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Site Selection in Shelter and Settlements Programming

Site selection and site planning are two intricate processes that can shape the success of a proposed development. Site selection refers to the technical process wherein project proponents choose an adequate location for the development to take place (CSH, 2013). It is one of the cornerstones of a successful project implementation as the geographic location of a site can influence project operations. Choosing a site which is not responsive to the needs of the stakeholders can lead to unforeseen impacts that can affect not just the surrounding environment but also the lives and well-being of the stakeholders.

In the context of shelter and settlements programming, site selection is considered as an interdisciplinary initiative. It aims to balance impacts and developments garnered through social-, environmental-, and economic-related actions and strategies. An appropriate shelter location can reinforce the positive impacts stemming from the shelter project, while failure to do so can quickly lead to the presence of problems and issues that can cause significant harm to the community and the environment such as increased hazard intensity, decreased quality of living conditions, degradation of natural resources, and increased air and water pollution (Kelly, 2010).

Due to the interrelated nature of shelter-related problems, appropriate site planning strategies must be put in place to reduce or minimize these issues and concerns. A holistic approach, which pursues the concept of sustainability, must be applied during the conduct of the site selection process (Kelly, 2010). The succeeding discussions provide an overview of the various guidance documents that key shelter actors can refer to during the selection of an adequate site for their respective shelter initiatives. Each of the documents listed below

aims to enhance the quality of life of communities and program participants by balancing socioeconomic improvement and environmental integrity.

Guidelines, Tools, and Considerations for Site Selection

There is a need to conduct a strategic site planning process as a geographically-sound location can enhance the health and security of the community. Guidance documents have been issued by various key housing sector stakeholders to ensure that shelter units and community settlements are situated in a location that can minimize the vulnerability of the program participants through the presence of sufficient resources and facilities.

National Laws and Regulations

The provision of adequate shelter and well-planned community settlements is one of the long-term visions of the Philippine government. Access to shelter and other residential facilities is considered as a basic need as it can provide safety and security, whilst reducing and minimizing risks and vulnerabilities. As such, it is under the mandate of the Philippine government to provide its constituents with shelter facilities that can aid in improving the living conditions of the Filipino people.

Regulatory measures are put in place by the national government to ensure that shelter initiatives can meet the dynamic needs of the people. The following are some of the legal instruments that guide the provision of shelter and settlements services in the Philippines:

National Housing Authority Memorandum Circular 2015-0015 (Guidelines for Site Selection, Site Suitability, and Site Planning of NHA Housing Development Projects)

Memorandum Circular (MC) 2015-0015 was developed and released by the National Housing Authority (NHA) to guide the planning and implementation of all housing development projects under their mandate. As discussed in Annex 3, NHA is one of the attached agencies of the Department of Human Settlements and Urban Development (DHSUD), and it serves as the primary shelter production arm of the country. It envisions the enhancement of the quality of life of communities through the development and implementation of a comprehensive and integrated housing program that can cater to a wide range of constituents, including marginalized and low-income families (NHA Website, n.d.).

The NHA guidelines are divided into three main parts: 1) Site Selection, 2) Site Suitability, and 3) Site Planning and Detailed Architectural and Engineering Design. Site Selection and Site Suitability are considered as interrelated processes since concerns regarding site suitability may already be addressed during site selection. However, Site Planning and Detailed Architectural and Engineering Design can only be applied or implemented for sites that are already deemed suitable for housing projects and initiatives, regardless of the application of mitigating measures before site construction (NHA, 2015).

