

# Comprehensive site planning

Transform community to better living place for all

Handbook series II





CAN

community architect network  
with support by ACHR

## Finding our place

Human have a responsibility to their own time, not as if they could seem to stand outside it and donate various spiritual and material benefits to it from a position of compassionate distance.

Humans have a responsibility to find themselves where they are, in their own proper time and place, in the history to which they belong and to which they must inevitably contribute either their response or their evasions, either truth and act, or mere slogan and gesture.

Thomas Merton  
Catholic monk, writer, activist.

# Introduction & Invitation

This book is about the learning processes and experiences that explore and broaden the meaning of "Home" and "Community". We wrote it to share the inspiration we found when working with and learning from people who shared their common dream—the simplest dream of having a home and living in a good community they developed together.

The ideas and experience shared in this book seek to elaborate an approach of working processes through various cases, the outcomes of creating a home and a community, and the creation of a culture of living together within the community, by dialogue, planning, and doing. Through the site planning projects in housing development, these experiences not only illustrate the full process, starting from surveying to physical construction, but also the process of creating the opportunity and environment among the people and community to empower themselves. Every implementation process is a transformation stage for people to create a culture of living together, from passiveness to become more active, mutually building it together.

We would like to invite every one of us - who have active roles in creating places for living, places where everyone is a part of the community, and who believe that people can be the key agents of creating living space - to explore those meanings more deeply and widely through the experiences and tools we share through this simple handbook. We would like to dedicate this book to the community peoples everywhere who assure and inspire us that the meaning of "home" and "community", wherever they live, is the same.

Community Architect Network (CAN) - ACHR Secretariat  
Bangkok, Thailand  
January 2012

This community handbook is one in a series of ACHR Handbooks for Housing By People, to be published in 2011. We are making an effort to compile the accumulated knowledge and experiences of our friends in the ACHR coalition. These publications will collate case studies of CODI and ACCA projects in Asia and the Pacific, in order to make a series of simple handbooks for community members and relevant agencies, and those who see the possible path of community development.

“The main purpose of development should be quality of life for the large majority of people. If you don’t have a generous view of cities, then you don’t have a generous view of people.”

Jaime lerner

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# **B**uilding our home, growing our community

How can we create together those conditions that our faith and spirit place together, to build up our community, share our dreams, learn to find potentials for development, and solve problems for our better tomorrow?

# BETTER LIVING PLACE

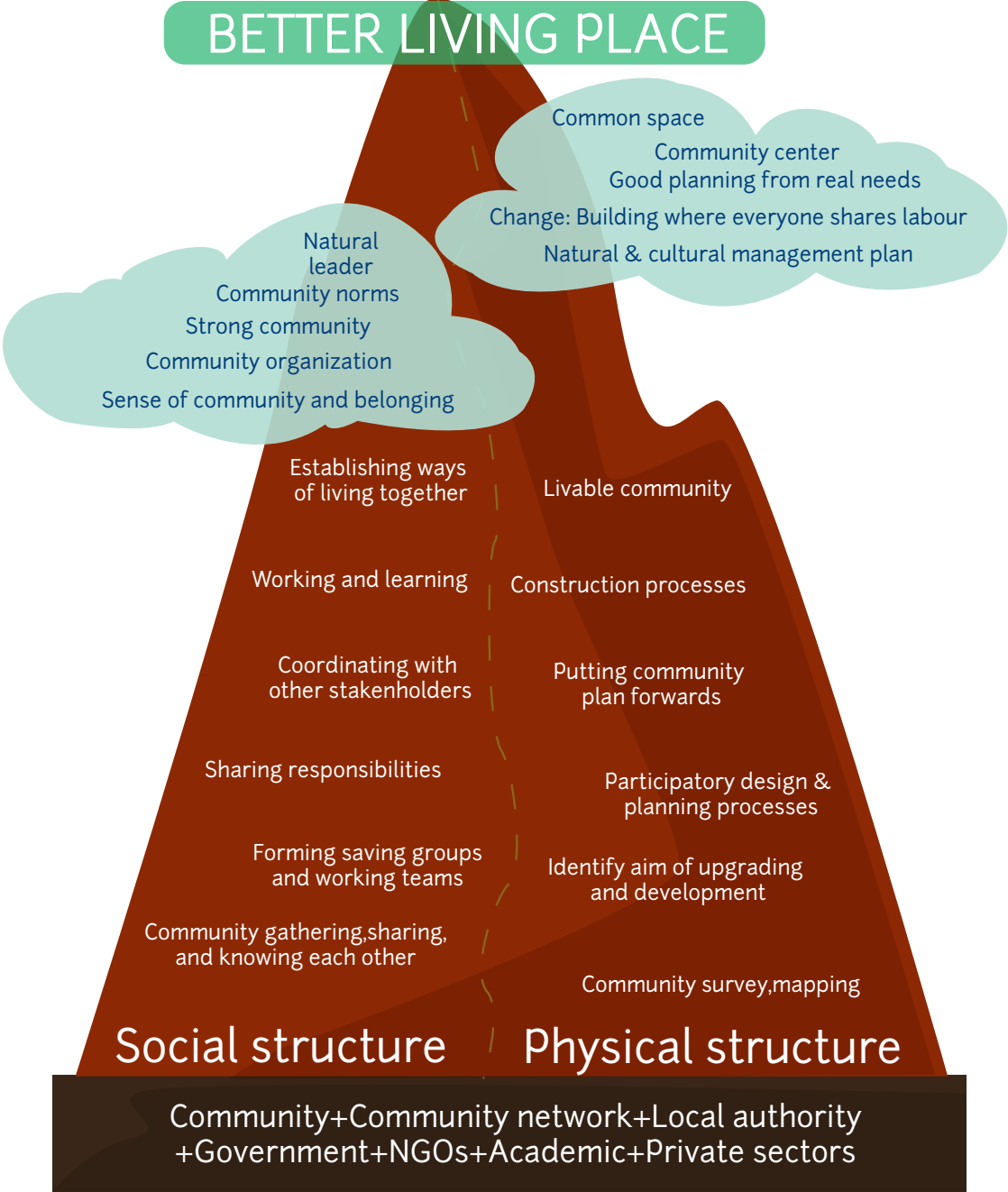


Diagram showing the processes that social structure and physical structure are developed and transformed to be the better living place.

Diagram showing the new programs in communities that help to create strong and self-sufficient communities.

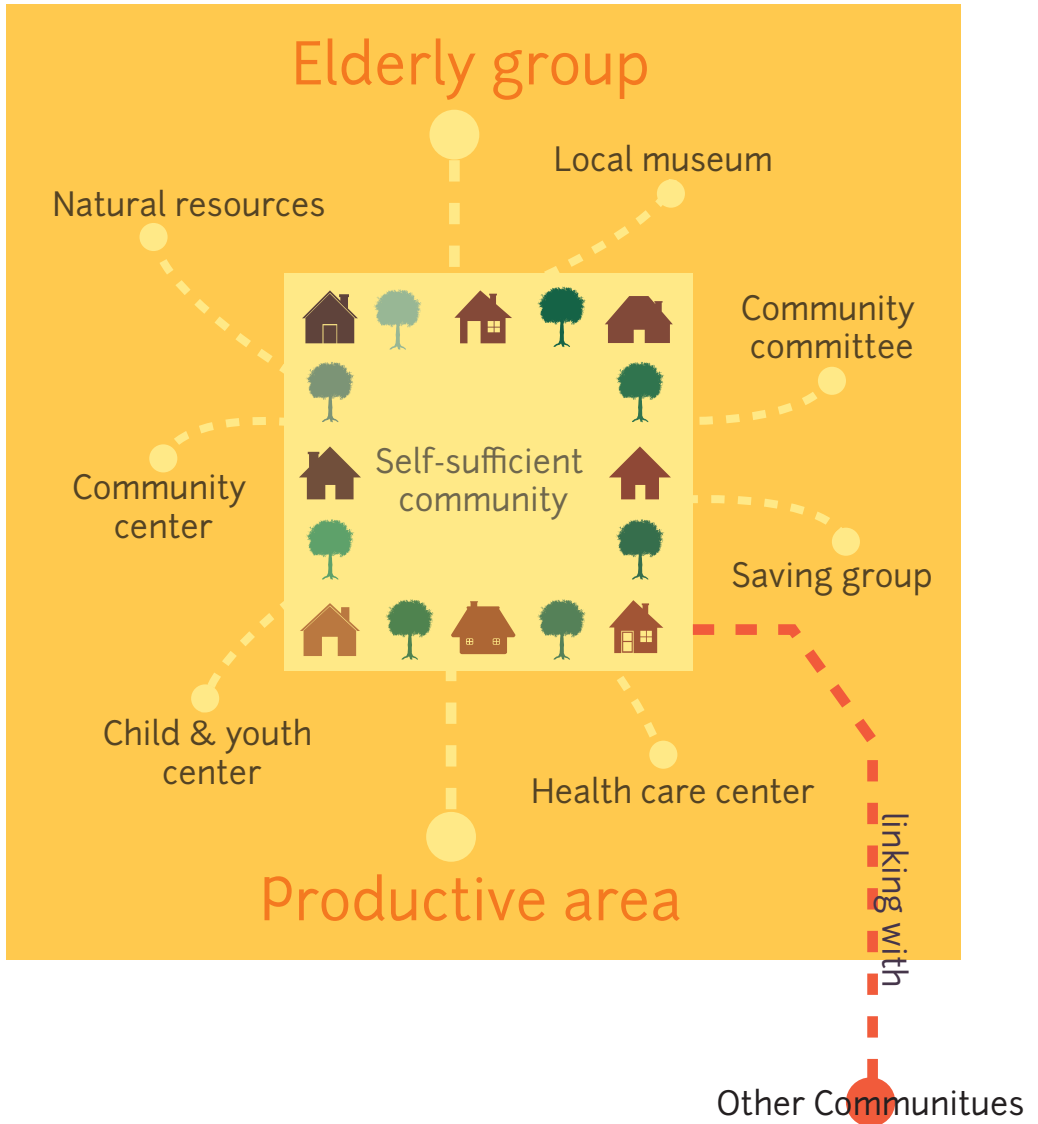


Diagram showing four main components of healthy and sustainable community.





# 5 solutions of housing by people

Instead of promoting a single development model for obtain secure land tenure, improving housing and living environments, these is a range of possible option had been tried and tested by communities.

## 1. On-site UPGRADING

Slum upgrading is a way of improving the physical environment and basic services in existing communities, while preserving their location, character and social structure. Usually upgrading means that the houses, lanes, roads and open spaces are improved, without changing the layout or plot sizes. Besides improving the physical conditions and quality of life in these poor communities, the physical improvements made under an upgrading process can act as a springboard for other kinds of development among community members such as income generation, welfare and community enterprises.

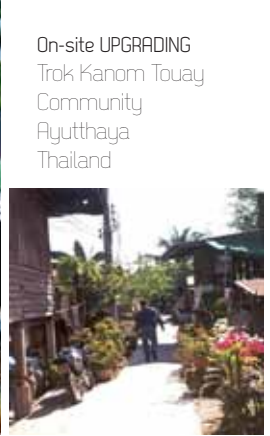
## 2. On-site REBLOCKING

Reblocking is a more systematic way of improving the infrastructures and physical conditions in existing communities by making some adjustment to layout of house and roads or install sewers, drains, walkways and roads, but doing so in ways which ensure the continuity of the community. Communities can then develop their housing gradually, at their own pace. When communities opt for reblocking, some houses usually have to be moved and partially or entirely reconstructed to improve access. Some lanes may also have to be re-aligned to enable drainage lines. Reblocking is often undertaken in cases where communities have negotiated to buy or obtain long-term leases for the land they already occupy. In both cases, the process of reblocking is an important step in the progress towards land tenure security and improved housing.

