

Innovation Assessment report

For Malabon City, Manila

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Table of content

1 - Executive summary	3
2 - Introduction	4
3 - Goal and Methodology	5
4 - Global innovation assessment	5
5 - Manila innovation workshop	8

1 - Executive summary

The purpose of the innovation assessment is to explore and identify local and international innovations in improving access to basic services in urban slums. For this assessment, we have focused on the selected business case topics that came out of the preliminary results of needs assessment; tenure (in the context of affordable housing), water (Jakarta) and electricity (Manila). At a later stage in the process water & sanitation was added for Jakarta.

The rationale behind the assessment is to learn from best practices that have already been developed around the world. With that input, we design local solutions in a multi-stakeholder context.

Step one was to create an innovation portfolio. With partners AMS (Amsterdam institute of Metropolitan Solutions) and input from other partners a global desk review was conducted to identify where innovations have been successfully integrated into the lives of the urban poor and summarize the lessons learnt. The global innovation portfolio is focused around flexible tenure (in the context of affordable housing), water, electricity and sanitation.

This innovation portfolio was used as inspiration in the Manila innovation workshop. This 2-day session in June workshop was all about understanding the challenges and jointly design practical solutions. The overall design of the workshop encouraged ideation through co-creation – an expansive, dynamic process, followed by sessions of convergence and peer-review. The phasing and pairing of different design methodologies allowed for optimal co-creation, whilst continually cross-checking against innovation criteria to ensure the feasibility, viability and desirability of ideated solutions.

The workshop led to the definition of 4 possible social impact propositions for Manila, of which the first 2 are currently further work-out into concrete, innovative solutions.

Community Housing Construction

Many people that are enrolled in a Community Mortgage Program (CMP) can only afford a mortgage for the land, not to construct their house. As a result, around 30% of self-built houses are not finished in Catmon. What additional components can be added in order to have this group of slum dwellers enroll in the full CMP program?

Solar power for Slums

Solar energy has the potential to provide a family with sufficient energy to run a household. Many solutions have been proven in rural settings but far less in urban slums. Can solar energy be a clean, cheap and stable way to provide energy in the Manila slums?

Streamlining the Community Mortgage Program process

The CMP is a financing system that enables organized informal settlers to own the property they occupy or the land where they opt to be relocated. Tenants must register as a Community Association or Homeowners Association (HOA) to apply. CMP is a proven method for tenure security. However, CMP process is (too) slow, the structure fragile (all pay for non-payers) and not available to everyone. How could this be overcome?

Legal electricity connections

Official meter connections only go to homes in locations without land disputes and with access to a road broad enough for maintenance and fire trucks. As a result, official meters are subdivided up to 10 other households. (Sub-metering) and enterprise groups in the communities illegally hook up telephone cables to electricity posts (jumper cables). How can legal connections be provided by resolving access / right-of-way issues and learning from *illegal* solutions and pre-paid systems?

2 - Introduction

Many inhabitants live in informal settlements. They live in self-built, overcrowded houses they cannot prove they own and often lack access to basic services like proper sanitation, clean drinking water, power supply and other basic services, such as waste management and medical care. Many face health problems due to their squalid living conditions.

The pressure on critical infrastructure (roads, sewage, waterways and electricity) and resources (water and power) is reaching breaking point. The levels of pollution are already untenable. Inequality, crime and violence are rising, increasing the risk of social instability and more international migration. The new urban settlements are often located in river deltas that are vulnerable to flooding, a growing consequence of climate change. The potential for devastating spread of disease is large.

The Human Cities Coalition (HCC) is the leading Dutch public-private consortium committed to Sustainable Development Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. HCC also contributes to the New Urban Agenda, the UN action plan to meet the challenges of the ever-growing urbanization. It promotes cities and human settlements that are environmentally sustainable, resilient, socially inclusive, safe and violence-free, and economically productive. HCC represents 150 public, private, NGO and academic stakeholders and works with 20 contributing core partners.

HCC is established by a Dutch multinational AkzoNobel and has its roots in their CSR program called the Human Cities initiative. It is AkzoNobel's strong belief that to create transformative impact in megacities a broad public-private platform and separate entity needed to be established. AkzoNobel together with the core Human Cities Coalition Partners convinced the Dutch Ministry of Foreign Affairs (MoFA) to join the coalition as a technical and financing partner to start up an 18 month inception phase to model and test inclusive (water related) business cases for the working poor living in slums in Jakarta and Manila.