- *Site Selection:*

As defined by the NHA guidelines, site selection refers to the process that can facilitate the identification of sites which are deemed as appropriate for NHA housing development

projects. The guideline also provided the minimum criteria that NHA developers and project implementers must follow when choosing an adequate site location. These criteria are summarized in the table below:

Table 1. Criteria for Site Selection (as per NHA MC 2015-0015)

CRITERIA	PARAMETERS
Location	<ul style="list-style-type: none">• Must be accessible by public transportation and other public utilities such as power and water• Can be linked with social amenities such as schools, health centers and hospitals, and other recreation activities• Must be near major employment opportunities• Must be outside potential hazard prone and protection areas
Conformity with Land Use	<ul style="list-style-type: none">• Land must be classified as a residential area as per the locality's approved Comprehensive Land Use Plan (CLUP)• In the absence of a CLUP, the locality's Sangguniang Bayan/Panglungsod must approve of the land for housing development purposes
Accessibility	<ul style="list-style-type: none">• Should be linked with public transportation lines or system• Must have an existing legal road right of way from a major thoroughfare

Source: NHA, 2015

The selection of the sites can also be aided by information gathered through secondary means. NHA developers can also refer to national and local development plans, government-generated hazard maps, project documents from relevant government agencies, and demographic data from the Philippine Statistical Authority (PSA) (NHA, 2015). The utilization of both primary and secondary data during the site selection can ensure comprehensive process which can enable developers to foresee the potential impacts entailing housing development in a particular location. As such, developers will be able to make informed decisions on which path to take during the site selection process.

- *Site Suitability*

The NHA Guidelines (2015) defined site suitability as the technical process of analyzing the intrinsic properties of the site in order to determine if it is capable of accommodating housing-related developments. It strives to identify the potentials, constraints, and development issues that the housing site may entail.

The site suitability process is applicable for all NHA housing development projects lined up in the agency's annual work program and budget. It ensures that legal, social, and environmental vulnerabilities are minimized through the presence of a sound set of criteria

that can support the establishment of housing development projects. Unlike the minimum criteria for the site selection process, the site suitability criteria are more specific as it aims to identify if a particular site can accommodate the conduct of various site-related development activities. As per the NHA Guidelines (2015), the criteria for consideration are listed and summarized in the table below:

Table 2. Criteria for Site Suitability (as per NHA MC 2015-0015)

CRITERIA	PARAMETERS
Topography	<ul style="list-style-type: none"> • Relatively flat • Should not exceed the 15% maximum gradient considered as buildable slopes for housing development • Sites with rolling terrain should have a least filing requirement that should not exceed the cost parameters set by the NHA for a developed lot
Slope	<ul style="list-style-type: none"> • Below 5% (for projects with above 300 to 600 units per hectare) • 5% - 15% (for projects with 300 units and below per hectare) • Sites with sloping areas should be developed at a reasonable and affordable cost, with the assurance of soundness and structural stability for vertical construction
Soil Characteristics	<ul style="list-style-type: none"> • Must conform to the suitability standards specified for construction and development by the DENR-MGB.

Source: NHA, 2015

Access to basic infrastructure utilities, such as water and power supply, should also be identified during the site suitability process. As per the guideline (2015), developers must first ensure that the site can have a steady supply of potable water and reliable power. Both of these utilities must be able to accommodate the establishment of the new community and should be sufficient enough to help community households meet their basic needs and conduct daily activities. In addition to this, identification of natural waterways and sites for drainage outfalls must also be integrated during the site suitability process to ensure that ecological balance is preserved and to minimize the risk of flooding (NHA, 2015).

The identification of the abovementioned environmental qualities can be aided by the utilization of maps. As discussed in Annexes 6 and 10, the use of maps and geospatial data can be an effective tool for development as it provides a comprehensive visualization of the planning area. This can allow key shelter actors to conveniently identify the characteristics and features of the site. Cadastral maps, topographic and slope maps, elevation maps, waterways and drainage maps, and vegetation coverage maps are some of the maps that can serve as a basis for the analysis of the site suitability criteria (NHA, 2015). Consequently, the presence of these maps can facilitate the visual identification of the sites which are suitable enough for the establishment of housing units.

In the event that the selected site is evaluated as unsuitable for the housing development project, the concerned offices must select another site from the HSM. Once a new site is

selected, the site suitability identification process will be conducted again to identify its suitability vis-à-vis the planned housing development initiative (NHA, 2015).