## 3. On-site RECONSTRUCTION

In this upgrading strategy, existing communities are totally demolished and rebuilt on the same land, either under a long-term lease or after the people have negotiated to purchase the land. The new security of land tenure on the already occupied land often provides community people with a very strong incentive to invest their housing, through rebuilding or new construction. Reconstruction also allows communities on low-lying land to first raise the level of the land above floodlines, before investing in proper housing. Although the reconstruction option involves making considerable physical changes within the community and requires some adaptation to the new environment, this strategy allows people to continue living in the same place and to remain close to their places of work and vital support systems. This continuity is a crucial compensation for the expense and difficulty reconstruction involves.

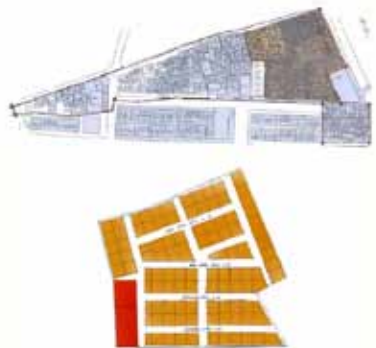




On-site **UPGRADING**  
Trok Kanom Touay  
Community  
Ayutthaya  
Thailand



On-site **REBLOCKING**  
Charoenchai Nimitmai  
Bangkok  
Thailand



On-site **RECONSTRUCTION**  
Bonkai  
Bangkok  
Thailand

## 4. LAND SHARING

Land sharing is a housing and settlement improvement strategy which allows both the land-owner and the community people living on that land to benefit. After a period of negotiation and planning, an agreement is reached to "share" the land, where the settlement is divided into two portions. The community is given, sold or leased one portion (usually the less commercially attractive part of the site) for reconstructing their housing, and the rest of the land is returned to the land owner to develop. At the core of land sharing process is the ability to translate conflicting needs and conflicting demand into a compromise which takes a concrete "win-win" form, and which is acceptable to all parties involved. The people may end up with a smaller area than they had before, and the land owner may get back less than all of his land, but the trade-off is that the poor will no longer be squatters, but legal owners or tenants to their land. And the landlord can develop the land.



## 5. Nearby RELOCATION

The greatest advantage of the relocation strategy is that it usually comes with housing security, through land use rights, outright ownership or some kind of long term land lease. Relocation sites can sometimes be far from existing communities, job opportunities, support structures and schools. In these cases, community members who want to keep their old jobs or attend the same schools must bear the burden or additional travelling time and expense and must adapt to a new environment. But in many towns and cities, resourceful communities are finding bits of land to buy or rent cheaply for their housing that are not far away at all. In all cases of relocation, be it nearby or not so nearby, relocated communities face the cost of reconstructing their houses at the new site, and in some cases the additional burden of land purchase payments. However tenure security tends to be a big incentive to invest in housing and environmental development in the new community.





#### LAND SHARING

Manangkasila . Bangkok  
Thailand



#### Nearby RELOCATION

Klong Toey Block 7-12 + Sua Yai . Bangkok  
Thailand



# To make a better city for people Why is relocation one of the answers?

Relocation is one possible answer for community upgrading. It is a way of finding a solution, not an aim in itself. But it is a tool to bring people and their community a sense of security, with better living conditions, and being a part of a livable city that we live in together.

## **Under what conditions can choosing relocation be a tool to make better communities and livable cities?**

- Communities already evicted who cannot return to the old site.
- Communities located in a disaster prone area.
- Communities densely living in a small space with risks of fire and insufficient provision of infrastructure.
- Communities which can be partially relocated, leaving those remaining with more room for comprehensive upgrading for better living conditions.
- Communities connected to each other through a network and deciding to move (entirely or partially) to a new area together, due to the growth of the city.

We are the flow, we are the ebb.  
We are the weavers; we are the web.  
Shekinah Mountainwater.



**C**omprehensive  
Site Planning  
Workshop as the kick  
start for city-wide scale

## Why is a workshop with people so important?

Organizing a workshop with people on comprehensive site planning is one of the key processes for housing by people. It creates an ambience of mutual learning among the community members who will soon live together, and establishes the culture of living together. It also create a platform for support agencies like local authorities, universities, and students to find their specific roles in supporting the process of housing by people through various facets.

Usually, this workshop takes about 3-5 days of working with people. A importantcelt is important to note that this process is just the starting point to roll the power and contributions into the same track of people-driven processes. The outcome, emerging idea from people will follow up, not as an individual pilot project but rolling up to the city scale.

# 3 stages of organizing the workshop

## Preparation stage

- Working with people to identify any issues of upgrading from people's demands.
- Start to form a loose community organization to work together, and maintain, manage the ongoing process.
- Collaborate and link with local authorities, academics, young professionals to gain more supportive tools.

## During the workshop

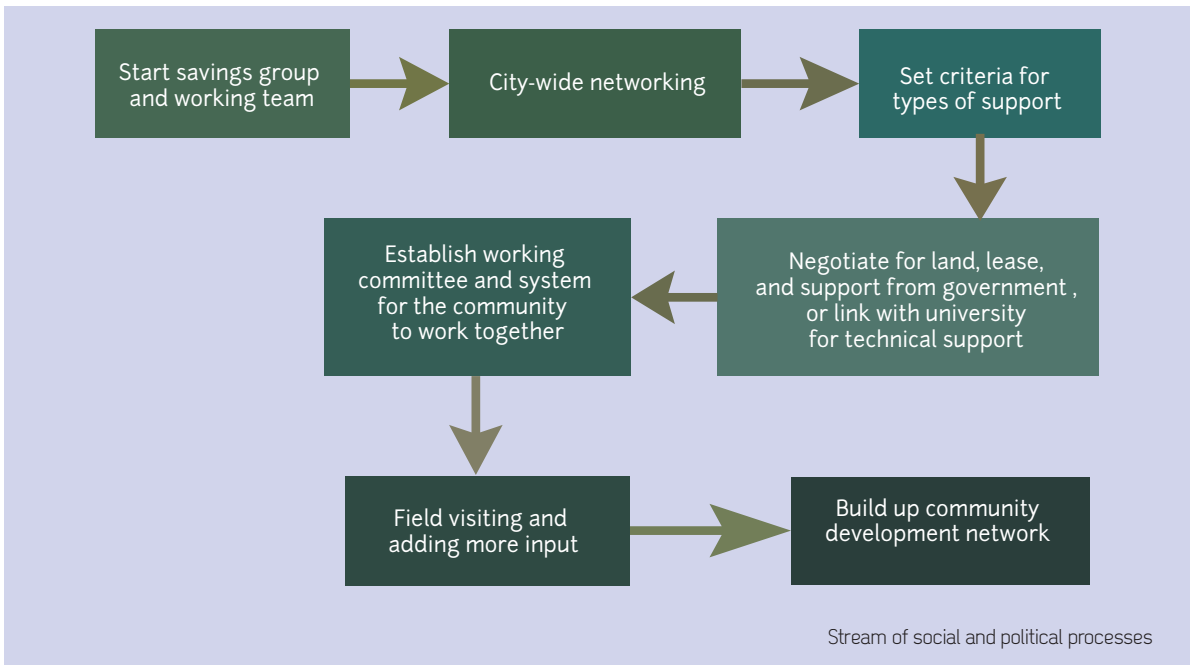
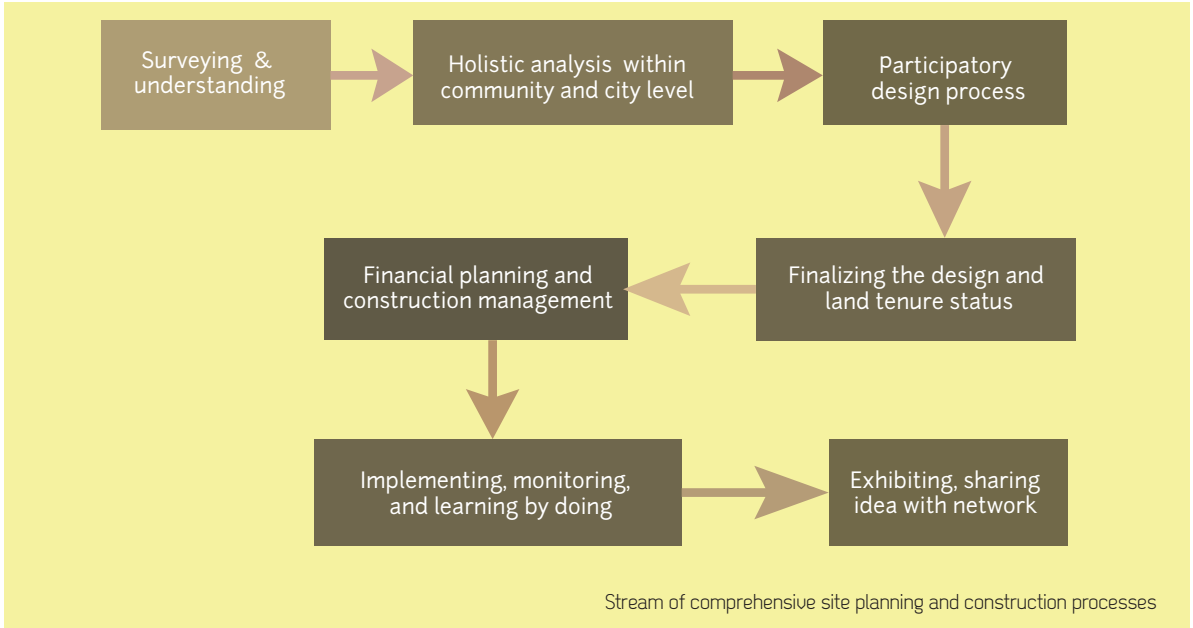
- Work with people and the community network on the real site.
- Be open for all creative possibilities to emerge during the workshop.
- Gain new inputs to adapt into the actual project (case studies to show alternative ways of doing, new techniques)
- Start to implement the common tasks in which every partner can actively contribute.
- Build long-term planning with people, and link it to larger policies and related organizations.

## Following up

- Work out any details that could not be finished during the workshop.
- Implement with support from all partners as a way of networking
- Capture the emergind knowledge, lessons learnt and tools during the workshop and implementation.
- Review and share the experience in the network and working platform to gain additional supports and suggestions



## Comprehensive site planning: common steps in practice



# Key steps when organizing the workshop with people

Somehow it is quite hard to explain every step in order about working with people, because it depends on the context of each community and other conditions. This is just the guideline of key steps from our experience with people in the region.

## Understand all conditions, key challenges, and people initiatives that have been done so far

- Introduce an aim and the key process of the workshop where people are a key agent
- Visit the real site together with all stakeholders. If possible also visit other villages nearby that share the same context in order to gain understanding about traditional living, local dwellings and how people sustain themselves.
- Review all information (no. of households, size and context of new site, savings amount and system, no. of community builders, ) this process can be done in small group (8-15 persons-group).
- Share successful case studies to show and encourage the people and related stakeholders about alternative methods.

## Learn from people about their needs, living traditions, and available resources

- Dream community: -small groups working on site can learn from peoples' ideas about their living traditions, what is important for them.
- Assimilate ideas from people and try to adapt these idea into physical designs and planning.

## Site planning - life planning

- Experiment on the new site planning with people, architects can help to calculate areas and look forward to other possibilities of design and planning.
- Visualize the possible housing plot layouts, community lanes, open space.
- Dialogue over the schematic design of the site plan, listen to and observe the emerging issues.
- After gaining some ideas and raising new issues, technical support teams can divide the tasks and work them out in detail: like low cost community lanes and surface drainage, rain water harvesting systems, alternative and low cost sanitation and energy systems

## Dwelling design

- Dream house: small group work on housing design, this group should have the local community carpenter or community builders who can provide their input about construction techniques, and also should have some women who can give the view of sophisticated household caretakers.
- Build an actual house on-site with real materials to estimate the budget, and practice local techniques with local builder

## Establish a culture of living together

- Dialogue between community members about a social and community organisation to manage aspects of community living: community rules, savings schemes, communication between members.

