Community Mapping
for housing by people
Handbook
CAN
community architects network
with supported by ACHR
Dedicate to **Perween Rahman** (the director of OPP-RIT)
- for her spirit and inspiring works on mapping -
We are all NINJA TURTLES of mapping

Perween was with us in Bangkok, just two short weeks ago, for the big ACHR regional gathering, which took place February 23 - 28, 2013 - one of the rare regional meetings this busy and committed woman agreed to leave her work in Karachi to attend. On the second day of the meeting, during the special session on community surveys and mapping, Perween and her colleagues made a delightful and inspiring presentation about the maps they have been making and using for the last 32 years in Karachi and other parts of Pakistan. "We're all mappers," she told us, in that voice of hers, which went up and down the scale like a flute. "We love maps! We are all the Ninja Turtles of mapping! Maps are to our work what x-rays are to a doctor's: they tell us where the problem is and how to resolve it." Although we couldn't have known it at the time, this was Perween's last presentation to her friends and colleagues in Asia, her farewell message to us. Here is the fully transcribed text of Perween's presentation.
Why are maps important for us? A map for us is like an x-ray for a doctor. For us, who are development workers, if we do not know what exists in any settlement or any city, then there is a fear that we might do something which the government has already done - sometimes even something already done and already financed by the ADB, the UN or the World Bank! When they take up a project in a new place, they don’t have any idea if there is a telephone line, a water line and they want to lay a sewage line. So in the process of laying that sewage line, they cut everything else. So that is why for us, a map is like an x-ray that tells us what the problem is, so we can resolve it.

What do we get in a map? Starting in Orangi: In 1982, we began mapping of Orangi Town. Orangi is a town in Karachi which has 113 settlements and 1.5 million people in it. We began doing the mapping ourselves. At one time, we thought about hiring consultants or professionals to do it. But no, we thought they would just go into a settlement and just do the work, without interacting much with the community. For us, it was important that we do the mapping - we who were in the community - so that the map could help us get the community youths into the mapping process, and help everyone understand the community and us coming together. We first mapped the sewage and drainage and water lines in Orangi, as well as the clinics and the schools, and the block makers yards.

Let me tell you, everywhere in Pakistan there is self help. Everywhere. We sometimes think, where is the government? And that is because of the fact that 85% of Pakistan’s entire government budget goes into repaying the country’s IMF and World Bank loans and to defense, so there is hardly anything left for the people, hardly anything left for development. That’s why people do a lot of self-help, because they need to survive. They lay their own sewer lines and water lines, they set up their own schools and clinics. And of course they do their own businesses and build their own houses.

So for us, it was very important to understand who was doing what - where is the sewage line? Is it a government sewage line or a people-laid sewage line? The kind of information we gathered and mapped spanned every sector in Orangi, and all the actors in involved. That mapping has now spanned the entire Karachi city.
Mapping the rural "Goth" settlements in Karachi: Today we are involved in mapping those settlements which about six years back were known as "rural villages." But when we mapped them, we found that they are no longer villages, they are urban. First we made "walking maps" of these settlements by walking through them, then we marked them on the Google satellite maps and put the two together. We worked together with the residents, the goth elders and community activists, and we were able to map each and every goth settlement which had become urban. The government’s data showed that there are only about 400 of these goth settlements. But our mapping showed that there are more than 2,000 such settlements. In fact, just knowing that there are 2,000 such settlements, we and many of our partner organizations were advocating to everybody. I think the idea of our advocacy was to make the government understand that it’s too many communities - you cannot just evict them. These communities are a fait accompli - you can’t do anything about these old settlements, so you might as well give them land title.

We started mapping all these goth settlements in 2006, and in April 2010, the government announced that more than 50% of all these urban goths villages - 1,063 of them - were to be given the land title. And it was the maps that did it. Just the maps! I remember one thing: all of us were talking with the elders in these villages, and we asked, if it is so important, why didn’t they lobby for land tenure before? They said, that when they used to go and lobby without a map, nobody thought it was very serious, nobody took them seriously. But when they went with the map, "With the map we became visible. The map made us visible. And the map made the government take us seriously." That is the power of the map.
Who does the mapping? All of us do mapping! Even Naheed maps the villages in the flood-affected rural areas where she works. She maps, her daughter maps. He maps. She maps. We are all Ninja Turtles of mapping! We don’t know anything unless somebody shows us a map! All of us - we are mixture of people living in communities, people having community-based organizations and technical support organizations - and we all map together. And these are highly professional maps. They begin as rudimentary sketches or "walking maps", but then we link them up with Google satellite images. We have tried to use the GIS system, but for us it is too time consuming, and it does not get us close to the communities. So for us, the walking maps and the Google satellite images are map making techniques that help us link up, they make us build up relationships.

The youths in the community have been very important in this mapping. Right from 1981 until today, the young people in communities have been involved in mapping, all across the country. We are part of a community development network which links more than 80 partner organizations and 3,000 community-based organizations across the two most populace provinces - Sindh and Punjab. And the community youths are involved in all of these organizations. Why the youths? They like to talk, and they are not short of time. They build up relationships, and these relationships work both ways: to understand what people are doing in a community and to gently extend any information into any town or settlement. The map helps us build up these kinds of relationships.

What have the maps done? The maps have helped professionals to understand the reality and to have the courage
to accept reality - that’s very important. The maps have also helped the government to understand the reality and for the government to understand that somebody else also has this information, so somebody else can pressure them. So it’s not just we or just the ADB or UN developing and owning this information - the people and the NGOs and the media all have this information now. The media is very important for this work, because in our case, the media have used all our maps. Today, all our maps are being used by the government, the media and even the politicians. So it’s good for us. In this we have a strategy. Sometimes on a map, we do not put our names. We also say, OK, you put your name: you put the chief minister’s name, you put the government department’s name - as long as you accept that map. That is also a strategy for us, that we take a back seat, we become invisible. And sometimes the people use the map and put their organization’s seal on it - and we love that! It’s great for us!

And of course the maps help the community to understand also. Because the people within settlements may understand their own work, their own few lanes - but an understanding of an entire area, that is needed. And once that understanding of the larger area is there, the advocacy goes to another level. Because within the community, there are people who understand their lane work, people who understand their molhollah work, and people who understand the town and city work. So this helps take the advocacy and pressurizing of government to a higher level. And of course, government officials within the various departments are also making use of it and supporting it. There is a lot of relationship-building that happens within a community, during the mapping. Because whenever the information is gathered, it is gathered while talking, while discussing, while actually being in the settlement. For us, the relationship-building has been the key that has helped advocacy and citywide upgrading.
What has the mapping done, at the wider level? Some examples.