The Inception Phase will run from October 2016 till February 2018 and its main deliverable is to design a replicable and sustainable inclusive business case that serves the basic (water related) needs for the urban poor living in the two delta cities Jakarta and Manila. To achieve this the different leading stakeholders of the urban eco-system need to be aligned and overlap in objectives is needed to create a transformative system change that will impact the livelihoods of the urban poor.

To design the HCC social impact proposition/Business Case for Jakarta and Manila a basics services theme need to be identified that:

1. Serves the basics needs of the poor.

2. Is in line with the core business and or technical expertise of the private sector coalition partners, including the Dutch HCC coalition
3. Is in line with the existing public private urban policy framework (political traction); has preferably existing budget line(s).
4. Is in line with the financing mechanisms (financial traction) of the international financing institutions, impact investors and/or foundations.
5. Links to knowledge/skills and infrastructure from local civil society partners and or local private sector partners to deliver the products or services.

3 - Goal and Methodology

The purpose of the innovation assessment is to explore and identify local and international innovations in improving access to basic services in urban slums. For this assessment, we have focused on the selected business case topics that come out of the preliminary results of needs assessment; tenure (in the context of affordable housing), water (Jakarta) and electricity (Manila). At a later stage in the process water & sanitation was added for Jakarta.

The rationale behind the assessment is to learn from best practices that have already been developed around the world in similar urban contexts and to work with top-notch local innovators that have knowledge on how to implement new technologies within slum areas of Jakarta and Manila. In addition, we aim to support local entrepreneurs with the opportunity to partner in large-scale urban infrastructure programs. The overall intended outcome of the innovation assessment is to start the developed concrete social impact propositions/business cases.

The approach of the assessment is three-fold: 1) global innovation portfolio, 2) innovation match-making, 3) proof-of-concept (as part of the business planning phase).

4 - Global innovation assessment

To create an innovation portfolio, a global desk review was conducted to identify where innovations have been successfully integrated into the lives of the urban poor and summarize the lessons learnt. The global component provides context and ideas for how technologies could be successfully integrated into HCC business propositions. The portfolio has been developed for flexible tenure, electricity and water by our HCC partner the Advanced Institute for Metropolitan Solutions (AMS). We are currently in the process of developing the portfolio for sanitation with input from AMS and Slum Dwellers International (SDI).

Innovation included in the global innovation assessment are listed below.

Flexible tenure

Bann Mankong program: “What if including the poor in urban upgrading processes leads to economic growth for each party, why not giving it a try here?” A successful example of housing improvement, land-tenure security, and infrastructure development that places slum communities at the center of the upgrading process.

Urban collaboration & planning game: “How playing a game leads to liveable and sustainable neighborhoods?” The ‘Urban Collaboration Game’ and the ‘Urban Planning Game’ are games which function as workshop tools for the facilitation of multi stakeholder processes in cities. Stakeholders involved in a specific area are mobilized around a common agenda based on their own interest.

Yerwada slum upgrade: “From an unplanned slum maze of narrow alleys to spacious inner lanes” Yerwada slum area has gone through a remarkable transformation. Where once there was an unplanned maze of narrow alleys, now there are spacious inner lanes. Ramshackle homes made of bamboo sticks and asbestos sheets have been replaced by sturdier structures made of brick and mortar with room for small squares.

Namibia Flexible tenure system: “How to develop forms of flexible tenure which give sufficient security for slum community?” The basic idea of the Namibia Flexible Land Tenure System is to establish an interchangeable tenure registration system parallel and complementary to the formal system.

Makoko Floating school: ‘How to integrate sweat equity into slum structures’? A prototype floating structure located on the lagoon in Lagos. As a pilot project, it has taken an innovative approach to address the community’s social and physical needs. Its main aim is to generate sustainable, ecological, alternative building systems and urban water cultures and use sweat equity, local materials and local SMEs in the construction process.