## Platform for working with local authorities, academics, and young professionals

- Dialogue with all partners about the learning experience from this workshop, and plan forward to scale up this one workshop to a city-wide scale with the contribution of all partners.



I honor the equal wisdom of all souls. I listen for my own guidance and grant to all souls the same dignity. I trust that as I listen, I am properly led. I trust that as others listen, they, too, are led properly and perfectly for the highest good of all.

Heart steps: prayers and declarations for a creative life

Julia Cameron



# Case study of comprehensive site planning

Koh Mook community, Trang province, Thailand

Ale Yaw Ward, Hlaing Tar Yar Township, Yangon city - Myanmar

Mandartola, Gopalganj Municipality - Bangladesh

# Koh Mook community, Trang province, Thailand



**Location:** Baan Koh Mook, Ampur Kantang, Trang province, Thailand

**Challenge:** Using the opportunity of post- tsunami rehabilitation to solve the land security problem

**Solution:** Comprehensive site planning

**No. of household:** 238 HH (90 HH relocate to new site :100 HH upgrade on-site : 48 HH upgrade on private land)

**Plot per household:** 10 x 12 m.

**Total area:** 14 Rai (22,400 sqm)

**Working agencies:** Samaphan Pramong Peun Baan, Chumchontai Foundation, CODI, Openspace

**Budget:** Housing 2,850 USD:unit, Infrastructure 2,160 USD:unit

**Year:** 2004

After the tsunami devastated the southern coast of Thailand in 2004, there were many areas affected and damaged, especially those of the fisher folk communities in Trang province of Thailand. From the survey process, there emerged the root problem of land insecurity, and the issue of resource sharing within the community needed to be considered, as well as providing shelter as is usual in the relief stage. Furthermore, the post-tsunami situation worsened due to the huge sums of donated funds which were not equally shared, and insecure land due to unclear demarcation between community people, private owners, and local authorities.

Koh Mook community was one affected area, located in Trang province since more than 150 years. The population is 2,000 people in 400 households. Most of residents practice fishing and rubber farming. Surveying showed that 248 households lived on seriously insecure land, with most them encroaching private lands and protected forest zones.

# STEP 1 Surveying and understanding community

- Key**
- start with common problem to build up a working platform
  - work groups based on existing social relationships

## 1. why survey?

- To understand physical aspects of their community
- To know community members and their skills by working together
- To Realize the community problems, needs, and prioritize them for problem-solving

## 2. What to map?

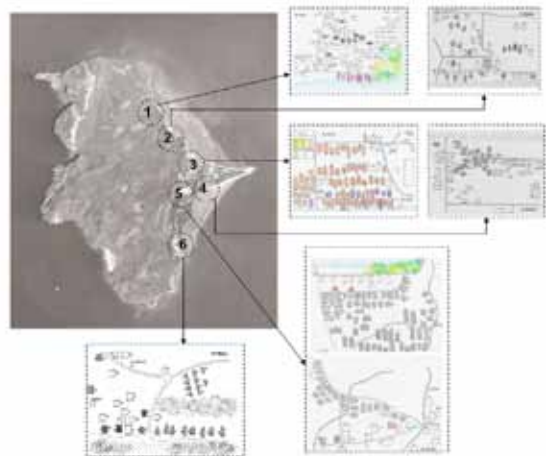
- Local problems
- Community settlements
- Community forest area ~~boundary~~
- Road linkages in island
- Port ~~bay~~

## 3. From mapping to understanding the problem, and realizing design solutions

- Number of houses that need upgrading ~~reconstruction~~ ~~relocation~~
- Idea of demarcation of community forest and community boundary
- Need for basic infrastructure in some areas
- Need for linked community lanes and bicycle lanes
- Idea of community centre

## 4. Sharing the output of the survey together and with other groups





1. Architects and working team prepare their overall understanding of the community's situation by surveying and mapping before working with people
2. Community mapping by people survey
3. Divide the survey group from the 6 bays according to social relationships.
4. The key in surveying is that community people have to be the main working team in the surveying process.
5. Forming sub-groups for surveying, according to peoples' relationships, makes it easy for people to work and discuss together freely. Later on the sub-group will develop further for other tasks and responsibilities.

# STEP 2 Holistic analysis within the community and at city level

- Key** - understand the overall situation of problems and needs of communities  
 - form working groups according to possible solutions, to work together

## 1. Analyze information gained from survey to find solutions by making it simple and informative

After reaching possible solutions together with people, then start to form working groups:

1. On-site upgrading group
2. Relocation groups (move to land sharing site with the national forest, and move to privately owned land)

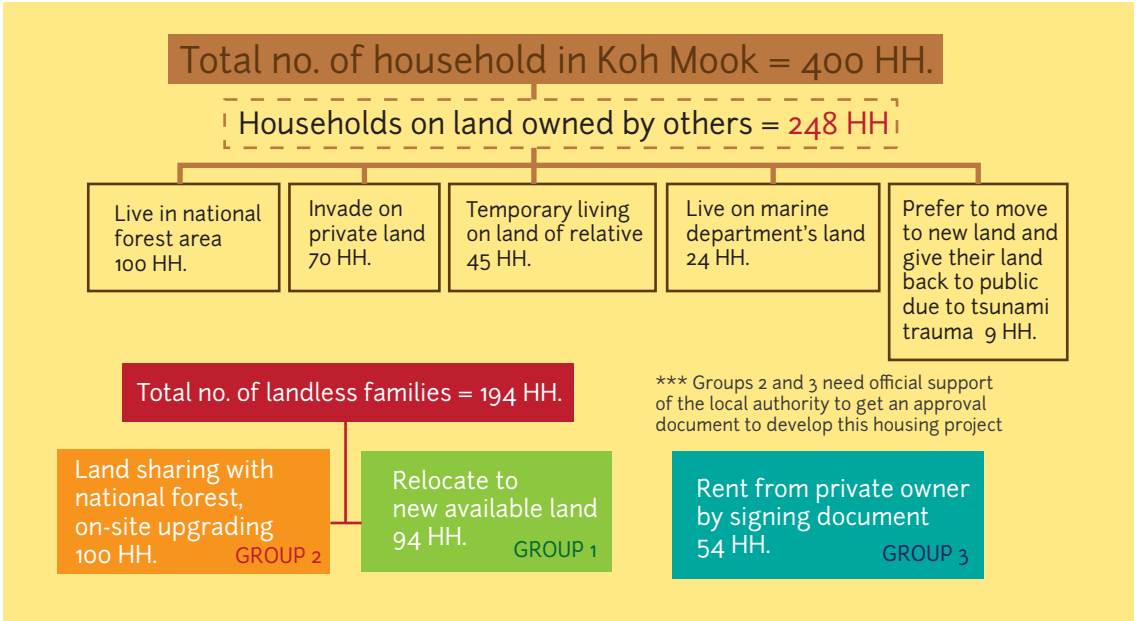
## 2. Establish the aim of the project and working committee selected from each bay

Start by forming survey groups according to social and geographical relations that people share for working together, later on it will gradually develop into working committees

## 3. Identify criteria to divide the people into groups according to the 3 of solutions

**Tip** tool: set criteria to benefit all members

After grouping the affected families according to the 3 solutions, it is important to organize a meeting attended by all members from all 6 bays, to recheck on each other. Sometimes there are some families who already own land but using the project as a chance to get more land.



1. Holistic problems of housing and land security, and possible solutions
2. Working structure of 6 bays
3. Example of 1st bay mapping showing that in one bay people can be divided into 3 groups, according to 3 solutions

#### 4. Start forming 3 sub-groups with each group for:

- Starting people's savings
- Income generation activities
- Working division

Start savings groups and livelihood groups by dividing into sub-groups in which people can easily make decisions and work together. In these small groups, every member has a role and responsibility. These sub-groups can then be linked together at the community level.

In this case, saving groups and working groups in the survey process are the same group.

#### **Tip** tool: savings group of relocation project

For people that need to relocate to a new site together, they have to form a sub-group with member who will relocate with them. Through these small sub-groups, they will link with other landless networks in the city, and find vacant land on which they will live together on the same relocation site.

Summarized chart of all sub-groups of Bay 1:

- Total household of each sub-group
- households that need to relocate
- households that can upgrade on existing land



No. of HH = 5  
 Relocated = 4  
 Onsite-upgrading = 1



No. of HH = 5  
 Relocated = 4  
 Onsite-upgrading = 1



No. of HH = 5  
 Relocated = 5  
 Onsite-upgrading = -



No. of HH = 4  
 Relocated = 4  
 Onsite-upgrading = -



No. of HH = 6  
 Relocated = 6  
 Onsite-upgrading = -



No. of HH = 5  
 Relocated = 5  
 Onsite-upgrading = -

# STEP 3 Find possible sites for relocation and start to negotiate with land owner



## 1. Find possible sites for relocation

**Tip** tool: Issues concerning selection of new site for relocation Select 2-3 possible sites. People have to visit the sites together, measure its real size, check all documents and ownership, risks of flooding and underground water table and salinity, as well as the available infrastructure.

## 2. Negotiation to buy or to rent, with the people's concrete community development plan

In this case the selected land belongs to government. The community people decided to form a committee which consisted of religious leaders to negotiate to purchase the land, and to ask to clear the land for developing the relocation project.

It is important that the process of negotiation is not only verbal requests, but also demonstrates very clear and concrete plans from the people and working agencies.

# STEP 4 Participatory site planning for “dream community”

1. Prepare the possible ideas before organizing the site planning workshop with people

## Common questions for site planning?

- Is the size of the new plot sufficient for the community?
- Size of each plot?
- Does the site planning design meet people's needs and save on construction costs?
- How does this site's design create better quality of living conditions?

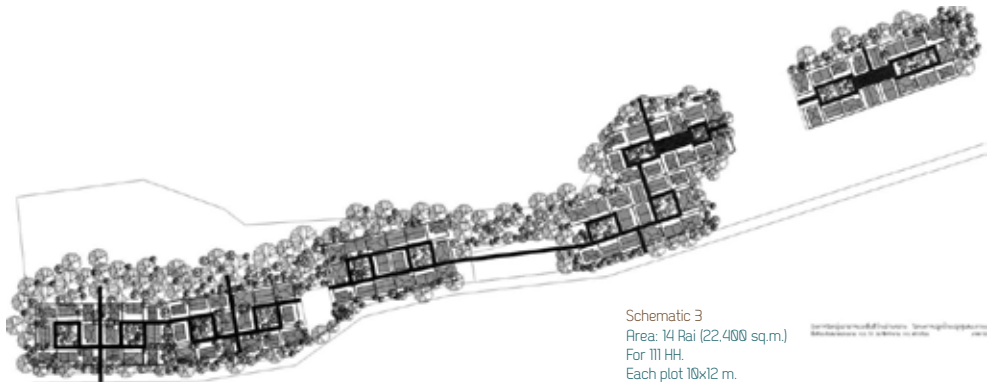


1. This scheme was designed according to the land that the government promised to give to people. But it is still dense and cannot meet the people's living context satisfactorily.

2. Apart from the first schematic design, we also propose other designs to request more land which can cover the full number of households and include common space.



2. Revise the site planning design after finalizing the relocation site provided by the government, and finalizing the number of households that match the criteria to live in this land



During the working process, there were many changes to the number of households who matched the criteria.

After finalizing the number of households and land size, architects can help to plan before hand to ensure the kind of planning so that people can live well with nature, matches their culture and occupation, and people can build and develop it themselves.



### 3. “Dream community” workshop

#### What is the suitable size for each plot?

In this workshop, architects can help people visualize the actual size of the house plot by measuring on the ground, allowing them to discuss and agree on a sufficient size for each household plot. Try to come to a final decision.

Brain storm what the dream community could look like. Then we can find the common ideas amongst people.

Make it more tangible by laying out community plans using coloured paper.