- *Site Planning and Detailed Architectural and Engineering Design*

This particular phase will only be applicable for sites which are already evaluated as suitable for the development of housing units. These are the sites which passed the analysis and evaluation conducted during the site suitability process. The site planning process must be guided by the provisions and stipulations of various national level laws and policies such as the Implementing Rules and Regulations (IRR) of Batas Pambansa (BP) 220, BP 344, the National Building Code, and the Fire Code of the Philippines. Adherence to these laws and regulations can ensure the construction of safe and accessible structures are also responsive to the needs of the community and the program participants (NHA, 2015).

More importantly, the site planning and design phase must also consider the implementation of mitigating measures that can reduce or minimize the impacts caused by pre-construction and construction activities (NHA, 2015).

A copy of the NHA Guidelines (MC 2015-0015) is available online and can be accessed through the link below:

https://nha.gov.ph/wp-content/uploads/2019/01/Guidelines_for_Site_Selection_Site_Suitability_Site_Planning.pdf

Republic Act No. 7279 or the Urban Development and Housing Act of 1992

Another national-level regulation that can guide the site selection process for shelter initiatives is Republic Act (RA) No. 7279 or the Urban Development and Housing Act (UDHA) of 1992 which aims to enhance quality of life through a comprehensive and continuing Urban Development and Housing Program.

In terms of site selection, the law provided focus on the accessibility of social and economic services, activities, and facilities associated with the program participants' basic needs. Section 21 of the law stipulates that the socialized housing sites or resettlements areas must have ample access to the following basic services and facilities (UDHA, 1992):

- Potable water;
- Power and electricity and an adequate power distribution system;
- Sewerage facilities and an efficient and adequate solid waste disposal system; and
- Access to primary roads and transportation facilities.

Subsequently, the provision of other social facilities such as hospitals or health centers, schools, police stations, fire stations, and other related amenities must also be planned and given priority by the concerned LGUs and national government agencies, in cooperation with the private sector and the program participants (UDHA, 1992).

In addition to this, Section 22 details that the socialized housing sites and resettlement areas must be located near areas where employment opportunities are accessible. This can ensure that the program participants, particularly the resettled population, will have the financial capacity to support their daily activities and meet their needs (UDHA, 2019).

More details regarding the UDHA of 1992 (RA 7279) can be accessed through this link: <https://www.officialgazette.gov.ph/1992/03/24/republic-act-no-7279/>

Implementing Rules and Regulations for Batas Pambansa 220 and Presidential Decree 957

Batas Pambansa (BP) 220 strives to promote the provision of adequate and affordable economic and socialized units for the average and low-income households in urban and rural areas. The law provides for a set of standards and technical requirements that NGAs and private developers must uphold during the establishment and construction of socialized and economic housing units (IRR of BP 220, 2008).

On the other hand, Presidential Decree (PD) 957 was passed and institutionalized in order to protect the rights of home and lot buyers to an enhanced shelter situation. PD 957 also provides the technical requirements for the establishment and construction of open market housing and medium cost housing units (IRR of PD 957, 2009). The presence of a sound set of standards and requirements can ensure that program participants are provided with shelter units that are affordable, decent, and livable.

Although both of the Implementing Rules and Regulations (IRR) of BP 220 and PD 957 mostly revolve around the standards for the construction of shelter units, both legal instruments also provided a brief and concise overview of the criteria and considerations for selecting the location of the planned housing units. The table below summarizes the site location considerations as per the respective IRRs of BP 220 and PD 957.

Table 3. Site Criteria (as per BP 220 and PD 957)

Site Criteria / Parameter	BP 220 <i>(Socialized Housing and Economic Housing)</i>	PD 957 <i>(Open Market Housing and Medium Cost Housing)</i>
Availability of Basic Needs	<ul style="list-style-type: none">• Shall be available within reasonable distance from the project site.	<ul style="list-style-type: none">• N/A
Land Use Plan and Zoning Conformity	<ul style="list-style-type: none">• Should conform with the zoning ordinance and land use policies of the locality.• In the absence of a land use plan and/or zoning ordinance, predominant land use principles and site suitability factors shall be used in determining suitability of a project to a site.	

