COMMUNITY-LED, CITYWIDE SETTLEMENT PROFILING AND UPGRAADING
AS EVIDENCE-BASED APPROACH TO LAND GOVERNANCE:
THE CASE OF MUNTINLUPA CITY, PHILIPPINES

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Paper prepared for presentation at the
“2017 WORLD BANK CONFERENCE ON LAND AND POVERTY”

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Abstract

The Sustainable Development Agenda emphasize the focus on the needs of the poorest and most vulnerable while ensuring participation of all stakeholders in conformity with the integrated nature of the Sustainable Development Goals. The sentiment is equally captured in the New Urban Agenda, which affirms global commitment to sustainable urban development as a critical step for realizing sustainable development in an integrated and coordinated manner at global, regional, national, sub-national, and local levels, with the participation of all relevant actors. The NUA endorsed the concepts of the continuum of land rights approach in providing tenure security for all particularly for women and vulnerable groups (United Nations, 2016). The pro-poor and gender responsive land tools developed by the Global Land Tool Network (GLTN) (more information at www.gltn.net) partners provide the necessary means towards actualising the plan of action. Within these frameworks and context, the city-wide development initiative in Muntinlupa City, Philippines has been undertaken in close partnerships with government authorities and urban poor communities.

The Citywide Development Approach (CDA) to informal settlements upgrading in four barangays of Muntinlupa District II namely Sucat, Buli, Cupang and Alabang placed members of the informal settler families (ISFs) at the heart of the process – a people-centered approach to community mapping and settlements profiling, guided by the principles of inclusion and partnership, learning and action, and adaptation and sustainability. The initiatives utilize some of the GLTN tools such as Participatory Enumeration; Social Tenure Domain Model (STDM); Gender Evaluation Criteria and others. The demographic, spatial and narrative results enabled the initiation of community savings program and formation of technical working groups among mapped ISF communities which capacitated them in asserting their right towards land security; created a venue for close collaboration among various stakeholders in settlements development which further formed connections locally and internationally; and paved way for the local government unit to recognize the potentials of CDA in addressing issues on land and poverty which allowed government approval and support in extending the “citywide” approach to the second half of city: District I consists of another four barangays namely Putatan, Tunasan, Poblacion and Bayanan, whose ongoing mapping, validation and data encoding activities are supported by the Social Tenure Domain Model.
Key Words: Citywide mapping; Community-led mapping; Participatory planning; Philippines; Settlements profiling

Part I: Background and Context

The 2030 Agenda for Sustainable Development describes partnership as an essential element for achievement of the action plan by indicating that “We are determined to mobilize the means required to implement this Agenda through a revitalized Global Partnership for Sustainable Development, based on a spirit of strengthened global solidarity, focused in particular on the needs of the poorest and most vulnerable and with the participation of all countries, all stakeholders and all people.” (United Nations, 2015). In alignment with partnership principle, GLTN supports the actualization of the continuum of land rights concept by enlisting inclusive approaches advocated in participatory enumeration, and highlights the gender responsiveness in land management and administration. Participatory enumeration is considered as an approach in which to a significant extent jointly designed and conducted by the people who are being surveyed (UN-Habitat/GLTN 2010). In this regards, Member States and stakeholders are assisted to introduce innovations which strengthen tenure security for the majority of people, especially the poor. It is under this global context that GLTN partnered with Link-Build and in-country stakeholders in the Philippines to implement “Inclusive Application/Implementation of Social Tenure Domain Model (STDM) to enhance Community Development Initiatives” project that is explained in this paper. STDM is a pro-poor land information tool that could close the land administration gaps inherent in many developing countries. With the tool, it allows for the recording of all possible types of tenures including informal; it enables to show what can be observed on the ground in terms of tenure as agreed within local communities (Lemmen 2013).

Home to around 12 million people, Metro Manila, the Philippine’s national capital region (NCR) comprised of 16 cities and 1 municipality, accounts for over a third of the country’s gross domestic product (GDP) and 13% of the country’s total employment, making it the preferred destination of the majority of migrants from rural areas nationwide.

In 2010, the Metro Manila Development Authority (MMDA) estimated that a total of 556,526 informal settler families (ISFs) are concentrated in NCR. This figure translates to 2.8 million individuals – of
which, 18.6% reside in areas classified as danger zones such as railroad tracks, transmission lines, garbage dumps, and waterways.

These overcrowded informal settlements often lack basic infrastructure/services, secure tenure, social networks, have limited access to capital, employment and livelihood opportunities, and are vulnerable to natural hazards especially floods. In an unprecedented move, the government launched an initiative called the *Oplan Likas* to move these 104,000 ISFs out of the danger areas in 2011-2016 and allocated P.50 billion for five years. Despite the initiative, however, due to lack of affordability and land constraints among many other factors, the progress has been slow. Three and a half years on, only over 20,000 units have been constructed thus far. Even with Oplan Likas, the demand for socialized housing is large. The Housing and Urban Development Coordinating Council (HUDCC) estimates that with the existing backlog and rapid increase in the ISFs, 1.7 million shelters will need to be constructed by 2016 in Metro Manila.