Electricity

Rural spark: “What if a resident could become a local energy supplier who sells energy to his/her fellow community members? Rural Spark is a business to business company which provides energy kits to enable a market for sustainable energy to emerge, working towards smart networks.

Solar energy for slums; “How to help the slum community with nanogrid solar technology? Veriown and Wattcoin working together on developing a solar system package using a pay-as-you-use system to give slum dwellers access to energy.

Water & Energy hubs; “What if the community center literally empowers the community?” The Water Energy Hubs (WEHubs) are decentralized, solar-operated energy hubs that work independently of grid-connection and supply communities with renewable energy, energy services and drinking water.

Small scale solar; “What if technology fails?”; Liter of Light is a global, grassroots movement that uses inexpensive, readily available materials to provide high quality solar lighting to people with limited or no access to electricity.

Pre-paid structures for slums: “Will prepaid energy service access the slum dwellers?” Meralco is launching a Prepaid Retail Electricity Service for its customers which allows customers to monitor their electricity consumption, allowing them to budget their consumption and expenses.

Holistic models: ‘Will vegetable nursery powered by recycled sludge work in cities?’ Safi Sana creates sustainable opportunities through business driven, replicable programs that combine sanitation, waste management, energy and agriculture.

Water

Master meter program: “Give the community responsibility in the distribution of drinking water”. In the Master Meter Program, water supply operators provide a water supply connection in the form of a master meter at a legal site. From this Master Meter the society can distribute clean water to their homes through a network implemented and managed by a Community Based Organization (CBO).

Water kiosks: “Water kiosk is a very easy way of providing clean water”. The service is performed through regular filling of tanks by water tank car teams at Water Kiosks.

Water treatment plants: “Mobile water treatment plants are flexible to treat reservoir water”. Mobile Water Treatment Plants provide treated water derived from Pluit reservoir to meet the water needs of the community of Rusunawa Muara Baru.

water provision through a franchise model: “Providing clean water by a franchise model”. Main objective of this project is to test a new (franchise) business model that must enable people in Kenya to get cheap access to purified water via prepaid dispensing stations. The project will focus on people living in peri-urban parts of Kenya that now drink water with high fluoride or high salt levels.

Rainwater harvesting: “During the rainy season the easiest way to collect clean and cheap water” Rainwater Harvesting is a water supply system where rainwater from building roofs is collected and channeled through gutters and pipes to a storage tank. Rainwater harvesting techniques are generally carried out in residential urban areas.

5 - Manila innovation workshop



The social innovation workshop format is designed as a process to:

- Get participants to connect personally with the topics
- Get participants to break out of their perceived hierarchical roles in relation to other participants
- Raise awareness around how the topics of lack of access to energy and land tenure are actually experienced by community members
- Raise awareness of existing solutions that are currently implemented globally
- Raise awareness of existing solutions and organizations in the Philippines, and more specifically in Manila
- Use social innovation methodologies to democratize contributions of all participants
- Use social innovation methodologies to co-create locally contextualized solutions that are viable
- Use social entrepreneurship frameworks to focus co-created solutions into actionable prototype designs
- Leverage the expertise of participants to refine each other's approaches
- Map needs for actionable prototypes
- Map resources for prototype implementation
- Allow participants to pitch their ideas to each other for focused feedback
- Allow participants to commit to implementing co-created solutions

Using the above described social innovation method, a 2-day workshop was held in Manila on 28-29 June 2017. A combination of design methodologies were employed in the overall flow of the workshop, These include the art of hosting social transformation, social innovation, design thinking, and human-centered design.

- The following innovation criteria were used:

- Replicable and scalable
- Provides the local community a significant role in the implementation
- Affordable for the urban working poor
- Uses widespread, low threshold technologies
- Integrates well with existing infrastructure
- Provides a business case for the private sector for engagement



The workshop took place in a multi-sectoral setting and was attended by 56 individuals representing 48 organizations coming from people's organizations from Malabon City, electricity companies construction companies, academe, professional organization, architects, innovation hubs, non-governmental organizations, national government agencies and various offices from Malabon City Hall.

The community needs assessment and the political-economic assessment results were used as the basis for identifying the major problems faced by Tonsuya and Catmon. In light of the need to focus our efforts, 2 of these topics were chosen to focus the workshop on; flexible tenure/housing and electricity.

