5.3. Turnover of Resettlement Sites to LGUs

Local documents provide guidance on the turnover of resettlement sites to LGUs. RA 7279 reflects the expected active role of LGUs in managing resettlement sites. Host or receiving LGUs are tasked to provide long-term social, economic, and community support services aside from maintaining and developing resettlement sites (DHSUD 2022b). Under the IRR to ensure observance of proper and humane relocation and resettlement procedures mandated by the UDHA, a large role assigned to sending LGUs was on proper dismantling of existing structures, as well as documentation of the vacated area (DILG and HUDCC 1992). Under the National Resettlement Policy Framework, sending LGUs are tasked to provide support like direct provision of community facilities like livelihood and multipurpose centers, police outposts, health centers, schools, and other social services and programs (DHSUD 2022b). Overall, these local documents show that both sending and receiving LGUs have to take part in resettlement projects.

Policy gaps are present in the turnover of resettlement sites to LGUs. To start with, there is a lack of policies requiring project implementers to orient HOAs on details of ownership arrangements and ensuring individualized agreements. There is also a lack of details on roles and responsibilities of LGUs in legal agreements or localized legal documents. There are no references or tools used to monitor and evaluate the LSP implemented by LGUs including on whether assessments of resources have been used in improving access of resettlement sites to utilities or services. Additionally, there is a lack of policies explicitly indicating the role of barangays in the sustainability of or social cohesion within HOAs, which is important to complement HOA officers' efforts in mitigating internal community conflict. Such gaps may have implications on the sustainability of resettlement sites.

5. Resettlement Practices, Issues, and Challenges

This Section presents the analysis of the field visits, focused group discussions with residents, and interviews with national agencies, local agencies, business sector and NGOs/INGOs who are directly involved in resettlement planning and implementation in the country. The sites visited exhibited good practice in the different components of the resettlement process.

5.1. *Settlement and housing features of case study sites*

This section describes the physical setup and discusses the good practices and issues in terms of site and housing details of the case study sites. These are based on researchers' observations of the site and building plans and during the site visits. Sentiments of the residents and implementers on these elements are discussed in the succeeding sections.

Settlement sizes of the case studies varied (from 72 to 884 households) with densities ranging from around 50 units/ hectare (PRRD Marawi and Dreamville Tacloban) to 540 units per hectare (Disiplina Village, Disiplina Village). The case studies had three sites with building heights up to three stories (Alpas, Valenzuela, Habitat for Humanity site Taguig), and three with horizontal subdivisions (PRRD Marawi, CRS Dreamville Tacloban, Xavier Ecoville). The three-storey models allow people to walk up without the need for elevators. Horizontal development ranged from single-detached (Marawi) to rowhouse (Xavier Ecoville) and duplex (CRS Dreamville Tacloban).

Table 16. Population Density of Case Study Resettlement Sites (Dwellings/Hectare)

	Building Type	No. of Storeys	Site Area (ha)	No. of Households	Population Density (Dwellings/ Ha)
Disiplina Village Valenzuela	Multi-storey	3	1	540	540
FTI Townhomes Taguig	Multi-storey	3	0.6	72	120
Alpas Phase 1 San Jose Del Monte	Multi-storey	3	1.55	546	352
Dreamville Tacloban	Two-storey/ duplex/ single-detached	1 to 2	16	884	55
Xavier Ecoville Cagayan de Oro	Rowhouse	1	5	523	105
PRRD Kilala Marawi	Single detached	1	5	250	50

Source: Author's summary and computation based on site and building plans and project information

But there were some basic services and facilities which experienced delays in provision or were not sustained over time. For one project, a kindergarten school was built on site but eventually the school transferred out while the building was taken over by the LGU. In another site, the multipurpose hall and daycare were not yet built as these were planned for Phase 2 of the project, so the residents had to make do with temporary sites. The elementary school within one site was still in a temporary structure, with the school still to be built. The main access road in the site was also still being built.

In at least a couple of sites, there were opportunities to maintain their original sources of income or employment. This was due to the proximity of the chosen sites to their places of origin, the availability of employment opportunities in both urban and developing peri-urban areas, and reliable transportation options. But in some instances, certain products and services cost more compared to origin sites, such as the products in the neighborhood market, transportation costs, water delivery, and electricity from the grid-tied solar power.

The affordability of the land was another critical factor. Land was either donated, provided through usufruct agreements to make it more cost-effective, or obtained through loans facilitated by the Social Housing Finance Corporation (SHFC). This approach aimed to make homeownership more accessible and sustainable for the communities involved in the project.

In terms of housing design, a variety of approaches were employed to meet the diverse needs and circumstances of the communities.

The provision of lofts (whether half or the whole floor area) enabled having separate sleeping spaces. When the loft occupied the whole floor area, it enabled having two-three separate rooms or sleeping spaces on that level. One housing provider, CRS (in Dreamville, Tacloban), offered different sizes of housing models depending on family size and affordability, providing single-detached, duplex, and two storey models ranging from 29 to 58.5 sqm (Figure 8).

Figure 8. Different housing models in Dreamville, Tacloban

Source: Amillah Rodil

In Marawi, the NHA model used by UN-Habitat (Figure 9) had three bedrooms on the ground floor which allowed for larger-sized family units to be accommodated. There was one model that fell below established standards (less than 18sqm in the main floor, and low loft height).

Figure 9. Three-bedroom housing model, Marawi

Source: Amillah Rodil

Horizontal expansion options (in front or side yards) also allowed beneficiaries to extend their living space or allow for space for a small business such as a sari-sari store (Xavier Ecoville, CdO) (Figure 10). CRS also provided a vertical expansion option for one of their housing models through ensuring structural support for a second storey.

Figure 10. Rowhouse model in Xavier Ecoville

Source: Amillah Rodil

Other design details that provided extra space were small balconies that served as laundry hanging areas. Otherwise, the community used common spaces for the laundry – in Habitat for Humanity site in Taguig, the HOA installed hanging rods in the stairwells to keep the laundry in one area.

House and building durability and maintainability were addressed through various means. The main areas that needed maintenance were the water and sewerage systems (particularly for multi-storey sites), the roof, and exterior finishing. Some comparisons can be made between housing sites in terms of design details for maintenance and durability. In Alpas, bathrooms were placed on top of balconies so drainage pipes could be easily accessed from the balcony below, instead of being hidden inside a ceiling within the housing unit. Individual septic tanks in the horizontal subdivisions seemed easier to maintain than common septic tanks in the multi-storey developments as it placed responsibility for maintenance on individual homeowners, removing the need for collective contributions for desludging.

Roof gutters do not only channel rainwater but also protect the roof edge from being peeled off easily by storms when there is no roof gutter. Disiplina Village is one development that had a roof gutter. The multi-storey developments without roof gutters had a roofs that was prone to uplift during typhoons.

In terms of exterior finishing, red compressed earth blocks in the Habitat for Humanity site did not need repainting since transfer in 2008, unlike paint which peels off or fades after a few years. Sliding windows (in Alpas) showed less signs of damage than glass louver windows which tended to break more easily.

Maintenance issues in the buildings were mainly related to drainage, water supply, sewage systems, electrical systems, and exterior building finish. Common issues included clogged drains/pipes leading to flooding, water leaks, and full/overflowing septic tanks. Difficulties in maintenance stemmed from factors like limited access to concealed pipes/conduits and roofing. Leaking issues with rainwater tanks were also observed.

Adequate ventilation and comfortable temperatures were better achieved in multi-storey buildings with a layout that allowed windows on three sides, including on loft areas such as in Habitat for Humanity Taguig site and Alpas. Ventilation and temperature were problematic in horizontal developments, which typically lacked roof insulation and used metal roofing, leading to uncomfortable temperatures inside, especially in loft areas.

Figure 11. FTI Taguig (Habitat for Humanity) and Alpas Phase 1 (SHFC) in San Jose del Monte, Bulacan

Source: Amillah Rodil

In terms of acoustic privacy, keeping recreational areas like basketball courts separate from residential buildings and on the edge of the site kept noise from events away from the buildings. Safety and security were ensured by fencing sites, incorporating control points like gates. Installation of door and window grills by the owners themselves were also common.

Noise and privacy concerns arose from activities like children playing and events held in common spaces, impacting residents' comfort. Inadequate lighting was noted in common areas such as long hallways, with lighting connected to (and dependent on) individual units.

We saw the adoption of some elements of green infrastructure. Alternative technologies (compressed earth blocks in the Habitat site in Taguig) which showcased a commitment to more sustainable construction practices. Renewable energy sources like solar power were utilized in projects like Alpas when conventional electricity providers couldn't immediately meet the demand. Rainwater harvesting was implemented in areas with water scarcity. This was usually done with rain gutters on the roof and the provision of water storage tanks. But in CRS Dreamville, the rainwater tank was incorporated into the roof of the toilet, providing water for flushing.

Inclusivity and cultural sensitivity were usually demonstrated through special consideration was given to seniors and persons with disabilities by giving them priority access to ground floor spaces. In Marawi, UN-Habitat sought community input from the largely Muslim community in decisions related to community facilities, house size, and orientation, ensuring that the housing designs were aligned with the cultural and social preferences of the residents.

Compared to the horizontal developments, multi-storey facilities allowed more common pedestrian-friendly spaces for community use. Spaces between buildings often became gardens, play areas, gathering spaces, parking, or as spaces for small stalls (FTI Townhomes, Alpas, Disiplina Village).

In general, utilities were well-provided in the case studies except for water which had a reliable supply only in some sites. The sites were connected to local electricity providers, with solar power being utilized in Alpas. Street lighting was provided by the barangay in certain locations, like in Xavier Ecoville. Garbage disposal was ensured through regular collection by the local government units or barangays, with one site (Alpas) doing segregation.

Community facilities and services were also generally well provided for or at least had funding commitments. If not on site, most were in average less than 1km from the site. Table 17 shows the approximate trip/road network distance from farthest point on site, in meters, of each facility. Pedicab/ tricycle services were usually provided by locals. Residents had access to nearby local government facilities (barangay hall, health center, daycare, market, transport terminal) and educational facilities (elementary, high school).

In the case of Valenzuela, the local government provided on site a community hall clustered with a daycare, alternative learning center, health center, and basketball court. Correspondingly, Figure 12 shows a visualization of the available community facilities in the area. Although most community facilities are present in the sites, it is apparent that there are more health and

educational facilities around vertical housing projects. However, this can also be attributed to these sites being located in a metro urban area particularly, in Metro Manila.

In all the case study sites, there was inadequate provision for playgrounds. In some cases, space was allotted but this was not developed or maintained. There was also a case where the community spaces were scheduled for development in the second phase which was still under construction. In horizontal developments, the houses nearest to open space designated for gardens tend to appropriate these spaces for themselves. Landscaping or playground equipment may not also be included in the housing budget.

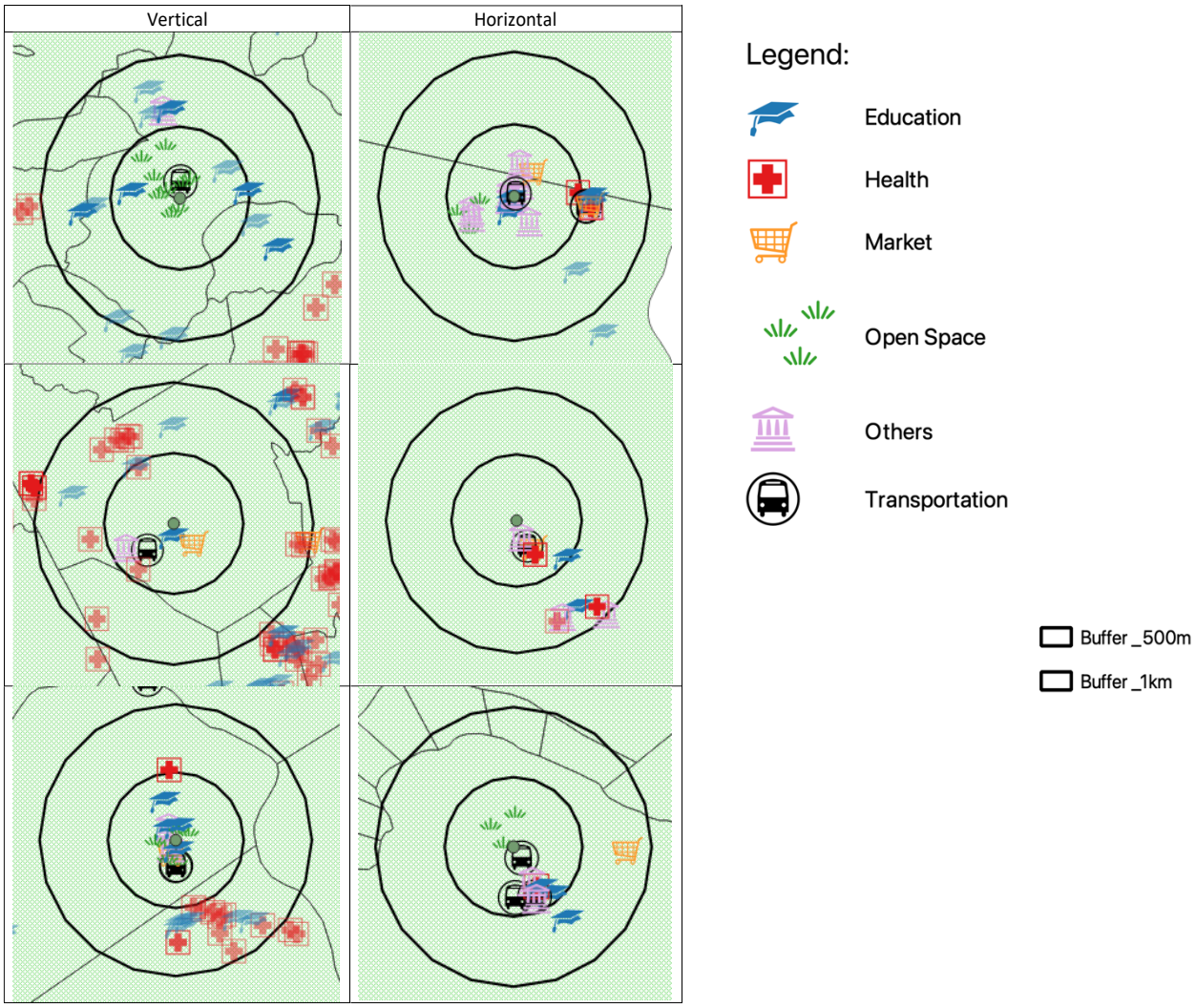
Table 17. Approximate road network distance to facility from farthest point on site, in meters

	Disiplina Village	FTI Townhomes	Alpas SJDM	DREAMVille	Xavier Ecoville	PRRD
Daycare		416	167			4,760
Public Elementary School	1,686	649	1,108	364	1,250	586
Tricycle Terminal	218	85	329	416	415	264
Multi-Modal Transport Terminal		356	1,784	1,204		605
Talipapa		461		733		
Public Market	3,123	1,505	214		415	1,465
Public High School	1,504	1,584	649	1,204	906	715
Barangay Hall	1,063		469	1,204	1,078	
Public Hospital		1,510		1,204	1,399	
Baranga Health Center/ Rural Health Unit		1,510	469	1,204	537	586
Playground	366					
Basketball Court		85	454			377

Source: Author's summary from estimated distance of travel route

Figure 12 shows the summary of the identified facilities by the participants during the mapping exercises. The solid-colored icons represent the facilities identified by the participants of the FGDs in their respective areas, while the transparent icons are data from Open Street Map. A 500- and 1,000-meter radius from the center of the resettlement site was produced to determine the accessibility of these facilities for the resettled households.

Figure 12. Map of community facilities in the resettlement site



Notes:
*Education includes kinder, elementary schools, high schools and colleges;
*Health includes hospitals, clinics, and pharmacies;
*Open space includes parks, playgrounds, and basketball courts;
*Others include local government halls, multipurpose hall, police outposts, church, and water pumps
*The solid-colored icons represent the facilities identified by the participants of the FGDs in their respective areas, while the transparent icons are data from Open Street Map
Source: Authors' summary of fieldwork results and data from Open Street Maps

5.2. *Sentiments of Homeowners*

The general sentiments on specific characteristics/features per resettlement site were summarized and shown in the Figure 13 below. Icons of vertical and horizontal building types were used to represent the multi-storey and single-storey resettlement sites visited. The color of the icons represents the general sentiments based on the results of the group discussions. The sentiments per housing sites were categorized into three: green-represents positive/happy sentiments; blue-neutral or with some reservations/not completely happy; and red-sad/not satisfied sentiments.

5.2.1. Ownership and Participation

Lack of policies requiring involvement of people with experience in community-driven development and lack of policies outside consultation/endorsement of plans limit communities' participation and sense of ownership over resettlement sites. Some HOAs are also confused regarding ownership arrangements and lack sense of security. Meanwhile, household beneficiaries expressed neutral sentiments about their status of ownership of the housing unit they currently live in because they do not have the complete ownership. Majority hold either certificates of awards or contract of ownerships of the house but none of them mentioned they have titles of the land. In one of the vertical resettlement sites, households have rental agreement or entry pass that legalize their rights to use the housing units with minimal fee. Among the sites visited, residents of one of the horizontal resettlement sites mentioned that they can truly own the house thru payments made to PAG-IBIG. The beneficiaries in one of the vertical housing sites shared that they were also willing to pay for full ownership of their units, unfortunately, they can't start with this process unless the site is fully turned over to the LGU. For the other vertical housing site, their development partner is helping them negotiate with their LGU to ensure the extension of the usufruct agreement of the land where their buildings are located.

Despite the neutral sentiments on ownership, residents expressed positive sentiments about the monthly payments for the housing units. Monthly payments reported by the households during the group discussions were not more than Php 1,000.00. For them, this is more manageable compared to the current rental rates. For the two horizontal resettlement sites visited, households are not currently paying anything for the house because it is either paid already thru sweat equity or they are waiting for the subsidy of the national government (i.e. Marawi Compensation Fund). In the other vertical resettlement site, the LGU hasn't collected any payments from the residents because the housing units are not yet fully turned over to them due to the issue in water service.

In terms of participation in the planning of the resettlement site, only three of the six resettlement sites employed the People's Plan approach. According to them, aside from their participation in the creation of homeowners' associations, they have an active role in the selection of the site, house design, and settlement design. The other resettlement sites expressed neutral sentiments because they felt that they have very little power in the site planning and house design.