The magnitude of the ISF problem renders the traditional project-based approach ineffectual. There is an urgent need to shift from project-based to programmatic approach to reach scale in a timely manner. There are exemplary local government units (LGUs) within the country such as Cebu, Iloilo Mandaue, Naga, and Quezon City that have undertaken innovative initiatives and have succeeded in tackling the ISF issue at scale. However, these examples remain “small centers of excellence” and there has not been a concerted effort to turn their experiences into a systematic approach that can be replicated more broadly.

The Socialized Housing and Finance Corporation (SHFC) and the World Bank are thus promoting a Citywide Development Approach (CDA) to Informal Settlements Upgrading. The CDA is an alternative to traditional approaches to informal settlements upgrading which are usually project-based and limited in scope, i.e., covering just a few communities in a particular area. With the growing number of ISFs in urban areas, strategies in upgrading informal settlement communities must be scalable and programmatic to be more effective. The CDA hopes to achieve this having the following key features:

1. Citywide in scope as it maps out all informal settlements in families in the area;
2. Community-led;
3. A partnership among city stakeholders;
4. Coordinated by the local or city government;
5. A citywide pooling of funds mobilized from various sources; and
6. An integration of solutions to land and housing problems with strategies to improve the socio-economic status of the ISFs.

In 2014, a learning exchange, organized by the Philippine Alliance\(^1\) and funded by the World Bank, introduced the concept of CDA, the viability of which as an effective solution to developing resilience among informal settlement communities was tested in three (3) pilot cities in Metro Manila: Quezon City (District 6), Caloocan City (Barangay 177) and Muntinlupa City (District II) (see Figure 1).

Specifically for Muntinlupa City, the CDA project aims to:

1. Collect secondary data and provide analysis on housing needs and available resources;
2. Conduct orientation and training of local government units (LGUs), communities, non-government organizations (NGOs) and people’s organizations (POs) on community mapping and profiling;
3. Collect primary data through community mapping and profiling in four (4) barangays\(^2\);
4. Encode, analyze and validate gathered data;
5. Conduct savings orientation, initiate network formation through barangay shelter development planning;
6. Consolidate barangay shelter development plans into citywide shelter development plan; and
7. Prioritize community housing project design and development.

\(^1\) The Philippine Alliance is a group of non-government institutions working with urban poor communities through capacity-building initiatives that promote the participatory processes of settlements development. At the heart of it is the (1) HPFPI, acting as community mobilizer and promoter of savings program; (2) PACSII, or the Philippine Action for Community-led Shelter Initiatives Inc., as intermediary support institution on legal and financial matters; (3) TAMPEI, or the Technical Assistance Movement for People and Environment Inc., as technical arm, especially in mapping and design activities; (4) LinkBuild Inc. as a social enterprise that provides development finance and sustainable shelter solutions; and (5) CoRe-ACS, or the Community Resources for the Advancement of Capable Societies, a micro-finance institution.

\(^2\) Barangay is defined as the smallest political unit in the Philippines.
Project area description

The project area is in Muntinlupa City which is located in southern Metro Manila. The city has an 11km Laguna de Bay shoreline, spanning 8 of the city’s 9 barangays. Accessible to Manila Central Business District in approximately one hour, it houses many commercial establishments and luxurious residential complexes. Yet nearly half of Muntinlupa’s 460,000 residents belong to the urban poor sector. Based on 2007 LGU data, Muntinlupa has over 27,000 ISFs in 241 ISF communities scattered across the 9 barangays. LGU prioritizes ISFs living in danger zones, in particular, the priority is on 5,000 ISFs residing along the waterways and over 4,000 ISFs residing along the Lake shore.

The city’s latest available data on ISFs is its 2007 data and the LGU is keen to update this data. In fact, the city has completed the census of over 4,000 ISFs belonging to 38 Home Owners’ Associations (HOAs) along the lake shore. Oplan Likas will be rolled out in Muntinlupa and NHA’s tagging and UP Planades’ census is planned to complete the census of the ISFs residing within the 3m river easement by the end of this year.

In Muntinlupa, ISFs are defined as “families living on land they do not possess legal claim on”. ISFs have been categorized into those living on: (i) government land; (ii) private land and in threat of eviction; and (iii) danger zones.

The Philippine Alliance believes in the principles of CDA as an opportunity to improve the lives of ISFs by empowering them with tools and the capacity to provide shelter solutions. From this experience, an agreement was signed between the Alliance, the World Bank and Muntinlupa City in 2015 to conduct citywide mapping that would inform the formulation of citywide shelter plan that could be articulated into the city’s Comprehensive Land Use Plan (CLUP).