1. **Using maps to stop an unnecessary ADB loan for sewerage:** In 1999 we were involved in the city of Karachi in trying to stop a very scandalous US$ 100 million ADB-financed loan for one town's sewerage - not Orangi but another town in another part of the city. How we stopped it? We mapped the settlement. The government had signed the agreement, with no map in it. There wasn't any map. The entire loan was sanctioned without any map. So we started questioning it. We said, no map? OK, let's do a map ourselves. And we mapped it, and we found that the loan that the government was taking was for the sewerage and the drainage of the entire town, whose population was one million. 80% of all infrastructure already existed in that town. So why the loan? And then we estimated that if 80% exists, only 20% of the town needed some work, and about $15 million was needed. And I remember that in one of the meetings with the governor, when the loan was cancelled, the government department that was taking the loan was lobbying, No we need that loan, we want it, we can't do without it! So the governor, who had seen the map (and of course after a lot of advocacy), said, "If we can build the atom bomb," he said, "why can't we make our own sewerage line?" The point is, the governor hadn't wanted to take the loan, but the info to make his point powerful was not there. The map did it. There was a huge advocacy - the URC was involved, lots of other organizations all over Karachi were in on it. And the map strengthened that and made our advocacy visible.

In the work of the OPP-RTI, the URC and the TTRC, we began as working in settlements, and then expanded into to town and the city. And that expansion into the city and into other cities was due to maps. Because maps are our eyes - like the x-ray. They tell us what to do, where to go, who to lobby.

2. **Using maps to secure the land in goth villages:** For us, the story of how the goth villages have become urban and have gotten their land titles, because of the maps, has been such an exciting development. I remember when Diana Mitlin was visiting us in 2010, she went and met some of the community members, who at that time were distraught, "The government gives land title to the rich, why not to us? We have been here since ages. We are the oldest settlers in Karachi. These were settlements that were here even before the migrants came to Karachi - and Karachi is a city of migrants. All these settlements have been there since long before the birth of Pakistan in 1947. More recent migrants are
getting their land titles, why not us?" This was also a case of political friction between the old settlers and the new migrants. But the maps did it! That settlement that Diana visited got the land title - individual land title!

We were just saying amongst ourselves that if we die today, we will die so happily, because we have done it. Karachi is in flames. One of the aspects of the violence is the land: who gets the land title is very important. Because the latest migrants, who are represented by a very violent political party, have all got land titles. They came after the 1980s. And these goth settlers, who have lived there since before partition in 1947, they never got the land title. When we were doing the mapping in the goth settlements, there were lots of angry young people, and they said, "Oh that settlement over there? They are new migrants and they got the land title. We are the original settlers and we haven't got it." The maps were what helped us to turn it around. And now we are doing a lot of infrastructure in those goth communities and setting up savings groups. This land title thing has been a step forward for the peace of Karachi. It's contributed to the peace and the political balance - so it's very powerful.

At this point, Perween turned over the podium to her colleagues Sirajuddin and Naheed Parveen, who continued to describe the way they have used maps in their work. We all found it touching - even miraculous - that the photo of her that has been picked up and beamed repeatedly around the world, in reports about her death on the internet and in newspapers.
Content

9  We are all ninja turtles of mapping

19  Introduction

25  Facilitating community mapping and planning for citywide upgrading: the role of community architects

42  Mapping - What and Why?

49  Level of mapping and what to map?

65  Tools

69  How to survey & map?
   - City-wide surveying and mapping
   - Community Mapping for Housing Development

103  Tips

109  Appendix
A demand-driven approach to housing the urban poor means that they should play an active role every step of the way, from identifying communities that face housing problems to planning new settlements and designing new houses. While these processes can be carried out by the urban poor themselves, they may benefit from judicious intervention by skilled professionals at various stages, who can help with technical aspects.

However, the role of the professionals extends beyond mere technical aspects – site planning is not just the design of house and infrastructure layouts, but also requires an understanding of the relationship of the people and their houses to the community’s physical and social context. Comprehensive site planning by community architects tries to weave together the community’s various components to build a liveable community.

Community mapping by the people feeds into this by heightening the residents’ awareness of their interrelationships and interactions with the space they live in. Thus, comprehensive site planning can be a vital tool for finding the meaning of “living together” through ways of discussing, planning and sharing together, identifying what has made the community live well together thus far, and how it can be maintained and built up in the future. Mapping can support selfdetermination and self-organization, and in the longer run can contribute to processes of democratization from below. As such, mapping is not only the end product – it is also a process, and the output can be an improved understanding of the relationship of people with their place of living.
What we can see and read from these maps drawn by people?
How these maps tell many stories on how people living together in their community concerning on culture, social, and economic aspects?
How can we as an architect or urban practitioner learn from the people’s mapping, to find our active roles and skills to assist people’s capacity reaching the change in city-wide scale?
How this map and mapping’s process shown us common problems and assist all of us to start sharing idea and doing somethings together?
Facilitating community mapping and planning for citywide upgrading: the role of architects and planners
Urban poor communities are increasingly able to take control of their housing choices, from negotiating land leases or buying land, contributing financially through savings groups and implementing infrastructural and housing improvements. These actions are often undertaken as a collective, such as those supported by the Asian Coalition for Community Action (ACCA) programme of the Asian Coalition for Housing Rights (ACHR). However, these proactive community members may sometimes need a helping hand in the form of technical assistance, and community architects can play a vital role in enabling communities as they work towards a more secure urban future.

The ACCA programme supports a process of citywide upgrading – that is, seeing slum communities not in isolation but as a collective, with all slums forming part of the city’s anatomy and which therefore have to be looked at in the wider context of the city’s form. For this purpose, the process of citywide mapping can be a vital tool in gaining an understanding of housing problems within a city and in prioritizing settlements for the process of upgrading when there are limited funds available. Once citywide mapping has been completed and comprehensive data have been collected on the number of communities, their land tenure status, the housing problems they face, the number of residents, their incomes and any other relevant information, this information can be shared with city authorities. This is often the most comprehensive data that city authorities will have on low-income settlements within their city, and the process of collecting and collating this data empowers the city’s poor, as it gives them informational advantage – a bargaining tool.

However, equally important as the process of citywide mapping is that of community mapping – which allows the residents of a community to understand not only the existing situation within their community but also how their community relates to the wider environment surrounding it. Following the mapping process comes comprehensive site planning for the long-term future of the community’s development. This paper will examine the role and function of citywide mapping and then focus on community mapping and site plan-
ning, providing case studies to demonstrate how it is implemented and how communities can benefit from the process. With the right kind of input from architects or other professionals, who are playing a dual role as they also act as community development workers, the process of upgrading to secure housing will extend far beyond simply physical improvements to housing. The paper first outlines the various stages involved in the mapping process, (1) as well as the process of comprehensive site planning that follows (2) and gives examples from Burma (Myanmar), Bangladesh and Fiji, among other countries.

Why Is a People’s Process Necessary?