Philippines Shelter Cluster - Environmental Country Profile (ECP)

Site Criteria / Parameter	BP 220 (Socialized Housing and Economic Housing)	PD 957 (Open Market Housing and Medium Cost Housing)
Physical Suitability	<ul style="list-style-type: none"> • Must have characteristics assuring healthful, safe, and environmentally sound community life. • Must be stable enough to accommodate foundation load without excessive siteworks. • Must be nowhere near critical areas (e.g., areas subject to flooding, landslides, and stress). 	<ul style="list-style-type: none"> • Must be outside hazard prone areas and protection areas as provided for by pertinent laws. • Must be nowhere near critical areas (e.g., areas subject to flooding, landslides, and stress). • Must be stable enough to accommodate foundation load without excessive earthmoving, grading or cutting and filling.
Accessibility	<ul style="list-style-type: none"> • Must be served by a road that is readily accessible to public transportation lines 	

Source: IRR of BP 220 and IRR of PD 957

The full IRR of BP 220 can be accessed and downloaded through this link: https://lawphil.net/statutes/repacts/ra2008/pdf/irr_bp220_2008.pdf

On the other hand, the complete IRR of PD 957 can be accessed and downloaded through the link below:

<https://sheltercluster.org/tropical-storm-sendong-2011/documents/revised-implementing-rules-and-regulations-pd-957-2009>

A comparison and contrast of these pertinent laws and regulations (i.e., NHA Guidelines, UDHA of 1992, BP 220 and PD 957) are summarized in the table below:

Table 3. Site Selection Guidelines as per NHA Guidelines, UDHA of 1992, and BP 220 and PD 957

PARAMETER	NHA GUIDELINES	UDHA OF 1992	BP 220 AND PD 957
Type of Housing Initiative	<ul style="list-style-type: none"> NHA-implemented housing development initiatives. 	<ul style="list-style-type: none"> Socialized housing intended for the marginalized and low-income households. 	<ul style="list-style-type: none"> <u>BP 220</u>: Socialized and Economic Housing for average and low-income households in urban and rural areas <u>PD 957</u>: Open Market and Medium Cost Housing for the general public.
Land Use Conformity	<ul style="list-style-type: none"> Classified as residential areas as per the approved CLUP. In the absence of a CLUP, the land must be approved by the SB/SP for housing development purposes. 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Should conform with the CLUP and Zoning Ordinance In the absence of a CLUP and Zoning Ordinance, predominant land use principles and site suitability factors shall be used in determining suitability
Location	<ul style="list-style-type: none"> Near areas where infrastructure facilities, social amenities and employment opportunities are available Outside potential hazard zones. 	<ul style="list-style-type: none"> Can be served with potable water, power and electricity, and sewerage facilities. Near social facilities such as hospitals/health centers, schools, police stations, fire stations, etc. Within proximity of areas with employment opportunities. 	<ul style="list-style-type: none"> Must have a reasonable distance from areas or facilities that can provide basic needs Located outside critical areas and hazard-prone areas
Physical Accessibility	<ul style="list-style-type: none"> Linked with public transportation lines or system. Has an existing legal road right of way from a major thoroughfare. 	<ul style="list-style-type: none"> With access to primary roads and transportation facilities. 	<ul style="list-style-type: none"> Served by a road that is readily accessible to public transportation lines
Technical Suitability	<ul style="list-style-type: none"> <u>Topography</u>: Relatively flat and should not exceed the 15% maximum gradient considered as buildable slopes. <u>Slope</u>: Below 5% for projects with above 300 to 600 units per hectare; 5%-15% for projects with 300 units and below per hectare. <u>Soil Characteristics</u>: Conforms to the suitability standards of DENR-MGB. 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Must promote a healthful, safe, and environmentally sound community life Should have ample stability to accommodate foundation load without excessive siteworks (e.g., earthmoving, grading, cutting and filling).