#### 4. Transform it into an accurate scale plan for new community planning

#### 5. Discuss the community model to find common rules for living together

#### **Tip** tool: Imagine our new community

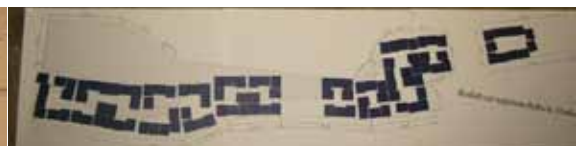
Architects can help people by preparing perspective pictures of project, housing clusters, common areas, fishing piers, ways of living sustainably with community forest, and so on. Through these imaginary pictures, people can visualise and discuss on how they will live together and maintain their living conditions.



Each sub-group transforms their "dream community" onto paper through questions like: How do we live together? What are the components for a dream community? How will it fit together with everyone's house? After their discussions, each group can share their ideas.



Start to put house plots into "a dream community", lay out the common areas, additional functions and activities in community. And let each group share their planning with each other, discussing to select the one they would like to develop in more detail.



Transform it into an accurate scale plan for new community planning



Finalize the layout design by making a model that people can comment on and give ideas based on physical features. Through this discussion, we can create community guidelines and additional functions for the new layout, to meet with the needs of people. This includes the need to have common space for a community pavilion, sewage treatment, waste recycling, and alternative energy.



1. The community hall can also be a local museum where the elderly can share their accumulated wisdom to the young
2. A walk way that links all community components together, without disturbing the natural mangrove.
3. Community pier and way to the sea
4. Community courtyard where people gather for their livelihood.
5. Aerial view showing housing clusters and community forest.

# STEP 5 Participatory design process for “dream house”

## 1. Discuss the conditions of constructing housing

Before starting the “dream house” workshop, it is important to let people gain more understanding of housing construction. This process of dialogue can help people shape their ideas in a practical way.

### TIP: Issues to be discussed?

- Existing skills in construction
- Size of plot (10 x 12 sq.m)
- Types of family and occupation
- Budget (2,330 USD)
- Condition of site

## 2. Let's draw the dream houses

### Tip Tool: Dream houses workshop

- Divide into small working groups, as the aim is to make everyone do things together, learning and helping each other.

- Before starting the “dream house” process, all basic group information should be collected. For example: number of houses, family members, occupation, income, saving capacity, skills for construction.

(see community survey form in Appendix)

- All stationery should be ready and sufficient for all people of each group.



### 3. Make the dream more tangible

Transfer space usage onto grid paper to give it accurate size and scale for cost estimations.

Firstly model making to guide people about scaling, space arrangement, and housing design

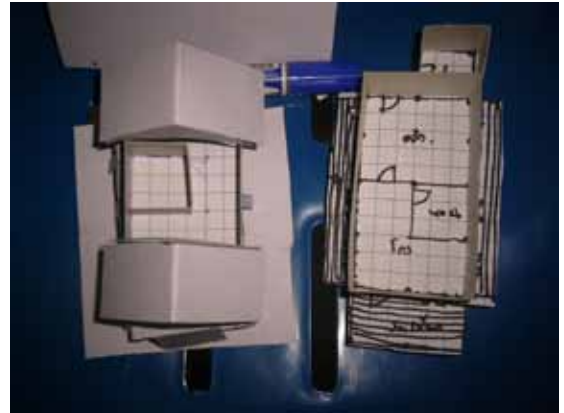
After each group shares their “dream house”, we ask people to do it again according to their needs, related with their budget, old materials that they have collected, and see how their new house could suit their new community and nature.

### 4. Costing of the dream house

Select some 3-5 houses for cost estimation, which can be typical models according to type of family, occupation, way of life. So people can relate their dream house with the actual physical context and their budget, helping to plan for construction management. (see cost estimation form in Appendix)

#### Tip Tool: during “dream house” workshop

It is very important that there be some community builders or craftsmen involved in this workshop. They can give practical advice regarding how to construct, what people can do themselves, which techniques help save costs, and how available materials in the local area can be used.



1. Transform the space usage onto grid paper to give it accurate size and scale for the cost estimations.
2. First model making to guide people about scaling, space arrangement, and housing design



After each group shares their "dream house" with each other, we ask people to do it again according to their needs, related with their budget, old materials that they have collected, and see how their new house could suit their new community and nature.



Select some 3-5 houses for cost estimation, which can be typical models according to type of family, occupation, way of life. This way people can relate their dream house with the actual physical context and their budget, helping to plan for construction management.

# STEP 6 Adding input by field visits to other projects

**Key** - how can these field visits encourage people that they themselves can manage their project through working committees?  
 - Learn to apply good points and avoid mistakes.



Good case of living with nature, and traditional wisdom of house design

## 1. Field visiting

It is important to organize a field visit program for community people and working committee to visit good case studies and add lessons learnt regarding: low-cost housing and infrastructure, maintaining natural resources, and establishing the community fund and its management.



1. This case shows how other communities were upgraded after disaster, and planned with new infrastructure.
2. Community centre as information centre or selling souvenirs is an additional program for the rehabilitation projects.
3. Income generation by organic farming, waste recycling can be an additional function for comprehensive site planning.
4. The way to sustainably live with nature can be one of the key issues for field visit programs.





Architects can help people to summarize the design of some houses that can be good models suited with the site context and needs of people.

## 2. Summarize lessons learnt from field visit

After working team or community committee return from the field visit, they should share their experiences to all community members.

Through this, the community can discuss the way forward of site planning using the input they learnt from field visits.

# STEP 7 Community management and planning

## 1. Form working committee

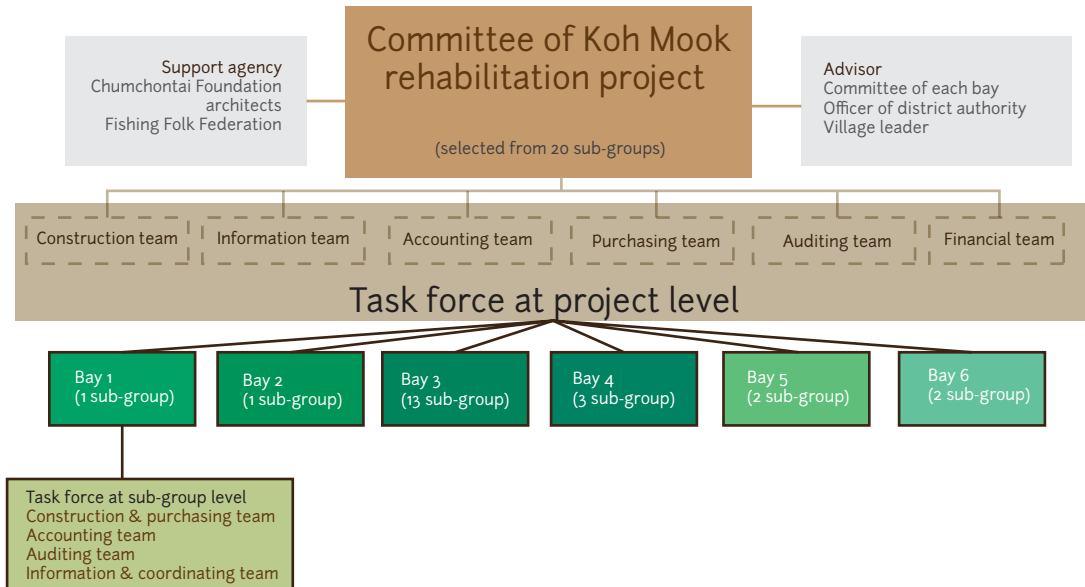
Issues to be discussed:

- Budget management and system
- Working schedule
- Role of working committee and each task force
- Action plan of each sub-group.

## Tip Tool: Planning vs. Working

- In every step of work (both before and after implementation), there should be a discipline of weekly meetings, to inform everyone about budgets and progress of each working plan.

- Usually the funds for supporting each household in construction, should be paid to people in the form of construction materials rather than in cash.



# STEP 8 Finalize the design and prepare construction drawing

**Key** –Incremental design based on budget, growth of community, self-construction

## 1. Prepare set of construction drawings

Architects can help to transform the people's planning into accurate scale drawing that is easy to understand and practical for construction.



Common buildings are divided into three zones for three phases of construction

1. Baray and religious place
2. Community pavilion
3. Local museum, cooperative shop, livelihoods training center



Existing pier



Pier model

## Design for public space

In this case people strategically decided to build a community pier complex to make use of common public land, and solving the problem of middle men in fish trading.

# STEP 9 Implementing and monitoring together

- Key**
- How to get people involved in every process of the construction tasks.
  - It should be started by implementing communal infrastructure that is shared by everyone
  - Achieve good quality and equal benefit sharing on construction processes



## 1. Area measurement workshop

Before demarcating an area for construction, it is important to organize a measurement workshop, so people know how to use simple techniques to measure the area on the actual site

We used a football ground to practice by applying the Pythagoras concept for measuring the entire area.



## 2. Onsite demarcation and laying out for construction

### Tip Tool: Measurement workshop

- By organizing a workshop for a group of community builders, they learned how to read construction drawings, measurements and how to adjust architectural drawing to the real site.

- We can mobilize community people through the clearing of the site for construction, so people can work on the ground together.



### 3. Working together on common infrastructure

By starting with this stage, the aim is to build a common spirit of shared labour through public works, and training on construction techniques and proper standards.

Once the common infrastructure has been finished, the construction team can be divided into 6 teams, each team constructing the housing in each of the 6 clusters, as local contractors.

#### Tip Tool: During construction

- Purchase construction materials together in one go to save costs of transportation.
- There should be material storage in community
- Weekly meetings regarding construction work is important, as a time to learn, share, conclude, and create trust among people.

# STEP 10 Exhibiting and sharing its success

**Key** - How to use the opening ceremony as a chance to demonstrate that there is potential in people to develop themselves, taking care of natural resources, to other community networks, development agencies, and policy makers?





The principle questions are: what is the condition that makes the community live together well? How we can build this up together?







# Ale Yaw Ward, Hlaing Tar Yar Township, Yangon city, Myanmar



**Location:** Ale Yaw Ward, Hlaing Tar Yar Township, Yangon city, Myanmar

**Challenge:** community located in unsecured land which is pressured by development and land speculation

**Solution:** comprehensive site planning

**No. of household:** 20 HH.

**Plot per household:** 15 x 30 feet

**Total area:** 60 x 240 feet

**Working agencies:** Women for the World

**Budget:** 40,000 USD (as a city fund for landless communities in Yangon)

**Year:** 2010

Due to growing development pressure in Yangon, especially in the industrial zones where many of landless families are located, people are being forced to move out of this area by land speculation and rising rents of private land-owners.

Pan Thakhin savings group is one of a number of landless people's savings groups in Yangon, that is ready to shift to a new area to live together. They have been saving together for 2 years, since Cyclone Nargis hit the Irrawady Delta in 2008.

In order to initiate this pilot project of comprehensive site planning, we also invited other savings groups of landless families from North Okalapa township and rural areas of Yangon to join this series of workshops. The workshops aimed to link each group together, to find a way to deal with this land and housing situation as a network, and learn to develop the process of comprehensive site planning with technical volunteers.

# STEP 1 Understanding process by listening, surveying, and sharing ideas

**Key** - learning about community structure and factors good living conditions  
- finding common problems to start on



## 1. Visualize community together with people

Find starting point by walking and asking people about: history, land availability and its price, common problems



## 2. Understanding factors of good living conditions

It is also important to understand how people earn, and what are the conditions that can support their livelihood.



## 3. Sharing among people what capital or ideas they already have

We let each of saving groups tell us about their savings process and monthly amount.

We asked how they could save more for their housing development with land security.



**Tip** **Tool:** Make sharing visible and lead to positive possibilities We prepared a big sheet of paper for them to draw and sum up their information, so that everyone can see and give their comments

From savings presentations we can help them to calculate their options for purchasing land and covering cost of house construction if they can regularly save for 10 years. The people were able to see the possibilities.

# STEP 2 Dream house –dream community

- Key**
- from drawings we can learn people's ideas of their housing
  - finding common ideas during drawing and sharing processes

## 1. Let's draw your dream, together we will make it happen

Based on savings groups subgroups, we asked them to explain their dream house by drawing it onto paper. So that we together learnt how people think about their community.