The alternative to a people’s process for addressing housing issues is a top-down solution with no real input by those who will be affected. Without this input, the providers of housing solutions may act with no real understanding of the way of life of the community residents, of their relationships with each other and also their relationship with their wider environment, from natural resources to their cultural heritage. If no effort is made to understand and take into account the overall context of people’s living environment, then housing solutions are unlikely to meet their needs fully.

The mapping process is also an important learning process for community members, as it helps them to identify and analyze various issues – such as the key problems that they face and how to prioritize problem solving – as well as assessing the resources they have to hand, be they natural, social, cultural or economic. By gathering all the collected information into a database, the residents can create a valuable
tool for planning purposes, having to hand the necessary information about financial resources, skills base, disaster risks and infrastructure needs, among other things. Mapping is a process, with an aim that goes beyond making a piece of paper with lines on it. The success of mapping need not be measured solely by the production of a physical map; if the process leads to a common understanding and increased dialogue by community members about their relationship to their living space and their community’s relationship to the wider environment, then this also is an indicator of success.

The mapping process also plays a very important role in putting the urban poor communities “on the map” within the wider context of the city in which they are located. Very often, urban poor communities are an invisible or neglected part of the city. They are ignored in city plans and overruled by commercial developers. When the poor communities within a city gather together to organize themselves in order to carry out surveys, they can form a network of people facing common issues and can negotiate collectively for their future through their strength in numbers.

**CITYWIDE MAPPING IN PRACTICE**

The key to the mapping process is that it should be carried out by the residents themselves, be they young or old, male or female. Actively participating in the mapping process gives
the residents a deeper understanding of their community context. It is also an opportunity to identify key problems and existing resources and how the community can address these problems and make use of the resources, addressing not only their housing situation but also their economic and social conditions.

Mapping can take place at different levels: geographical, city, community, household and issue based. Geographical mapping identifies natural features and can be particularly relevant for communities at risk of natural disasters, such as those located on coastlines or near volcanoes, and also for communities close to natural resources such as forests and streams, so that these threats or resources can be accounted for in future planning.

Citywide surveying is very important in cities with multiple low-income communities facing housing or land tenure problems. The process of surveying can bring all these communities into contact with each other and lead to the formation of a network that can negotiate collectively for housing solutions for all of the city’s urban poor, as identified in the mapping process. Citywide mapping not only pinpoints the location of all informal settlements but also highlights the different types of tenure and the different landowners, as well as the common problems facing communities; it also identifies areas of vacant land that could possibly be leased or purchased by those communities needing to relocate for upgrading.

In the city of Bharatpur, Nepal, the citywide mapping process identified 54 settlements, of which 19 were located on the edge of a national park where there was space for them to squat and where they could obtain resources such as timber for firewood. As there were preexisting tensions between the squatters and the national park officials, identifying all the communities in this situation enabled them to group together to collectively negotiate an agreeable solution with the authorities, to remain
on site and use forest resources sustainably. In some cases, the forestry authorities even provided some timber for construction. As demonstrated in this case, citywide mapping can provide a focus and direction for upgrading activities.

The municipality assisted the process by preparing a city profile and a city map on which informal settlements were plotted. Eight community representatives from each community, both men and women who had good knowledge of their own community and its amenities and features, were invited to join in the participatory citywide mapping process in order to plot these on the map. They then each presented their own community to other gathered communities, sharing their common problems and potential for future development. This information was then all entered into an informal city level database. As a result of these activities, a committee of the Slum Upgrading Forum was established, bringing together community networks and government representatives to work together on upgrading.

In Moratuwa, near Colombo in Sri Lanka, women members of the Women’s Bank embarked on a citywide survey of the poor settlements in their city, carrying out the survey themselves. They were trained by the local NGO Sevanatha to do the survey, to
read maps and satellite images obtained online, and to quickly assess the various poverty indicators in the slum settlements according to a “scorecard” system. The process allowed them to identify a number of poor squatter communities that had previously been ignored by government authorities and development agencies. Once these communities had been identified, their members were able to learn about the Women’s Bank and join in savings processes, and eventually to apply for loans and grants to upgrade community infrastructure and houses. The survey also identified and mapped plots of vacant land in the city, which disproved the municipality’s claims that there was no land available to house the poor. The women and Sevanatha then shared all this information in a meeting with the mayor and the municipality, and with their informational advantage, the women’s network was in a strong bargaining position. The next stage was to start savings groups in the newly identified communities and develop a citywide plan for upgrading, prioritizing the most needy slums as identified in the survey.

In the city of Lautoka, Fiji, satellite images from Google Earth were used to overlay maps of the individual settlements, distinguishing between those on state land and those on native land. This satellite imagery helped to pinpoint existing infrastructure and that which was lacking or degraded. It also made it possible to identify areas of vacant land that could serve as possible relocation sites. All of this information was compiled onto one large map that was presented to the Lands Department. This city map functions as a sort of “virtual” land bank with regard to vacant land. In conjunction with the city map, the community members also carried out “people mapping”, identifying key skills of community residents that could be useful during upgrading, such as carpentry, masonry and mat weaving.

This process and the interaction with local officials are
Alongside the citywide mapping process, it is useful for each community to carry out its own mapping process, documenting the community’s physical situation as well as surrounding resources, whether natural or infrastructural, to provide the context for the next stage of planning. The community mapping process can be kick-started by a “walking tour” of the settlement in small groups, taking notes and trying to view their community from a holistic perspective, not only as insiders but also from the viewpoint of outsiders.

The next stage is to draw the community map. This need not be a technical drawing but simply a representation of the community’s environment as perceived by the residents, including all houses and key features. If the community is large, the mappers can be split into smaller groups and then the overall community map can be pieced together from
the smaller maps. Colour coding can be used to identify different buildings and spaces, such as houses, kitchens, toilets, pig sheds, vegetable gardens, pathways and plot boundaries. The completed map will then form the basis of community-wide discussions about the features and problems they have identified. The mapping process is about more than just the physical features of the community – when explaining what has been mapped, the opportunity emerges for stories relating to the community and its history: which areas were settled first, which houses were rebuilt following a fire, how the community’s shape has changed. These events over time have all shaped the community’s form and structure and affected the relationships of the people living within the community, and therefore should be borne in mind when considering its future.

From the basic community-drawn map, professionals can help the community to draw a scaled map for use in the planning stage. Community residents can assist in measuring the community’s dimensions – this can be a role for the community youth. Architects can also help translate ideas into designs and diagrams that are technically accurate and that can be used for construction plans or to apply for building permission where necessary.