In 2015, four barangays in Muntinlupa District II namely Sucat, Buli, Cupang and Alabang were mapped using a participatory community mapping process: data collection; training of communities and LGUs on mapping and profiling; processing, analysis and validation of data gathered; savings orientation and network formation of communities; barangay shelter planning, and priority community housing project design and development. The project prioritized the mapping of informal settlement communities in danger areas, especially along the lakeshore for the period January 2015 to January 2016.

In May 2016, the mapping results of District II were presented to the Muntinlupa LHB and City Mayor, who, after seeing the potentials of CDA in addressing issues concerning informal settlements, expressed motivation to proceed with and complete the “citywide” approach by supporting the mapping of the second half of Muntinlupa in a project funded by the UN Habitat/ Global Land Tool Network. The project; “Implementation of Social Tenure Domain Model to enhance community development initiatives
in the cities of Muntinlupa and Valenzuela” aimed to promote the sharing of knowledge and lessons on the application of STDM; capacitating the urban poor communities on the use of the STDM tool; developing partnerships towards access to land for the poor through various modes of tenure security and promoting responsible land management in the country; and enhancing competency for customizing STDM based on the specific information requirements in the communities. The STDM is a pro poor, gender responsive and participatory land information system developed by the GLTN partners. GLTN’s core values and principles are pro-poor, good governance, equity, subsidiarity, sustainability, affordability, systematic large scale, and gender responsiveness and these core values are embedded in the development of STDM tool. STDM broadens the scope of land administration by incorporating all person/s to land relationships (de-facto) beyond formal/legal (de-jury) land rights, cognizant of the continuum of land rights. STDM is perceived as a toolkit for crowdsourcing land administration and setting standards – “An initiative in setting data model standards is the Social Tenure Domain Model under the wider Land Administration Domain Model developed by UN-HABITAT and FIG (Lemmen et al. 2013), which provides a standard model for social/customary tenure that ISO is ratifying and adopting.” (RICS, 2011). Therefore it provides ISFs pathways for recognition, recordation and registration of their land claims.

Prior to this interaction, the Homeless Peoples’ Federation Philippines, Inc. (HPFPI) and Technical Assistance Movement for People and Environment, Inc. had been key organizers of an STDM learning event in 2013 and a proponent of the use of STDM in managing community data.

Since, four more barangays in District I namely Putatan, Tunasan, Poblacion and Bayanan, were mapped and are now on the process of data validation and encoding. The CDA was later renamed to Citywide Community Upgrading Strategies (CCUS).

**Part II: Planning Approach and Framework**

Informal settlement communities are at the centre of the ongoing planning process in Muntinlupa City. They are the main actors in this development initiative supported by all the other stakeholders in the city (see Table 1 next page), as envisioned by the application of the citywide development approach. The process of planning is seen as an ongoing cycle that puts together a series of different stages. The framework of the planning process in Muntinlupa City is graphically presented below:
A set of principles and approaches informs the planning process and is seen to support the goals of the CDA project. These are the principles/approaches of (1) inclusion and partnership, (2) learning and action, (3) adaptation and sustainability that shape the direction and outcomes of the project.

The principle of inclusion and partnership advocates that all city stakeholders actively participate in the planning process. The inclusion of ISFs during the whole process is of particular importance given their greater understanding of local conditions in identifying needs and priorities of their communities. By getting involved and partnering with LGUs, NGOs and other communities in this project, the ISFs are given the space to voice out their concerns and aspirations, build relations with the other city stakeholders and have the opportunity to manage their own development. Participation is “a planned process whereby local groups are clarifying and expressing their own needs and objectives and taking collective action to meet them.” (UN-Habitat/GLTN, 2009). This implies the ISFs have a role beyond simply giving their views but should be actively involved in development implementation.
Poor communities, however, will find it difficult to gain control over their futures if they have limited knowledge of their situation and environments. The learning and action approach of the planning process allows communities to discover their realities themselves and create a shared understanding of issues, needs and opportunities. With the conduct of capacity-building and organizing activities, the communities’ understanding of their realities is further enhanced, enabling them to act on these realities by finding and implementing solutions collectively.

Table 1. City stakeholders

<table>
<thead>
<tr>
<th>Institution</th>
<th>Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAMPEI</td>
<td>Overall project coordinator; technical assistance in all activities</td>
</tr>
<tr>
<td>HPFPI (National &amp; Muntinlupa Chapters)</td>
<td>Mobilization of communities; savings program orientation and assistance in setting-up to communities; HPFPI Muntinlupa to lead in community mapping and profiling activities; follow up and strengthening of community organizations</td>
</tr>
<tr>
<td>PACSII</td>
<td>Directional oversight; management support; quality monitoring; documentation, financial and administrative support</td>
</tr>
<tr>
<td>Muntinlupa Development Foundation</td>
<td>Day-to-day project monitoring and mentoring of mapping teams; assistance to in orientation and mapping activities and data encoding</td>
</tr>
<tr>
<td>Bukluran &amp; Urban Poor Alliance (UP-All) Muntinlupa</td>
<td>Conduct mapping activities; encode data generated from settlement profiles and community mapping</td>
</tr>
<tr>
<td>Muntinlupa LGU</td>
<td>Facilitate barangay planning workshops; arrange schedules with barangay and communities</td>
</tr>
</tbody>
</table>