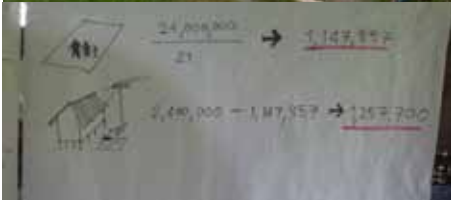
### Aspects to be discussed

- How big should one household's plot be?
- What are the components for houses that support their lifestyle?
- Size of lanes?
- What basic infrastructure would be needed?
- And how to build these in an economical way?



# STEP 3 Participatory planning process

- Key**
- finding size of household plot that everyone can afford, especially the poorest
  - make sure that planning design benefits all members



## 1. Finding minimum household plot size that everyone can afford by visualizing and calculating financial schemes

Before conducting the site planning workshop with people, they need to know the actual size of each household plot. Measuring on the ground with meter tape or human body was a key tool that helped people to visualise the actual size.

### Tip Tool: Design –Saving –Financial Plan

Together with people, we can calculate how much of the people's savings can cover the costs of land and housing. This financial planning can help people to find out what is the household plot that everyone can afford, and how their monthly savings go to housing and infrastructure.



## 2. Household plots layout with color paper

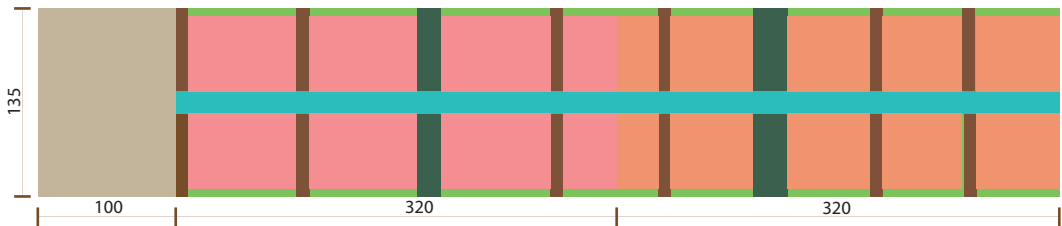
After measuring to find the size of plot, 20x24 sq.ft. was the size that people decided on. We gave a piece of color paper to each, representing an individual plot. This color paper can be folded for people to make a decision on the shape of the plot according to the land price.

## 3. Laying out a site plan for the community

Then, they arranged the 21 individual pieces of paper onto the larger piece of paper representing the available land plot which had been drawn by the men's group. This activity aimed to make a community plan. We can help to assist in this process by questioning the outcomes of each site plan, asking which one is nice and beneficial for all members, and what plan can save on costs of construction, as well as enough for housing and open space.

## 4. Calculation over paper lay out

After finalizing the first site plan design, together with people we calculated the total land cost depending on the chosen plot size. People made the decision to decrease their house plot size from 20x40 sq.ft. to 18x40 sq.ft. to reduce the cost of land.



- Temple
- Lane
- Open space
- Open ground for tea shop
- Community drainage

- house plot 18x40 can get 21 plots
- house plot 18x30 can get 27 plots

**Total: this plot can fit 96 plots**

42 plots for 18x40 ft.

54 plots for 18x30 ft

### Land cost

If land cost per sq.ft is 1,250 ky.

$$18 \times 40 \text{ ft. land cost} = [320 \times 60 \times 1,250] / 21 \\ = 1,143,000 \text{ ky.}$$

$$18 \times 30 \text{ ft. land cost} = [320 \times 60 \times 1,250] / 27 \\ = 889,000 \text{ ky.}$$

## 5. Finalize site plan together by laying out houses and other components

After finalizing the site plan, we asked people to arrange their plots, and make a community model using color papers representing houses, toilets, pig sheds, water hand-pumps, trees.

## 6. From people's model to concrete design and costing

With people arranging the different components in making their community model, we together discussed how people could share infrastructure to save some costs, like using one septic tank between four houses, and clustering the pig shed of each house to make bio-gas for producing cooking gas.

### Tip Tool: Form people's ideas into an architectural model

Architects can help people visualize their house and community plan by model making. With key issues and ideas shown by people's models, when we transform it into actual scale, people can relate to it and have clear ideas of how it will look when finished.

After discussion among local architects, engineers and carpenters, we raised the concrete idea of an incremental design where houses could start from a core house. With this core house, the poorest can afford it and gradually improve it according to their ability to pay. Then we together calculated how much the cost of the core house should start at.





# STEP 4 workshop with urban poor networks and architect students to develop the site plan and low-cost housing

**Key** - engage with young people and academics to support urban poor networks

- build-up the urban poor and landless network to work together through workshop processes



## 1. Workshop orientation for young architects to facilitate

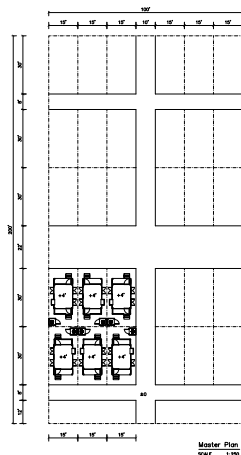
Building the capacity of young professionals is also a key step for development. Students can be good facilitators and technical support, without imposing ideas on people through their theory, when they really understand the process of participation.

## 2. Understanding people's situation through people's information and sharing

Before conducting the site planning and house design, the community peoples' information should be visible. Young professionals can be good facilitators by providing the tools for information sharing. After this process, the people's network can discuss and share information.



Contents  
 A-01 Contents Master Plan  
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### 3. Participatory site planning

Divide each community and young professional into sub-groups, to lay out their community site plans. Let them discuss and share the outputs with other groups.

### 4. Develop low-cost houses

Summarize all inputs learned from people to make a house design with help from architects.

### 5. Add more input through a bio-gas workshop

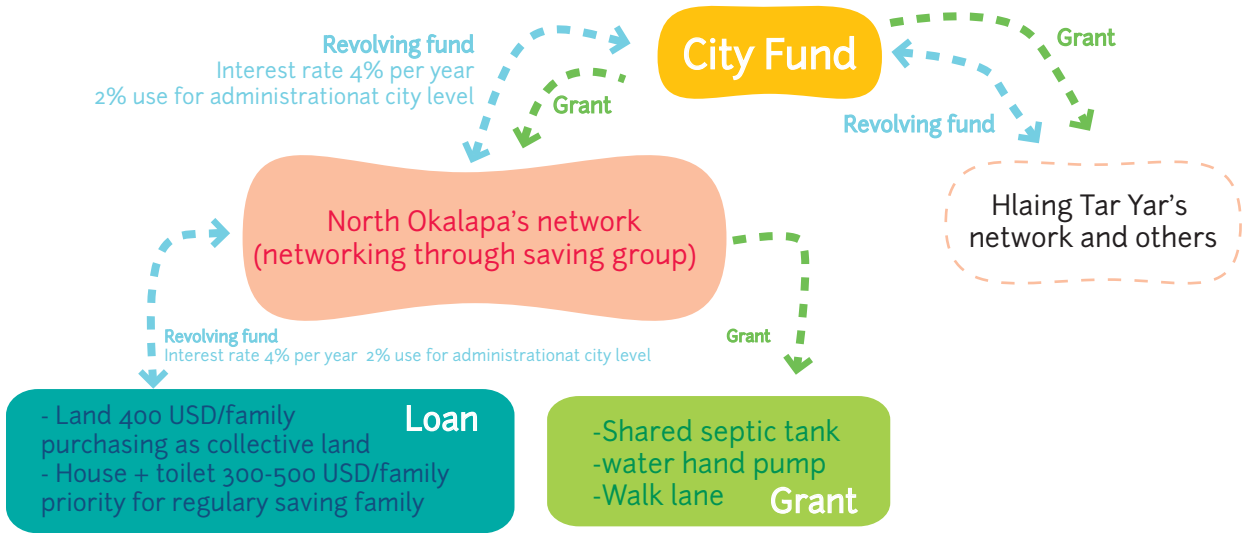
Due to the housing project being located in a suburban context where people practice animal husbandry, they have potential for experimenting with alternative energy, and concentrate compost for agriculture.

We, together with the community network and a group of young architects and engineers, organized bio-gas workshops in 2 communities. The process aimed to let people see the potential of organic wastes. By this hands-on workshop we could explore techniques and other potentials of bio-gas tanks.



# STEP 5

Form community task forces and committees to manage the housing project



The city fund concept is based on how to utilize the support budget to help larger numbers of people, instead of spending the whole budget for doing community projects one by one and separately. By forming working groups inside each community and link them on a city scale, it also strengthens the linkages and networking amongst people, and gives them the capacity to do so.

**Tip** Tool: What are the criteria for each savings member to obtain a city fund loan or grant to develop their housing?

1. Priority will be given to those who have no land in Yangon.
2. Priority will be given to those who regularly save
3. Priority will be given to those who always participate in savings group activities and respect the savings rules
5. Priority will be given to those with lower income, more expenses, or are indebted.

# STEP 6 Constructing with limited resources, but not limited ideas



1. Subdivide the land into individual house plots, and plan for infrastructure and common space

2. Kick start the process together by working on communal infrastructure

In this case, people shared their labor to build communal septic tanks and underground convertors before building their own houses.

3. Experiment with the model of low-cost house by building the home of the poorest person as a pilot

Through this process we can learn how to build in the cheapest ways, and learn how to manage the budget in the construction processes.

**Tip** **Tool: Producing construction material on their own** People want to save costs by buying raw materials like bamboo posts and then weaving it themselves. This idea can be also applied to other materials by forming a co-operative for material production, to provide construction materials for the community network.

# STEP 7

## Sharing the success, and learn to develop better



After construction is finished, it is important for agencies and community networks to make field visits to the site, to learn from people how they can manage this project effectively, and how to improve aspects and learn from the mistakes.

### Issues that can be discussed:

- Management among people regarding financial, construction, and savings issues
- Housing design and site planning and its cost
- How to expand this project's output to help others
- Next step or plans for the community that people want to do to improve their livelihood (energy, agriculture production)

## Profile of costing and repayment



### Hliang Thar Yar Community

Land for relocation 200x100 feet = 20000 sq.ft

One family : 15x32 = 480 sq.ft

Land cost = 10,000 USD

Infrastructure = 5,000 USD

Housing loan = not more than 500 USD per family

People can save for housing = 15-20 USD/month

Repayment = 5 years 5-6% interest

### Cost of the project

Housing loan 900 land 500 +house 400x30 = 2700 USD.

Infrastructure -shared septic tank, water pump = 5,000 USD

Total support = 33,000 USD (for 30 families, 150 people)



### North Okalapa Community

Land for relocation 200x100 feet = 20000 sq.ft

One family : 15x32 = 480 sq.ft

Land cost = 10,000 USD

Infrastructure = 5,000 USD

Housing loan = not more than 500 USD per family

People can save for housing = 15-20 USD/month

Repayment = 5 years 5-6% interest

### Cost of the projects

Housing loan 900 land 500 +house 400x30 = 2700 USD.

Infrastructure -shared septic tank, water pump = 5,000 USD

Total support = 33,000 USD (for 30 families, 150 people)











Our ethos is to ensure that all processes of working still maintain space for people to share their ideas and be the subject of their dreams and solutions, as much as possible.

Even if some persons may not feel like participating, this does not mean that participation should be ended in favour of the community architects leading all the processes. There is still the potential for mistakes to occur along the way, either by the support agency or the people, or both.

The right way seems to be to give the people encouragement and a chance to participate from the beginning, something they do not usually experience in the traditional institutional framework of development. Little by little, people will learn the role they have to play when working together.