Maps are not final – they can be added to and changed as the community’s situation and surroundings change, to reflect the reality they are in. There is no perfect map, and the process of mapping can lead to dialogue about why a particular aspect was represented in one way and not another, ultimately leading to a deeper understanding of the community’s situation and how it is perceived by residents.
The process of community mapping is different when the community is relocating to a new site; they need to develop a relationship and understanding of their new location while retaining the values that matter to them from their old one. A mapping process in their current community can help identify household clusters and common problems that could be addressed in the relocation. This, as well as collecting data on existing house sizes and plots and the number needing to relocate, will help them decide on a suitable relocation site. The new site may house families from a number of different communities and therefore community network meetings should take place regularly, and possible relocation sites can be chosen from the previously completed citywide map.

Once citywide mapping has been completed, and the communities prioritized for upgrading on site or through relocation, with complete community maps, then it is possible to move onto the stage of planning the upgraded community. The community map will have helped the community to visualize and understand their cur-
rent living conditions, including identifying natural or other resources as well as highlighting potential threats that need to be taken into account in planning the new or improved community.

The planning stage must consider the size of the plot on which reconstruction or upgrading, or construction in the case of relocation, will take place. When the size of the plot and the number of households is known, this allows an average individual plot size to be determined.

However, it is likely that the community residents will want to leave space for communal facilities, not only roads or lanes but perhaps also a playground, a community centre or another type of public space. Thus, it is useful to hold a “dream community” exercise, in which all communities visualize their ideal community and the facilities it would have. This activity will
highlight the facilities that are most important to the community members, be it a children’s playground or a market space, and these will then be discussed in terms of how much space should be allocated to them. Once this has been agreed, the remaining land space can be divided up between the households to determine each individual plot size. The community also needs to agree collectively on whether everyone should have the same size plot or whether to set criteria based on household size or other relevant factors. In order for people to get a better sense of dimensions, it can help to measure plots out in life size, using whatever tools are to hand, such as rope or floor tiles. People may readjust their size expectations once they see how big (or small) the space is in reality.

At this stage it is helpful to carry out another visualization exercise for “dream houses”, whereby everyone draws their dream house and then explains its features and why they are important. Models of these houses can then be built for better visualization, and
this creates another opportunity for group discussion about why certain features are necessary and what infrastructure is needed. This then leads on to discussions about costs and how they can be kept low, which also relates to the layout of the community in terms of sharing facilities. The residents can also consider what materials they already have that could be re-used and what construction skills exist among community residents that could be used for self-construction. When costs and feasibility have been considered, the house size may be reassessed.

Once the housing plot sizes have been agreed upon, their arrangement on the plot of land needs to be discussed and experimented with. In the Ale Yaw ward on the outskirts of Rangoon, Burma (Myanmar), community residents were given small coloured squares of paper that they could arrange on a larger sheet representing the full community. Different layouts for the
coloured squares were tried and in the end a cluster arrangement was selected. Houses were arranged in such a way that each family’s pig pen was near those of a cluster of neighbours in order to allow biogas generation from pig manure. A similar exercise was carried out in Pupo community in southern Thailand for a reconstruction project.

Once the layout has been finalized and approved by the community, the architects can help turn this into a scaled diagram that can be used during the construction process. In order to cement community cohesion during the process, common infrastructure can kick-start construction with, for example, pathways or the laying of drainpipes, activities in which all community residents have a stake and that allows them to feel a sense of ownership over the community. It is also possible to construct a “pilot” house, and in this case the community may choose to build the house of the community’s most deprived or struggling member, such as an elderly person, hence providing for this person while also allowing room for final adjustments to the house design before full-scale construction begins.

**Role of the Community Architect**

Throughout the mapping and planning stages, community architects and other relevant professionals have to find the right balance for working with the community members, by providing sufficient guidance without controlling all the processes. Rather than providing all the answers, professionals should be asking the right types of questions, which will lead to the community finding the answers themselves and learning in the process. The mapping and planning processes
should be framed in such a way that they can allow for the eventual formation of a platform for people to work together as a community and as a network. Therefore, in this case, the professional is not a mere architect or planner but also a community worker, able to read community dynamics and use them for the benefit of the whole community. These professionals need to be able to bring together the community’s physical and social aspects. If, as is usually the case, a natural community leader emerges through the collective processes, the professionals need to give them the space to take the lead and gain the community’s trust.

There are a number of ways in which professionals can facilitate community processes. They should provide a good working environment and space for community meetings where everyone feels equally able to speak out and share their thoughts and opinions. The professionals should be able to improvise and make use of whatever tools are to hand: the human body is a useful measuring tool for visualizing how large a room needs to be, while floor tiles can be used to mark out areas. However, they should not shy away from working with more technical tools such as maps and satellite pictures, and teaching community members how to read them in the process. They also need to be able to consider financial issues and help the community to ensure that their financial capacity will allow them to achieve what they have designed – this may mean helping to set up community-based revolving loan funds as well as finding potential sources of grants and loans. An architect who is disconnected from the financial realities on the ground will not be of much help to urban poor communities.

Ultimately, professionals working with communities need to recognize that the knowledge derived from community mapping belongs to the community, and they need to know how to represent it and use it. A clear goal for community architects and other support professionals is to make the process sustainable without their intervention: “Once community people know the process [of mapping] and realize that they are the ‘subject’ and the ‘key actor’ of their mapping, they can do it without social organizers.”(3) Sometimes, community architects make mistakes, and it helps if the community sees them as fallible and can even provide the right answer themselves.
Professionals working with communities also need to ensure that these can still receive support even once the professionals have gone – this means getting locally based professionals involved and drawing in student architects and planners, who themselves would have much to learn from working with communities. This also means getting the younger generation involved wherever possible; in Bharatpur, Nepal the process of compiling detailed community maps was undertaken by the youth group in each community, working with community architects and the local development organization.

Of course, as well as the community development aspect, professionals need to put their technical skills to good use. When planning new communities and designing houses, architects need to keep at the forefront of the planning and designing the need to keep costs affordable by the community members. Often, they may have ideas for the re-use of old materials as well as how to build in the vernacular style, which will make for more climatically adapted housing. If there are skilled carpenters and artisans in the community, designs should take into account the skills they can offer. Alternative technologies, such as biogas or wind power, could also be applied if they can help keep living costs down.
Mapping
What and Why?
Mapping is a tool for building a community’s understanding of where they live, and community mapping is a process for people to come together and understand, by working together, what their possibilities are for building a better community.

Mapping is the one of several tools available to help people in a community to jointly gain understanding and carry out planning, using the mapping process.

1. To survey and understand the community together, looking at the relationship between the things being mapped, such as houses, canals, trees, roads, and important areas in the community, as well as intangible values.

2. To help all community members to identify and analyse various matters: which things have potential in development planning, such as resources, where and what are the problems needing to be solved, such as land tenure, poor housing, insufficient infrastructure.