Figure 13. Sentiments of HOA and homeowners on key resettlement features/characteristics

Source: Authors' summary of FGDs

5.2.2. House Design

The discussion over the house design resulted in mixed sentiments from the households. Residents from two of the vertical resettlement sites were satisfied when asked about their sentiments on how the housing units were constructed and the materials used. Respondents remarked that their houses didn't show any significant cracks and damage despite several earthquakes in the past years. Others felt confident on the structural integrity of their unit because they were able to supervise and even participate during the construction phase. However, this is not the case for those coming from horizontal resettlement site interviewed. Majority of them shared construction issues particularly of their comfort rooms (CR). They commented that their downpipes were small size and there

were issues in the catch basin attached to the top of their CR that caused leaking to their ceiling. Some shared that they experienced water seeping in from the walls when it is raining. Others mentioned that they are not happy with the quality of jalousie windows as they described them as flimsy, and the glass was falling off easily.

In terms of house size, residents expressed mixed sentiments, but they were leaning towards the positive side. In vertical resettlement sites, one of the complaints in terms of the house size was the low ceiling. While they were given the standard floor area, the loft provision makes the head clearance low, making it hard to stand straight. Others mentioned the inconsistency of unit size on different floors. This is not the case in two horizontal resettlement sites, wherein they expressed a very satisfied sentiment on house size. One of the resettlement areas shared that they were even provided a total of three spacious rooms. Aside from that, they were provided with extra space in front and behind of their units that they can use for extra space for small business or parking.

Respondents also shared positive sentiments when asked about whether their resettlement site is accessible for PWDs and senior citizens. In vertical housing sites, they shared that during the planning stage, they prioritized the homeowners with identified PWDs and senior citizens to receive units at the first/ground floor. Others shared that the hallways and pathways were leveled to ensure their safety and ease of movement.

In terms of considerations in respect of culture and practices, residents from one of the horizontal resettlement sites shared that they were happy that their religion and culture was considered in the design of the site and the house. They were provided with separate rooms for women, aside from considering the orientation of their houses.

For the provisions for sleeping area, the residents from all the horizontal sites visited expressed positive sentiments while those from the vertical housing sites expressed neutral sentiments. The difference is because households from horizontal housing sites can have options for the number of rooms depending on their household size, while those from vertical housing units only have loft provisions for sleeping area.

The provision for dining and kitchen areas in vertical resettlement sites also did not receive satisfactory feedback based on the group discussions. Households wished that they had more room for these areas. Households from one horizontal resettlement site also shared that due to budget limitations, they accepted unfinished kitchen areas. The rest of the sites visited expressed positive feedback on their dining and kitchen area.

Provision for laundry area and place to dry clothes received positive sentiments from households residing in horizontal resettlement site compared to those living in the vertical housing sites. Only one vertical resettlement housing shared a positive sentiment on this house design characteristics because they were provided with terrace area which allows them to dry clothes.

Only one out of the six resettlement sites shared neutral sentiment when asked about their feelings about having adequate lighting fixtures inside their houses as well as hallways. They felt that there was a lack of light fixtures in their hallways. Aside from that, these light fixtures are connected to

each housing unit. Hence, the noncooperation of some households to turn on the lights in the hallways is becoming an issue.

The overall sentiments for the temperature inside the housing units lean towards the negative side regardless of the building type. Some of the residents were satisfied with the number of windows they have in their units that allowed proper ventilation in their living space. On the other hand, many households wanted more windows and insulation features to make the temperature inside their units comfortable.

It was clear that one of the limitations in vertical housing sites was the lack of provisions for extensions compared to the horizontal resettlement sites. Residents from these multistorey housing sites shared sad feelings about this. Their counterparts shared positive sentiments about this as they were allowed to use the extra space for additional room, extended kitchen area, or even space for small business.

When asked about the home improvements that they made since they transferred, residents from the vertical housing sites shared that they were only allowed to do furnish the interior of their units as well as their loft areas which they turn into sleeping areas. They were also reinforcing their windows by changing them with sliding windows and attaching grills. Meanwhile, households from the horizontal housing sites have extended their floor space aside from the improvements they made inside their housing units.

5.2.3. Site Development

Households from both horizontal and vertical housing shared that they felt that they are safe from hazards and natural disaster after they relocated from their original place. Those coming near the danger zones like riverbanks no longer worry that they might be flooded whenever it rains. Those living near the shoreline also felt safe from the risk of surges after they relocated. One of the respondents shared how they feel compared from their previous community:

> *"…(W)henever it rains, or there's a typhoon in our area, we get scared. Unlike when we transferred here, I can sleep even if there is an ongoing typhoon because I can no longer hear the rain when the windows are closed… We felt secured here." – Respondent from one vertical housing site*

In terms of their sentiments about the community's overall environment, the homeowners' sentiments lean towards the negative side. The practice of community clean-up drive (*pahina* or *pintakasi)* was reported in both vertical and horizontal resettlement sites. However, these were not sustained due to the lack of participation of the households. Some shared sad sentiments towards those households that do not comply with their community policies on managing their waste including those who do not clean after pets.

Households shared in the group discussions that they do not feel their resettlement sites overcrowded. This is the sentiment despite the number of units per building ranged from 12-21 according to the residents of vertical housing sites. But when asked about noise and sense of privacy, they have some reservations. The households from the vertical housing sites complained about noises being heard from other units and increasing rowdy children in the hallways. The layout of the main doors in one of the vertical resettlement sites was facing each other, hence they needed to keep them closed most of the time.

The overall sentiment of the interviewed residents towards the size of the road in their relocation sites is leaning on the negative side. Five out of the six housing sites shared during the group discussions that there was inconsistency in the width of the roads inside their site. While their main roads usually comply with the standards set by the BP 220, the secondary roads usually do not meet the standards. One of the respondents from one of the horizontal housing sites visited shared that roads and pathways in Phase 1 met the BP 220 standards, but this is not the case in Phases 2 and 3 of the same resettlement sites wherein no pathways were constructed.

Only one out of the six resettlement sites visited shared a negative sentiment towards the walkability of the site for PWDs and senior citizens. This is a particular concern for those households in vertical resettlement sites. While they appreciate the process of giving the ground floor units to households with PWDs and senior citizens, they were concerned that some areas are too slippery for them especially when it rains. They also wish that they have a ramp for wheelchairs in their buildings, like the building features of Tenement Resettlement site.

One of the major concerns raised by the households during group discussion was the issue of the water supply in their area. In fact, four out of the six sites visited raised this concern. All three horizontal resettlement sites complained that they do not have consistent water service going to their house. They must fetch water from private pump owners or wait for the ration. One of the vertical resettlement sites visited also shared the same experience and sentiment. They said that having no reliable water service in their units meant additional cost for buying water per container as well as costs for fetching these up the units. In one of the three vertical housing sites, this is the main reason the resettlement site is yet to be turned over to the LGU. Meanwhile, those who were satisfied with the water services mentioned that having their own comfort room was the biggest upgrade compared to where they previously live in.

The majority had positive sentiments in terms of their access to power services because this was readily available when they transferred in the unit. Only one out of the three vertical resettlement sites shared mixed feelings about this because they are in a prepaid scheme, different from the usual payment scheme wherein they pay monthly based on their consumption. According to some residents, they are more in control about their electric consumption with the prepaid scheme since they can manage daily how much they can load up to their accounts. On the other hand, others highlighted that aside from the hassle of constantly monitoring their load credits, the price of 1kwh is higher compared to the ongoing rates of the known commercial distributor.

Many of the residents were not satisfied when asked about their sewage system. In vertical resettlement sites, they are aware that they have one septic tank per building. The common issues

that they encounter were back flows and foul smell especially those who were at the lower units when their septic tanks are already at full capacity. They said that there should be frequent dislodging of septic tanks. Unfortunately, this is an additional cost for the households. The other issues that they raised were about the leaks in the ceilings of their toilet facilities which they attributed to substandard or small downpipe and clogging. Sharing of septic tanks between at least two households is also reported in horizontal resettlement sites visited. Their main concern is the costs of desludging since the households must shoulder this.

The households also shared negative sentiments towards the drainage and canal system in their communities during the group discussions. This was apparent, especially in one of the horizontal resettlement sites visited. They shared that their canals were designed to be open, but it was left unfinished. Hence, some deteriorated or collapsed already due to heavy rains. The households already improvised to prevent the further deterioration of the canals as well as covering them to prevent accidents. In vertical housing sites, the households shared that they also experience overflowing canals during heavy rains due to garbage build up. The overflowing water will eventually subside once the rain stops.

Households shared that they failed to maintain segregation of their garbage and use of MRFs in both horizontal and vertical housing sites, hence, many shared sad sentiments towards this. Only two out of the six sites have maintained garbage segregation, due to LGU ordinance that is implemented in their respective communities. However, all interviewed residents shared a happy sentiment on the frequency of the garbage collection in their area. The garbage collection schedule ranges from one to three times per week.

Four out of the six resettlement sites were unhappy that they do not have parks and playground area in the area. Only two sites shared that they have their own basketball court. The horizontal resettlement sites fare better compared to the vertical resettlement sites since they have spare open spaces where the children in their area usually play. However, they were still not entirely happy with it since these areas are not properly maintained. The residents from the vertical housing sites shared that the kids just play on the streets, or they visit nearby villages where there are playgrounds and parks.

Like with the parks and playgrounds, the sentiments of the interviewed homeowners on parking space lean towards the negative side. Street parking was commonly reported in both resettlement types. Several of them mentioned that the allotted parking spaces are not enough given the volume of the vehicles in their area. It was also mentioned in one site that they were worried that vehicles might have a tough time passing through the streets during an emergency due to the volume of vehicles parked in the street. For residents of vertical housing sites, parking on the streets and hallways were frowned upon. Only one out of the three horizontal relocation sites have provision for parking space, however, they cannot use this due to the open canal design.

Only two out of the six resettlement sites have their own community center or multipurpose halls used for HOA activities and can be rented out by homeowners for their own events with minimal fee. The rest of the housing sites have a negative sentiment about this. In one site, the multipurpose

hall has yet to be constructed. Other sites have makeshift multipurpose halls by using some of their open spaces as areas for community meetings and tentative HOA office.

The overall sentiment towards access to transportation services is positive. The most common mode of transportation going around the community was tricycles. All resettlement sites have identified terminals or areas where they can fetch a ride towards the city center within or just outside their resettlement area. However, only three sites mentioned that they have sheltered waiting area/terminals. Most residents also find the fare going in and out of the resettlement site affordable except for those coming from one of the horizontal housing sites from Mindanao. This can be attributed to the fact that the relocation site is situated far from the city center, hence the fare is quite high compared to where they lived before relocating.

For the provision of terminal near the site, two horizontal housing sites expressed negative sentiments. In some sites, there were already existing terminals before the development of the resettlement site. While in some areas, terminals were created along with the site. However, in two sites, terminals are yet to be constructed.

The reliability of the mobile and internet service in the resettlement sites received neutral sentiments from the residents during the group discussions. Many homeowners shared that only portions of the area have signal. They must go outside their homes just to receive texts and calls. As for the internet service, the quality and reliability of service depends on the service provider. It is fortunate that both the horizontal and vertical resettlement sites have other options thatare readily available in the areas, but affordability might be another issue.

The homeowners from both the vertical and horizontal housing sites shared a positive sentiment towards their access to educational services. While there were no identified elementary and high schools within the relocation areas, the nearest facilities were deemed accessible from the households' perspectives. According to them, some of the schools were either walking distance away from the resettlement site or a 10–15-minute ride away. However, a concern that was raised particularly by residents of horizontal housing sites was the lack of accessible daycare facilities near their areas. Moreover, a general concern for vertical and horizontal housing sites is the educational facilities' capacity. Some noted that more classrooms and teachers should be added.

Many of the homeowners shared that they were happy with their access to health facilities after their relocation. According to the group discussions, barangay health centers are accessible from the relocation site, although the availability of doctors for consultations was deemed unreliable. Hence, many preferred going directly to the nearest public hospital. Only one of the horizontal resettlement sites mentioned that they do not have access to public hospitals. They also shared that the public hospitals near their communities can perform the common laboratory services except for complicated procedures and tests. For those requirements, they will have to go to the nearest tertiary or even private hospitals which are usually located in the city center.

Residents also shared that they are happy in terms of their access to public markets in their new communities. Residents from both types of resettlement sites shared that the public markets are just one-ride away. In fact, at least two of the vertical resettlement sites have *talipapa* or small

iterant vendors selling basic ingredients including meat products within their sites. In some sites, the markets were only established with the resettlement site. In another site, the construction of another public market is ongoing.

Among the six resettlement sites visited, only two vertical housing sites mentioned that they have a designated evacuation site and working early warning systems for disasters. They even conducted emergency drills on one site. Residents from relocation sites due to disasters shared negative sentiments on this despite having a sense of being safe in their new community.

Most homeowners, responded with happy sentiments when asked about their satisfaction towards accessibility of safety and peace and order services, except for the residents of some horizontal housing site. They shared that they were far from the barangay hall and the nearest police station. Residents from both the vertical and horizontal resettlement sites shared that they have volunteers from the community serve as peace and order officers that roam in their areas at night and implement curfews. Other resettlement sites were fortunate enough to hire security guards, although they shared that it is hard to maintain given the challenges in monthly dues collections. Some residents shared that there were instances that *barangay tanods* from the LGU visiting their communities, but these were not frequent. In general, the residents felt safer with the presence of figures maintaining security such as security guards, *barangay tanods*, or volunteers. Additionally, having a well-lit environment and policies such as curfews contributed to making them feel safer and more secure.

The residents shared a negative sentiment towards the livelihood training/assistance and opportunities they received when they were relocated. While both homeowners from vertical and horizontal housing site shared that they received livelihood training and assistance, these were not sustained. The trainings they receive varies from skills training, livelihood programs, up to providing start-up funding. However, households share that they encountered issues in managing funds that resulted to failure of their start-up businesses. Moreover, not everyone was able to receive the training. They noted how only the leaders or those close to them were able to avail themselves of training and other assistance. In one of the horizontal resettlement sites, they had experienced receiving livelihood assistance by group or block. One of the pressing issues that arose with that set up was there were many instances that the block leaders monopolized the management and the income from the business which resulted in conflict and eventually dissolution of the businesses. Hence, the participants noted that it might have been better if the assistance was given individually rather than coursed through groups. There were also instances where the residents put up the same businesses, which eventually caused these to fail. Thus, the residents in general were not satisfied with the livelihood and income restoration assistance provided to them. In terms of accessibility of employment opportunities in their new community, many have residents gave positive feedback because most of their previous jobs and job opportunities were still accessible in their new area, although it will mean that they will have to spend extra for transportation.

5.2.4. Estate Management

Formation of HOAs was started before the transfer to the resettlement sites. Most of the resettlement sites received support from development partners, LGUs, and even NGAs. Initially, development partners, LGUs, and even NGAs conduct validation activities for identified households before they help them organize for homeowners' associations. In one of the vertical resettlement sites, the LGU passed a board resolution of the creation of HOAs and a tripartite agreement between them, the development partner, and the HOA. There are instances wherein there are several associations in a single resettlement community due to the substantial number of households. Some advantages of having several HOAs in a resettlement site with vast number of beneficiaries is that it facilitates payment collection to SFHC, like in one the vertical relocation sites visited. In terms of structure, respondents shared that the delegation of tasks helped them manage their respective communities. For vertical housing sites, they assigned block leaders per building and even per floor level which serve as point person where the HOA officials can disseminate information. In horizontal resettlement sites, they grouped the households per cluster or block, wherein the block president represents their unit to HOA meetings. Some HOA also tap these individuals in collecting monthly dues and payments from the households.

In one of the vertical housing sites visited, HOA members interviewed shared that they received support from their local housing office on drafting and publishing their estate homeowners' handbook that explains the estate management policies including the possible penalties they may incur due to non-compliance. The HOA official also shared that the LGU helped them conduct the first election of the HOA officers while the NHA provided support through livelihood programs and seminars. In the other vertical housing site, the HOA officer interviewed shared that the homeowners received spiritual development sessions and values formation from their development partners, on top of the orientations and briefings about their rights and responsibilities as recipients of housing units. Their development partner also encouraged them to establish a savings plan to fund their basic utilities and even for small loans.

The private partner of one of the horizontal resettlement sites also provided support to the target communities by sponsoring programs promoting hygiene and sanitation, values formation for youth and children, and livelihood training. These were done through their community development team working closely with the households in their transition houses. Aside from that, they also linked these communities to their other private partners where they can seek more funding and training for their livelihood and basic utilities in their new community.

When asked about the specific support they received in the creation of their HOA, the interviews with HOA officers revealed that the leadership and skills training they received from their development partners and LGUs played a significant role on how they perform as representatives of their respective communities.

The experience of the horizontal resettlement sites included in the study showed the development partners aided technical assistance through several trainings and values formation that prepare the target recipients/beneficiaries. This development partner coordinated with another NGO and provided their partner communities with 8-week training for values formation when they were still

in transition houses. They also introduced the *pahina* sessions that require the community clean ups as part of their volunteer work for sweat equity. The other development partner provided Asset Management Planning Workshop, aside from the assistance on the creation of HOA manuals, formation of DRR plans and SWM plans. Other trainings they provided are conflict management and resolution, financial management, and operations and maintenance. This is to prepare the community for the disengagement of the project. The HOA added that they received training on policymaking as well. Lastly, the other development partner also assisted in the HLURB registration aside from the usual skills and technical seminars provided by the other development partners. The LGU, on the other hand, also provided technical assistance in the creation of their HOA bylaws and management training.

HOA officers interviewed from both vertical and horizontal housing units shared that they were happy about all the leadership, management, and skills training support they got from their development partners, LGU and even KSAs as they prepared them to take on the tasks ahead of them.

The election of officers of the HOAs could be one of the important activities that is conducted by the members of the association. The rules and regulations for this activity are specified in their bylaws and estate management guidelines. Based on interviews and group discussions, the schedule of election varies per association. Some HOAs elect officers yearly, while others preferred leadership changes every 2-3 years to allow the elected officials to make considerable progress in their proposed activities and programs.