The processes were (1) presentation on challenges of tenure and energy; (2) social Innovation: personal dive flexible tenure / access to energy; (3) presentation on global and local solutions for tenure and energy; (4) identifying challenges and potential solutions and (5) voting of participants on the suggested top solutions. The second day continued on the (6) social Innovation: exploring solutions in detail, extensively discussing the solutions and their challenges and were capped with (7) finalizing the model.

The ideas around which was most energy were developed in further detail in the last part of the workshop:

Community Mapping

Mapping is a pre-requisite for all improvements and there are quite several tools available to facilitate this. Mapping is important to topographical and geographical conditions, to get a better perspective on land/development preferences of people, to instill participatory process and sense of ownership and with all of that, build an effective decision-making tool. In the barangays in Malabon city initial mapping is done. It is important to identify what additional mapping needs to be done and which tools can be used best for that purpose.

Community Development Plan

The aim of the community development plan is to work towards a sustainable resilient and holistic transformation of the community. The focus of this plan is on site development which goes beyond the responsibility of the individual community member; for example roads, drainage, livelihood improvement, access to basic services, community center). Actually, this community development plan is almost the masterplan for slum upgrading, in which all the other solutions fit.

Community Housing Construction

Many people that are enrolled in a CMP can only afford a mortgage for the land, not to construct their house. As a result, around 30% of self-built houses are not finished in Catmon. Through a number of options, the construction costs can be lowered and professionalized, for example:

- “sweat equity” by putting the construction skills of the community to work.
- building ‘model’ houses, which are used as an example for self-construction/group-construction.
- pre-finance an extra floor that is rented out or solar energy that is sold off.

Electricity right of way

Access to electricity is direct connected to land ownership issue. A formal electricity connection is only issues if there is proof of ownership and landowners are not keen on organizing right-of-way for illegal settlements. National legislation on right of way could tackle this issue and needs to preferably go hand in hand with solutions on ‘legalized (pre-paid?) sub-metering’ or solar power.

Solar power for slums

Solar energy has the potential to provide a family with sufficient energy to run a household. Many solutions have been proven in rural settings but far less in urban slums.

- What would it take to provide a house with a solar panel and even make the owner a micro-entrepreneur by selling excess energy?
- How would a solar community center work where community members could buy energy and charge equipment (e.g. phone)?

The workshop created a lot of energy and traction and there was a strong wish to find concrete ways to facilitate the future process and jointly work towards implementing innovative solutions. As a ‘home’ for further pilots and building the stakeholders community, it was agreed to work together on a community-led innovation hub.

The City of Malabon committed to allocate a space in the community (in Catmon, bordering Tonsuya). A small renovation is needed. Many of the participants commit to contribute their resources, talents and expertise for this hub.

We are exploring how a Malabon community-led innovation hub could deliver:

- Living Lab for developing new community innovations, inspired locally and globally and prototyped in the community.
- Community center for everyone to get together and get skills trainings.
- Dialogue place to discuss urgent challenges and strengthen the community in the engagement with local government and the private sector.
- Matchmaking between innovations and local start-ups and corporates (CSR) for (small) impact projects (when appropriate)

After the workshop, we further assessed the workshop results and identified 4 possible social impact propositions;

community housing construction

See above

solar energy

See above

streamlining the CMP process

The CMP is a financing system that enables organized informal settlers to own the property they occupy or the land where they opt to be relocated. Tenants must register as a Community Association or Homeowners Association (HOA) to apply. Catmon has 14 HOAs in place, 10 in process, Tonsuya has 8 HOAs in place, 16 in process. CMP is a proven method for tenure security. However, CMP process is (too) slow, the structure fragile (all pay for non-payers) and not available to everyone.

Legal electricity connections

Official meter connections only go to homes in locations without land disputes and with access to a road broad enough for maintenance and fire trucks. As a result official meters are subdivided up to 10 other households. (Sub-metering) and enterprise groups in the communities illegally hook up telephone cables to electricity posts (jumper cables). How can legal connections be provided by resolving access / right-of-way issues and learning from *illegal* solutions and pre-paid systems?

We are currently further developing the social impact propositions on solar energy (no. 1) and community housing construction (no 2).