3. To gather information into a simple database and a map, which can be used for community planning purposes – including peoples savings, healthcare services, community welfare, and disaster mitigation.
Physical Existing
• Trees
• Canal
• House plots
• Streets
• Open space
• Main places in community
• Infrastructure
• Community boundary

Problems
• Disaster risk
• Broken relationships
• Poor infrastructure (road, sewage, electricity, sanitation)
• Unclear tenure
• Poor planning

Opportunity Potential
• People’s idea
• Active people / Group
• Existing cultural and natural heritage

Social existing
• Saving group
• Religious group
• Youth group
• Kinship / clan
• Local organization (Religion / official)
Planning Process

- Take action in community
- Development Upgrading
  - Reconstruction
  - Re-blocking
  - Relocation
  - Land Sharing

new image of community with better relationship and community’s sense
Level of mapping and what to map?
We can map all things to make our community map, but the things that are really needed are the things that make our community better. Map the things that are valued by everyone in the community.

Mapping can be done at any scale, starting from the housing level to geographical level. It can be focused on any issue, like housing, community problems, land tenure, people’s history, even cultural and natural resources.

**Geographical level**  Mae-wang basin, Thailand / Koh Mook’s island, Thailand
**City level**  Bharatpur, Nepal / Ayutthaya, Thailand
**Community level**  Muanvivatu, Fiji / Kalaetapae, Thailand / Salayani, Nepal / Community of Khawmu’s network, Myanmar / Household level  Panthaklin saving group community, Myanmar
**Issue-based level**  Livelihood and life support’s web, Nepal / People’s history and idea for upgrading, Thailand
This mapping level will gather information about geographical characteristics, natural features and resources, as well as human settlements. Once the mapping is completed, the map can be read to show how all aspects are inter-related.

**Mae-wang basin, Thailand**

This map depicts how Karen ethnic group indentify their land for utilization through their traditional wisdom. Its aim of mapping tries to insist that community itself using and protection for forest rather than destroying as usual understanding.

**What to map?**

- Karen Ethnic Group
- Sacred Forest
- Utilizable Forest
- Rotational Field Area
- Wet Rice Terrace
- Dwelling
- Burial Ground
- Fire Buffer Line
- Transportation
  - Double-Lane Road
  - Single-Lane Road
  - Train Track
- River/Stream
  - Seasonal Stream
  - Perennial Stream
  - River
- Altitude (mean sea level.)
Koh Mook’s Island, Thailand

This map depicts communities settled on Koh Mook island, communities which are located in various bays without land tenure status, following the 2004 tsunami.

What to map?
- Local problems
- Community settlements
- Community forest area / boundary
- Road linkage in island
  - Ports
  - Bays
This mapping level gathers information like the location of communities, and their links to various modes of transportation. This map aims to identify and analyse all issues at a city-wide scale, and see how the city’s different components, especially the informal settlements, function together as a city.

**Bharatpur, Nepal**

This city-wide survey map depicts the location of 19 squatter communities out of 54 communities (red color) which are squatting alongside the National Park. Why? Because the space is available and can provide natural resources, like timber and agricultural land for these communities who came from rural areas.

**What to map?**

- City development plan
- Logistic
- Resources (Cultural/natural)
- Community
- City Node
- Market
- Temple
- Important places
- River bank
- Vacant & possible land for community housing
Ayutthaya, Thailand

This city-wide survey map shows locations of informal communities with number of households, history, problems, the land owner, and also the housing solution of each community.

What to map?
- Idea for housing solution
- Community history
- Community characteristic
- Problem community
- Possible land
- for new community
- Important place/node
- Road/logistic

This map pins all informal settlements into the city map, and groups them together according possible solutions, such as the relocation group, reblocking group, and on-site upgrading group. Each group of possible solution was given basic community information (history, household number, population, pictures), and sketched ideas for improvement.
Community Level

This mapping process gathers information on infrastructure at the community level, to capture community characteristic and the sense of community, alongside basic problems like insufficient infrastructure, future possibilities and peoples’ ideas.

Kalaetapae, Thailand

This mapping aims to find possibility of walkway upgrading by people, people

What to map?
- House’s plot & No.
- Basic infrastructure existing
- Poor infrastructure needed to be improved.
- Idea of the open space planning
**Muanivatu, Fiji**

This community mapping process was conducted by a Fijian women’s group, taking one day to collect information and discuss about community characteristics, problems, and prioritizing problems to be solved.

**What to map?**
- Settlement history
- Land owner
- Family member/family head
- Number of children
- Water supply
- Toilet
- Electricity
- Canal/drainage
- Community forest
- Main road
- Open space/ground
- Community boundary
- Occupation of each family
- Amount of saving
- Prioritized problems
Community of Khawmu’s network, Myanmar

This map is drawn by people who are living in rural areas of Myanmar, who were affected by Cyclone Nargis. By the process of mapping and discussion, this led to an understanding of their livelihood situation, and how a serious disaster made them become landless, and possible solutions such as land banks for landless farmers, and a knowledge center for organic farming.

What to map?
- School/Temple
- Farm land/Field
- Water resources /fish pond
- Market
- Irrigation channel
- Houses/Cluster
- Communal land
- Landless families
- Minimum land required per family
Salayani, Nepal

Mapping was done by people in subgroups (a total of 6 subgroups, totaling 31 households). This mapping process tried to build a mutual understanding between community people and the relevant agencies about how people live together as a community, as well as how each family uses resources from the community forest to sustain their lives.

What to map?
- Houses
- Kitchen
- Community forest
- Vegetable plots
- Toilets
- Animal Sheds
- Water hand-pump
- Drainage
Household Level

This mapping process captures how people live together as a family: the type of mindset, culture, life-style, and economics of people, the knowledge that makes their household.

Panthaklin savings group community, Myanmar

We can get an understanding of peoples’ housing by asking them to draw their “dream house”, then making a space for them to share their dreams. This drawing shows how their beautiful dream house looked, with a big tree creating shade, an ancestral shelf facing the east, a separate toilet and animal shed, the house on stilts for flood protection, with a vegetable garden and common space at the front of the house.

What to map?

- House Components
- Toilet, Garden, Animal Shade, Household Infrastructure, Water Pump
- Space Utilization
- Living Room
- Sacred/ Ritual Space
- Bedroom
- Surrounding area
- Canals
- Roads
- Farm
Apart from the different kinds of mapping level, from large scale like geographical level, to the household level, mapping processes can be focused on any issue: livelihood and life support web mapping, people’s history mapping, location of resources (both cultural and natural) mapping, economic, or mapping of people’s ideas, and community mapping.

**Livelihood and Life support’s web, Nepal**

This mapping represents the web of resources’ usage of people and how it link together. We profoundly understand when we build new people housing, we will keep these all component exist as economically.

**What to map?**
- Livelihood and life support elements, and how each element sustainably links together in the input/output line of resource use.
People’s history and ideas for upgrading, Thailand

This mapping process represents the sense of community, historical place and memory, because of the site’s recent changes, a historical canal which is now a sewage canal for the city. This map shows the good ideas and some initiated projects of community people to improve the condition of the canal.