People as the  
"SUBJECT"  
of development

Traditional housing in floodplain area  
in Bangladesh, which can be learned  
from to adapt into this project



# Comprehensive site planning and low cost housing workshop

## Mandartola, Gopalganj Municipality, Bangladesh on 9-18 June 2011 (6 days)

### Basic information

#### Plot size and its location:

416 acres on paddy field, no basic infrastructure, underground saline water, annual flood level about 4-5'

#### Infrastructure:

30,000 USD from UPPR will be given as a grant for basic infrastructure development (part land-filling, roads, water and sanitation, electricity) to be built with free community labor.

#### Housing loans:

40,000 USD from ACCA fund given as a housing loan (1000 USD per unit at 2.5 percent interest, repayable in 5 years to the CDF, with loan recovery managed by the saving group)

#### Key challenges:

- What is the practical site plan that suits all conditions (minimum budget, incremental development, practical implementation by locals)?
- How can this land allocated by government, which cannot accommodate all 346 families, will benefit the most vulnerable group which will be accepted by the CDC and all members?
- As the pilot project having partnership with government how can this chance be used to set up the CDF and its mechanism to help the other poor groups in the city?
- How to take this chance to create a YP platform in Bangladesh?

#### Working teams in workshop:

Urban Partnerships for Poverty Reduction Project (UPPR) at town level and urban specialist from headquarter, YPs (5 urban planners and 5 architects), UNDP consultant, and community architects from ACHR

Mandartola is new land that was allocated by the government for 346 evicted families in Gopalganj municipality. In 2009, those 346 families were evicted from their settlement to make way for the expansion of sport complex. Now they are living in temporary housing in 32 locations scattered around town. People have been organized by the Urban Partnership for Poverty Reduction Program (UPPR—an organization managed by UNDP) into saving groups and Community Development Council (CDC). 346 families requested to move onto this 416 acre site, once land filling and plot allocation were finished. To do so, community architects with local young architects and planners, together with UPPR and municipality staff, have been assisting in order to get people involved in the process of site planning and housing design.



## Outcome of workshop

- Community members in Mandartola and other community networks in Gopalganj municipality started to know each other through the workshop process. It was the key stage to naturally form their community organization by self-determination in working together.
- Schematic site plan which can accommodate 198 families with each cluster having their own basic services and open court yard. Each plot about is 18x30 sq.ft. and 21.5x25 sq.ft.
- Infrastructure plan and rough costing (land filling, shared sanitation and septic tank, rain water harvesting and water supply's tank)
- Low-cost house model starting from 35,000 taka by using bamboo posts (470 USD) –60,000 taka by using RC columns. (800 USD). These costs are the material cost plus labor cost.
- Financial scheme at the household level for loans and repayment.
- Concept structure of CDF and revolving fund within the existing community development committee (CDC) structure needs to be followed up.



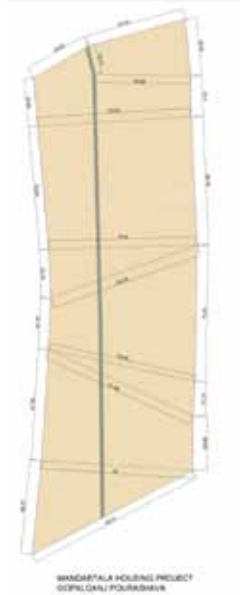
## Workshop diary

To get the sense of how the workshop has been organized, the diary has to explain the day to day processes, and how the working team and people have learnt and tackled the emerging issues during the workshop. This workshop diary could be a practical guide and provide lessons learnt for the next workshop with people.

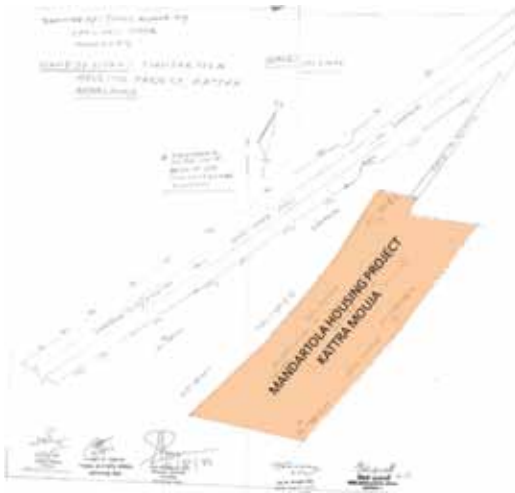
### Points to note:

Be collaborative with clear direction among working partners and especially the follow-up team. It is importance to note that, starting from the stage of preparation a loose community organization has to be formed. This is because while participating in the workshop, the given input and outcomes gained from the workshop will have to be followed up by this peoples organization. If the people and community have not been organized beforehand, the momentum might be lost because of a lack of a follow-up team.

- 1 City-wide survey process with women representatives from the Community Development Council (CDC)
- 2 Map showing the informal settlement in Gopalganj Municipality



MANDARJALA HOUSING PROJECT  
GOPALGANJ BIHAR INDIA



## Preparation stage

### City-wide survey.

UPPR, Gopalganj Municipality, and CDC conducted a city-wide survey of informal settlements in the city. They identified the pilot project to kick start the process.

### Basic information for site planning, and low-cost housing design.

UPPR with Gopalganj Municipality surveyed the site, measure the site, location and surrounding context, as well as the availability of local materials.

### Basic research on related project and context.

Community architects researched and reviewed the existing knowledge and related project regarding site planning and low-cost housing in Bangladesh, to learn and prepare for sharing with people during the workshop.

1 - 2 Ambience of walkway which links community pier to housing cluster

3 Ambience of walkway which links community pier to housing cluster



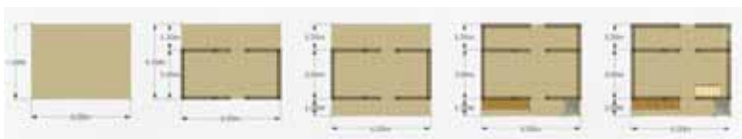
## Schematic A



## Schematic B



80

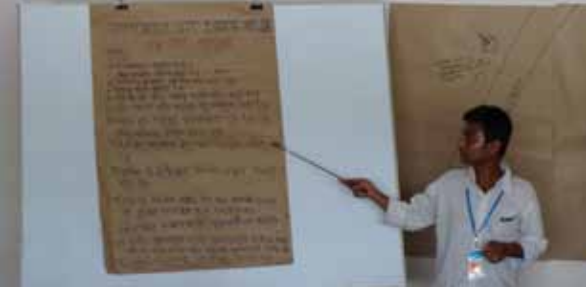


## Trial possibilities of housing design and site planning.

Due to the allocated site being quite small compared to the number of households, it is importance for architects to trial possible solutions and see the limitations in practice, before the workshop. This way, during the workshop, we will not waste much time.

1. Ambience of walkway which links community pier to housing cluster
2. Ambience of walkway which links community pier to housing cluster
3. Ambience of walkway which links community pier to housing cluster





## DAY 1

1. Ambience of walkway which links community pier to housing cluster
- 2.-3. Ambience of walkway which links community pier to housing cluster

- Introduce the workshop's objective and ideal process of working together
- Review information (5 sub-groups of community people)

Issues to be discussed and shared:

1. Expectation from workshop
  2. Plot size and its condition and context
  3. Limited budget for support , how to dowork with it?
- By sharing between people, we put all the issues and ideas onto paper. So that everyone can see things in common. Some information has to be cross-checked.
  - Sharing case study of housing project in Myanmar and giving homework of drawing a dream house
  - Visit the new site given by the government. Engineer team checked the seasonal flood level, drainage line, and quality of underground water.

**E**merging issue: When dividing the community people into small groups to work together in this kind of workshop, initially the aim was to start from working groups or sub-clusters who prefer to live together, relating to their social relationship. But sometimes in reality, all community members cannot participate in the workshop. Community representatives has not been selected from all the group, especially the vulnerable groups which are not part of the savings group on which the selection process is based. So it was difficult for community people to divide themselves. Finally we decide on group of 8-10 people, with 5 groups, and we asked them to share their experience to their friends in their community.

## DAY 2



1-2 Ambience of walkway which links community pier to housing cluster  
3 - 4 Ambience of walkway which links community pier to housing cluster

- People sharing their dream house drawing  
What we learned from people's the drawings was what are the important elements of the new houses and new community.
- Working on the dream community  
(4 sub-groups of community people mixed with YPs)



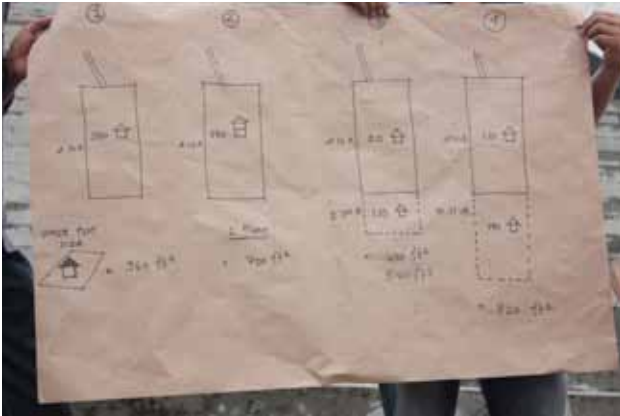
Issues to be discussed and shared:

1. how with the dream community look, what are the community's elements?
2. size of housing plot?
3. how to live together?



- Each group shared their dream communities. The basic area requirement started from 540-720 sq.ft.

**Emerging Issues:** Since the members in working group did not belong to the same locality, some of them were quite new to each other, so it was difficult to start with a common dream community. Then we asked people how they used to live in the community, and we started to find things in common by drawing it onto paper and having a dialogue. For us as the facilitators, it is important that before organizing this kind of workshop, we have to visit their houses, understand their living supports, and observe and learn from their dwellings. That way, the dialogue process on the dream community practice will be more valuable and concrete.



- Based on the group sharing, the YPs group developed 4 schemes of site planning (summarizing the possible area of house plots that can accommodate 350 families)

- Let people visualize the actual sizes of plots on the ground, starting from 360, 540, 720 sq.ft



- 1 Ambience of walkway which links community pier to housing cluster
- 2 Ambience of walkway which links community pier to housing cluster

**T**ip: For rough calculations for site planning, we assume that housing takes up around 70% of space, and remaining 30% will be kept for open space and roads.

**Schematic 1:** each house plot = 360 sq.ft.

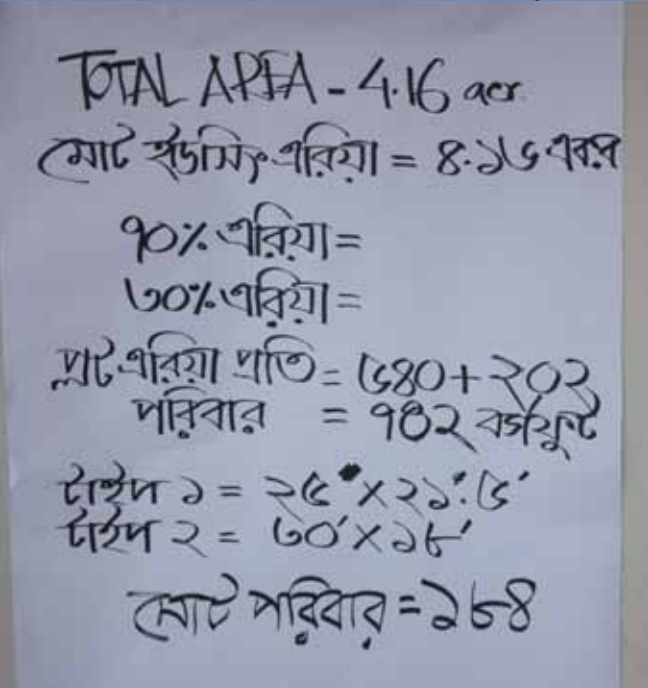
**Schematic 2:** each house plot = 360 sq.ft. and they can build 2 storeys to gain more housing space

**Schematic 3:** each house plot = 540-600 sq.ft. initial site can serve 211 families and they have to propose for around 2.74 acres more land

**Schematic 4:** each house plot = 720 sq.ft. initial site can serve 180 families and they have to propose for around 4.11 acres

**E**merging Issues: How can we identify the people who will move into this relocation site? Someone raised the key point that there are some people who are not so poor and already own land. This situation led the community and working team to step back and review the process of identifying beneficiaries, and establish savings groups for the housing project.