Officers from the vertical housing units shared that managing the over-all affairs within the resettlement sites meant facilitating the monthly payment collections, remittance of homeowners' payments to respective agencies, monitoring and reporting of violations and noncompliance of households in estate management policies and guidelines, managing common spaces, and coordination with receiving LGUs for community services like waste collection and maintenance of streetlights or other services turned over to them. Part of their role is providing legal documents and certifications for the tenants when they need them. Some HOA also rent out their community/multipurpose hall, which provides additional funding for their operating costs. One good example shared by the interviewed HOA officers from a horizontal housing site was their audit practices, which let them provide financial reports and updates to their constituents.

One of the key roles designated to HOAs is grievance and conflict resolution. Some of the common complaints/requests received by the HOAs were extreme noise/loitering, littering, repair request in common facilities, noncompliance to HOA rules and policies, and mediation in small conflicts between homeowners. According to the interviewed officers, they can report these to their respective block/cluster representatives not only by going to their office but also by text or social media messaging. One good practice shared by the HOA officers from horizontal resettlement sites interviewed was their documentation of the complaints received. Those who go to their office were asked to produce a written report of their complaints while the other HOA maintains a logbook. The interviewed HOA officers shared that one of the most challenging tasks they encountered as officials is related to the reporting of violations that can result in the eviction of some households. According to one of the development partners interviewed, officers should be firm about

implementation of the rules and regulations and meting violations and penalties, because if they become lenient about this, eventually, they will have a challenging time maintaining the organization and peace and order in their communities.

Some of the complaints that they received may not be solved at the HOA-level. In these kinds of situations, the HOAs are advised to raise this to their barangay and police unit for proper response. Some examples of this are crimes of theft, drug use, and domestic violence. However, some of the HOAs shared that some of the homeowners go directly to the barangay due to its proximity. The barangay will then ask the complainants to go back to their HOAs to resolve their complaints.

Based on the results of the group discussions, the overall sentiment towards the HOA management is positive. This can be attributed to the role and assistance they played during the pre- and relocation of the residents to the new community. They also highlighted the projects that their HOAs have accomplished in the past. Aside from that, residents from both types of resettlement site shared that their HOAs were responsive with their complaints, however they varied on how fast their HOAs resolve the issues raised. They said that aside from going directly to the officers or HOA office, they now used text or social media messaging.

Those who mentioned having some reservations towards the leadership of their HOA noticed that their block leaders and HOA officials are not working as a team. There were instances that their block/cluster leaders fail to update them about HOA activities, limiting their awareness in HOA affairs and their participation in activities. One of the reasons why they cannot really provide negative feedback to their HOA officials is that they acknowledge the fact that being an HOA official and block/cluster representative is purely voluntary. During the group discussions, residents from all sites shared negative sentiments when asked about incentives of being a HOA officer and block representative. They were aware that their officers and block representatives do not receive any compensation for their work for their associations, and even spend money from their own pockets just to accomplish their tasks for the association.

There were also some reservations in terms of transparency in the HOA finances, especially coming from the horizontal housing sites. According to the discussions with them, they were only updated about the financial statements of the HOA during their general assemblies, which after the pandemic, become less frequent.

There is still much to be done in terms of HOA organizational capacity building. The management of housing developments depends much on homeowners' associations (HOAs). Even if organized well in the beginning, these organizations may weaken over time and with leadership changes, there is a need for regular training and monitoring. HOAs are not fully integrated in respective communities, and this may be because of the lack of policy, guidelines, or standards on connecting them to various agencies for institutionalization. Their by-laws are also lacking teeth and are disregarded in some cases, which can be connected to the lack of capacity building to strengthen the implementation.

Most households mentioned that they were satisfied with their new community compared to their previous homes. Some of the cited reasons were being safe from hazards and risks from natural disasters, having a sense of security of having to call your current home your own, and having a decent house made of durable materials. Many of the families that were asked during the group discussions agreed that their new community is conducive to raising children. One of the reasons shared by a resident from the vertical housing sites was that their current community has a tighter knit compared to their previous area wherein they do not mostly know who their neighbors are. They still feel they are in a better community than before despite having the same issues with the presence of unruly groups or gangs in the area. One of the negative sentiments shared during the discussion was their displacement caused them their business.

Capacity building for livelihood is not given enough attention. In terms of implementation, there is still a lack of economic integration among the resettled despite livelihood training especially those communities moved to peri-urban or rural areas. This can be linked to not fully optimizing collected data on needs and consultation to customize the support provided. Based on the case studies also, livelihood training programs often involve only a few beneficiaries and rarely progress into actual businesses. Some cooperative or group livelihood schemes fail due to internal conflicts or mismanagement of funds. There are signs that more successful livelihood training programs involve training people in employment skills like construction or driving.

5.3. *Challenges Observed by Implementers*

Challenges observed by implementers in the housing projects encompassed various aspects. These challenges highlight the complexity of housing projects and the need for ongoing attention to various aspects of planning, construction, and maintenance to ensure community satisfaction.
Table 18 below shows the summary of identified issues thru the key informant interviews with different stakeholders, from the KSAs ang NGAs, partner agencies, and LGUs.

In the perspective of the implementors from the national to local levels, the difficulty in finding suitable land for resettlement sites, conflicting land claims, lack of available basic services/amenities and livelihood opportunities in available lands, and budget limitations to address housing needs were listed as key issues. Constraints on land is noted in highly urbanized areas, where the value of land has increased considerably. While usufruct arrangement can be an alternative option, it can cause insecurity of tenure among beneficiaries because of the possible non-renewal of the lease arrangement in the long term. Changes in local governance and politics can also influence the renewal of land leases. For instance, households residing on one of vertical housing sites under usufruct arrangements experienced feelings of insecurity due to the nature of their land tenure which was dependent on the renewal of the usufruct by the local government with the owner. Delays in titling of donated sites due to slow documentation also produced the same sentiments to the residents during the group discussions in one of horizontal resettlement sites.

Table 18. Summary of challenges encountered by KSAs/NGAs, Private Sector/Developers, NGOs, and LGUs

Main Themes	KSA or NGA	Private Sector/ Developer	NGO	LGU
Site Selection	1. Difficulty in finding suitable land for resettlement sites 2. Non-compliance of RARAPs and other guidelines 3. HOAs and CMs having difficulty in complying with existing guidelines or policies 4. Budget limitations	1. Issues in acquiring suitable land for resettlement 2. Lack of readily available information for site selection 3. Conflicting land claims 4. Lack of available basic services amenities on available and affordable lands 5. Existing policies and guidelines are not met 6. Lack of LGU technical capabilities 7. Lack of LGU acceptance on proposed sites	1. Available lands are far from the city, on risk zones, or needs further development 2. Conflicting land claims 3. Lack of basic services and livelihood opportunities on the available land 4. Noncompliance on existing policies or guidelines 5. Budget limitations	1. Available lands for sale/being sold to LGUs that is suited for housing are far from the city center, on risk or military zones, or needs conversion and development 2. Conflicting land claims and right of ways 3. Lack of available basic services (water supply) and access to livelihood opportunities 4. Service providers unable to deliver services in some resettlement sites due to low demand or high cost of development 5. Budget limitations for housing needs 6. Selection process for beneficiaries was not endorsed properly to LGU 7. No support from KSAs and NGAs due to the shift focus/priority programs 8. Lack support for the resettled households from their sending LGUs due to sudden changes in policies
Settlement planning	1. Budget limitations 2. Sites are not meeting some of BP 220 standards 3. No specific guidelines for KSA-, NGO-, and LGU-led resettlement 4. Development plans not	1. Budget limitations 2. Sites are not meeting some of BP 220 standards 3. Delays in issuances of permits 4. Lack of harmonization in different local and national policies and	1. Budget limitations 2. Sites are not meeting some of BP 220 standards 3. Long procurement process	1. Sites are not meeting some of BP 220 standards 2. Extended construction slippage due to unavailability of workforce and materials for construction right after the siege/disaster 3. Unfinished housing units were affected by landslide due to typhoons

	followed/unmet commitments from developers or implementers	guidelines 5. Zoning discrepancies		4. Lack of social services due to no fund from LGUs 5. Encroachment issues leading to noncompliance to site plans 6. Presence of unregulated transportation
Settlement Planning > House design	1. Hard to implement disaster-resilient house design due to budget limitations	NONE	1. Budget limitations /price ceiling that restrict house designs 2. Conflict among beneficiaries' due variations in house designs in a single site	1. Perceived paying capacity of recipients limit the house design sometimes resulting to non-compliant house design in national standards and laws
Settlement Planning > Sustainable design or Green Infrastructure	1. Requires bigger budget for implementation	1. Requires bigger budget for implementation 2. Low community uptake or acceptance due to unfamiliarity with the technology 3. Limitations on the availability of materials and technology 4. Technology and materials need additional accreditation procedures and more research for its effectivity 5. Requires different maintenance procedures/processes than the usual	NONE	NONE
Community Participation	1. Lack of consultation with the affected families	1. Lack of awareness of Peoples' Plan process 2. Lack of M&E of sites that used the approach 3. Lack of negotiating power of the HOAs	1. Conflicting rules on accreditation of AAA contractors and contractors implementing Peoples' Plan	NONE

Estate Management	1. Collection issues 2. Squatting/ Presence of non-beneficiary residents 3. LGUs lack of financing and technical capabilities 4. Politics/ Changing administration 5. Unclear roles of LGUs and HOAs on common/public spaces	1. Collection issues 2. Lack of community preparation on estate management 3. Politics/Changing administration	1. Collection issues 2. LGUs' lack of financing and technical capabilities 3. Non-compliance of occupants to building guidelines/restrictions 4. Lack of community preparation on estate management 5. Politics/Changing administration 6. High number of residents per site 7. Lack of community acceptance from the receiving LGUs	1. Collection issues, including monthly dues 2. Squatting/Presence of illegal occupants or non-beneficiary residents 3. Not following the proper use of units leading to issues in housing units 4. Illegal reselling units even if they don't have the title 5. Decreasing occupancy rate due to lack of social preparation 6. Issues on some residents were not identified beneficiaries after NHA failed to involve the LGUs in the selection and proper site transfer 7. Uncoordinated delivery of livelihood assistance that resulted to its failure/lack of sustainability 8. Low occupancy rate due to lack of access to livelihood 9. Inconsistent HOA activities 10. Conflict in managing common spaces in sites with several HOAs

Source: Authors' summary of interviews

A main challenge from the homeowners' officers' perspective was the inadequacy or non-existence of some basic services and facilities. Issues related to water supply were noted in locations four out of the six sites visited. Although some sites were connected to the local water supply provider, these consistently experienced low water pressure and irregular or no water flow. Two sites had not been connected to a local water provider due to lack of capacity/ funding or non-coverage of service provider. In these subdivisions, residents relied instead on water delivery and rainwater. Drainage problems were also observed in some sites, with some local flooding occurring. On-site playgrounds with proper equipment were non-existent on all sites.

Implementors are not oblivious to the issues cited by the homeowners. During the interviews, the non-compliance of the resettlement sites to the prescribed standards of the BP 220 on the provision of basic services including the road size were identified by the informants from KSAs/NGAs, developers, INGOs, and LGUs. They highly attributed this to budget limitations while trying not to compromise structure integrity. Other issues highlighted by private partners and INGOs were the delays caused by issuances of permits and long procurement process when dealing with government transactions. LGUs, on the other hand, also identified unforeseen typhoons and conflicts that caused extended construction, slippages in timelines and destruction of partly built houses.

In the implementors' perspective, limitations and non-compliance of house designs were attributed to the limited budget and their analysis of the paying capacity of the target beneficiaries. They have the hard tasks of making tough decisions on what designs and features of the house units that will be retained given government budget constraints and affordability issues.

Ideally, the process of turnover of resettlement sites to the LGU will start after the homeowners satisfy the minimum criteria set by their development partners. However, due to issues in payment collection, delays in land title transfers, and provision of basic utilities in the area, the turnover to host LGUs was extended beyond the set deadline, if not bypassed.

Among the three vertical housing sites visited, one was already turned over to the LGU. The overall management of the site is now with the LGU and its HOA. In another vertical housing site, the development partner has recently turned over the resettlement site to LGU despite not reaching the target 80% payment collection despite extending beyond their target year. But since the land where the site was established is under a usufruct agreement, they are still committed to help the community attain the tenurial status that they wanted. They continue to be involved in the talks between the landowners and LGU to extend the usufruct agreement while encouraging the homeowners to update their payments with the LGU so they can be given certificate of ownership. Compared to the two vertical housing sites, the third site has a different experience. Even after years of occupancy, this site has not been turned over to the LGU due to issues with the water service. The beneficiaries were allowed to transfer to the units even despite the lack of basic services due to the risk of flooding in their place of origin. They eventually found solutions to the power service in the area, but not for the water service because it requires huge amount of funding that the project implementer nor the LGU no longer has. At present, water is being delivered by a private concessionaire to the resettlement site at least three times per week.

For the horizontal resettlement sites, these sites were already turned over to the LGU. A concern in the sites on estate management is the management of common areas. One of the development partners recommended that the LGUs should manage the common and public spaces of the resettlement sites. This setup will prevent feuds among HOs on the access and use of the spaces at the same time facilities like roads and streetlights within the site are maintained. This role of host LGUs in maintenance of common areas and public spaces within resettlement sites should be included in the turnover of sites and reflected in the agreement between HOA, LGU, and other partner agencies.

Another issue is the lack of HOA authority over boundary disputes including extensions outside property perimeter. The unauthorized house extensions were observed in horizontal and vertical developments visited. Space for livelihood and income-generating activities sometimes encroached upon communal areas or sidewalks, as noted in some projects.

Other significant issues mentioned on estate management are collections issues and squatting or presence of illegal occupants.. These issues are a concern of the host LGUs are they they are responsible for remitting payments to KSAs and evicting residents that violate the estate management policies and guidelines, together with the HOAs.

The challenges raised by the residents in terms of the unauthorized house extensions and confusion on the responsible agencies to maintain common spaces and shared facilities in the resettlement sites were also identified by the implementors. Aside from that, the changing administrations was also identified as a challenge in estate management as this also determines the provision of some of the social services in the resettlement sites. There have been commitments left unmet including the provision of basic services and documentation on property rights. Non-provision of basic services may be due to insufficient capacity of the receiving LGU. Making matters worse is when the sending LGU lacks in the support given in relation to community facilities. In some cases, the receiving LGU makes additional site development requests as conditions for the turnover of the resettlement site by the implementing agency, preventing timely completion of the project. The LGUs raised other issues in estate management that resulted in low occupancy rate in their resettlement sites. They identified the lack of available livelihood opportunities and support as major contributors to the issue of the low occupancy rates. They also lamented their difficulty in managing the reselling of units of the tenants. While this is tied up with the inconsistent monitoring of the HOAs, the burden of evicting these illegal tenants lies on the LGUs.

The government has tried implementing the People's Plan, which involves the communities more in the planning and design of the housing developments. This was implemented in one of the sites, where beneficiaries have expressed satisfaction with the resulting design. More recently, however, site options are given to government instead of letting communities lead site selection and design sites. Interviewed respondents shared that participatory planning is not implemented accordingly. Some were just asking the community if they accept the proposed designs or not. One of the factors that contribute to this is the extensive amount of time needed for these consultations to happen. The implementation gap can also be attributed to the lack of detailed guidelines on scope and boundaries of decision-making power of communities. One NGO relayed that not all communities may also be open to a participatory process, preferring to rely on traditional leaders rather than organizing the whole community. HOA members and community representatives may also lack technical skills and negotiating power, which are needed to facilitate consultation and decision-making process. The developers also highlighted the need for monitoring and evaluation of the resettlement sites that employed Peoples' Planning approach to identify bottlenecks in the process and how these can be addressed.

On the use of sustainable designs in the development of resettlement sites, the KSAs/NGAs and the private sectors interviewed identified that these green projects require more funding than the prevailing costing for relocation sites. This can be attributed to the procurement of materials that satisfy the sustainable and green design. The increasing demand for solar panels, as one of the

examples, led to the sudden and constant increase in the price of these panels. One of the development partners interviewed also shared that the uptake of the communities to these new and alternative construction materials and technology can be related to their perceived durability.

6. Assessment Tools or Guidelines for Resettlement Planning

The assessment tool was divided into key components and subthemes in the resettlement process as shown in Figure 14. For each component and subthemes, key indicators and standards for each component are provided to assess resettlement action plans (RAP). To use the Tool, we consider two standards: One, the minimum requirements, which provide the standards for an adequate or acceptable resettlement site in terms of delivery of basic services and facilities. Two, the good practice standards, which provide the requirements or guidelines that conforms with global good practice resettlement sites, whereby the criteria to developed safe, resilient, sustainable, and inclusive human settlements is fully applied. The Tool also provides the means of verification or records and documents that can be used to assess the presence or absence of standards or the type of standards that is applied in RAP. Annex 1.1 provides the complete listing of the resettlement indicators and recommended standards.

Figure 14. Assessment Tool Key Components and Subthemes

Source: Authors

6.1. *Institutional Setup and Partnerships*

The guidelines involves the resources and capacity of LGUs to plan, organize and manage resettlement projects. It includes the recommended local offices/ coordinating bodies, planning capacity, and project management capacity.

6.1.1. Local Offices / Coordinating Bodies

These local offices/ coordinating bodies support the function of the local government in implementing resettlement projects. At the minimum, there is a need for dedicated staff or unit that will handle socialized or resettlement housing programs of the LGU. The unit also takes the lead in the coordination among stakeholders in the projects. The good practice is based on what is recommended in the LGUs Guidebook for Local Housing, which is the establishment of an office specifically for housing, as well as the establishment of a local inter-agency committee based on NHA issuances or Project Steering Committee as agreed upon by the project implementers.

6.1.2. Planning Capacity of LGUs

The minimum requirements from LGUs are the mandated plans (Local Shelter Plan, Comprehensive Land Use Plan). In addition, LGUs need to have an inventory of potential new settlement/housing sites with sufficient land information and should have acquired land feasible for socialized housing or resettlement sites.

Aside from the mandated plans, good practice should involve planning of identified new settlement/ housing areas in the context of urban infill, city extension, or planned unit development to ensure better connectivity, appropriate densities and mix of uses, and adequate provisions of open spaces, community facilities, and spaces for government offices and social services.