What to map?
- Oral History and individual memory in the actual place
- People’s ideas and initiatives done by the community
Tools

“We use rope as a meter-tape, and we can use our body measure all such things!”
Basic survey format

The survey format can be prepared along with the mapping process (before/in between/after), depending on the situation and context. The survey form includes summarized information that cannot be represented on the map, such as household numbers, population, amount of savings. There are basic survey formats for both city-wide surveys and community surveys.

City-Wide Survey Form

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<th>City Name:</th>
<th>Location:</th>
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<td>Date of Survey:</td>
<td>Recorder:</td>
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<tr>
<td>Brief about city:</td>
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<table>
<thead>
<tr>
<th>No.</th>
<th>Community Name</th>
<th>Household No.</th>
<th>Population</th>
<th>Aged</th>
<th>Land owner</th>
<th>Basic Infrastructures</th>
<th>Other problems</th>
<th>Possibility &amp; solution</th>
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Basic map and old picture is used as basic reference; such as location finding, locality landmark, area boundary and vicinity, logistics and transportations, in beginning of mapping process. Detailed maps like city plan or master plan for development, or resources map also important to have because it give a direction of city plan and available resource to use and conserve. Normally such existing map can get from local offices and authority. In case it is hardly to find, free satellite map from internet also the easily way to get.
Camera
A camera is used to record pictures of elements and places during the mapping process. Things to be recorded include problem spots, important places, places with potential, existing community elements that could be used in upgrading ideas.

Stationary
Plain paper or flip chart, graph paper (whereby one square can represent 1m.x1 m.), color pen and pencil, sticky tape, glue, scissors, calculator, cutter, color paper, plasticine clay, note pad and measuring tape.
How to survey and map?

“Doing right away is better than giving principles and explanations: once we do then we learn, we make mistakes and we re-learn.”
Case from Bharatpur Municipality, Nepal

Aim
• To understand overall situation and summarize the number of informal settlements in Bharatpur Municipality together with community representative and government officers and working agencies.
• To prioritize the need from people’s side by small upgrading, and identify way forward for the pilot project initiation that could be impacted for all.

Step by step
1. Prepare map and city profile (in this case prepared by municipality)
2. Identify the informal community and settlement into basic city map.
3. Organize participatory mapping by inviting 8 representatives from each community to be in process.

• Each community group comes together and draws their community layout, showing all the amenities available, identifying their community in the base map.
• Add more information: number of households, number of household members, land ownership, details about accessibility to basic services.
• Present their community to the other gathered communities, learning together and sharing common problems, potentials for development.
• Refine the information into an informal data-base at the city level.
• For detailed mapping of each community, this was done later by the active youth group, community architects and local development agency, in each community. By assisting in the initiation of the mapping process, the interaction between the networks of communities, helped them to understand their situation and that of others, and intensifying the city-wide approach for future housing development.
Tips

• Selection of a group of representative for city-wide mapping is the crucial stage. Those selected should know their community well, and should be both men and women.
• Youth group can be the important and active group to do the ground work.

Outputs and Impacts

Establishment of a management committee for the Slum Upgrading Forum, including community networks and government representatives together as the key actors.

Meeting at the municipality office to show the importance of the mapping process in the housing by people project.

Community representative are mapping basic information about their community into the city map.
An example of a community map during the city-wide mapping workshop. Then the surveying and mapping team went to the community to collect detailed information on each.
Each group of community representatives drew their community map and shared their stories and problems.
Case from Ayutthaya, Thailand

Aim
• To form a people’s network through the mapping process
• To understand the overall informal settlement’s situation, as well as upgrading possibilities.

Step by step
1. Prepare basic city map and city-wide survey form
2. Organize the surveying groups to conduct the survey, with each area/community sending a community representative as a host for the surveying process.
3. Present and share the information of each community and discuss community history, number of households, land status, area boundary, and community problems of each.
4. Put information (likes community pictures, community locations and names) together into the city map. Identify land ownership of each community by categorizing it into different colors on the city map.
5. Summarize all information into a city-wide survey table and distribute it to all communities.

After conducting the surveying and mapping at a city-wide scale, there is community surveying and mapping to collect detailed information on each community. This applies the same process and pattern of city scale in communities. Side by side, in the mapping process and discussion, the architect also can provide possible solutions for housing implementation by learning and understanding the mapping and discussing the output.

Tips
• The role of the development agency is to organize the platform for people to work together (people-community-network) and asking open questions rather than providing the answers, such as “how do you explain your community”; “what kind of elements should be mapped for outsiders through the map?”
• After the mapping process, it is important to organize the discussion session, make it open for all people and stakeholders to discuss problems and possibilities.
• Working groups should be sub-divided into small groups (around 3-8 persons a group) who better know about their communities, and it can be started with one active person per group. Later it should include other representatives such as youth, women, and especially the poorest.
**Outputs and Impacts**

The result of the mapping process is not only all the datasets that were formed, but also people’s networks which came together to categorise the common problems and at the same time form a group that will stay together in the same community in the relocation project.
This city-wide survey map shows locations of informal communities with number of households, history, problems, the land owner, and also the housing solution of each community.

During the process of data forming, recorded pictures from each community gradually were included in the city map.
The mapping process also stimulates the sense of community about community upgrading.
Case from Lautoka, Fiji

Aim

• For the communities of Lautoka to come together and record their own situation, leading to city wide upgrading.

Step by step

1. Mappings in community: Each community made a sketch map of their community using pens, paper and cardboard.

   This was a process for the people to document their own information. The maps contained different information depending on the situation each community felt was most important for them. The most important thing for most communities was to identify where the houses are and which families live there. Some also added the number of families in each house and number of people in each family. This kind of information is very useful for assembling basic statistic of both community and the city-wide level.

   Other maps also included details about infrastructure (roads, drains, toilets, water tanks) resources (forest, mangrove, pig-pens, sea) and problems (easily flooded areas, fumes from dumpsite, etc)

   Afterwards the communities came together to share the maps each had made of their own communities.
2. Using google maps to overlay more information.

After experimenting with techniques measuring by hand it was decided that much easier and quite accurate maps can be made using google maps. Using wax paper, representatives of the different communities drew over the google maps to add further information.

Some extra information which was shown through the overlay map included:

• HISTORY: The communities of Navutu, Nasoata and Nasinu used their map to show the story of their settlement, how each part was settled and how those in low lying areas could be resettled within the other parts of the community.

• LAND ISSUES: The community in Vunato drew the contested land boundaries of the local land owning clan.

• ENVIRONMENTAL ISSUES: All the communities identified which areas were prone to flood, as well as the causes and directions that the floods would come from. Others showed problems of nearby garbage dumps or degraded roads.