Source: NHA 2015; RA 7279, 1992; IRR of BP 220, 2008; and IRR of PD 957, 2009

Tools Developed and Utilized by International Organizations

Although the national-level laws and policies provide a comprehensive set of criteria and regulations that must be followed before establishing housing projects, most of these are only applicable to permanent housing units. As such, there is a need for key shelter actors to refer to other tools and guidance documents that can accommodate for the nature of the shelter-related initiative that they are planning to implement.

Complementary to the site selection guidelines provided by national level laws and regulations, key shelter actors can also refer to the various tools crafted by international organizations. These tools can facilitate the well-informed selection of locations for other shelter-related initiatives as they also focus on how the site selection process can cause significant social and environmental impacts. Some of the tools that key shelter actors can utilize or refer to during the site selection process is further detailed in the succeeding discussions.

Emergency Shelter Environmental Impact Assessment and Action Checklist

The Emergency Shelter Environmental Impact Assessment and Action Checklist is a tool and reference document that aids in the identification of environmental impacts resulting from the activities conducted during the lifetime of the shelter initiative. The Checklist was developed through the collaboration of ProAct and CARE International, and was financially supported by the Emergency Shelter Cluster (Kelly, 2008).

The applicability of the Checklist is exclusive to shelter-related initiatives, specifically those implemented for in the context of emergency and transitional situations. As discussed in Annex 7, the Checklist can also be used as a tool for the conduct of an Environmental Impact Assessment (EIA). Aside from this, the Checklist also provides for recommendatory actions that key shelter actors may consider to make their initiatives more responsive to the needs of the program participants (Kelly, 2008).

The Checklist works by accomplishing four templated forms corresponding to each of the four stages of the shelter life cycle (i.e., site selection, site construction, site management, and site decommissioning). For this particular Annex, the focus will be on Form 1 or the Site Selection Form. Annex 7 provides a more detailed presentation regarding the contents and components of all four Checklist forms.

The Site Selection Form aims to determine if the site selected for the project is appropriate and suitable for shelter-related initiatives, and how the characteristics of the selected site may affect the future activities of the community, and vice-versa. It is composed of eight main points of interest that should be considered during the site selection process. These are as follows (Kelly, 2008):

- Community participation – The Checklist highlights the importance of community consultation during the site selection process since this can serve as an avenue to iron out potential conflicts that may arise due to competing interests over resources. Moreover, key shelter actors must also consult the community members regarding the type of shelter units to be constructed to identify if the prospective initiative is responsive to their needs and vulnerabilities.

- Community homogeneity – It is also important to identify if the community members who will use the site have similar occupations or religions as these can affect the way that they utilize the surrounding natural resources. Significant variations in occupation and religious views may lead to conflict and unsustainable resource use due to the different perspectives on how natural resources should be utilized and controlled.
- Site proximity to environmental protected areas – Key shelter actors must avoid placing community settlements near environmentally protected areas since there will always be a risk that community members will extract and gather resources from the protected site.
- Past site uses – Historical data regarding the usage of the prospective site may also be revisited by key shelter actors to determine if the past uses align with the planned initiative. Sites which were previously used for industrial or commercial purposes should also be avoided as these sites may still contain toxic materials that can pose as a hazard to the health and well-being of the community members.
- Hazard exposure – Establishing a community settlement within hazard prone areas must be avoided as it can only increase the vulnerabilities of the community and the program participants.
- Presence and accessibility of social and infrastructure utilities – The presence of accessible social (e.g., school, hospitals, fire station, police station) and infrastructure (i.e., power and water supply, roads) facilities must also be prioritized during the site selection process as it ensures that the community can have ample access to services that can enhance their quality of life.
- Potential livelihood activities – It is also important to identify the current and potential livelihood activities that the community members will engage in as this can determine if the selected site bears sufficient space for the conduct of these activities.
- Legal and institutional arrangements – The legal and institutional arrangements for the potential site must first be established before the conduct of any utilization and decommissioning activity. This will provide tenure security for the community members or program participants, and will eliminate any risk of forced eviction or demolition.