The formulation of local guidelines and standards specific to these could aid local governments in implementing better urban planning and design for housing areas. A guide on planning city extensions has been developed and piloted by UN-Habitat (UN-Habitat, 2016) and this could be adopted or further developed for the appropriate development scales.

6.1.3. Project Management Capacity of LGU

The LGU must be able to plan for and implement resettlement projects. The list below includes project-specific plans/ studies (Relocation and Resettlement Action Plan, Site Suitability Assessment, Project Feasibility Study), and capacities for project implementation.

Apart from the function of processing development and building permits (which is solely under the LGU's jurisdiction), the other capacities listed here are present with NHA and SHFC. The minimum requirement is for the LGU to be able to coordinate with these agencies for implementation. Good practice involves the LGU developing its own internal capacity for implementing its own resettlement projects, by having the appropriate divisions and staffing within the Local Housing Office.

6.2. *Site Selection*

The location criteria tool identifies the factors and the basic guidelines and standards to follow for site selection.

6.2.1. Location Criteria

These criteria may be used for site suitability assessment as well as project feasibility studies. Most of the minimum requirements stated here are found in site suitability criteria of the NHA and NHFC as well as B.P. 220 and the National Building Code. Additional criteria on location requirements (distance, travel time) were formulated based on results of this study as well as review of related literature.

6.3. *Settlement Planning*

This section lists the relevant indicators for settlement and house design. These indicators can be used for planning, or a general assessment of infrastructure and services in existing resettlement sites. The list is not intended for checking code compliance which should be based on the provisions of existing building codes.

6.3.1. Settlement Design

The minimum requirements for the indicators listed here are mostly based on existing building codes and standards. Additional criteria and requirements/ good practice were formulated based on study results.

In general, resettlement projects can benefit from a district-wide or PUD-wide masterplan which can study in more detail the appropriate settlement size, mix of land uses, densities, and building heights for various development areas. Some recommendations are included here but national government can further aid this thorough creating planning guides for urban infill; planned urban expansion; compact development; transit-oriented development; and vertical housing. The space for resettlement areas should be part of the urban strategy.

The National Housing and Urban Development Sector Plan further states that urban policy and guidelines should reflect innovations in urban planning and urban design, especially for practical applications by LGUs and other end users. National government directions on approaches such as compact city development, mixed use, mixed income, inclusive mobility, and efficient densities should be operationalized in housing sites.

Compilation and updating of standards for the provision of open spaces, parks and playgrounds, community facilities and social services are needed. There are minimum standards specified in P.D. 957 and B.P. 220, as well as NHA guidelines for its own housing developments, but the provision of these facilities need to be considered on a larger urban planning scale. Standards for urban as well as for rural areas (where populations are more dispersed) should be distinguished.

Standards from various agencies such as health, education, and transport need to be updated and consolidated (and possibly codified into law for housing sites). Standards should include catchment areas (based on population, distance, or travel time), minimum areas and dimensions, as well as service-level standards. Some recommendations are provided in this assessment tool for the travel time and distance. These standards should also be integrated into urban planning guides for planned city extensions, PUDs, or new townships.

6.3.2. House Design

The list below lists the relevant indicators for housing design. These can be used as general performance criteria for planning, or for post-occupancy assessment of existing housing in resettlement sites. It is not intended to be a list to check code compliance which should be based on the provisions of existing building codes.

In addition to the recommendations here, the rules and standards for economic and socialized housing (B.P. 220) needs to be updated. B.P. 220 is generally recognized by stakeholders as the building standard for new socialized and economic housing. The review of related literature and interviews with housing stakeholders point to some aspects in B.P. 220 that needs to be reexamined. Recommendations for revising B.P. 220 are also included in the National for Resettlement Framework (NRF), and the National Housing and Urban Development Sector Plan. The following are consolidated recommendations for amending B.P. 220 for resettlement areas:

- Update the standards for living spaces, community facilities, parks and playgrounds, parking
- Study possible standards relating to privacy, noise, thermal comfort, hazard and climate change resiliency, maintainability, security, inclusivity, gender-sensitivity
- Update road standards to reflect people-oriented/ non-motorized mobility, appropriateness to rural context, as well as environment-friendly drainage/ landscaping
- Include green infrastructure features (for possible incentives)
- Clarify interaction with other building codes and (if any) local codes
- Strengthen and provide a more holistic approach to planning and implementation of shelter and settlements development for ISF communities (NRF)
- Make guidelines and standards more flexible and appropriate, to encourage generation of affordable housing solutions and technologies adaptive to current housing situation and existing programs (NRF)

Apart from amending B.P. 220, a green infrastructure guide specific for low-cost housing could also be done to encourage more green features to be incorporated in socialized and economic housing. Further study needs to be done on how much these features could cost, and how these could be funded, incentivized or subsidized to encourage adoption by developers and other housing implementors. Green infrastructure features that can be encouraged could include use of solar power; rainwater harvesting; water-sensitive urban design with sustainable urban drainage features such as swales, retention/ detention ponds, rain gardens; use of more sustainable alternative materials/ technologies; and incorporation of areas for green landscaping and gardens.

6.4. *Community Participation*

Community participation activities form part of the key aspects that need to be monitored. A community-driven development approach should not be limited to consultation or endorsement of plans but requires the involvement of the community in decision-making since they are considered "owners" of the unit and are expected to take responsibility in the upkeep of site. The LGUs play a major role in leading community driven approach as the overseers of housing and urban development at the subnational level. The LGUs can undertake this role by partnering with NGOs with community-driven development experience to help achieve a time-conscious but more extensive adoption of the approach wherein resettled persons gain a higher sense of ownership to the projects. A good practice standard would be for LGUs to have their in-house social and technical team with such an experience or training.

6.4.1. Ability of Implementers to Facilitate Community Participation

The implementers should have the capacity to facilitate community participation in the development of the Relocation and Resettlement Action Plan (RRAP), and site and housing design. For the RRAP, there are ideally engagement of LGU community organizers or the LHO Community Affairs and Development Division, or at least partnerships with NGAs/NGOs or commissioning of consultants with participatory RRAP formulation experience. For community participation in site and housing design, having city or municipal architects trained or with experience in conducting participatory workshops is a plus, but at the least, there should be partnerships with NGOs that have participatory planning and design experience to support the activity. For the development of the RRAP and site/housing design, it is important to implement consultative or feedback mechanisms. Timelines involving such activities should, nevertheless, be developed and communicated to communities to prevent delays in the project implementation. These considerations need to be in place to help successfully adopt a community-driven development approach.

In addition, the government can also develop guides to further operationalize the community-driven approach. These can include the following:

- **Clarity on desired level of participation in various modes of housing delivery.** The expected level of community participation in terms of decision-making should be clarified for projects outside of the CMP. The goals of participation at different stages (e.g. getting feedback/approval, promoting project ownership, building capacity) should be clear.

- **Guidelines for partnering with NGOs that use the participatory/ community-driven approach**. Government needs guidelines and procedures to open up opportunities for partnerships with NGOs that can help them implement community-driven housing.

- **Guidelines for participation in site planning and housing design.** Based on interviews with organizations that use this kind of participatory design and planning, the process usually needs the conduct of workshops and time for design refinement. A guide for organizing participatory design workshops for national agencies, LGUs, and developers could be useful.

6.5. *Estate Management*

The estate management tool provides assessment on the effectiveness of the RRAP in terms of organization and training of homeowners and the collaborative and planning of project implementers. The assessment looks into three dimensions of estate management: (a) capacity building efforts of project implementers; (b) functionality and maturity of the HOA; (c) the integration or eligibility of the resettlement site and residents to services of the host barangay/LGU.

6.5.1. Capacity Building Efforts of Project Implementers

Project implementers should have the ability to organize communities or at least engage stakeholders with such capacity. At the very least, organization and capacity building should take place before resettlement, and there should be collaborative efforts among stakeholders and partnerships with NGAs or NGOs that have experience in organizing and training communities. Good practice guidelines would also include laying out in detail the estate management processes and funding from start to completion of the resettlement plan. Baseline survey is an integral part of community organizing and the documented socioeconomic profile of families involved is expected to be used to understand more how to optimize the engagements. Activities are to include training or guiding communities on how to conduct election, financial management, substitution, and conflict resolution. Having these guided activities can eventually help form a strong and united HOA that will serve as a good foundation for estate management.

6.5.2. Functionality and Maturity of the HOA

HOA formation should result in existing and institutionalized HOAs that can support estate management. HOAs should be active and functional with incentivized officers. Capacity building done in the social preparation stage should be reviewed with HOAs prior to implementers' site turnover to LGUs through refresher trainings/workshops. Monitoring of HOA progress until maturity and project completion should be done using a success indicators system. HOAs should be able to implement by-laws, conduct elections and general assemblies, facilitate non-disruption of receipt of basic services, regulate use of common areas and facilities, regulate access to site, ensure financial sustainability, and implement grievance redress mechanisms. Ensuring that these skills are intact can prevent HOAs from weakening with time and with changes in leadership.

6.5.3. Clear Property Rights

Clear property rights on land and housing units should be established. This can address confusion on ownership arrangements and lack of sense of security. Such confusion should be prevented too as it can result in unrest and internal conflict among community members, as well as occupancy of non-members and hesitation on payment of fees. There should then be individualized agreements.

6.5.4. Integration to New Community

The HOA and its residents should be integrated into community they are resettled in. They should be recognized by the receiving LGU. They should be eligible for local services and programs including garbage collection, livelihood programs, and other social and community support services. They should have political rights as well to enable them to assert their legal rights to LGU services. Receiving LGUs should take new residents into account when assessing the capacity of their resources to cover for the population as reflected in their respective LSPs that should be monitored and evaluated by the DHSUD, while sending LGUs should provide support on the provision of community facilities until a specified agreed upon duration. Long-term support services are the responsibility of the receiving LGUs, and barangays should be given roles in HOA sustainability or social cohesion including in addressing conflicts in communities. Ideally, roles and responsibilities of sending and receiving LGUs and/or project implementers and corresponding timelines are specified in memoranda of understanding or agreement to strengthen their commitments.

6.5.5. Resettlement Site Maintenance

Resettlement site facilities should undergo regular maintenance to support the sustainability of sites. HOA guidelines should indicate unit owners' roles and that there are fees for site and building upkeep. There should be corresponding penalties for non-compliance. LGUs should also provide solid waste management services. It is ideal that common facilities are turned over to LGUs.

6.5.6. Overall Satisfaction of HOA

The overall satisfaction of HOAs with the resettlement site should be assessed. A satisfaction survey can be conducted by DHSUD in partnership with the DILG. At least the majority of the homeowners should be satisfied with the site and dwelling units. Rider questions can be included in the survey to facilitate revision of the assessment tool for future updates.

7. Conclusions and Ways Forward

7.1. *The Assessment Tool as a metric to guide resettlement planning at the national and sub-national level.*

The study has provided an Assessment Tool to serve as guide in the planning of resettlement projects. The Tool is developed based on the principles of resilient cities and of inclusive, safe and sustainable human settlements with an overarching goal of poverty reduction. It emphasizes the importance of both resettlement process including institutional arrangements and capacities and the physical (i.e. settlement and housing) design to ensure viable and sustainable resettlement sites. It shows the importance of a collaborative and participatory process and the need to build capacities of LGUs for forward planning to ensure efficiency and effectiveness in the delivery of basic services in resettlement sites.

The Assessment Tool provides both the minimum and good practice standards or guidelines; the former as the necessary condition to have an adequate resettlement community while the latter are good practice standards intended to facilitate the achievement of SDG11. Many of the standards/guidelines are in existing laws and legislation and some are already in the policies of key shelter agencies. The study complemented what is already existing by formulating key indicators and identifying the critical standards or guidelines that are necessary to ensure adequate and acceptable resettlement projects. The Assessment Tool provides the national government and LGUs with a metric or checklist to aid in the planning process.

The Tool also includes guidelines on how to translate housing design goals into standards, which is lacking in the current policy environment. For instance, the NHUDF supports mixed used and inclusive housing development but there are no standards to operationalize these objectives.

7.2. *The Assessment Tool as a monitoring tool for delivery of basic services in existing resettlement sites*

The Assessment Tool is classified into subthemes, each subtheme examines specific indicators of the resettlement process. The indicators on the subtheme on Location Criteria, Settlement and Housing Design can be applied to existing resettlement in evaluating whether the standards have been followed in the development of the resettlement sites.

On the other hand, an assessment of the level of community transformation in existing resettlement sites can be examined using the Community Transformative scorecard, a tool developed by the Ateneo School of Governance and the DILG that measures existing resettlement communities on six dimensions which are: (1) Shelter and living space; (2) Mobility and access; (3) Livelihood/economic opportunities; (4) Social network and safety nets; (5) Community governance; and (6) Local system.

7.3. *Adoption of the Assessment Tool in the National Resettlement Policy Framework*

The National Resettlement Policy Framework is currently being updated. The Assessment Tool can be an integral component of the Framework as the design of the indicators conforms with the objectives and goals of the NUHDF, PDP 2023-2028 and SDG11.

The inclusion of the Assessment Tool in the Framework provides a means to operationalize the Framework and ensures adoption by the LGUs and other resettlement implementers of the crucial components that must be included and followed in the crafting of Resettlement Action Plans. The LGUs are the main implementors of resettlement projects and the Resettlement Framework can only be relevant if adopted and operationalized by them. DHSUD can work together with the DILG on the use of the Assessment Tool in LGU planning and performance assessment through the Resettlement Policy Framework.

7.4. *Adoption of Good Practice Standards for Philippine resettlement projects*

As shown in global resettlement experience, the adoption of good resettlement standards facilitates the development of resilient, safe and inclusive human settlements especially for the marginalized sectors and those affected by development projects. Good practice standards are developed to ensure that affected communities are not only compensated for losses but are provided opportunities for better standard of living (i.e., food, shelter, social safety, interaction). The minimum standards are often confined to the shelter component, and shelter improvement is measured in comparison to pre-relocation dwelling conditions, which are already impaired to begin with.

The focus on the shelter component alone can lead to non-compliance to some minimum standards, which results in resettlement projects that are not livable and, in some cases, abandoned. As such, the resettlement site/community becomes a liability instead of an asset to the host LGU or *barangay*. While budget constraints and limited affordability are common issues in resettlement projects, these issues can be addressed through better planning and collaboration among stakeholders. The standards on the resettlement process must be combined with design standards.

The DHSUD and the DILG can incentivize LGUs to adopt good practice standards through grants and/or prioritization of compliant LGUs in national projects of the government. Since involuntary resettlements arise from development-induced or disaster related projects, the funding of resettlement infrastructure should form part of these projects and the complete implementation of resettlement to be included in the metrics or outcomes of the development projects.

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9. Annexes

Annex 1.1 Assessment Tool: Resettlement Key Indicators and Standards

THEME/SUBTHEME	INDICATOR	MINIMUM REQUIREMENTS	GOOD PRACTICE	MEANS OF VERIFICATION
Institutional Setup and Partnerships - Local Offices / Coordinating Bodies	Existence of Local Housing Office (LHO)	If not existing, alternative is Urban Poor Affairs Office (UPAO) or personnel in other departments such as the City/Municipal Social Work Department/ and City/ Municipal Engineering fulfilling functions under the LHO	Active and functional with divisions as necessary (see – LGUs Guidebook for Local Housing Project)	Sangguniang Resolution or Local Ordinance Organizational structure LGU Annual Budget LGU No. of assigned personnel Percentage of plantilla positions
	Existence of multisectoral committee	Local Housing Board (LHB), or alternative is PIAC/ProvIAC/LIAC /Project Steering Committee/ Special Task Force Clear responsibilities backed by plans/programs/budget Active and functional	Multisectoral with greater participation of national government agencies (NGAs), people's organizations (Pos) Clear responsibilities backed by plans/programs/budget Active members and sub-committees	Administrative Order pursuant to a Sangguniang Resolution or Local Ordinance LGU Annual budget LGU assigned personnel MOA with key stakeholders including NGAs and Pos Executive Order or MOU forming LIAC/PIAC/ProvIAC MOA on program and budget

	Existence of Committee on Housing at the Sanggunian	Active as local policy-making body for public housing; human settlements	Active as local policy-making body for public housing; human settlements.	Local Housing Program Housing-related ordinances
Institutional Setup and Partnerships - LGU Planning Capacity	Existence of LSP	Plan formulated as per LSP Manual	Plan formulated as per LSP Manual; updated	Local Development Investment Plan Ordinance ratifying LSP Integration of LSP in Local Development Plan
	Updated CLUP and Zoning Ordinance	Land suited for residential use identified in the CLUP and Zoning Ordinance	CLUP and Zoning Ordinance identifying residential areas/ socialized housing areas with appropriate level of development (e.g. R-1, R-2, R-3), allowable housing types, maximum building height	Comprehensive Land Use Plan (LGU) approved by Sanggunian and HLURB Zoning Ordinance (LGU) passed by the Sanggunian
	City Extension Plan, PUD/Masterplan; TOD Plan	Urban masterplan or PUD masterplan may be required by LGUs for private developers doing mixed-use developments	Socialized housing sites identified within the context of urban growth area/ city extension/ district master plans or Planned Unit Development master plans, Integrated plan for future housing areas integrated with other land uses, with road network and blocks, with proposed maximum building heights/ dwelling densities	Approved City Extension Plan or Planned Unit Development Master Plan, TOD plans

			based on carrying capacities of existing/ proposed infrastructure and services. Socialized housing sites identified within the context of planned transit lines (Transit-Oriented Development Plans)	
	Existence of Land Inventory	Inventory and map of specific sites/ parcels proposed for socialized and economic housing based on urban and land use analysis and site suitability criteria	Inventory and map of specific sites/ parcels on a GIS database with information on title, ownership, development status, zoning classification, actual land use, and assessed/market value. Land information consolidated and made available by request to LGUs, housing providers, NGOs, and People's Organizations who are looking for housing sites.	Inventory of Available Suitable Lands for Housing (LGU Shelter Plan) Housing Sites Map (NHA) Area of designated housing sites Area of unused/ idle government land Land classification of identified lands Area of acquired or land banked socialized housing sites
	Ability to acquire land or landbank feasible socialized housing or resettlement sites	Sufficient land banking to meet immediate housing need	Sufficient land banking to meet projected housing need	List of landbank sites - Area and number of housing sites acquired - Area of idle lands expropriated