When capacities of communities are enhanced, they are more able to carry out adaptation actions, i.e. dealing with climate change risks. This is important since community-based approach to adaptation is one way to attain sustainable development. The process of learning and action in this planning activity supports and contributes to building up the communities’ adaptation strategies that allows them to address vulnerabilities, effectively adapt to these and sustain their initiatives.

The Planning Process

The framework shows the envisioned planning process in its entirety although the current initiative covers only the first two stages – the participatory assessment and participatory planning stages – to be carried out in four (4) barangays, namely, Barangays Sucat, Cupang, Alabang and Buli. The planning process starts with participatory assessment, the result of which, after analysis, is fed into the participatory planning stage. The output plans during the participatory planning stage will be the basis for carrying out
initiatives at the *community-led implementation* stage and their eventual maintenance at the *community management and evaluation* stage.

Finally, defining how the planning process is actually going to be carried out and setting the direction of the process are the two key sets of components of capacity-building and organizing, and monitoring and evaluation of the initiative. These components recur and take place throughout the planning cycle and they are that which bind the process as a whole.

1. **Participatory Assessment**

This process pays particular attention to assessing the situation and requirements of informal settlement families which are not limited to shelter needs such as land and housing but also takes into consideration their other development needs. Thus, in this assessment stage, which consist of information collection activities and analysis of data gathered, it was deemed important to determine the informal settlement families’ employment or livelihood sources, cultural practices, number of vulnerable groups including persons with disabilities, women, children and elderly in addition to the families’ location, the size and type of land they occupy, the size and type of structures they occupy and their vulnerabilities including physical, legal and social vulnerabilities. The collection of disaggregated data is essential for documenting progress towards achievement of SDGs such as under Goal 1, Target 1.4 Indicator 1.4.2: “Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure”.

Since this initiative advocates a participatory planning process, a core team of local researchers from the four barangays, including homeowners association (HOA) leaders, and representatives from partner local NGO, the Muntinlupa Development Foundation (MDF), and staff from the city government’s Urban Poor Affairs Office (UPAO) were trained for the conduct of data gathering and data analysis activities through workshops, actual ground survey and mapping and hands-on processing of data. It was envisioned that after this current initiative, the local groups from Muntinlupa City will be able to carry on the task of data

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3 Communities’ vulnerabilities include the communities’ physical vulnerability (inadequate or lack of provision of infrastructure such as sewerage, water, and drainage systems), legal vulnerability (lack of land tenure rights, lack of settlement planning and infrastructure support after disaster), and social vulnerability (social processes and structures that limit communities’ abilities to cope with environmental and other stressors). This is based on the Participatory Climate Change Adaptation Appraisals’ (PCCAA) asset vulnerabilities analytical framework in “Implementing urban participatory climate change adaptation appraisals: a methodological guideline” by Caroline Moser and Alfredo Stein, *Environment and Urbanization, Vol. 23, No. 2, October 2011* (International Institute of Environment and Development c 2011)
gathering and planning on their own with the next four barangays in the city to complete the citywide approach.

a. Data collection

The first part of the assessment involved data collection activities, which includes secondary and primary data gathering. The primary data gathering used both GIS-based and conventional methods (semi-structured interviews, direct observation, local stories, and focus group discussions). The mapping process, which evolved over time due to experiences and lessons learned by the mapping, involve the following activities:

- **Courtesy calls** to respective barangay councils which formalized mapping activities in communities, established initial partnership and engaged local authorities in mobilizing their communities.

- **Barangay assemblies** with communities which oriented association leaders and members on settlements profiling and household questionnaire and reminded them about the importance of community participation in the process. Association leaders present during the assembly usually served as guides for ocular visits and sometimes, depending on commitment and technical expertise, were invited as members of the mapping team. During assemblies, participants are given large printed maps of their barangay and are asked to locate informal settlements – the process called *settlements mapping* – and provide rough estimates on population, size and leadership status, if possible. From the information given, communities of manageable size with organized structure are prioritized for pilot mapping.