Although all Checklist forms must be accomplished in a sequential manner to provide a comprehensive overview of the environment-linked issues that can occur from the implementation of the shelter project, key shelter actors may still use the Site Selection Form as a reference that can guide them in choosing an environmentally-sensitive and socially appropriate site, especially if the projects that they are planning to implement does not fall under the covered housing types of the abovementioned national-level laws and regulations.

The utilization of the Site Selection Form can springboard the implementation of an environmentally-sensitive shelter project as the selection of an adequate shelter location can also contribute to the minimization or reduction of significant environmentally-linked issues and concerns.

The Checklist, its guidelines, and accompanying forms are all accessible online and can be downloaded through the link below:

<https://sheltercluster.org/resources/documents/shelter-environmental-impact-assessment-and-action-tool-2008-revision-3>

Green Recovery and Reconstruction Toolkit: Module 4

The Green Recovery and Reconstruction Toolkit (GRRT) a training program developed in 2010 by the World Wildlife Fund (WWF) and the American Red Cross. The toolkit aims to educate communities and other stakeholders regarding the sustainable reconstruction and recovery of settlement communities after the onset of a disaster. The full toolkit is composed of ten (10) standalone modules that can equip key shelter actors, humanitarian actors, and even the program participants, in the application of rational and responsive strategies that can help in the enhancement of disaster response initiatives (WWF and American Red Cross, 2010).

In particular, Module 4 recognizes the need for the conduct of an environmentally-sound and strategic site planning process that can minimize the occurrence of future disaster risks. This module also provides the guidelines that can allow for a successful selection of appropriate sites as well the establishment of resilient and well-rounded settlement communities. To highlight, the guideline is divided into two main sections: Basic Principles, and Site Selection and Design Considerations (Kelly, 2010).

The Basic Principles section is composed of five (5) overarching concepts and strategies that can serve as a basis for the conduct of an environmentally-sensitive site selection and development. These principles include the following (Kelly, 2010):

1. The recognition of the current social and physical context to identify if the proposed development is in line with the existing realities observed at the grassroots level;
2. The treatment of the built and natural ecosystems as one environment wherein complementary actions and decisions must be made in order to minimize the risks and damages to both communities;
3. The integration of planning and development strategies that can make use or take advantage of the natural features of the environment to further promote the conservation and preservation of flora and fauna;
4. The inclusion of site restoration activities in the site development initiative to ensure that the recovery of the program participants is supported by a healthy and resilient natural environment; and
5. The restoration of shelter sites after the conduct of the construction or re-construction activities in order to prioritize the integrity of the natural environment and the safety of the community members.

On the other hand, the Site Selection and Design Considerations section of the guidelines highlights how a suitable geographic location for post-disaster shelters may be chosen through the introduction of environmental sustainability factors. While the five Basic Principles are more general in context, the Site Selection and Design Considerations are more specific as it aims to detail the characteristics of an appropriate site conducive for the development of post-disaster shelter communities (Kelly, 2010).

The toolkit already provides for a multi-sectoral set of considerations that key shelter actors may refer to during the planning and implementation of their post-disaster shelter initiatives.

These considerations include the site's carrying capacity, geographical and topographical characteristics, local climatic conditions, access to basic services and livelihood opportunities, presence of infrastructure utilities, existing natural resources and ecosystems, and landscape aesthetics (Kelly, 2010).

However, it is also worth highlighting that the GRRT guidelines for Site Selection and Design Considerations also recognizes that the factors and criteria listed does not constitute for a comprehensive site selection process. Key shelter actors may still refer to the different regulatory laws and policies, and other relevant plans and resources in order to shape the selection and development of a site that is tailor-fit to the needs of their intended stakeholders, especially for those who are recovering from emergency and disaster situations (Kelly, 2010).