# DAY 3



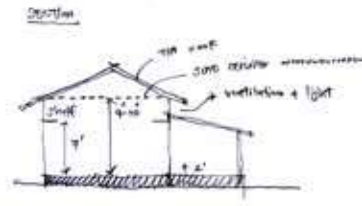
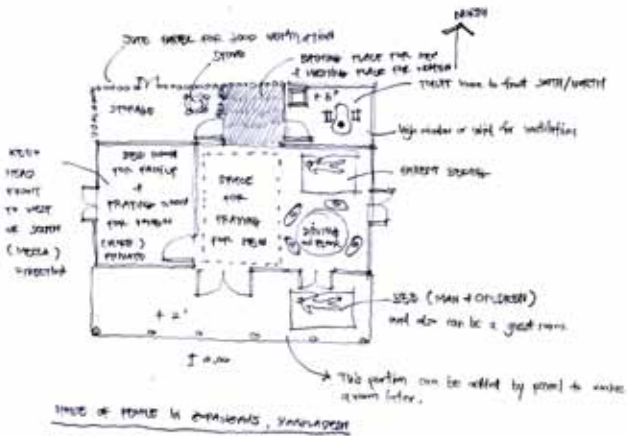
- Based on the 5400 sq.ft. decision gained from discussion with the community, the YPs group and technical support team divided into 3 groups to brainstorm a site plan that can accommodate as much as possible, the basic infrastructure to provide, and the design of clustered neighborhoods.

- While the YP were working on the site plan, we let people do detailed surveys in their primary group. Based on the below questions, we wish to obtain a clear number of the evicted or the poorest to be the first priority, since this site cannot accommodate all 350 families.

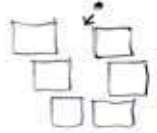
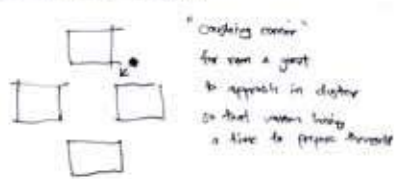
Issues to be discussed and shared:

1. how many of the poorest families in the primary group (poorest in this context means no land, minimum income)?
2. how many evicted families and how many of them are members of the CDC?
3. how many non-evicted families are members of the CDC?

1,2,3,4 Ambience of walkway which links community pier to housing cluster



INTERNAL PLANNING IN CLUSTER



5-6 sketches showing the traditional space arrangement in a typical house. It is important to adapt these ideas and meanings into a new design

- YPs introduced the site planning that can serve 184 plots, and explained the 2 typical housing plans. They helped people to visualise the actual size of the plot on the ground.

- 1st type is about 18 x 30 sq.ft. and second type is about 21.5 x 25 sq. ft.

- People agreed to those plot sizes.

## Emerging Issues:

1. What are the criteria for household selection?
2. What about the remaining households that cannot be placed on the new relocation site?

By the end of the discussion, we concluded that the community representatives have to go back to discuss among their primary groups about the selection criteria, and meet again at the CDF level to finalize the decisions.

## Issues to be consider:

Traditional living and space arrangements of housing are important to learn from and adapt in the new design, especially space usage that relate to ritual orientation, or women in public space in Muslim culture.

# DAY 4



- Begin the day by breaking people into small groups to share their ideas and reflections from the last 3 days., and raise the remaining points of concern.

From the sharing, it emerged that there remained some doubt about how the existing CDC will be able to manage the housing project, and how to select the beneficiaries. As this land was given to the evicted families, priority should go to the evicted households first rather than the other poorest members of the CDC.

- 1 Ambience of walkway which links community pier to housing cluster
- 2 Ambience of walkway which links community pier to housing cluster
- 3-5 Ambience of walkway which links community pier to housing cluster



- Then we break people into 5 working groups to work on:

1. Finalizing the master plan and total no. of plots in AutoCAD (only YPs)
2. Developing a low-cost house and costing (YPs + community builders)
3. Developing the infrastructure and costing (YPs + technical support + engineers from municipality)
4. Establishing the financial scheme for housing (community members + CDC representatives + UPPR)
5. Community organization, selection criteria (community members + CDC representatives + UPPR)

Ambience of walkway which links community pier to housing cluster

# DAY 5



- Share and summarize common issues and ideas from the 5 groups

- Discuss on project's action with CDC representatives, UPPR, municipality's staff

- Community builders + YPs + local engineer plan to build an 1:1 model house on the site.

1 Ambience of walkway which links community pier to housing cluster

2 Ambience of walkway which links community pier to housing cluster

3 Ambience of walkway which links community pier to housing cluster

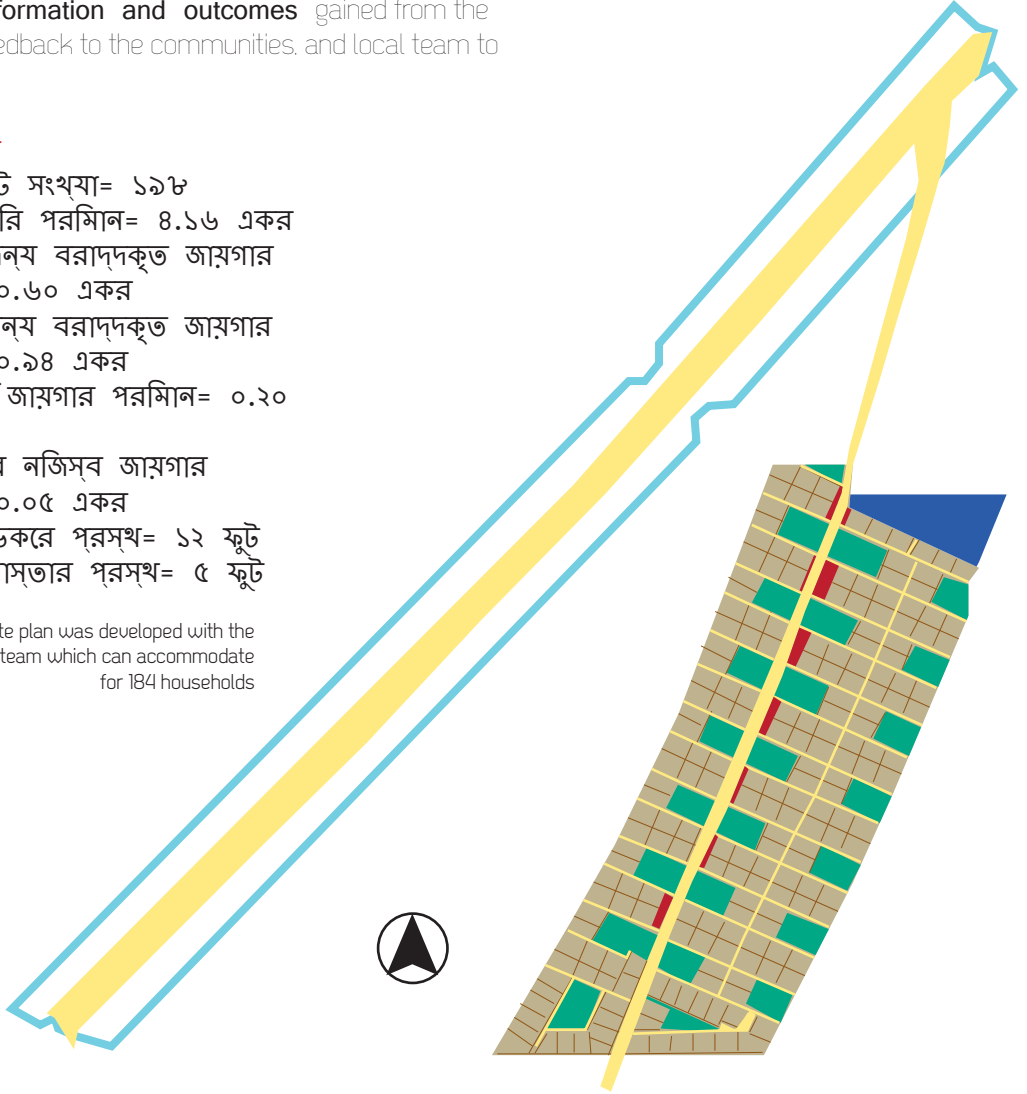


- Compile information and outcomes gained from the workshop to feedback to the communities, and local team to follow-up

### মাস্টার প্ল্যান

- মোট প্লট সংখ্যা= ১৯৮
- মোট জমির পরিমাণ= ৪.১৬ একর
- রাস্তার জন্য বরাদ্দকৃত জায়গার পরিমাণ= ০.৬০ একর
- উঠানরে জন্য বরাদ্দকৃত জায়গার পরিমাণ= ০.৯৪ একর
- কমডিনটি জায়গার পরিমাণ= ০.২০ একর
- সডিসি এর নিজস্ব জায়গার পরিমাণ= ০.০৫ একর
- প্রধান সড়করে প্রস্থ= ১২ ফুট
- ভতেররে রাস্তার প্রস্থ= ৫ ফুট

A site plan was developed with the local team which can accommodate for 184 households