• SOLUTIONS: The community in Vunato were able to use the scale of the map to calculate the length of the new drain they need to build to ease the flooding in the centre of their community.
3. **Bus tour.**
We hired a bus to take all the representatives to visit each other’s community. So that everyone could see the issues and help to make solutions to each other’s problems.

4. **Mapping resources, people and skills in the community:**
Once communities had identified the major issues in their communities and what small projects could be started to improve them they worked to create lists of the people who could help (eg. builders, weavers, book keepers, etc) and the resources which could be used (eg. local stone, sand, contact at cement factory etc).

5. **Making the city-wide map**
Bringing the information from all the individual communities’ maps together we made a very large map of the whole city. We could identify the size location, land tenure and number of households for each community from the data in the maps already done. Put all together this information becomes a very powerful tool to understand the collective situation of the city.

6. **Using the map to negotiate for land.**
Some of the community representatives took the large map to the local Lands Department. The people there were very amazed as they had not seen a map which showed all the informal settlements in the whole city picture. We asked the officials to show us on the maps where any land might be available. They nominated 2 parcels of land. One was quite close to a number of coastal settlements in danger of flooding from a nearby industrial development and climate change.
**Tips:**

- It is very important that people understand how mapping can be a useful tool for them. How can they use the information in negotiating for rights to land, housing and infrastructure? If they know their information better than the land owners and authorities, they have a powerful edge! So it is important that the people can always keep this information and spread it among themselves.

- While tools such as hand measuring can be very useful in closely packed settlements, using google maps can be useful for more spread-out ones. It is important always to find the right tool to fit the situation.

- Young people can be particularly good at mapping. A young girl from a new community showed up to the big city-wide meeting and returned the next day with the most beautiful map! She told us that she had previously done a similar exercise at school.

**Outputs and impacts:**

Following from this process a number of small scale upgrading projects were launched and comprehensive site planning was initiated for the land close to the city. Unfortunately this land has been found to be very flood prone and will not be developed. However the design ideas and financial structures designed by the community can be applied to another site.

Mapping is now being done in other cities around Fiji.
Discussing the Wainivakasoso map.

A map done overnight by a high-school student with no outside assistance.
Arranging the community facilities for the Nakaracia site.

Calculating affordability and repayments for the Nakaracia site.
Community Mapping for Housing Development

Case: On-site Upgrading

Step by step

1. Walking Tour in Community
the process aims to stimulate community people in upgrading, and make people see their community holistically.

Tips

• Walk in a small groups
• Each group should have basic community map that along walking people can take note or map.
In this upgrading case from Narathiwat, there are four informal settlements on Port Authority land. During the mapping process and overall discussion, the community network chose Kalaetapae as a pilot project to show the Port Authority, because Kalaetapae is the oldest settlement and the community was ready to start upgrading.
● **Step by step**

2. Draw the community map

This drawing can be a simple drawing which explains the community’s environment, location of important areas and every house in the community.

**Tips**

- In case the community is quite large, it can be drawn in small groups, then put it together to make a whole map.
- By working together, someone in a group will show their potential as a natural leader keen to work and contribute as a good teacher or coordinator.
- The working place, atmosphere and time are important to help to keep people motivated and interested.

: In the case of Salayani, the Nepal working group was divided into 2 groups: the women’s group did the community mapping showing how they live as community with the forest, and the men’s group with the youth measured the sizes of house plots.
In the case of Kalaetapae, the working team was divided into 3 zones. Each zone mapped the existing condition of the walkway: either good condition or needing rebuilding. During mapping workshops, people also found common problems such as lack of open space, and they planned to use the small island opposite their community to build a community center, playgroup, and garbage recycling centre.

A series of mapping workshops were conducted by each of the four communities of Narathiwat. Kalaetapae was chosen as the pilot upgrading project.
● **Step by step**

3. Discuss through community map

Discuss through community map about the way for upgrading: try to find common problem and interest that people collect information into database which needed to improve. And also find things that people like or it makes sense of community

**Tips**

- Collect information into database.
- Make the meeting and discussion open.

: After people worked together on drawing and mapping to explain the community characteristics and problems, open discussions were arranged to collect information from all community members. These were to find common problems and steps forward.
Step by step

4. Transform community drawing into the scale map

After having community about upgrading direction, actual scared map is required for upgrading planning (work division, cost estimate).

Community Measuring: it can be done in a small group (at least 3 persons a group: 1 as a recorder, 2 as measuring men) or it can be done by individual family one-by-one.

Tips
- Finding beginning point to start; the edge of community, road’s junction
- Sometimes, it is needed to make measurement onsite again for recheck and edit.
Step by step

5. Discuss and plan for onsite upgrading through this complete map.

By working together in the mapping process between the community and architects at Kalaetapae, a new image of the community arose, with better quality of life, open spaces, a community centre, and playground.
After the mapping process, people started planning to improve their community by adjusting their house, using shared ideas and outputs from mapping and participatory design processes.
Architects helped to translate people's ideas into sketched plans, adding some more inputs and ideas based on the actual needs of people and a sustainable vision by understanding the local context.
Case: Relocation Lesson Learnt from: Thailand

Mapping process for relocation project is different from on-site upgrading, because people in relocation project need to move to new community, and start to create new relationship shaped by new setting. So that mapping should be the processes for people to understand and keep the value of old community transform into new location. And also the process among people group who will create new community together having time preparing them self by finding their new housing cluster, neighborhood group for staying as a new community’s sense.

Step by step
1. Making the imaginary map of existing community. In this case, the mapping and surveying process helped people to gather basic information about how many families in each community had no land title, and how many needed to relocate to a new community.
Step by step
2. Discuss through the community map how people live together as community, and what kind of new location can meet the existing condition.

Step by step
3. Create a community database, and organize a meeting among people to summarize:
   • Number of houses moving to the new community
   • Detail of those houses (see basic community survey in Tools chapter)
   • Prioritized criteria for choosing new location

Questions to consider
   • Existing job and working place
   • Amount of savings
   • How many children going to school / distance from new location
   • Land price of new location
   • Basic services and infrastructure

: From the community map drawn and understood by people, the architect can help people translate this into a complete map showing clearer information, like the land’s ownership, amount of savings, occupation, house number, and the group’s name.
Step by step

4. Map the possible new land and location into the city map, and also map the important nodes which are related to or affecting people’s livelihood, such as markets, schools, working places, hospital, and disaster prone area.

The architect helped to translate people’s ideas into a sketched planning, adding some more inputs based on the actual needs of people and a sustainable vision, from an understanding of the local context.

Total no. of household in Koh Mook = 400 HH.

- Households on land owned by others = 248 HH
  - Live in national forest area 100 HH.
  - Invade on private land 70 HH.
  - Temporary living on land of relative 45 HH.
  - Live on marine department’s land 24 HH.
  - Prefer to move to new land and give their land back to public due to tsunami trauma 9 HH.