- **After identifying pilot communities, site oculars** were performed to assess initial site conditions. The process includes creating base map with landmarks and locating boundaries between communities using handheld Global Positioning System (GPS) devices. *Spot mapping* followed, whereby communities are asked to identify their structures from the base map vis-à-vis landmarks in it and confirm details of neighboring structures, e.g., occupants’ information, use and type of structure.
Next, scaling and structure mapping involve measuring the houses and translating the measurements into maps using color-coded scaled papers, e.g., green for residential, red for commercial, orange for mixed-used. At this stage, surveys were also done per household, simultaneous with focus group discussions (FGDs) at the community level to develop settlement profiles. FGDs usually include select sectors among the community, e.g., women, senior citizen, youth, to provide in-depth details about their community, e.g., history, issues faced, projects and programs of the association.
The community and local researchers were all involved in all methods from the beginning, especially in documentation activities such as taking photos and doing quick interviews. The different data gathering activities allow for cross-checking or validation of the collected data.

b. Data analysis

The second part of the assessment stage was the analysis of all information gathered. Secondary and primary data were consolidated in this stage. All primary data collected were digitized using Microsoft Excel, Google Earth, AutoCAD and STDM⁴ (for the second half of mapping) which organized both spatial and non-spatial data to facilitate their analysis. Information collected was categorized into base data, demographic, social and organizational data, and spatial and physical data.

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⁴ The STDM, or Social Tenure Domain Model, is a participatory land information recording tool especially developed by the Global Land Tool Network (GLTN) partners for the benefit of urban and rural poor communities. The implementation of STDM in Muntinlupa City, Philippines is a pilot for the Asia and the Pacific region. The second half of mapping in the city (District I consists of four barangays namely Putatan, Tunasan, Poblacion and Bayanan) uses STDM as the database platform for all the gathered data.
The base data includes image data of the position or location of the structures or dwellings, as well as key infrastructures, which are the basic spatial unit under study. Each of the structures, including public buildings, and other community amenities, were numbered and identified.

The social database is composed of data on the residents collected from the household survey and settlement/community profiles. It includes information on the members of each household organized in categories as owner, renter or sharer, as head of household, with spouse, children, PWDs, or elderly. It also includes employment, livelihood and savings data. The household survey indicates the type of structure or dwelling, and whether or not sanitation, water and power facilities exist. Information based on these different categories when linked with the base data (numbered structures) can be shown spatially, as maps of various themes – such as, of female or male headed households, of structures with or without toilets, power or water systems, of structures made of light or concrete materials and so on. The settlement profile contains information on the ISFs as group or organization, such as their priority issues and concerns, socio economic data including education, health services, employment, tenure security (including data on land), available infrastructure systems, the families’ vulnerabilities, and common goals and aspirations.

Finally, the analysis of spatial and physical data provided information on the impact of the physical environment on individual families, communities and settlements. This involves, for instance, data on the constraints of the physical environment that may largely factor in the type of development to be undertaken in a particular area. Among these constraints include:

- High risk or disaster-prone area
- Road Right of way
- Property boundaries and land ownership claims
- Access routes provision
- Public or social services provision

The results of analysis of the data sets above was validated by the communities in barangay-wide presentations, and the validated and finalized data formed basis for the actual community and barangay planning activity which followed the participatory assessment stage.

One tool used for validation is the “situational analysis” (see Table 2) where issues faced by communities are identified and matched with corresponding programs or plans of action to be undertaken with
concerned stakeholders. All information is fed into a “quadrant categorizing system” (see Table 4) that enables the mapping team to identify the “status” of communities and the settlements they live on. The categorization into quadrants was decided by community members themselves based on a set of “criteria” (see Table 3) pre-defined by the mapping team. After communities are categorized into quadrants, the mapping team together with community leaders and members then proceed to further analyze their situation and provide corresponding strategies and interventions for settlements development (see Table 5).

Table 2. Actual situational analysis produced by the mapping team for Samahan Sikap, Barangay Buli

<table>
<thead>
<tr>
<th>SITUATIONAL ANALYSIS</th>
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</thead>
<tbody>
<tr>
<td><strong>General issue</strong></td>
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<tr>
<td>Security of land tenure</td>
</tr>
<tr>
<td>Wastes</td>
</tr>
<tr>
<td>Livelihood</td>
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</tbody>
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Table 3. Quadrants criteria

<table>
<thead>
<tr>
<th>QUADRANTS CRITERIA</th>
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<tbody>
<tr>
<td><strong>Community association</strong>: Moderate Capacity (+)</td>
</tr>
<tr>
<td>Organized, registered as associations, accredited by LGU, etc.</td>
</tr>
<tr>
<td>Has master list of membership</td>
</tr>
<tr>
<td>Has capacity to negotiate with landowner</td>
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Table 4. Quadrants and strategies

<table>
<thead>
<tr>
<th>QUADRANTS AND STRATEGIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong>: Low Risk (+)</td>
</tr>
<tr>
<td><strong>Location</strong>: Moderate Risk (−)</td>
</tr>
</tbody>
</table>

2. Participatory Planning
This stage refers to the actual conduct of the barangay and city planning activities in which the data gathered and analyzed during the assessment process are presented. Also, during the barangay planning activity, community members and other city stakeholders underwent workshops and participated in dialogues as they formulate the upgrading plans based on the collected information. This process required the participation of all – community members, LGUs at the barangay and city levels, POs and NGOs, private sector, and national government agencies – to elicit a broad variety of perspectives as well as to enlist their support for the planned initiatives. Aside from the goal of designing upgrading plans, this particular exercise is a learning activity in which everyone’s ideas are brought out, heard and considered.