The complete GRRT, which includes the Guidance Document and Modules 1 to 10, is available online and can be accessed and downloaded through the link below:

https://files.worldwildlife.org/wwfcmprod/files/Publication/file/6yv8ayz11y_Combined_GRRT.pdf?_ga=2.176579554.670418239.1696474856-1852589940.1695710282

On the other hand, Module 4 alone can also be accessed and downloaded through this link:

<https://sheltercluster.s3.eu-central-1.amazonaws.com/public/docs/GRRT%204%20-%20Strategic%20Site%20Selection%20and%20Development.pdf>

Enhancing the Site Selection Process for Shelter and Settlements Programming

Legal, Institutional, Technical, and Social Considerations

To put it concisely, site selection is an important component of shelter and settlements programming as a settlement's location can either enhance the resiliency of the community or exacerbate their current vulnerabilities. As such, it is critical for key shelter actors to start the implementation of their initiatives by conducting an environmentally-sensitive site selection process. There are various laws, regulations, tools, and guidance documents that these actors can refer to in order to conduct a well-informed site selection process. Taking off from the contents of these institutional and technical documents, key shelter actors must identify the various legal, technical, and social considerations that can affect the selection of a site adequate for the establishment of shelter units, and for the conduct of shelter-related activities. The figure below depicts the main considerations that key shelter actors must take into account during the identification of appropriate housing sites.



Figure 1. Legal, Technical, and Social Considerations for Site Selection

Legal and Institutional Considerations

- Ensure conformance to the CLUP and Zoning Ordinance

Key shelter actors must refer to the CLUP of their target cities or municipalities to ensure that the prospective site is within designated residential zones. This can regulate the development within the locality and reduce land use conflicts that may arise in the future.

- Confirm that the site is not under strict government regulations or under private ownership to reduce risk of forced evictions and demolitions

Shelter and settlements initiatives that are established on legally secured land will minimize the risk of forced evictions and demolitions, and will enable the provision of continued and long-term shelter-based services. As such, program participants residing in secured land can build up assets necessary to lead empowered lives.

Technical or Environmental Considerations

- Determine if the intrinsic properties of the site are suitable for residential development

Identifying the intrinsic properties of the site is paramount as this can determine if it has the capability to support shelter development initiatives. This entails the examination of the site's topography, slope, and soil characteristics. As per the NHA

Guidelines (2015) and the GRRT (2010), shelter units must be constructed above relatively flat ground. The GRRT (2010) also recommends that the slope of the area must not exceed 5%. However, a slope level of up to 15% may still be permissible if the number of housing units to be constructed are less than 300 per hectare (NHA, 2015).

Meanwhile, rocky areas and rocky terrains must be avoided to ensure safety and minimize physical risks (Kelly, 2010). It is also recommended to check and refer to the soil suitability standards developed by DENR-MGB to further ensure that the soil characteristics of the area are adequate for shelter projects (NHA, 2015).

- Identify the local climatic conditions for ample preparation regarding the shelter units to be built

The vulnerabilities and climate risks of the program participants or prospective community members can be reduced by selecting a site that is located in non-hazard prone areas. Knowing the local climate conditions of the locality can also prepare key shelter actors on the types of measures that they should implement in order to mitigate the impacts of both climate and disaster risks.

- Ensure access to basic infrastructure utilities such as power and water

Access to basic infrastructure utilities such as water and power must also be ensured by key shelter actors. A steady supply of potable water must be made available to the potential site either through the provision by a local waterworks station, through deep wells, or through other means. On the other hand, key shelter actors may also form partnerships with local electric works suppliers to ensure that a reliable source of power that can energize household units and accommodate the conduct of their daily activities is available.

- Make certain that roads and transport lines can traverse the site

Another dimension of accessibility is physical access. As such, the site must be located in a place which can be easily accessed by major thoroughfares and can be traversed by public transportation systems. Choosing a site which is near most social facilities will also be advantageous as it may enhance the quality of life of the community members since they will have minimal difficulty accessing health care, educational, and protection services.