- Total no. of landless families = 194 HH
  - Rent from private owner by signing document 54 HH.
  - Land sharing with national forest, on-site upgrading 100 HH.
  - Relocate to new available land 94 HH.

*** Groups 2 and 3 need official support of the local authority to get an approval document to develop this housing project

This diagram shows the groups of families who are living in various locations, with various types of tenure. It also shows how possible solutions for each group could be implemented.
Step by step

5. After collecting the above information from each community and through city-wide survey, a network meeting should be again organized to find which other communities need to relocate and how many families need to shift to the new location. In this meeting it is possible to identify which groups of families will live together in the new community. The next step will be participatory planning for relocation, with all members.

: This picture shows the working groups of each community:

: the community committee, number of members, and number of families in each community needing to be relocated.
**Tips**

1. Meetings should be openly conducted for everyone in community and all stakeholders, so that everyone can recheck the benefits and avoid the situation of someone trying to take advantage.

2. A series of workshop or active meetings are a practical tool to gradually make new relationships for building a new community together.

3. People’s occupation and resources mapping is also important in the large scale of relocation project, hence such relocation projects can start with the master plan of the locality and resource management.

: There are working processes after mapping: working groups were formed, a new site plan for the island including the community was drawn.
Tips

“People are the subject of their dreams, ideas, and potential. Once they realize their power and potential they never stop!”
- **Make it fun likes a game rather than technical matter**
  Start with the easiest step in which people have confidence, and avoid technical terms and steps which create tension. Little by little, people can take charge of the whole process with some support from the development agencies.

- **Mistakes by professionals can make people more confident**
  Community people know their community better than outsiders like support agencies. Our role as support agencies is to build people’s confidence and help people plan and form their steps.
Children are a hope
Community children can actively help in mapping process, by measuring, being good company, and communicating if mapping is a challenge to them. Sometime children’s idea and vision also suggest possibilities and solutions during mapping.

Measuring unit vs. body measuring
Keep in mind that measuring is the process of visualizing the actual size of matters. It helps to make things tangible and visible, rather than just saying 3 metres. Measuring can be conducted using any materials that make people understand dimensions, especially related to space utilization.
**Good working place and time leads to good work**

A good atmosphere for working together is a key to success. Eating and drinking together during the work process can create a pleasant and friendly ambience.

**Pay it forward ....**

Once community people understand the concept of mapping, they can do and plan it in their way, moreover they can be a practical teacher for other communities.
Mapping by small sub-groups

Working in small group really creates a good job rather than work in big amount of people. 4-8 persons in a group are common number that everyone in group has role to work and space to learn and share. A group can be divided into women group, children group, mixed group which it depend on its purpose.

Think holistically, map it locally

Sometimes it is necessary to map something not directly seen as a problem, but which makes a community’s situation worse and indirectly affects their livelihood, such as pesticides in farming, or chemical industries in nearby communities. Or it can be ordinary things in the community that are hiding their potential to help development and add to a sense of community, such as a community café or an open space for gatherings.
Appendix
## City - wide Level

City Name: .................................................................
Date of Survey: ..........................................................
Recorder: .................................................................

Brief about city: ....................................................................................................................................................
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<th>Household No.</th>
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<th>Aged</th>
<th>Land Owner</th>
<th>Basic infrastructures</th>
<th>Other problems</th>
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<td>Possibility &amp; solution</td>
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**Scaled Table Paper**

- Scale 1:50
- Scale 1:100

$2 \times 2 = 4$

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• Scale 1:250
- Scale 1:500
### Length

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<thead>
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<th>1 unit</th>
<th>centimeter</th>
<th>meter</th>
<th>inch</th>
<th>feet</th>
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<td>0.39</td>
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### Area

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<th></th>
<th>square meter</th>
<th>square feet</th>
<th>acres</th>
<th>tectares</th>
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Let's start mapping.

scale 1:100

scale 1:50
A demand-driven approach to housing the urban poor means that they should play an active role every step of the way, from identifying communities that face housing problems to planning new settlements and designing new houses. While these processes can be carried out by the urban poor themselves, they may benefit from judicious intervention by skilled professionals at various stages, who can help with technical aspects.

However, the role of the professionals extends beyond mere technical aspects – site planning is not just the design of house and infrastructure layouts, but also requires an understanding of the relationship of the people and their houses to the community’s physical and social context. Comprehensive site planning by community architects tries to weave together the community’s various components to build a liveable community. Community mapping by the people feeds into this by heightening the residents’ awareness of their interrelationships and interactions with the space they live in. Thus, comprehensive site planning can be a vital tool for finding the meaning of “living together” through ways of discussing, planning and sharing together, identifying what has made the community live well together thus far, and how it can be maintained and built up in the future. Mapping can support selfdetermination and self-organization, and in the longer run can contribute to processes of democratization from below. As such, mapping is not only the end product – it is also a process, and the output can be an improved understanding of the relationship of people with their place of living.
Credits

We would like to thanks all the community people who we worked with in Myanmar, Thailand, Fiji, and Nepal in which their photo shown in this handbook. Without these active groups of people who have been working hard to start making change for better housing and community, we could not have learnt and compiled all this emerging experiences to be this handbook on your hand. This book would also not have been completed without the generous assistance, beautiful pictures capturing the spirit of working ambience and its processes, and valuable comments from many CAN friends. We wish particularly to thanks the following:

Ms. Van Lizar and her team in Women for the World, Ms. Abu who working in Khawmu’s network after Cyclone Nagris, Mr. Hugo Moline, PCN together with YPs of CAN-Pacific who working in Fiji, Ms. Khanittha Sakdoung for pictures from rural planning’s project in Naan, Ms. Lunmati Joshi and PTAG from LUMANTI for pictures and working content in Nepal, Openspace for the beautiful pictures from BaanMankong’s project in many provinces in Thailand, and special thanks for Mr. Nanthapong Yindeekun for historical pictures of mapping processes in Ayutthaya where those time it was a pilot project to be BaanMankong Program today.

Conceiving: Chawanad Luansang, Supawut Boonmahathanakorn
Editing: Supawut Boonmahathanakorn, Diane Acher
Cover & Layout Design: Porntipa Tongchampa
Printing: Chotanaprint Co.LTD
Everything has a deep dream

I have spent many years learning
How to fix life, only to discover
At the end of the day
That life is not broken.

There is a hidden seed of greater wholeness
In everyone and everything.
We serve life best
When we water it
And befriend it.
When we listen before we act.

In befriending life
We do not make things happen
According to our own design.
We uncover something that already happening
In us and around us and
Create conditions that enable it.

Everything is moving toward its place of wholeness
Always struggling against odds.

Everything has a deep dream of itself and its fulfillment.

By Rachel Naomi Remen
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Community Mapping
for housing by people
Handbook