				- Area of lands with usufruct agreements
Institutional Setup and Partnerships - Project Management Capacity of LGU	Existence of Relocation and Resettlement Action Plan	RRAP indicating budget, timeline, organizational responsibilities, issue/dispute resolution and corrective action system (grievance redress mechanism), etc.	RRAP indicating budget, timeline, organizational responsibilities, issue/dispute resolution and corrective action system (grievance redress mechanism), etc.	Approved RRAP MOA with agency partners
	Existence of site suitability assessment	Conduct of site suitability assessment upon site identification (can be in coordination with NHA/ SHFC)	Pre-feasibility study with Conceptual Plan. Includes feasibility study on absorptive capacity of basic services; comparison of available sites; site visit/s by beneficiary	Site documents -Topographic map -Certified copies of Land titles -Copy of tax declaration and tax map -Zoning certification -DENR-LMB Approved Lot/Subdivision Plan -Vicinity map Site Inspection Report with site assessment results and recommendations Pre-Feasibility Report and Conceptual Plan
	Ability of LGU to conduct local housing project feasibility study (FS)	Partnership with NHA/SHFC/ community selected design consultants	LHO Technical Planning and Development Division; In-house architect/ engineers/ landscape architects; in-house project	Number of trained personnel on design, site development, construction

			management; partnerships with NHA/ SHFC/ External design consultants	Partnerships MOA List of accredited architects /contractors
	Access to professional services for planning, design, and project/ construction management/ supervision	Partnership with NHA/SHFC/ community selected design consultants	LHO Technical Planning and Development Division; In-house architect/ engineers/ landscape architects; in-house project management; partnerships with NHA/ SHFC; External design consultants	Number of trained personnel on design, site development, construction Partnerships MOA List of accredited architects /contractors
	Ability of LGU to conduct surveys; manage database of beneficiaries and handle documentation related to housing	Partnership with NHA/ SHFC or NGOs experienced in doing census/ tagging and managing a beneficiary database Assigned office/ department for beneficiary profiling and database management; may include IT unit	LHO dedicated personnel for Records and Monitoring System Participatory mapping process Community Based Monitoring System (CBMS)	Number of trained personnel Record filing system Database of socioeconomic profile of affected population Estimates on compensation loss or adverse impacts of resettlement Monitoring and Evaluation System
	Ability of LGU to handle financial and legal and requirements related to housing projects	Assigned office handling financial and legal matters; partnership with NHA/ SHFC handling legal and	Local Housing Office Financial and Legal Division responsible for: a. Provide all services in connection with	Number of trained Personnel Beneficiary accounts, contracts

		financial requirements	the collection and servicing of loan accounts; b. Prepare contracts and all other documents pertinent to the award to qualified beneficiaries; c. Be accountable for all payments made, for updating debts by giving clearance certificates to fully paid beneficiaries.	
	Ability of LGU to review documents for Development Permit or Locational Clearance, Building Permit, and Certificate of Occupancy	Technical review of subdivision plans by the MPDO/ CPDO, Engineering Department, endorsed to Sanggunian for approval Technical review of housing plans by the OBO and various units, Inspections by the Office of the Building Official, Bureau of Fire Protection, as-built plans of the buildings for occupancy; Certificate of Occupancy issued Issuance of building permit/development permit no	Development Permit issued within 30 days Building permit issued within 15 days	Process flow in the issuance of building permits and development permits Record on turn around time (TAT) in the approval of building permit and development plans

		longer than three months		
Site Selection - Location Criteria	Location criteria (general – see specific criteria for details)	Proposed sites must be able to link into existing public infrastructure, such as transportation, power and water, health, educational, and recreational facilities, and as much as possible be near or accessible to major employment opportunities. Sites shall be located outside potential hazard prone and protection areas.	Priority shall be given to areas where basic services and facilities already exist or where these can be introduced within a very short time. Beneficiary location criteria must also be considered.	Proposed locational plan of resettlement site Housing Site Maps
	Land cost/ price	Meets price range for socialized housing; usufruct rights maybe considered	Meets affordability criteria of target beneficiaries; HOA approval -Targeted subsidy or free housing -Full government subsidy on land acquisition and site development	Selling price per sqm Prevailing market value of lots in the area Usufruct agreement -Policy or MOU for free housing and/or full subsidy on land acquisition and site development
	Legal status and property boundaries	Clean titles, clear property rights (ownership or usufruct)	Due diligence in title research to ensure no conflicting claims	Transfer Certificate of Title, Original Certificate of Title, Tax Declaration

				Usufruct agreement LRA/DENR-LMB approved technical description or approved lot data computation
	Conformity with land use	Site under residential use classification; if not it should undergo reclassification before start of resettlement	Site under residential use classification	Zoning Certification issued by LGU citing the land use/ classification of the property and Sanggunian Resolution/ Ordinance approving the zoning and/or reclassification of the property
	Clearances from national agencies on availability of agricultural land for housing	Department of Agriculture (DA) certification that the land has ceased to be productive economically and agriculturally.	Department of Agriculture (DA) certification that the land has ceased to be productive economically and agriculturally. DAR conversion approval	DA Certification of Eligibility for Reclassification of Agricultural Land DAR certificate of conversion approval
	Clearance from DENR for environmental impact	Department of Environment and Natural Resources – Environmental Management Bureau (DENR – EMB) Environmental Compliance Certificate or Certificate of Non-	Department of Environment and Natural Resources – Environmental Management Bureau (DENR – EMB) Certificate of Non-Coverage (site not located in Environmentally Critical Area)	Department of Environment and Natural Resources – Environmental Management Bureau (DENR – EMB) Environmental Compliance Certificate or

		Coverage (site not located in Environmentally Critical Area)	Permit issued within 45 days	Certificate of Non-Coverage
	Availability of transport system in the area	Jeepney/ bus transport terminal with routes to town center should be under 2 km, 5-10 min tricycle/pedicab/ cycle ride. If no transport routes service the area, the LGU should propose a new public transport route to LTFRB.	Jeepney/ bus transport terminal with routes to town center should be under 1km, 10 - 12 minutes walk. If no transport routes service the area, the LGU should propose a new public transport route to LTFRB.	Travel time and cost to transport terminal, frequency/ availa bility of trips to major destinations
	Road access	B.P. 220 Interior subdivision project must secure right-of-way to the nearest public road and the right-of-way shall be designated as interconnecting road with a minimum width of 10 meters SHFC Construction Manual It must be legally established either through a Deed of Donation or execution of Grant of Road Right-of-Way in favor of the HOA.	The main public road connected to the project must have a ROW of 10m for project sizes 15 has. and below, 12m for projects 10-15 has., and 15m for projects above 30 has with a 15-centimeter mix gravel (pit run) basecourse on well compacted subgrade (BP 220). It must be legally established either through a Deed of Donation or execution of Grant of Road Right-of-Way in favor of the HOA. Funding commitment from DPWH/ LGU for	Road network map indicating width and condition of ROW Deed of Donation or execution of Grant of Road Right-of-Way in favor of the HOA Certification from CEO stating that the project's RROW is a public road

		In case the landowner of the existing road cannot be found, if unknown, or deceased in cases where the estate has not been settled, after exerting due diligence, a certification from LGU must be secured stating the existing road being used as direct access to the site for a period of time and that it is being maintained by LGU for public use. The HOA may opt to include the acquisition of its access road as part of their loan, provided that the title covering the subject road lot is identified as private lot	improving road access, if neccessary	
	Physical characteristics	Low risk to hazards, reasonable development cost, no excessive engineering works	Relatively flat with slope below 5%, suitable soil, minimal levelling, cutting, and filling required	Topography, soil test, hazard maps, National government agency hazard assessment
	Proximity or exposure to environmental and health hazards	Must have minimum of at least 5 meters buffer zone on both sides of the fault trace or from its zone of deformation.	If the area has low-moderate susceptibility to hazards, the HOA/ Mobilizer/ Contractor must submit HOA and LGU	Certification from LGU/DRRM Office stating that the site is suitable for socialized

		Must be outside of the critical areas such as but not limited to the following: • very high susceptibility to hazard per DENR-MGB & PHIVOLCS maps. • garbage dump site, heavy industrial center and the like • transmission line right-of-way • large gullies/ravine and the like Must follow required easements in the National Building Code and Water Code.	Disaster Risk Reduction Management plans to reduce the impact of those identified hazards and a Certification from LGU/DRRM Office stating that the site IS suitable for socialized housing development to ensure safety of the project beneficiaries. Where it applies, certifications from national agencies may also be sought.	housing development Certification issued by City Engineers' Office or Mines Geoscience Bureau stating whether or not the site is suitable for socialized housing development Certification from PHIVOLCS stating the property's distance from the fault line and whether or not the proposed project site is safe/suitable for housing If NPC transmission line is near or within site, Certification from the NPC stating whether or not the subject project is outside their required easement/right-of way; if affected require technical descriptions of area affected If prone to flooding, Disaster Risk Reduction

				and Management Plan IS required (LGU/Barangay& CA level) If adjacent to cemetery, factories, garbage disposal facilities that may affect health, Certification from City/ Municipal Health Office/ DOH, CENRO stating that the proposed site is safe for housing development.
	Proximity to employment / livelihood/ income opportunities	Resettlement site should be accessible from a major town center to provide income opportunities. Maximum of 45 minutes to one hour travel time by public transport from a major CBD or maximum of 12 km or 15-30 minutes travel time by public transport service to minor CBD.	Resettlement site should enable beneficiaries to maintain their original livelihood or employment. It should be a maximum of 12 km or 15-30 minutes travel time by public transport from original housing site.	Map showing proximity to town center and original housing site
	Availability of water supply	NHA MC 2015 Steady and sufficient supply of potable water; sources, whether	Adequate water volume and pressure, and water flow schedule for selected site for	Site Inspection Report (NHA Requirement)

		water company, ground, or alternative source – established prior to planning; secondary data provided such as water testing results in site vicinity; water supply provided and in conjunction with program schedule of local water service provider; certification to availability should be provided. SHFC Construction Manual Reasonable distance to local water system; Must have a certification from the concerned utility provider as to water availability and the estimated cost requirement, if any.	projected residential density Water Supply System Feasibility Study – for existing water system and/ or an alternative water supply	Pre-Feasibility Study with Conceptual Plan (NHA Requirement) Certification to Availability of Water Supply from Water Service Provider Water Supply System Feasibility Study
	Availability of power supply	There must be a utility company that will serve the needs of the new community, and that access for power facilities to and from the site must be identified as a requirement for the approval of the identified site for housing	Must have a certification from the concerned utility provider as to power availability and the estimated cost requirement, if any. In the absence of any of these, definite alternative should be identified by the HOA/	Certification to Availability of Power Supply from Power Service Provider and Estimated Cost Requirement

		project. Provision of these facilities is imperative in the selection of site. Power supply must be provided and ensured in conjunction with the program schedule of the local power service provider.	Developer/Contractor. Alternative power sources such as centralized or individual grid-tied solar power may be provided it is clear among stakeholders who will shoulder the investment cost (whether government subsidy or the individual homeowners)	
	Availability of drainage outfall	Natural waterways and outfalls shall be established on ground and as far as practicable identify the legal access with regard to outfalls, to and from the site to facilitate the planning of the drainage system. In the absence of these, definite alternative should be identified by the HOA/Developer/Contractor.	Flooding levels of the identified sites and its immediate vicinity should also be determined prior to site planning. The natural waterways should be retained to preserve the ecological balance within and around the site. Drainage outfall should be extended directly into the main waterways. Certification of availability of a legal right of way for the drainage outfall from the project office, lot owner, or local government unit concerned shall be submitted. In the absence of any of these, definite alternative should be identified by the HOA/	Map indicating drainage outfall Flood hazard map indicating flood levels Certification of availability of a legal right of way for the drainage outfall from the project office, lot owner, or local government unit

			Developer/Contractor.	
	Availability of sewerage treatment and disposal	In case there is no local sewerage system, there must be a space provided for possible waste water treatment facility for future development. In the absence of these, definite alternative should be identified by the HOA/ Developer/Contractor.	Must be of reasonable distance to local sewerage systems for future connection.	Map indicating location of sewer system
	Availability and adequacy of day care center	Mandatory provision by developer or host barangay for a minimum of site population: 500 HH, host barangay to provide daycare worker	Arrangements should be made to provide an area within the site or provide funds to expand capacity of existing barangay day care center if it is within walking distance. Provision of building and outdoor areas based on DSWD standards (AO 2004 – 029) and estimated number of children based on community profile. Location should be on-site or walkable, under 600 meters distance from furthest point on site, 5-8 minute walk. May be integrated with	Estimated number of daycare age children Assessment of existing daycare center services in host barangay Host barangay commitment to provide daycare center services Proposed site plan or building plan providing area for daycare center Distance or travel time to daycare/ elementary school/ high school from site, number of

			community hall, or barangay facilities.	classroom shifts; teacher to student ratio
	Availability and adequacy of public elementary school	Location of existing public elementary school should be under 2 km, 5-10 min ride Should there be no existing schools nearby or should the establishment of a new school take time, transitory provisions (e.g. temporary school site) should be provided.	Location should be under 1km, 10 - 12 minutes walk Should the existing school facilities not be sufficient, NGA / host LGU/ LIAC should coordinate with/ provide funding support to Department of Education to increase capacity. Should there be no existing school within specified distance, an area should be provided on site (for projects 450 lots and above – see NHA MC 2015 - 0015 Annex E for required lot areas). NGA / host LGU/ LIAC should coordinate with Department of Education for the establishment and construction of the school. Coordination should be done early in the planning stage so the school operation will be in sync with the relocation of households.	Estimated number of primary school children Assessment of capacity of existing elementary schools in the vicinity DepEd commitment for establishing school site Site plan with proposed school site
	Availability and adequacy of public high school	Location should be under 2 km, 5-10 min ride	Location should be under 1km, 10 - 12 minutes walk	Estimated number of

		Should there be no existing schools nearby, the availability of transportation to nearest high school should be assessed and addressed by the LGU through opening new public transport routes.	Should the existing school facilities not be sufficient, NGA / host LGU/ LIAC should coordinate with/ provide funding support to Department of Education to increase capacity. Should there be no existing school within specified distance, an area should be provided on site (for projects 1500 lots and above – see NHA MC 2015 - 0015 Annex E for required lot areas). NGA / host LGU/ LIAC should coordinate with Department of Education for the establishment and construction of the school. The school site could serve other areas outside of the housing site. Coordination should be done early in the planning stage so the school operation will be in sync with the relocation of households.	secondary school children Assessment of capacity of existing high schools in the vicinity DepEd commitment for establishing school site Site plan with proposed school site
	Availability and adequacy of Barangay Health Center/ Rural Health Center	Location should be under 2 km, 5-10 min ride Adhering to Health Center Quality Standards	Location should be under 1km, 10 - 12 minutes walk Support for improving capacity and quality	Assessment of capacity of existing health center in the vicnity

		from the Department of Health	standards of existing health center. For project size more than 1000 units, provide area for Health Center – 300 sqm lot area to be increased as project size increases (see NHA MC 2015 -0015 Annex E for more detail). Coordinate with LGU for health center establishment.	Site plan with proposed health center Distance or travel time to barangay health center, waiting time, customer satisfaction surveys (updated); Number of hospitals/health facilities in the area; Data from National Health Facility Registry; Number of health personnel; Data on Human Resources for Health
	Availability of Main Health Center/ Public Hospital	Main Health Center/ City Health Center (1 MHC/ CHC for every 50,000 population): Urban: Under 1.5 km distance, 15 - 20 minutes walk Peri-Urban: Under 2.5 km distance, 5-15 minutes ride Rural: Under 6.5 km distance, 10 – 40 minutes ride Municipal Hospital Location under 30 km, 30 -60 minute ride	Hospital Location: Urban: Under 1.5 km distance, 15 - 20 minutes walk Peri-Urban: Under 2.5 km distance, 5-15 minutes ride Rural: Under 6.5 km distance, 10 – 40 minutes ride	City/ Municipal Map indicating site and distance to main health center and hospital/s Public Transport Route Map Distance or travel time to barangay health center, waiting time, customer satisfaction surveys (updated); Number of hospitals/health facilities in the area; Data from National Health