- Revisit past site uses

Key shelter actors should also identify how the site was used for past development. Sites which were formerly used for industrial or commercial establishments may still contain toxic chemicals and materials that can pose a threat to the safety of the community residents if it will be converted into residential lots. Sites which are already categorized as residential lands may be more adequate for the establishment of housing initiatives as it already has the technical and legal characteristics of typical housing sites. Open spaces may also suffice as residential areas if its intrinsic properties are deemed suitable for residential housing.

- Identify if nature-based solutions can be applied in the prospective shelter site

Nature-based solutions are cost-efficient ways to improve living conditions through the provision of natural protection and other ecosystem services. Given this, shelter

actors may also identify if nature-based solutions can flourish in the prospective shelter site to further improve the quality of life of the program participants. Shelter actors may also integrate local and traditional practices in the application and management of these solutions in order to encourage the community members to take ownership and sustain these initiatives even beyond project implementation.

Social Considerations

- Conduct consultations with community participants

It would be beneficial if shelter actors first conduct consultation sessions with the program participants or community members. This can serve as an avenue to gather insights and local knowledge regarding potential environmental concerns and social conflicts that may arise due to the establishment of a new settlement. Community consultations can also foster social acceptability regarding the site establishment as shelter actors may use this as a platform to disseminate significant information.

- Provide space and facilities for the efficient conduct of the community's livelihood activities

Knowing the livelihood activities of the potential program participants is also paramount during the site selection process. It can inform shelter actors if the dedicated space for the initiative is sufficient and adequate enough to accommodate their home-based livelihood activities such as backyard gardening and other livelihood initiatives.

- Identify community activities that may inadvertently cause significant environmental damages

Aside from the potential livelihood activities, shelter actors may also identify other community activities and determine if these activities are compatible with the natural features of the proposed shelter site, or if these activities may inadvertently cause dire environmental consequences. In the event of the latter, shelter actors can promptly plan and implement appropriate measures intended to minimize these identified impacts and consequences.

Maps and Geographic Information System as Tools for Analysis

Maps and other types of Geographic Information System (GIS) data are useful tools that can aid key shelter actors in the site selection process. Maps can provide a visual representation of the characteristics of the prospective site, providing for a more efficient site selection process. Key shelter actors may consult with the relevant NGAs and concerned LGUs to gain access to maps that can aid with the conduct of this initiative. Cadastral maps, topographic and slope maps, elevation maps, waterways and drainage maps, and vegetation coverage maps are some of the maps that may provide key shelter actors with guidance regarding the identification and selection of an appropriate site. More information regarding maps and their potential sources is presented in Annex 6.

Additionally, the site suitability analysis can be further supported through the help of GIS and its accompanying tools. It can facilitate the conduct of sieve mapping or an overlay analysis, which can exactly pinpoint which sites are suitable for the establishment of housing units (Cooke, 2021).

Site Selection Considerations as Inputs to Site Planning and Development

Site selection is followed by the site planning and development process. Decisions made during the former can affect the implementation of the latter. Concerns and issues raised during the site selection process should be properly documented so key shelter actors can come up with responsive solutions that can be integrated during the site planning and development phase.

For example, if the best site for the establishment of the intended shelter units has a damaged vegetation cover, key shelter actors may implement recovery measures that can restore the damaged vegetation. Community members may also be consulted on the type of vegetation to be planted, especially if the shelter actors intend to plant income-generating trees and shrubs. This can allow for communal management and eventually foster community ownership (Kelly, 2010).

According to the Checklist developed by ProAct and CARE International (2008), the site selection phase marks the start of the shelter life cycle. There is a need for key shelter actors to make strategic decisions as early as the site selection phase since it can significantly affect the occurrence of repercussions and negative consequences that can affect the whole shelter life cycle. Moreover, the site selection process must also consider the multi-faceted nature of shelter initiatives to allow for the identification of appropriate solutions that can address entailing environmental-linked issues without compromising the provision of adequate services to the community and the program participants (Kelly, 2010).

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