The results of the participatory process undertaken in the assessment stage which includes maps on the exact locations of the structures and communities, list of idle lands, data on specific families and groups, maps/data on their situation, vulnerabilities, and concerns allowed for the formulation of plans that are concrete and based on actual needs of the ISF communities.

Table 5. Community strategies and interventions

<table>
<thead>
<tr>
<th>Quadrant IV</th>
<th>Community association</th>
<th>Hazards</th>
<th>Total household</th>
<th>No. of affected household</th>
<th>Strategies</th>
<th>Possible hindrances</th>
<th>Service</th>
<th>Program / Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samahang Pook</td>
<td>fire, industrial, chemical, tech, power outage</td>
<td>503</td>
<td>124</td>
<td>Subsidized resettlement, Capacity building interventions</td>
<td>Owner not willing to sell land, Place affected by flood, Out of school youth, No permanent source of livelihood, No source of main water line</td>
<td>Livelihood, Water supply, Electricity, Education &amp; scholarship</td>
<td>Land acquisition &amp; housing structure thru CMP &amp; SHFC, Environment sanitation center (ESC), DPWH program, Alternative learning school (ALS)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quadrant III</th>
<th>Community association</th>
<th>Hazards</th>
<th>Total household</th>
<th>No. of affected household</th>
<th>Strategies</th>
<th>Possible hindrances</th>
<th>Service</th>
<th>Program / Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tramo Bull</td>
<td>fire, crime, tech, industrial, flooding, waterways, nuisance of public transpo.</td>
<td>114</td>
<td>283</td>
<td>Resettlement with cost recovery</td>
<td>Owner not willing to sell land, Affected by flood, Clogged waterways during heavy rains, No existing right of way, Security of land tenure, Near West Valley Fault, Active in partisan politics, 7.9% danger area along creek</td>
<td>Electricity, Water supply, Sanitation / open drainage, Livelihood</td>
<td>Land acquisition &amp; housing structure thru CMP &amp; SHFC, Emergency fire hydrant, Open drainage, Power supply, Clean-up drive</td>
<td></td>
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<th>Possible hindrances</th>
<th>Service</th>
<th>Program / Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samahang Sikap</td>
<td>fire, crime, tech, industrial, flooding, waterways, power outage</td>
<td>495</td>
<td>111</td>
<td>Owner not willing to sell land, No existing right of way, Flooded, No permanent source of livelihood, No main water line, No electricity connection, Sanitation problem / waste disposal along the creek, No streetlights</td>
<td>Electricity, Water supply, Sanitation / open drainage, Livelihood, Fire hydrant</td>
<td>Land acquisition &amp; housing structure thru CMP &amp; SHFC, Emergency fire hydrant, Open drainage, Power supply, Clean-up drive</td>
<td></td>
<td></td>
</tr>
</tbody>
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<td>fire, crime, tech, industrial, flooding, waterways, power outage</td>
<td>495</td>
<td>111</td>
<td>Owned not willing to sell land, No existing right of way, Flooded, No permanent source of livelihood, No main water line, No electricity connection, Sanitation problem / waste disposal along the creek, No streetlights</td>
<td>Electricity, Water supply, Sanitation / open drainage, Livelihood, Fire hydrant</td>
<td>Land acquisition &amp; housing structure thru CMP &amp; SHFC, Emergency fire hydrant, Open drainage, Power supply, Clean-up drive</td>
<td></td>
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<table>
<thead>
<tr>
<th>Quadrant III</th>
<th>Community association</th>
<th>Hazards</th>
<th>Total household</th>
<th>No. of affected household</th>
<th>Strategies</th>
<th>Possible hindrances</th>
<th>Service</th>
<th>Program / Project</th>
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<td>Samahang Sikap</td>
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The data sets also helped prioritize plans and activities. Maps and information on constraints of the physical environment, such as flooding on particular structures/areas or data on the most vulnerable ISFs, helped in deciding which communities and activities were prioritized during the barangay planning.

Part III: Project Outcomes and Impacts

The involvement of the communities in the four barangays is crucial in the successful implementation of the CDA project in Muntinlupa City. Their participation is not only important in the enormous task of gathering data from the household level up to the settlements level but also in getting their inputs to the shelter planning processes at the barangay and city levels.