		Secondary Care District Hospital Location under 35 km, 30 -60 minute ride		Facility Registry; Number of health personnel; Data on Human Resources for Health
	Availability of protective services for crime	Minimum standard police-to-population ratio: 1 policeman: 1,000 persons	Ideal police-to-population ratio – 1 policeman: 500 persons On-site monitoring through barangay tanod, security guard, or roving police personnel/ on-site police outpost	Distance or travel time to barangay center, police outpost; Number of police personnel/ tanod in the area
	Availability of protective services for fire incidence	Standard fireman- and firetruck-to-population ratio	Fire station, sub-station, or fire brigade with fire-fighting equipment located at a maximum of 2.5km to enable 5-minute response time. Fire hydrants provided by water service provider as mandated by the Fire Code of the Philippines	Distance or travel time to fire station; Number of fireman and equipment assigned in the area
	Availability of public market/ other commercial areas	Location should be under 6.5 km, 10 - 30 minutes ride	Location should be under 1.5 km, 20 minute-walk or 10 min ride	City/ Municipal Map indicating site and distance to public market Public Transport Route Map
Settlement Planning - Settlement Design	Settlement size (population/ # of households)	Site carrying capacity based on assessment of basic services	Creation of new barangay halls, health centers, day cares, new	Population, number of households

		such as water and social services.	settlements size can be based on minimum size for establishing a barangay - at least 2,000 persons (about 400 HH) in rural areas, and 5,000 persons (about 1,000 HH) in urban areas. District-wide or PUD-wide masterplan which can study in more detail the appropriate settlement size, mix of land uses, densities, and building heights for various development areas.	
	Land use allocation per site	The net saleable shall consist of a maximum of 60% of the total gross land area and shall be devoted for residential housing development. The non-saleable areas shall conform to the minimum requirements pursuant to Section C of BP 220 as amended.	LGUs are encouraged to go beyond the minimum allocation for open or public space. Additional areas may also be provided for facilities than can support livelihood/ income-generating activities as such as commercial spaces for lease, or agricultural processing area for rural areas or communities with farmer-beneficiaries. District-wide or PUD-wide masterplan which can study in more detail the appropriate settlement size, mix	Site plan, land use allocation for saleable/ non-saleable, parks and open spaces, community facilities

			of land uses, densities, and building heights for various development areas.	
	Income mix	No income mix requirement	Allocation for open market, economic, and socialized housing in one project where suitable; incentives for developing mixed-income projects. District-wide or PUD-wide masterplan which can study in more detail the appropriate mix of income levels in one area.	Area allocated for different markets/ income levels
	Settlement density	City/ Municipal Land Use Plan and Zoning Code Restrictions on: Type of Use (e.g. R-1, R-2, R-3) Building Height Floor Area Ratio NHA MC 2015 - 0015 The maximum allowable density per hectare for horizontal development shall be 150 lots/units per hectare. For vertical development or low rise buildings (LRBs), maximum density per	Settlement density can follow prevailing urban pattern in surrounding areas. This can be for the following: Rural – R-1, single-detached, maximum density at 100/ hectare, ideally less than 30/ hectare (farm lot subdivision) Peri-urban/ urbanizing – R-2, duplex or rowhouse, or maximum R-2, low-rise 3-5 storeys, maximum density at 150 per hectare Urbanized – R-3, low-rise or medium-	Number of population/ households per hectare

		hectare shall be as follows: 2 storey LRB – 192 3 storey LRB – 252 4 storey LRB – 336 5-storey LRB - 420	rise building, maximum density at 420 per hectare Highly Urbanized –R-5, medium rise to high-rise condominium more than 5 but not more than 12 storeys, density more than 420 per hectare Resettlement projects can also benefit from a district-wide or PUD-wide masterplan which can study in more detail the appropriate settlement size, densities, and building heights for various development areas.	
	Building height	Determine building height as per local Land Use Plan and Zoning Ordinance and provisions of the National Building Code. Multi-storey housing buildings more than 3 storeys in height must be accessible from a road with ROW of more than 7m (NBC), and the interconnecting road must have at least a ROW of 10m for project sizes 15 has. and	In addition to minimum requirements, building height should be determined by ROW of *main public road* connected to the site. For developments with proposed multi-storey buildings, the *main public road* connected to the project must have a ROW of 10m for project sizes 15 has. and below, 12m for projects 10-15 has.,	Building height

		below, 12m for projects 10-15 has., and 15m for projects above 30 has (B.P. 220).	and 15m for projects above 30 has. In addition to minimum requirements, resettlement projects can benefit from a district-wide or PUD-wide masterplan which can study in more detail the appropriate settlement size, densities, and building heights for various development areas.	
	Road Network	Code compliance to B.P. 220	Allotting more of the carriageway to walkways, bikeways, sidewalks, and landscaping could improve the usability of roads as well as reduce the area allotted to motorized vehicles and allot more for community facilities and open space. Socialized housing lots could face 3m pathways with clustered parking to promote walkability (for possible revision in BP 220 which does not allow it). The requirements for road pavement in BP 220 may be examined to allow for surfaces that can	Site plan, typical road sections, road materials

			absorb more rainwater, as well as appropriateness to context – in more rural areas, for example, where less heavy motor vehicles are expected, gravel or compacted earth roads may be acceptable especially for pedestrian pathways.	
	Allocation for vehicle and bicycle parking	As per B.P 220 no minimum parking for socialized and economic horizontal subdivisions; for multi-storey development, use National Building Code standard.	Appropriate ratio of parking space of cars to population based on National Building Code provision. For multi-storey developments, allot smaller parking slots for bikes/motorcycles/ tricycles. Consider a separate, access-controlled, and sheltered area for bicycles. Bicycle parking dimensions and layout can conform to DPWH DO 88 s 2020. “Developers are encouraged to locate bicycle parking facilities at different areas in the development to cater to different users, e.g. visitors and occupants of the building. Short-term bicycle parking spaces cater to visitors. Hence they	Site Plan and Building Plans showing parking slots HOA Management Guidelines for parking

			should be located at the ground level for easy access by the public. Similarly, long-term parking spaces cater to tenants or residents and could be located at any level of the development with safe internal cycling circulation leading to the facilities." (Singapore Land Transport Authority and Urban Redevelopment Authority Circular No. URA/PB/2018/03-DCG, p.8; & Singapore Land Transport Authority and Urban Redevelopment Authority 2018, p. 122)	
	Street lighting	Street lighting every 50m as per B.P. 220	Street lighting every 50m as per B.P. 220; At road junctions and areas of importance to the community – with community input as to the location	Street lighting layout
	Connection to water system	Site has source/s suitable for Level III -- Individual House Connections) - Ideally a public water supply system. Can provide average daily demand	Site has source/s suitable for Level III -- Individual House Connections) -Ideally a public water supply system. Should the public water supply system be insufficient or not immediately available, it should	Number of individual house connections/ total household population NWRB Water Permit (if applicable)

		(ADD) of 150 liters per capita per day For supplementary/ transitional systems: Protected well: 15 HH/ radius of 250 meters Communal water faucet: 4-6 HH/ radius of 25 meters/ providing 50 -60 liters per capita per day (Source: Planning Overview for Water Supply and Sanitation Systems, neda.gov.ph) Minimum of 15 liters/ person/ day <500m distance from any household to nearest waterpoint <30 minutes queuing time at water sources (Source: SPHERE Standards)	be supplemented by other sources such as communal wells, communal faucets, rainwater harvesting systems, or water delivery systems. If a public water supply system is not available, an independent water supply system, subject to appropriate government permits, shall be provided by the developer. Standards: Level III system: Can provide average daily demand (ADD) of 150 liters per capita per day Can provide sufficient pressure at main (103 kPa – or as per National Plumbing Code standard) to reach highest level/ storey Elevated reservoirs to contain 20% average daily demand plus fire reserve Ground reservoirs: 25m from sources of pollution / contamination Fire hydrants/ cisterns to be provided by LGU	
	Connection to power supply	Compliance to provisions of BP 220 and the	Compliance to provisions of BP 220 and the National Electrical Code;	Power rates

		National Electrical Code	affordable rates, provide option for prepaid metering if available. HOA should have sufficient budget for the electricity of common facilities.	
	Installation and connection to storm drainage system	Design as per BP 220	With channel dimensions sufficient to cater for recurrent flooding and robust enough to withstand effects of severe flooding; ensuring that the solution for the community does not create problems in another	Storm drain system layout
	Installation of sanitation/ sewage/ wastewater disposal system	Compliance to BP 220 and Sanitary Code of the Philippines	Compliance to BP 220 and Sanitary Code of the Philippines; individual septic tanks for horizontal developments where possible; grease traps for multi-storey developments if possible; sanitary pipes and cleanouts should be easily accessible and maintainable with minimum disturbance to other units. Septic tank design should enable it to last without desludging for at least 5 years; desludging cost affordable to	Sanitary system layout HOA Management Rules

			homeowners or HOA.	
	Availability of garbage disposal system	2-3 times a week waste collection services	Segregation at source, segregated collection, 2-3 times a week collection of residual waste, disposed in sanitary landfill, MRF for storing recyclable waste, managed composting area	Waste collection schedule, Materials Recovery Facility
	Fencing/gates/ border control	No minimum requirements	Project boundaries are defined and secured or with limited access to outsiders	Site Plan, Fence Design
	Community Facilities and Infrastructure: Multipurpose Community Hall	As per BP 220	Communal space for gathering provided even for developments with number of households falling below 100 units.	Site plan, building plan
	Community Facilities and Infrastructure: Tricycle/ Pedicab Terminal (First/ Last-Mile Access)	Area for tricycle queue provided, on-site location	Location should be on-site or walkable, under 600 meters distance from furthest point on site, 5–8-minute walk Shed type waiting area	Site plan with proposed tricycle/ pedicab terminal
	Community Facilities and Infrastructure: *Talipapa* (neighborhood market)	Provision of lot area of 420 sqm for projects with size of 3000 lots and below. For projects larger than 3000 lots, provide public market (see section on public	Location should be on-site or walkable, under 600 meters distance from furthest point on site, 5-8 minute walk	Site plan with proposed area for *talipapa*

		market) (NHA MC 2015 – 0015 Annex E)		
	Community Facilities and Infrastructure: Parks and Playgrounds	Parks and playgrounds are accessible, of sufficient size and distribution for the population (BP 220 or higher), safe, clean, allows a variety of activities	Consider integrating playground with daycare center to ensure proper use and management; with layout and play equipment according to standards in DSWD A.O 2004 – 029 Clean, vehicle-free, paved/landscaped shared open/semi-open spaces *between housing units/ buildings* in multi-storey developments available for child play, exercise, social activity Parks and playgrounds should be designed by landscape architects to ensure quality and sustainability Location should be on-site or walkable, under 600 meters distance from furthest point, 5-8 minute walk	Site plan with proposed parks and playground Playground site plan with equipment
	Community Facilities and Infrastructure: Basketball Court	Not specifically required under B.P. 220 but may be integrated with community facilities area	Area provided, as per NHA MC 2015 – 0015 Annex E Location should be on-site or walkable,	Site plan with proposed multipurpose hall/ basketball court

			under 600 meters distance from furthest point, 5-8 minute walk	
	Community Facilities and Infrastructure: Daycare	Mandatory provision by developer or host barangay for a minimum of site population: 500 HH, host barangay to provide daycare worker	Arrangements should be made to provide an area within the site or provide funds to expand capacity of existing barangay day care center if it is within walking distance. Provision of building and outdoor areas based on DSWD standards (AO 2004 – 029) and estimated number of children based on community profile. Location should be on-site or walkable, under 600 meters distance from furthest point on site, 5-8 minute walk. May be integrated with community hall, or barangay facilities.	Estimated number of daycare age children Assessment of existing daycare center services in host barangay Host barangay commitment to provide daycare center services Proposed site plan or building plan providing area for daycare center Distance or travel time to daycare/ elementary school/ high school from site, number of classroom shifts; teacher to student ratio
	Community Facilities and Infrastructure: Elementary and high school educational facilities	Accessible local school	Additional school constructed on site as per need or if local school capacity is insufficient; increase in capacity new classrooms/ buildings/ additional teachers) of existing school where necessary	Site plan, school building plans

	Compliance to approvals and permits for subdivision development	Subdivision plan has approved survey, registered title, registration, and license to sell, and development permit	Subdivision plan has approved survey, registered title, registration and license to sell, and development permit Other permits and clearances as required (ATO, NPC, etc)	Department of Environment and Natural Resources – Land Management Bureau (DENR-LMB) Approved Subdivision Plan Land Registration Authority (DOJ-LRA) and the Register of Deeds' Registration of Title Housing and Land Use Regulatory Board (HLURB) Certificate of Registration and License to Sell Sanggunian Resolution Granting Development Permit
Settlement Planning - House Design	Affordability	Meets price range for socialized housing / donated or under usufruct	Acceptable and affordable to capacity of target beneficiaries	Monthly amortization
	Adherence to local codes	Meets minimum code requirements	Meets minimum code requirements; or provides more than the code requirement; underwent design review by the local or national government	Building Plans and Specifications Building Permit Certificate of Occupancy

	Safe and resilient structure	Code compliance	Appropriate structural system (as per Structural Code), exits, fire walls, fire protection system (as per Fire Code), railings and window protection for children (for multi-storey) Durable materials and construction, able to protect occupants from extreme rain, heat, cold and wind. Attention should be paid to: roofing system and connections; roof edge protection from wind uplift particularly in typhoon-prone areas Design review by local government and national agencies	Building Plans and Specifications Building Permit
	Adequate living space	Minimum of 22 sqm (NHA programs)	About 6 sqm. per person (around 24 sqm for a family of 4, and around 30 sqm for a family of 5) as per National Building Code. Provision for at least three separate sleeping areas for: Couple Children (female) Children (male)	Building Plans and Specifications

			Provision for clothes hanging area for laundry; space/ provision for washing machine in kitchen or bathroom Space provision for horizontal expansion (subdivision lot) Structural provisions for horizontal or vertical expansion Provision of different models depending on household size and affordability level	
	House and building durability and maintainability	Plans checked for code compliance	Specifications based on performance standards Systems must be durable and easy to maintain Sanitary system – provision for grease traps, adequate cleanouts, access for maintenance, adequate sizing of septic tanks Water system - access for maintenance and leak repair Roof – adequate thickness, coating, roof edge protection, access for maintenance Electrical – access for maintenance Stairwell – durable railings, stair treads	Building Plans and Specifications HOA Guidelines on Maintenance/ Facilities Maintenance Plan

			Exterior walls – durable finish/ coating, reduce repainting cost	
	Provisions for acoustic and visual privacy, protection from excessive noise	No minimum requirements	Appropriate visual and auditory privacy through: Site and building layout Door and window placement/ design Wall materials Activity areas such as multi-purpose halls, sports courts and large playgrounds must have buffers/ be sited at a distance so as not to disturb residents	Site and Building Layout Building Plans and Specifications HOA Management Guidelines
	Safety and security (against crime)	No minimum requirements	Adaptability of building systems for additional design elements for security (e.g. installation of grills); guidelines for installation of such elements Well lighted common areas (hallways, stairwells, streets, open spaces) Entry control in site, various zones and main building entrances CCTVs for monitoring	Site and Building Layout Building Plans and Specifications HOA Management Guidelines
	Adequate ventilation and comfortable temperature	Thermal insulation not required; however sufficient cross-ventilation should be	Thermal insulation applied as per Green Building Code; ceiling height at least 2.7m for main floor and	Building Plans and Specifications

		provided per room and for loft areas through adequate ceiling heights and operable windows as per local Building Codes; ceiling and external shading devices can also be applied	2m for loft without ceiling; operable windows of sufficient size for each sleeping space; window or ventilation for toilet; cross ventilation for house and building common spaces; appropriate distance between buildings	
	Space for livelihood/ income-generating activities	No minimum requirements	Space allotment for livelihood/ income-generating activities; this can be potential commercial spaces in front houses along main roads or expansion areas in the back or sides of the house for potential cottage industries	House/ Building Floor Plan
	Use of alternative housing technologies	AITECH accreditation of use of alternative technologies	Use of alternative technologies that encourage beneficiary participation in construction, local cottage industries Manual for households on alteration/ expansion with houses using alternative technologies	AITECH-accreditation for alternative materials
	Green infrastructure	No requirement for housing subdivisions to adopt green building features.	Increase in price ceiling or incentives and subsidies for green building features in low-cost housing	Building plans and specifications, third-party certification

	Green building certification	Third-party local certification for green buildings not required in socialized and economic housing	Incentives for developers who get third-party certification for green building for their socialized/ economic housing projects	Third-party certificate for green building
	Use of renewable energy	Use of renewable energy is not required for socialized and economic housing	Renewable energy sources such as solar may be used to supplement existing electrical power provider; provided the initial investment is subsidized or factored into the affordability level of beneficiaries	Solar/ wind energy installations
	Energy efficiency	Energy efficient fixtures are not required for horizontal subdivision developments or multi-storey developments below 20,000 sqm	Building should be planned and designed to maximize the use of natural light so to reduce the use of artificial illumination. Occupancy sensors linked to lighting shall be installed in areas with variable occupancy such as hallways and stairwells.	Electrical fixture specifications
	Water use efficiency	Water efficient fixtures are not required for horizontal subdivision developments or multi-storey developments below 20,000 sqm	Use of efficient plumbing fixtures, sensors, auto control valves, aerators, flow control and pressure-reducing devices to reduce water consumption.	Plumbing fixture specifications

	Use of rainwater harvesting	No minimum	Provision of gutter, downspout, and water tank in horizontal developments where there is likely to be water scarcity. Rainwater collection tanks supplemented with local water supply and connected to toilet flushing and irrigation for multi-storey residential buildings.	Rainwater harvesting system
	Use of water-sensitive urban design	No minimum	Planning, design, construction, and operation practices that minimize the adverse impact of buildings on ecosystems and water resources. This may include: road layout and streetscape using bio-retention systems, infiltration trenches and systems, sand filters, and porous paving; public open spaces as sedimentation basins, constructed wetlands, swales, buffer strips, lakes, and ponds; and water reuse using rainwater tanks and aquifer storage and recovery; the inclusion of green areas or landscaped areas for indigenous	Site plan, road and drainage design, open space design

			or adaptable species of grass, shrubs and trees	
	Inclusivity, cultural sensitivity	Code compliance to BP 344	Universal design (accessible to people with a wide range of abilities, disabilities and other characteristics) Culturally sensitive features (in consultation with beneficiaries)	Site and building plans
Community Participation - Ability of Implementers to Facilitate Community Participation	Ability of LGU to facilitate a community-driven approach	Partnerships with NGOs who have community-driven housing experience	In-house social and technical team with training/ experience on community-driven housing construction, or partnerships with NGOs who have community-driven housing experience	Number of trained personnel Networks formed with civil society/NGOs/INGOs
	Ability of LGU to facilitate community participation in RRAP	Partnerships with NGAs/NGOs or commissioning of consultants who have participatory RRAP formulation experience	LGU community organizers or LHO Community Affairs and Development Division with training/ experience in participatory RRAP formulation; partnerships with NGAs/NGOs or commissioning of consultants who have participatory RRAP formulation experience	Number of trained community organizers Partnerships with civil society/ NGOs/INGOs Number of RRAP meetings with community to be resettled Number of RRAP meetings with host community
	Ability of LGU to facilitate community	Partnerships with PCUP/ NGOs who have participatory	Training/experience of city/municipal architects/ engineers	Number of trained personnel

	participation in site and housing design	planning and design experience	in conducting participatory workshops; partnerships with NGOs who have participatory planning and design experience	Partnerships with civil society/ NGOs/INGOs Number of meetings with community on site and housing design
Estate Management	Organization and capacity building of communities	Organization and capacity building of communities before resettlement takes place Collaborative efforts between project implementers/host or receiving LGUs and partnership with NGAs or NGOs experienced in HOA organizing and training	Estate management processes, funding, tasking laid out in detail from start to completion of the resettlement plan Partnership with private sector/NGOs experienced in community organization and HOA capacity building	Detailed estate management plan with budget component MOU/MOA among partner agencies on community organizing, capacity building and funding
	Presence and institutionalization of HOA	Active and functional HOA Capacity building program for HOA Monitoring of HOA progress until maturity and project completion	Active and functional HOA Capacity building program for HOA Monitoring of HOA progress until maturity and project completion	HOA organizational plan Number of trained HOA officers Documented HOA guidelines/ preamble/by-laws LGU monitoring tool and evaluation system

	Turnover of titles/rights to individual households	Individualized agreements	Individualized agreements	Individualization of titles/ unit ownership; Guidelines on sale/substitution /sublease
	Established guidelines on site upkeep and maintenance	HOA guidelines on unit owners' roles and fees for site and building upkeep; LGU provision of solid waste management services	HOA guidelines on unit owners' roles and fees for site and building upkeep; Turnover of common facilities to LGU	HOA guidelines; MOA between LGU and project proponent on turnover of resettlement site
	Turnover of resettlement site and residents to barangay/LGU (integration of HOA/residents to LGU)	Eligibility for local services and programs Issuance of voter's ID Resettlement site institutionalized as socialized housing site	MOA between LGU and project proponent on the turnover of common areas and facilities in resettlement site Resettlement site institutionalized as socialized housing site Issuance of voter's ID	MOA/MOU among project implementer, sending LGU, and/or receiving LGU on roles and responsibilities towards integration MOA on the turnover of common areas and facilities to LGU by project proponent LGU Ordinance declaring area as resettlement or socialized housing site Voter's ID

	Community overall satisfaction of resettlement site	Majority of homeowners are satisfied with resettlement site and dwelling units	Transformed community	Satisfaction survey[5] Community transformative Scorecard[6]

Source: Authors' summary

[5] The satisfaction survey can be patterned from the Annex 2 on questionnaire administered by the authors for the case study.

[6] The Community Transformative Scorecard, developed by the Ateneo School of Governance, measures existing resettlement communities on six dimensions which are: (1) Shelter and living space; (2) Mobility and access; (3) Livelihood/economic opportunities; (4) Social network and safenets; (5) Community governance; (6) Local system.

Annex 1.2. Assessment Tool for Existing Resettlement Sites

INDICATOR	MINIMUM STANDARDS/ GUIDELINES	MEANS OF VERIFICATION
A. SITE FEATURES		
Legal status and property boundaries	Clean titles, clear property rights (ownership or usufruct); no conflicting claims	Transfer Certificate of Title, Original Certificate of Title, Tax Declaration Usufruct agreement LRA/DENR-LMB approved technical description or approved lot data computation
Conformity with land use	Site under residential use classification	Zoning Certification issued by LGU citing the land use/ classification of the property and Sanggunian Resolution/ Ordinance approving the zoning and/or reclassification of the property
Clearance from DENR for environmental impact	Department of Environment and Natural Resources – Environmental Management Bureau (DENR – EMB) Environmental Compliance Certificate or Certificate of Non-Coverage (site not located in Environmentally Critical Area)	Department of Environment and Natural Resources – Environmental Management Bureau (DENR – EMB) Environmental Compliance Certificate or Certificate of Non-Coverage
Availability of transport system in the area	Jeepney/ bus transport terminal with routes to town center should be under 2 km, 5-10 min tricycle/pedicab/ cycle ride If no transport routes service the area, the LGU should propose a new public transport route to LTFRB.	Travel time and cost to transport terminal, frequency/ availability of trips to major destinations
Road access	B.P. 220 Interior subdivision project with right-of-way to the nearest public road and the right-of-way shall be designated as interconnecting road with a minimum width of 10 meters	Road network map indicating width and condition of ROW Deed of Donation or execution of Grant of Road Right-of-Way in favor of the HOA

	SHFC Construction Manual Right of way legally established through either a Deed of Donation or execution of Grant of Road Right-of-Way in favor of the HOA. In case the landowner of the existing road cannot be found, if unknown, or deceased in cases where the estate has not been settled, after exerting due diligence, a certification from LGU must have been secured stating the existing road being used as direct access to the site for a period and that it is being maintained by LGU for public use. If the acquisition of access road is part of HOA loan, the title covering the subject road lot should be identified as private lot	Certification from CEO stating that the project's RROW is a public road
Proximity or exposure to environmental and health hazards	Must have minimum of at least 5 meters buffer zone on both sides of the fault trace or from its zone of deformation. Must be outside of the critical areas such as but not limited to the following: • very high susceptibility to hazard per DENR-MGB & PHIVOLCS maps. • garbage dump site, heavy industrial center and the like • transmission line right-of-way • large gullies/ravine and the like Must follow required easements in the National Building Code and Water Code.	Certification from LGU/DRRM Office stating that the site is suitable for socialized housing development Certification issued by City Engineers' Office or Mines Geoscience Bureau stating whether or not the site is suitable for socialized housing development Certification from PHIVOLCS stating the property's distance from the fault line and whether or not the project site is safe/suitable for housing If NPC transmission line is near or within site, Certification from the NPC stating whether or not the subject project is outside their required easement/right-of way; if affected require technical descriptions of area affected If prone to flooding, Disaster Risk Reduction

		and Management Plan IS required (LGU/Barangay& CA level) If adjacent to cemetery, factories, garbage disposal facilities that may affect health, Certification from City/ Municipal Health Office/ DOH, CENRO stating that the site is safe for housing development
Proximity to employment / livelihood/ income opportunities	Resettlement site should be accessible from a major town center providing income opportunities. Maximum of 45 minutes to one hour travel time by public transport from a major CBD or maximum of 12 km or 15-30 minutes travel time by public transport service to minor CBD.	Map showing proximity to town center and original housing site
Availability of water supply	NHA MC 2015 Steady and sufficient supply of potable water; sources, whether water company, ground, or alternative source;	Site Inspection Report (NHA Requirement) Pre-Feasibility Study with Conceptual Plan (NHA Requirement) Certification to Availability of Water Supply from Water Service Provider Water Supply System Feasibility Study
Availability of power supply	There must be a utility company that serves the needs of the community. Power supply must be provided and ensured in conjunction with the program schedule of the local power service provider. Alternative power sources such as centralized or individual grid-tied solar power may be provided it is clear among stakeholders who will shoulder the	Certification to Availability of Power Supply from Power Service Provider

	investment cost (whether government subsidy or the individual homeowners)	
Availability of drainage outfall	Natural waterways and outfalls should be established on ground and as far as practicable identified legal access about outfalls. Drainage outfall should be extended directly into the main waterways.	Map indicating drainage outfall Flood hazard map indicating flood levels Certification of availability of a legal right of way for the drainage outfall from the project office, lot owner, or local government unit
Availability of sewerage treatment and disposal	A space for wastewater treatment facility if no local sewerage system. Alternative systems for future expansion	Map indicating location of sewer system
Availability and adequacy of day care center	Mandatory provision by developer or host barangay for a minimum of site population: 500 HH, host barangay to provide daycare worker	Estimated number of daycare age children Assessment of existing daycare center services in host barangay Host barangay commitment to provide daycare center services Proposed site plan or building plan providing area for daycare center Distance or travel time to daycare/ elementary school/ high school from site, number of classroom shifts; teacher to student ratio
Availability and adequacy of public elementary school	Location of existing public elementary school should be under 2 km, 5-10 min ride Should there be no existing schools nearby or should the establishment of a new school take time, transitory provisions (e.g. temporary school site) are available.	Number of primary school children Assessment of capacity of existing elementary schools in the vicinity DepEd commitment for establishing school site

		Site plan with proposed school site
Availability and adequacy of public high school	Location should be under 2 km, 5-10 min ride Should there be no existing schools nearby, the availability of transportation to nearest high school should be assessed and addressed by the LGU through opening new public transport routes.	Number of secondary school children Assessment of capacity of existing high schools in the vicinity DepEd commitment for establishing school site Site plan with proposed school site
Availability and adequacy of Barangay Health Center/ Rural Health Center	Location should be under 2 km, 5-10 min ride Adhering to Health Center Quality Standards from the Department of Health	Assessment of capacity of existing health center in the vicinity Site plan with proposed health center Distance or travel time to barangay health center, waiting time, customer satisfaction surveys (updated); Number of hospitals/health facilities in the area; Data from National Health Facility Registry; Number of health personnel; Data on Human Resources for Health
Availability of Main Health Center/ Public Hospital	Main Health Center/ City Health Center (1 MHC/ CHC for every 50,000 population): Urban: Under 1.5 km distance, 15 - 20 minute walk Peri-Urban: Under 2.5 km distance, 5-15 minute ride Rural: Under 6.5 km distance, 10 – 40 minute ride Municipal Hospital Location under 30 km, 30 -60 minute ride Secondary Care District Hospital Location under 35 km, 30 -60 minute ride	City/ Municipal Map indicating site and distance to main health center and hospital/s Public Transport Route Map Distance or travel time to barangay health center, waiting time, customer satisfaction surveys (updated); Number of hospitals/health facilities in the area; Data from National Health Facility Registry; Number of health personnel; Data on Human Resources for Health

Availability of protective services for crime	Minimum standard police-to-population ratio: 1 policeman: 1,000 persons	Distance or travel time to barangay center, police outpost; Number of police personnel/ tanod in the area
Availability of protective services for fire incidence	Standard fireman- and firetruck-to-population ratio	Distance or travel time to fire station; Number of fireman and equipment assigned in the area
Availability of public market/ other commercial areas	Location should be under 6.5 km, 10 - 30 minute ride	City/ Municipal Map indicating site and distance to public market Public Transport Route Map
B. SETTLEMENT DESIGN		
Settlement size (population/ # of households)	Site carrying capacity based on assessment of basic services such as water and social services.	Population, number of households
Land use allocation per site	The net saleable should consist of a maximum of 60% of the total gross land area and should be devoted for residential housing development. The non-saleable areas should conform to the minimum requirements pursuant to Section C of BP 220 as amended.	Site plan, land use allocation for saleable/ non-saleable, parks and open spaces, community facilities
Settlement density	City/ Municipal Land Use Plan and Zoning Code Restrictions on: Type of Use (e.g. R-1, R-2, R-3) Building Height Floor Area Ratio NHA MC 2015 - 0015 The maximum allowable density per hectare for horizontal development should be 150 lots/units per hectare. For vertical development or low rise buildings (LRBs), maximum density per hectare should be as follows: 2 storey LRB – 192 3 storey LRB – 252 4 storey LRB – 336 5-storey LRB - 420	Number of population/ households per hectare

Building height	Building height as per local Land Use Plan and Zoning Ordinance and provisions of the National Building Code. Multi-storey housing buildings more than 3 storeys in height must be accessible from a road with ROW of more than 7m (NBC), and the interconnecting road must have at least a ROW of 10m for project sizes 15 has. and below, 12m for projects 10-15 has., and 15m for projects above 30 has (B.P. 220).	Building height
Road Network	Code compliance to B.P. 220	Site plan, typical road sections, road materials
Allocation for vehicle and bicycle parking	As per B.P 220 no minimum parking for socialized and economic horizontal subdivisions; for multi-storey development, use National Building Code standard.	Site Plan and Building Plans showing parking slots HOA Management Guidelines for parking
Street lighting	Street lighting every 50m as per B.P. 220	Street lighting layout
Connection to water system	Site has source/s suitable for Level III -- Individual House Connections) -Ideally a public water supply system. Can provide average daily demand (ADD) of 150 liters per capita per day For supplementary/ transitional systems: Protected well: 15 HH/ radius of 250 meters Communal water faucet: 4-6 HH/ radius of 25 meters/ providing 50 -60 liters per capita per day (Source: Planning Overview for Water Supply and Sanitation Systems, neda.gov.ph) Minimum of 15 liters/ person/ day <500m distance from any household to nearest waterpoint <30 minutes queuing time at water sources (Source: SPHERE Standards)	Number of individual house connections/ total household population NWRB Water Permit (if applicable)
Connection to power supply	Compliance to provisions of BP 220 and the National Electrical Code	Power rates
Installation and connection to	Design as per BP 220	Storm drain system layout

storm drainage system		
Installation of sanitation/ sewage/ wastewater disposal system	Compliance to BP 220 and Sanitary Code of the Philippines	Sanitary system layout HOA Management Rules
Availability of garbage disposal system	2-3 times a week waste collection services	Waste collection schedule, Materials Recovery Facility
Community Facilities and Infrastructure: Multipurpose Community Hall	As per BP 220	Site plan, building plan
Community Facilities and Infrastructure: Tricycle/ Pedicab Terminal (First/ Last-Mile Access)	Area for tricycle queue provided, on-site location	Site plan with proposed tricycle/ pedicab terminal
Community Facilities and Infrastructure: *Talipapa* (neighborhood market)	Provision of lot area of 420 sqm for projects with size of 3000 lots and below. For projects larger than 3000 lots, provide public market (see section on public market) (NHA MC 2015 – 0015 Annex E)	Site plan with proposed area for *talipapa*
Community Facilities and Infrastructure: Parks and Playgrounds	Parks and playgrounds are accessible, of sufficient size and distribution for the population (BP 220 or higher), safe, clean, allows a variety of activities	Site plan with proposed parks and playground Playground site plan with equipment
Community Facilities and Infrastructure: Basketball Court	Integrated with community facilities area If not in area, Location should be on-site or walkable, under 600 meters distance from furthest point, 5-8 minute walk	Site plan with proposed multipurpose hall/ basketball court
Community Facilities and Infrastructure: Daycare	Mandatory provision by developer or host barangay for a minimum of site population: 500 HH, host barangay to provide daycare worker	Number of daycare age children Assessment of existing daycare center services in host barangay Host barangay commitment to provide daycare center services

		Proposed site plan or building plan providing area for daycare center Distance or travel time to daycare/ elementary school/ high school from site, number of classroom shifts; teacher to student ratio
C. HOUSING DESIGN		
Affordability	Meets household capacity to pay. A subsidy scheme to meet standards for basic infrastructure and housing design	Monthly amortization Satisfaction survey
Adherence to local codes	Meets minimum code requirements	Building Plans and Specifications Building Permit Certificate of Occupancy
Safe and resilient structure	Appropriate structural system (as per Structural Code), exits, fire walls, fire protection system (as per Fire Code), railings and window protection for children (for multi-storey) Durable materials and construction, able to protect occupants from extreme rain, heat, cold and wind. Attention should be paid to: roofing system and connections; roof edge protection from wind uplift particularly in typhoon-prone areas	Building Plans and Specifications Building Permit
Adequate living space	About 6 sqm. per person (around 24 sqm for a family of 4, and around 30 sqm for a family of 5) as per National Building Code. Provision for three separate sleeping areas for: Couple Children (female) Children (male)	Building Plans and Specifications

	Provision for clothes hanging area for laundry; space/ provision for washing machine in kitchen or bathroom	
House and building durability and maintainability	Systems must be durable and easy to maintain Sanitary system – provision for grease traps, adequate cleanouts, access for maintenance, adequate sizing of septic tanks Water system - access for maintenance and leak repair Roof – adequate thickness, coating, roof edge protection, access for maintenance Electrical – access for maintenance Stairwell – durable railings, stair treads Exterior walls – durable finish/ coating, reduce repainting cost	Building Plans and Specifications HOA Guidelines on Maintenance/ Facilities Maintenance Plan
Provisions for acoustic and visual privacy, protection from excessive noise	Appropriate visual and auditory privacy through: Site and building layout Door and window placement/ design Wall materials Activity areas such as multi-purpose halls, sports courts and large playgrounds must have buffers/ sited at a distance so as not to disturb residents	Site and Building Layout Building Plans and Specifications HOA Management Guidelines
Safety and security (against crime)	Adaptability of building systems for additional design elements for security (e.g. installation of grills); guidelines for installation of such elements Well lighted common areas (hallways, stairwells, streets, open spaces) Entry control in site, various zones and main building entrances	Site and Building Layout Building Plans and Specifications HOA Management Guidelines
Adequate ventilation and comfortable temperature	Provision of sufficient cross-ventilation per room and for loft areas through adequate ceiling heights and operable windows as per local Building Codes; ceiling and external shading devices can also be applied	Building Plans and Specifications
Space for livelihood/	Space allotment for livelihood/ income-generating activities; this can be potential	House/ Building Floor Plan

income-generating activities	commercial spaces in front houses along main roads or expansion areas in the back or sides of the house for potential cottage industries	
Use of alternative housing technologies	AITECH accreditation of use of alternative technologies	AITECH-accreditation for alternative materials
Use of renewable energy	Renewable energy sources such as solar may be used to supplement existing electrical power provider; provided the initial investment is subsidized or factored into the affordability level of beneficiaries	Solar/ wind energy installations
Energy efficiency	Building designed to maximize the use of natural light so to reduce the use of artificial illumination	Electrical fixture specifications
Use of rainwater harvesting	Gutter, downspout, and water tank in horizontal developments where there is likely to be water scarcity. Rainwater collection tanks supplemented with local water supply and connected to toilet flushing and irrigation for multi-storey residential buildings.	Rainwater harvesting system
Inclusivity, cultural sensitivity	Code compliance to BP 344	Site and building plans
D. ESTATE MANAGEMENT		
Presence and institutionalization of HOA	Active and functional HOA Continuing capacity building program for HOA	HOA organizational plan Number of trained HOA officers Documented HOA guidelines/ preamble/by-laws LGU capacity building program
Turnover of titles/rights to individual households	Individualized agreements Clear guidelines on transfer or substitution of rights	Individualization of titles/ unit ownership; Guidelines on sale/substitution/sublease
Established guidelines on site upkeep and maintenance	HOA guidelines on unit owners' roles and fees for site and building upkeep; LGU provision of solid waste management services	HOA guidelines; MOA between LGU and project proponent on turnover of resettlement site

Turnover of resettlement site and residents to barangay/LGU (integration of HOA/residents to LGU)	MOA between LGU and project proponent on the turnover of common areas and facilities in resettlement site Resettlement site institutionalized as socialized housing site Eligibility of community for local services and programs Issuance of voter's ID	MOA/MOU among project implementer, sending LGU, and/or receiving LGU on roles and responsibilities towards integration MOA on the turnover of common areas and facilities to LGU by project proponent LGU Ordinance declaring area as resettlement or socialized housing site Voter's ID
Community overall satisfaction of resettlement site	Majority of homeowners are satisfied with resettlement site and dwelling units	Satisfaction survey[7] Community transformative Scorecard[8]

Source: Authors' summary

[7] The satisfaction survey can be patterned from the Annex 2 on questionnaire administered by the authors for the case study.

[8] The Community Transformative Scorecard, developed by the Ateneo School of Governance, measures existing resettlement communities on six dimensions which are: (1) Shelter and living space; (2) Mobility and access; (3) Livelihood/economic opportunities; (4) Social network and safenets; (5) Community governance; (6) Local system.