One of the objectives of the Muntinlupa project is to capacitate the key stakeholders of the city in the areas of community mapping, data gathering, savings implementation and community-driven upgrading planning. Several training sessions were conducted on the various mapping activities throughout the project duration. Communities were provided orientations on the savings program and the core mapping team was given an orientation on barangay shelter planning. After a year of project implementation, the training and orientation activities have not only resulted in capacitating the participants but also gained for the project the following outcomes:

1. **Demographic Results:** The collection of primary data through community mapping and profiling in four barangays and analyses and encoding of such using various tools presented yielded the following statistics for District II\(^5\).

   **Population and location**
   - 83 informal settlements were identified in four barangays: 31 are located in Sucat, 29 in Alabang, 19 in Cupang and 4 in Buli. Half of these settlements (42 out of 83) are classified as Quadrant IV characterized by having negative location and negative community. Only three communities out of 83 are classified as Quadrant I (positive location and positive community).

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\(^{5}\) The results presented cover only data from District II (Sucat, Buli, Cupang and Alabang) as results of District I mapping (Putatan, Tunasan, Poblacion and Bayanan) are still on the process of validation, analysis and encoding through STDM tool. Once finished, results from both districts will be consolidated and presented to the Local Housing Board of Muntinlupa City for the formation of a citywide shelter plan. As of writing, only Barangay Poblacion in District I has reached/conducted Barangay Shelter Planning (BSP) Workshop, where complete results of mapping were presented (February 11, 2017). The next BSP Workshop is scheduled on March 3, 2017 at Barangay Putatan.
There are a total of 72,384 informal settlers in Muntinlupa: 50% of which is located in Sucat, and the rest in the other three barangays. This informal settler population accounts to 14% of Muntinlupa’s total population, 504,509 as of 2015.

A total of 16,908 informal settler families (ISFs) were identified.

**Structures and occupancy**

- A total of 17,038 occupants were identified: 56% are classified as owners, 24% as renters and 20% are sharers.
- A total of 9,575 structures were identified in all four barangays. This translates to eight (8) informal settlers living under one structure.
- Of the structures counted, 25% are made of concrete, 45% of semi-concrete materials, and 30% of light materials. Furthermore, 44% are single-storey, 35% are two-storey, and 21% are three-storey structures.
- The occupancy types are as follows: 87% residential, 3% commercial, and 10% mixed-used occupancy.

**Sources of power, water and income**

- The power sources are as follows: 71% from MERALCO and 23% from tapping. Six percent (6%) have no electricity.
- The water sources are as follows: 60% from Maynilad/Manila Water/NAWASA, 23% from deep well and 5% from tapping. Eight percent (8%) fetch water from others (nakikiigib) while 4% buy water (bumibili ng tubig). Only 10 families have no water connection.
- Top occupations belong to the blue-collar sector: 19% for construction works, 11% for skilled works, 11% driving, 9% clerical works and 8% factory works. Six percent (6%) declared themselves as security guards and 5% as vendors. The rest, 31%, belong to OFW, small enterprises, service crew, household services, etc.

2. **Outcomes and Impacts**: The results of mapping process provided not only a more comprehensive set of data validated by community members and concerned stakeholders but created impacts on community-, barangay- and city-levels.
The communities have gained greater awareness of their own situation through their active participation in the mapping process. For instance, in filling out the community profiles through interviews and FGDs, and in validation workshops the community members learned of the general situation of their communities – the total population, existing resources and amenities, and especially the several issues and concerns affecting their areas. They have learned, through site visit, the counting of structures, or scale and measurement activities the hazards and dangers in their communities. The local governments, especially in Barangay Sucat, appreciated the data and maps generated by the mapping activity which they can use in their own pre-and post-disaster programs and livelihood projects, i.e., a resolution, signed by the Barangay Chairman, initiated the creation of a Barangay Shelter Plan aimed at providing guidelines and criteria in the informal settlements upgrading.

Many of the communities that have been oriented on the savings program have already started to implement the program, realizing that they need to start preparing for future projects not limited to upgrading or housing but also socio-economic activities that can address their everyday need. Furthermore, budget proposals are now clearer as needs, especially for mapping activities and housing projects, have already been identified; unlike before where proposals were patterned after certain templates which most of the time neglect housing needs. This translates to the city government having definite data on housing needs based on reports and budget proposals submitted by each barangay.

The consolidation of secondary and primary data gathered under this project generated a more complete picture of the situation of the informal settlement families in the four barangays of Muntinlupa City. This is important on the part of the city because results of the mapping validated the existing information on file, updated current figures, and enhanced or added details such as specific issues and concerns of communities. Moreover, the information generated by the mapping activity is highly credible since this is validated by the LGU, the communities and other stakeholders and that it is based not on assumptions but on the actual or concrete situation of communities. As for the communities, they have become aware of interventions or projects of the city which they can avail of or link with their own planned initiatives.

The regular meetings, workshops, dialogues and interfaces among the different stakeholders throughout the mapping period has built trust among them which facilitated the conduct of activities, culminating in the four barangay shelter planning activities, formation of four
community networks, formation of a Technical Working Group in Barangay Sucat that includes the Socialized Housing Finance Corporation (SHFC), City Engineering Office and City Assessor’s for the project development in five priority communities, which as of the moment, is one the process of land acquisition and negotiation with the landowner and various parties involved.