Annex 2. Focus Group Discussion Guide Questionnaire

Date		Venue	
Province/City		Resettlement Site Name	
Facilitator		Note taker	
Start Time		End Time	
Number of Participants			

GENERAL

1. When did you transfer to this community? *Kailan kayo lumipat sa community na ito?*
2. Are you the original recipient of the house you are currently living in? If not, how did you acquire your house? *Kayo po ba ang mga original recipients ng bahay na inyong tinutuluyan ngayon? Kung hindi, paano nyo nakuha ito?*
3. Where did you come from (prior relocating in this community)? *Saan kayo nakatira / galing bago kayo lumipat dito?*
4. What were the reason/s of your transfer/relocation in this community? *Anu-ano ang mga dahilan bakit kayo lumpiat dito?*
5. Do have a title/ agreement/ contract for the ownership/ rental of the housing unit? Do you feel secure with this arrangement? *Meron na ba kayong title / agreement / contract of ownership / rental para sa inyong bahay? Kayo ba ay panatag / kampante sa ganitong sitwasyon?*
6. Are the payments for the house/lot affordable? Why/ why not? *Ang mga binabayaran ba ninyo para sa bahay ay abot-kaya?*

PARTICIPATION IN PLANNING AND IMPLEMENTATION

1. Were you able to participate in the following activities related to the resettlement project? What are these activities? How did you participate? *Kayo ba ay naka-sali sa mga activities kaugnay sa dito sa inyong community? Anu-ano ito? Anu-ano ang inyong ginawa?*
   a. Organize yourselves for this resettlement project
   b. Planning process
   c. Housing and site design
   d. Construction/sweat equity
2. Are you satisfied with the way your needs were considered in this project? Why/ why not? *Masaya ba kayo kung paano naisama sa pagplano / pag gawa ang inyong mga kailang*
3. Have you participated in a baseline survey prior relocation? *Kayo ba ay nakasali sa baseline survey bago kayo lumipat dito sa inyong lugar / community?*

SITE DEVELOPMENT

1. Using the following emojis 😊, 😐, and ☹️, please describe to us if you feel that your community is **safe from hazards**. *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa kaligtasan ng inyong lugar/community sa mga natural na sakuna.*
2. Using the following emojis 😊, 😐, and ☹️, please describe to us how do you feel about **environment of your community**. *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa kalinisan ng inyong lugar/community.*

3. Using the following emojis 😊, 😐, and ☹, please describe to us how do you feel about the **number of housing units in your community**. *Gamit ang mga emoji 😊, 😐, at ☹, maari nyo bang ibahagi ang inyong saloobin patungkol dami ng bahay dito sa inyong lugar/community.*
4. Using the following emojis 😊, 😐, and ☹, please describe to us how do you feel about the **size of the roads in your community**. *Gamit ang mga emoji 😊, 😐, at ☹, maari nyo bang ibahagi ang inyong saloobin patungkol sa laki ng mga kalsada sa inyong lugar/community.*
5. Is it easy and comfortable to walk/move around the site? Can people with disability and senior citizens can easily walk/ move around the site easily? *Madali at maaliwalas bang maglakad/mag-ikot sa inyong community? Para sa ating mga kasamang may kapansanan or may edad na, madali at maaliwalas ba maglakad/mag-ikot sa inyong lugar?*

BASIC SERVICES

a. Do you have access to **water supply** that is sufficient and reliable? Using the following emojis 😊 (satisfied), 😐 (neutral/with reservations), ☹ (dissatisfied), please describe to us your satisfaction rating with water supply? *Meron ba kayong sapat na access sa tubig? Gamit ang mga emoji* 😊, 😐, at ☹, maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong access sa tubig.
b. Is the **power supply** is sufficient and reliable? Using the following emojis 😊, 😐, and ☹, please describe to us your satisfaction rating with power supply. *Meron ba kayong access sa kuryente? Gamit ang mga emoji* 😊, 😐, at ☹, maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong access sa kuryente.
c. Is the **sewage disposal and treatment system** working well? Using the following emojis 😊, 😐, and ☹, please describe to us your satisfaction rating with sewage disposal and treatment. *Maron ba kayong poso negro? Gamit ang mga emoji* 😊, 😐, at ☹, maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong poso negro.
d. Is the **drainage system** able to carry water away without flooding? Using the following emojis 😊, 😐, and ☹, please describe to us your satisfaction rating with drainage system. *Maron ba kayong maayos na kanal para maiwasan ang pagbaha? Gamit ang mga emoji* 😊, 😐, at ☹, maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong mga kanal.
e. Do you segregate wastes in the household? Are **wastes are segregated and sorted in a Materials Recovery Facility**? Using the following emojis 😊, 😐, and ☹, please describe to us your satisfaction rating with the MRF. *Kayo ba ay naghihiwalay ng mga nabubulok at di nabubulok na basura sa inyong bahay? Maron ba kayong MRF para sa segregation ng inyong basura? Gamit ang mga emoji* 😊, 😐, at ☹, maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong MRF.
f. Is the **residual waste is collected** at a regular frequency? Using the following emojis 😊, 😐, and ☹, please describe to us your satisfaction rating with the collection of residual waste. *Ang inyong mga basura ba ay nakokoleta at gaano ito kadalas? Gamit ang mga emoji* 😊, 😐, at ☹, maari nyo bang ibahagi ang inyong saloobin patungkol sa pagkolekta ng inyong basura.

PARKS, PLAYGROUNDS, AND COMMON SPACES !!! NOTE: Use map

a. Is there a **park/playground** that is easily accessible and sufficient in size? Using the following emojis 😊, 😐, and ☹️, please describe to us your satisfaction rating with your parks. *Ang inyong park/playground po ba ay sapat/may tamang laki at accessible sa lahat? Gamit ang mga emoji* 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong park.
b. Do you have sufficient **parking space for vehicles**? Using the following emojis 😊, 😐, and ☹️, please describe to us your satisfaction rating with your parking spaces. *Meron po ba kayong parking spaces for vehicles? Gamit ang mga emoji* 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong parking space.
c. Do you have a **multi-purpose center/ community hall**? Is it easily accessible? Is this adequate? Using the following emojis 😊, 😐, and ☹️, please describe to us your satisfaction rating with your multi-purpose center. *Meron po ba kayong multi-pupose hall/community center? Accessible po 172ai to? Sapa tba ang laki nito? Gamit ang mga emoji* 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong multi-purpose hall.

TRANSPORT SERVICES !!! NOTE: Use map

a. Are **PUVs (jeep, tricycle, bus, van, etc.)** easily accessible in your area? Do you have to wait to be able to ride a PUV? How long? *Meron ba kayong access sa mga pampublikong sasakyan (jeep, tricycle, bus, van, etc.) sa inyong lugar? Gaano katagal ang inyong paghihintay sa mga pampublikong sasakyan?*
b. Are there available seating and shelter at the **loading/unloading area/terminal**? *Meron ba kayong upuan at silong sa inyong babaan /terminal?*
c. Is the **price for the ride** affordable? Is your travel time when riding PUVs satisfactory? *Ang inyo po bang pamasahe ay abot-kaya? Ang inyo po bang biyahe papunta sa ibang lugar ay*
d. Using the following emojis 😊, 😐, and ☹️, please describe to us your satisfaction rating with your access to PUVs. *Gamit ang mga emoji* 😊, 😐*, at* ☹️, *maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong access sa pampublikong sasakyan.*

COMMUNICATIONS

a. Do you have **mobile signal** in your home/area? **Internet service**? *Meron ba kayong access sa mobile signal sa inyong bahay? Internet service?*
b. Using the following emojis 😊, 😐, and ☹️, please describe to us your satisfaction rating with your access to mobile services and internet. *Gamit ang mga emoji* 😊, 😐*, at* ☹️*, maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong access sa mobile signal at internet.*

EDUCATIONAL SERVICES !!! NOTE: Use map

a. Do you have a **daycare center** accessible in your area? Is the size of the daycare center adequate? Is the ratio of teachers to students at the daycare adequate? *Meron ba kayong daycare center malapit/madaling puntahan sa inyong lugar/community? Sapat ba ang laki nito? Sapat ba ang student-teacher ratio?*
b. Do you have **elementary school** that is easily accessible in your area? Is the ratio of teachers to students at the elementary school adequate? *Meron ba kayong elementary school malapit/madaling puntahan sa inyong lugar/community? Sapat ba ang student-teacher ratio?*

c. Do have a **high school** that is easily accessible in your area? Is the ratio of teachers to students at the high school adequate? *Meron ba kayong high school malapit/madaling puntahan sa inyong lugar/community? Sapat ba ang student-teacher ratio?*
d. Using the following emojis 😊, 😐, and ☹️, please describe to us your satisfaction rating with your access to educational facilities. *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong access sa mga daycare center at paaralan.*

HEALTH SERVICES !!! NOTE: Use map

a. Is the **Barangay Health Center** easily accessible? Is the number of personnel of the BHC adequate? Are the equipment and medicines of the BHC adequate? *Meron bang barangay health center malapit/madaling puntahan sa inyong lugar? Sapat ba ang dami ng personnel ng BHC? Meron bai tong sapat na equipment at gamot?*
b. Is there a **public hospital** accessible in your community? Are the equipment and laboratory services adequate? *Meron bang pampublikong pagamutan/ospital malapit/madaling puntahan sa inyong lugar? Meron ba itong sapat na serbisyo at mga laboratoryo?*
c. Using the following emojis 😊, 😐, and ☹️, please describe to us your satisfaction rating with your access to mobile services and internet. *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong access sa mga mga pampublikong pagamutan.*

PROTECTION/PEACE AND ORDER !!! NOTE: Use map

a. Are the **number of security personnel/ barangay tanods** attending to the community sufficient? *Sapat ba ang dami ng security personnel / barangay tanod sa inyong lugar?*
b. Is the **police outpost** easily accessible? *Meron bang police outpost malapit/madaling puntahan sa inyong lugar?*
c. Using the following emojis 😊, 😐, and ☹️, please describe to us your satisfaction rating with your access to security services. *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong access sa security services.*

PUBLIC MARKET !!! NOTE: Use map

a. Is the **public market** easily accessible? Is it adequate for your needs? *Meron ba malapit/madaling puntahan na palengke sa inyong lugar? Sapat ba ito sa inyong mga pangangailan?*
b. Using the following emojis 😊, 😐, and ☹️, please describe to us your satisfaction rating with your access to public market. *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong access sa palengke.*

EARLY WARNING AND EVACUATION FEATURES!!! NOTE: Use map

a. Do you have a place to evacuate in case of typhoon/ flooding/ other calamities? Do you have warning system during impending hazard events? *Meron ba kayong nakatakdang lugar bilang evacuation site kapag may mga sakuna gaya ng bagyo / baha? Meron ba kayong gumaganang warning system kapag may sakuna?*
b. Using the following emojis 😊, 😐, and ☹️, please describe to us your satisfaction rating with your designated evacuation site and warning system in your community. *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa inyong evacuation site at warning system.*

LIVELIHOOD AND EMPLOYMENT

a. Did you receive livelihood training / assistance when you were relocated here? Do you have an adequate area to conduct livelihood training? *Meron ba kayong natanggap na livelihood training / assistance mula nang kayo ay lumipat dito? Meron ba kayong sapat lugar kung saan pwede ganapin ang mga livelihood trainings?*
b. Are you able to access employment and income-earning opportunities? What type of opportunities are available? *Meron ba kayong malapit/madaling puntahan na mga trabaho sa inyong community? Anu-ano ito?*
c. Using the following emojis 😊, 😐, and ☹️, please describe to us your satisfaction rating with the livelihood training / assistance you recieved. *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa livelihood training / assistance na inyong natanggap.*

6. Did you experience any issues/challenges in the relocation site? How did you address this? *Meron pa ba kayong mga problema / isyu na naransasan sa inyong community? Paano ninyo ito sinolusyonan?*

HOUSING DESIGN AND FEATURES

1. Can you describe the house you received based on the following: *Maari nyo bang ilarawan sa amin ang bahay na inyong natanggap gamit ang mga sumusunod:*
    a. Using the following emojis 😊, 😐, and ☹️, please describe to us how do you feel about the **materials used and the construction of the house**. *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa ginamit na materyales sa inyong bahay at sa pagkakagawa nito.*
    b. Using the following emojis 😊, 😐, and ☹️, please describe to us how do you feel about the **size of the house**. How many rooms did you have when you receive the house? Is your living space adequate? *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa laki ng bahay? Ilan ang mga silid noong una nyong natanggap? Sapat ba ang laki ng living area?*
    c. Is the house and its various spaces are easily accessible to persons with disability and senior citizens? *Madali ba para sa mga kasama nating may kapansanan at may edad ang gumalaw sa bahay at sa iba't ibang parte nito?*
    d. Do females (single women/ children) have a separate room/ sleeping space in the house? *May nakalaan bang hiwalay na silid para sa mga babae ang bahay na inyong natanggap?*
    e. Does the design of housing and site consider the expression of our cultural identity and ways of life? How? *Naisaalang-alang ba ang inyong kultura at mga nakagawian sa desenyo at pagpili ng site ng inyong community? Paano?*
    f. Using the following emojis 😊, 😐, and ☹️, please describe to us how do you feel about the **sleeping area of your house**. *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa laki silid tulugan ng inyong bahay?*
    g. Using the following emojis 😊, 😐, and ☹️, please describe to us how do you feel about the **dining area of your house**. *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa laki silid kainan/dining ng inyong bahay?*

h. Using the following emojis 😊, 😐, and ☹️, please describe to us how do you feel about the **kitchen area of your house**. *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa laki ng kusina ng inyong bahay?*
i. Using the following emojis 😊, 😐, and ☹️, please describe to us how do you feel about the **laundry area of your house including the place to hang/dry clothes**. *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa laundry area at sampayan ng inyong bahay?*
j. Is the inside of the house adequately lit? *May sapat bang ilaw and inyong bahay?*
k. Using the following emojis 😊, 😐, and ☹️, please describe to us how do you feel about the **temperature inside your house**. Are there enough windows? *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa init sa loob ng inyong bahay? Mayroon bang sapat na mga bintana?*

2. Are you able to expand/extend your house to fit our needs. How? *Kayo ba nakapagpagawa na ng inyong bahay ayon sa inyong nais? Paano?*
3. What are the improvements you made in the house you received? Approximately, how much did you spend in renovating the house? *Anu-ano ang mga pinagawa/pinaayos nyo sa inyong bahay? Sa inyong palagay, magkano na ang inyong nagastos para dito?*
4. Is the house durable? Does it need constant repair? Why/ why not? *Sa inyong palagay, matibay ba ang bahay na binigay sa inyo? Kailangan ba ito ipaayos nang madalas?*
5. Did you experience other issues/challenges in the house structure/features? What are these and how did you address these? *Meron pa ba kayong naranasang isyu / problema patungkol sa desenyo at pagkakagawa ng inyong bahay? Anu-ano ito at paano nyo ito sinolusyonan?*

ESTATE MANAGEMENT

1. Who are involved in managing the community after you relocated? Describe their roles/responsibilities. *Sinu-sino ang mga naging abala sa inyong paglipat dito sa community? Anu-ano ang kanilang mga tungkulin/repsonsibilidad?*
    a. HOA
    b. LGUs
    c. Sending LGU
    d. NGOs/INGOs
    e. Development/social organizations
2. Do you get wages or incentives when you participate in estate management/HOA activities? *Meron ba kayong nakukuhang sahod sa inyong pagsali sa mga gawain ng HOA?*
3. Using the following emojis 😊, 😐, and ☹️, please describe to us your satisfaction rating with the **post-relocation/estate management of your community**. *Gamit ang mga emoji 😊, 😐, at ☹️, maari nyo bang ibahagi ang inyong saloobin patungkol sa pamamalakad ng inyong paglipat dito sa inyong community.*
4. Are the **common areas and corridors and streets are always well lighted**? Are these clean and maintained well? *Meron bang sapat na ilaw sa mga pasilyo at mga kalye? Ito ba ay napapanatiling malinis at maayos?*
5. Do you **feel safe walking around the development at night**? Are there areas in the site where you feel unsafe? What are these? Why? *Sa inyong saloobin, ligtas ba ang maglakad sa inyong lugar kapag gabi? Meron bang mga lugar para sa inyo ang hindi ligtas puntahan kapag gabi? Saan-saan ito at bakit?*

6. Using the following emojis 😊, 😐, and ☹, please describe to if you feel that your community is **conducive for raising children**. *Gamit ang mga emoji 😊, 😐, at ☹, maari nyo bang ibahagi ang inyong saloobin kung sa inyong palagay ang inyong community ay magandang lugar upang magpalaki ng mga anak.*
7. Does the HOA respond effectively and promptly to conflicts or complaints among homeowners? How long does it take for the HOA to resolve complaints/issues among homeowners? Give examples. *Ang inyong HOA ba ay nakakatugon agad sa inyong mga isyu at problema ng mga may-ari ng bahay? Ilang araw nila ito natutugunan? Magbigay ng halimbawa.*
8. Are HOA meetings and elections regularly conducted among homeowners? How often? *Ang mga HOA meetings at eleksyon ba ay regular na ginagawa? Gaano ito kadalas?*
9. Are the HOA officers transparent about financial records of the community? How often do they report to the community? *Ang inyong HOA ba ay nagbibigay ng financial updates sa inyo? Gaano ito kadalas?*
10. Using the following emojis 😊, 😐, and ☹, please describe to us your satisfaction rating with the **management of your HOA in your community**. *Gamit ang mga emoji 😊, 😐, at ☹, maari nyo bang ibahagi ang inyong saloobin patungkol sa pamamalakad ng inyong HOA sa inyong community.*
11. Using the following emojis 😊, 😐, and ☹, please describe to us your satisfaction rating with **your current community** compared to your previous community. *Gamit ang mga emoji 😊, 😐, at ☹, maari nyo bang ibahagi ang inyong saloobin tungkol sa inyong sitwasyon ngayon dito sa inyong community kumpara sa dati ninyong community.*
12. What other improvements on managing the community should be done? What are these? *Meron pa ba kayong naiisip dapat pang tutukuan o bigyan pansin upang mas mapabuti nag inyong community? Anu-ano ito?*