![Technical working group (TWG) meeting with Socialized Housing Finance Corporation for the five priority communities in Barangay Sucat](image)

*Figure 5: Technical working group (TWG) meeting with Socialized Housing Finance Corporation for the five priority communities in Barangay Sucat*

- The creation of these formal links and platform for collaboration among the stakeholders has led to the continuation of the mapping activities in the other four barangays of the city with the support of the UN-Habitat and Global Land Tool Network under the STDM Project. The project aims to contribute to the generation of a citywide profile of informal settlements in Muntinlupa and in the planning of upgrading programs for these settlements. This initiative is similar to the STDM pilot work in the Municipality of Mbale, Uganda where the communities themselves led the process of enumeration, mapping, data encoding, data validation and data maintenance (Antonio et. al 2014). Furthermore, the connection with GLTN for the second half of mapping
activities enabled the linkage with several institutions such as the Geodetic Engineers of the Philippines National Capital Region (GEP-NCR) and University of the Philippines Department of Geodetic Engineering (UPDGE) where respective three-year memorandum of agreement (MOA) was signed. Members of GEP are not only involved in the current initiative in Muntinlupa but also in three other projects in Valenzuela. UPDGE, on the other hand, plans to involve its students taking Civic Welfare Training Service (CWTS) to the works of the Alliance in Muntinlupa City.

- Furthermore, the experiences and lessons shared during local workshops and trainings inspired other Philippine cities to adopt the people-centered approach to mapping and upgrading. For instance, in Talisay City in Cebu, a MOA was signed by the LGU partnering with the Philippine Alliance in its integrated plan for community, heritage and disaster mapping and planning, and housing construction developments. In Mandaue City in Cebu, the LGU expressed interest in adopting the STDM tool to their government offices, specifically for its Housing and Urban Development Office. In Davao, through the STDM provincial training, the initiative formed new linkages with the Presidential Commission for the Urban Poor (PCUP) and Anthropology Department of the University of the Philippines Mindanao. Both institutions are seen as partners for the upcoming mapping of coastal communities affected by a proposed government infrastructure development.

- Lastly, the city government of Muntinlupa through its Urban Poor Affairs Office has pledged its support to the publication of a manual/handbook that contains the step-by-step process of community mapping and planning, as well as the collective experiences of the stakeholders in the conduct of the mapping in the city. The handbook hopes to serve as a guide to communities, LGUs and other stakeholders that are planning to carry out their own citywide community mapping activity in their respective areas.

**Part IV: Conclusion and Way Forward**

The Citywide Development Approach (CDA) to informal settlements upgrading in Muntinlupa District II has demonstrated that without accurate and comprehensive community information, neither communities nor governments will be able to overcome the challenges they face and work towards the eradication of poverty in the country. The initiative becomes more useful given the serious weaknesses of the Philippines’ land administration system and how it is affecting the country’s viability for global
competitiveness and in particular, acts as a barrier in the implementation of the pro-poor land programmes like in the urban areas (Antonio, 2006). In this context, the Muntinlupa City experience was able to bridge the land administration gaps with the use and application of pro-poor land tools like STDM and with the leadership of the grassroots organizations. The bottom-up approach to settlements development proved that community-led initiatives provide more accurate, timely data about informal settlements and consequently present realistic, justifiable solutions as opposed to top-down approach, hierarchical decision-making strategies and domination over the relevant stakeholders usually implemented by national and local governments in the past. It also proved that the art of mapping and use of ICT technologies is not anymore the monopoly of well-trained land professionals.

The demographic, spatial and narrative results of community-led mapping and settlements profiling enabled the initiation of community savings program and formation of technical working groups among mapped ISF communities which capacitated them in asserting their right towards land security; created a venue for close collaboration among various stakeholders in settlements development which further formed connections locally and internationally; and paved way for the local government unit to recognize the potentials of CDA in addressing issues on land and poverty which allowed government approval and support in extending the “citywide” approach to District I, under the Social Tenure Domain Model (STDM) project.

The introduction and use of collaborative land information tool such as STDM is seen to boost participation from communities, as they readily see outcomes in the form of maps that relate their individual information to their location or the land they live in. It is hoped that through this tool, combined with the participatory process of mapping advocated by the CDA Team, community members and concerned stakeholders will work hand in hand towards the progress of settlements development in the Philippines.

The implementation experiences and related capacity building provides the Philippine Alliance with strategic advantage for supporting other Municipality to follow the same route in CDA towards the achievement of SDGs and the NUA. The capacity development and broader awareness will be bolstered by the planned Regional Workshop for sharing the Philippines’ experience and hear attributions from partner municipalities. This will thus form the foundation for up scaling and involvement of government actors from various levels.
References


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