প্লট



কমন উঠান



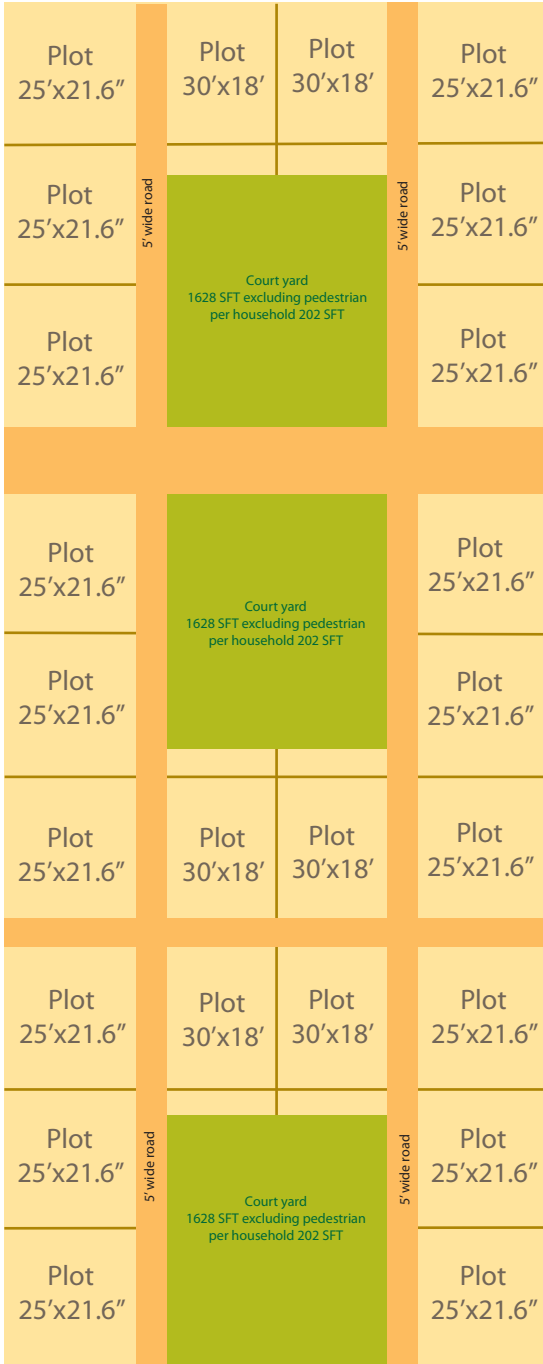
রাস্তা



কমডিনটির জায়গা



সডিসি'র জায়গা



### বাড়ী সম্ভবপরকতি তথ্য

প্রতিটি প্লট এর পরিমিত = ৫৪০

বর্গফুট

কমন্ড জায়গার পরিমিত (প্রতিটি

প্লট) = ২০২ বর্গফুট

মোট জমির পরিমিত (প্রতিটি পরিবার) =

৭৪২ বর্গফুট

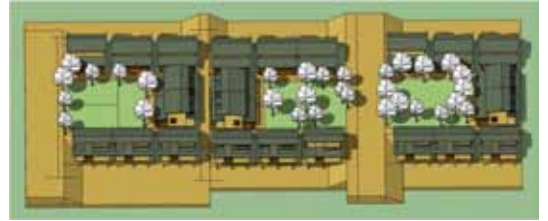
সামনের ফুটপাথ এর প্রস্থ = ৫ ফুট

প্লট (ক) পরিমিত = ২২' x ২১.৫' = ৫৪০

বর্গফুট

প্লট (খ) পরিমিত = ৩০' x ১৮' = ৫৪০

বর্গফুট



Perspective showing the cluster and space usage

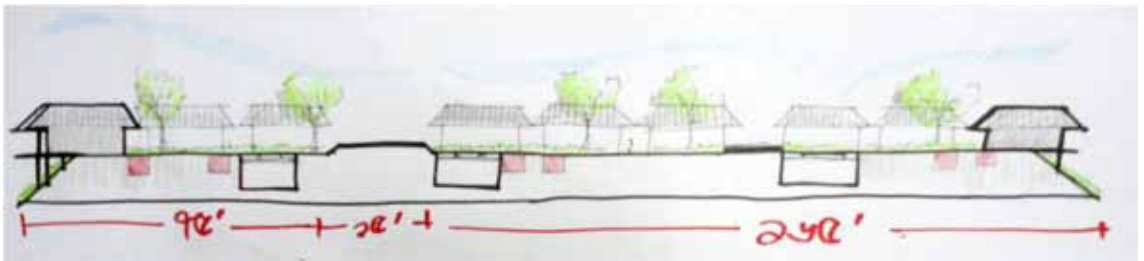
- প্লট
- কমন্ড উঠান
- রাস্তা

## Total cost of infrastructure

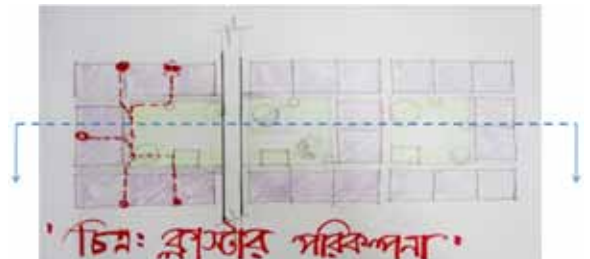
	পরিমাণ	একক প্রতি খরচ	পরিবার প্রতি খরচ	মোট খরচ
মাটি ডরাট	১৭০৬৪	২০২	১৭৯৬০	৩৪৪৮৩৮২
পানি সরবরাহ	দৌরসভা	৮২৭	২৩১৩	-
	বৃষ্টির পানি	-	-	৮০০
স্ব-নিষ্কাশন	সেপ্টিক ট্যাঙ্ক	-	৮২৯৪	৬০৫১৯
	সক ওয়েল	-	-	২৫০
				২০০০

পরিবার প্রতি খরচ মোট খরচ ২৯,৬১৭ টাকা

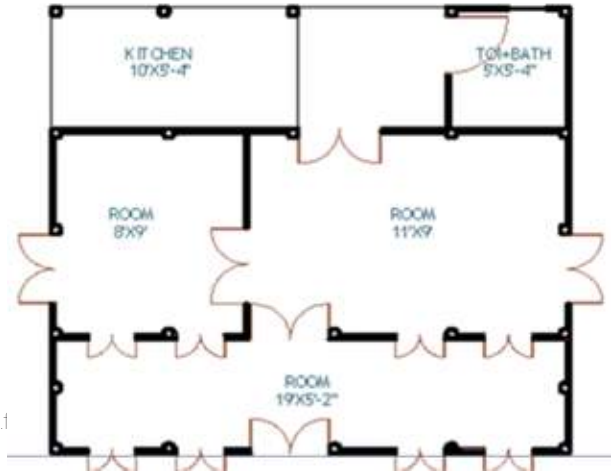
পরিবার প্রতি খরচ মোট খরচ ২৯,৬১৭ টাকা



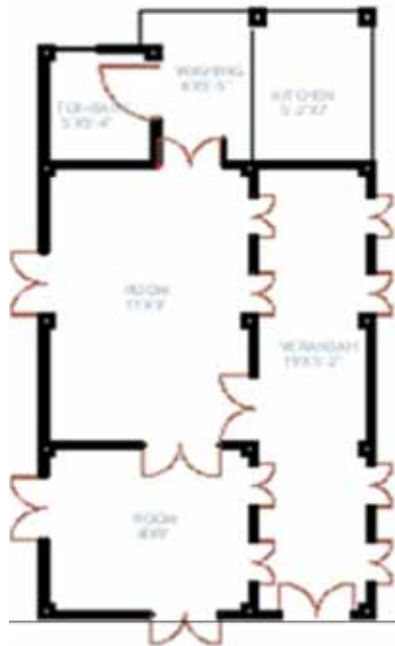
- 1 Section showing the dimensions and positions of water tank and septic tank in the cluster
- 2 Proposed idea on shared septic tank (one septic tank per two houses)
- 3 Proposed idea on rainwater harvesting from the roof
- 4 Proposed idea for size of water tank in each cluster



## Low-cost house plan



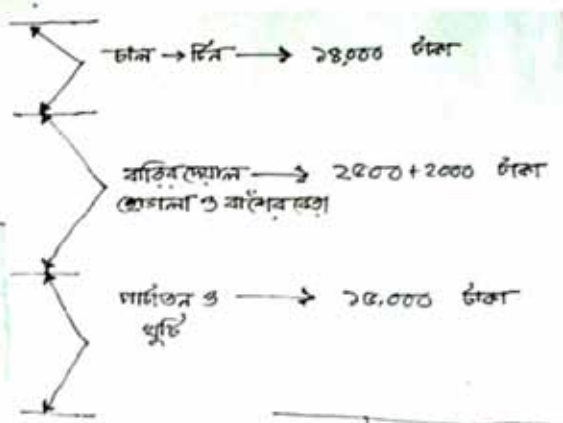
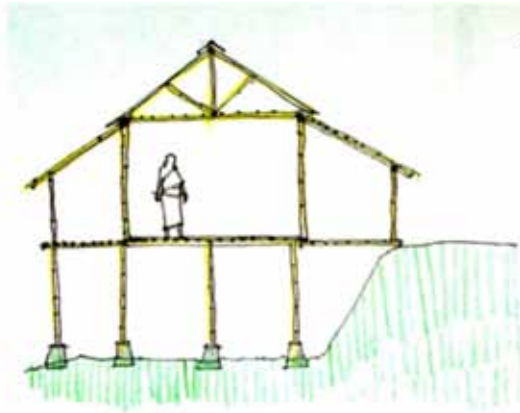
Type A: 25 x 215 sqft



Type B : 18 x 30 sqft

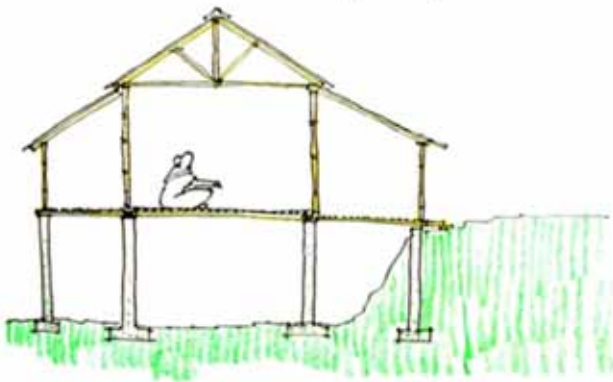
# Cost of Material per unit

উপাদান	উপকরণ	মাত্রা/একক	ক্রম	মোট	মোট		
খুঁটি	ইট	৮ টা/১	পেত্রেক	১১০০টা/১কোডি	১২০০টা/৫৫		
	পোয়া	৮০টা/কোডি	কু	১৫০টা/৮০পিস	১০০০টা/৫৫		
	কাল	২৫টা/কুডি	ভারকটা	১১০টা/১কোডি	৬০০টা/৫৫		
	সিমেন্ট	৪০০টা/বস্তা	কাঠের পাত	১৫টা/১কুডি	ট্রিস		
	গাছের ওড়ি	৫০০টা/১টি	কাঠের চটা	৬টা/১কুডি		মূলি বাঁশ	১১০টা/১পিস
	বাইশের খুঁটি	২৫০টা/১টি	অড়া	৪০০টা/১পিস		সুপারি গাছের ড্রুম	৬টা/১পিস
	বেড়া	৫০০টা/১বাস	চাপা			প্রস্টিক মড	১৫০টা/১কোডি
	টিন	৫০০টা/১বাস	টিন	৫০০টা/১বাস			
বাইশের চটাই	১২০টা/১বাস	মটকা	১৫০টা/১পিস				
যোগা	১৫০টা/১আটি	পাটাকন	মুতা	৩০০টা/১কোডি			
পট মডি	১০০টা/১		যোগা	২০০টা/১আটি			
খুঁটি	৭০টা/১কোডি		মূলি বাঁশের চটা	১১০টা/১পিস			
মরসা + আনো	সি আই সিট	১৫০টা/কুডি	কাঠ				
	কাঠ (ডকা + গায়া)	৬০০টা/৫৫					
	বাইশের চটাই	১২০টা/ (১.৫'x৬')					



বাঁশের বাড়ি ও বাঁশ/কঠিন খুঁচি

মোট আনুমানিক খরচ  
৩৫,০০০ - ৪০,০০০  
টাকা



বাঁশের বাড়ি ও  
সিমেন্টের ফাউন্ডেশন

মোট আনুমানিক খরচ  
৫০,০০০ - ৬০,০০০  
টাকা

Total cost of bamboo post house is about 35,000-40,000 taka and for RC column house is about 50,000-60,000 taka

# ACTION PLAN

## Selection Process

### Meeting in Primary Group

- sharing workshop outputs within the sub-groups
- collect and update information from all members
- discuss about selection criteria

### Meeting in CCD

- summarize information from each primary group
- summarize the selection criteria

### Selection process

- prepare the list of people who will live in the new site
- CDC leader should participate in each sub-group during the selection process, aiming to make his process very fair
- summarize the list at CDC level
- organize a big meeting to finalize the list, and form the new sub-groups of those who will live together in the new site

## OUTPUT

1. List of families who will live in the new site
2. New sub-group of beneficiaries, then form the savings group

## Savings and CDF

Discuss the structure of the CDF and its mechanism

- start finding idea of CDF and mechanism from the primary group to CDC cluster (bottom-up process)

**Financial scheme**

- develop financial scheme suited to the ability to pay of people (arrange interest rate, terms of repayment, loan ceiling)

### OUTPUT

1. Financial scheme that people can afford
2. CDF structure from bottom up process



## Site Planning

- Conduct site survey in actual dimensions
- Architect adjusts the plot design according the actual dimension
- Meeting with people, engineers to share ideas
- Finalize the master plan

### OUTPUT

1. No. of house plots
2. Master plan that is ready for legalization and approval

## Low-cost house

- Community builders and local engineers develop actual model house
- finalize the materials and costing
- Architects help to develop incremental design
- Plan the management of construction with community builders and local engineers

### OUTPUT

1. Design of low-cost house with incremental design
2. Costing of low-cost house

## Infrastructure

- Design infrastructure with local engineer
- Calculate the cost of ea the infrastructure

### OUTPUT

1. Final design of infrastructure
2. Costing of landfill, sanitation, electricity, water supply

## Proposed community process after workshop

1. Form sub-groups among people who have been evicted (both from beneficiaries, and non-beneficiaries)
2. Select representatives from each group to be in the community committee in the CDC
3. In case of the first beneficiary, they have to form the housing task force for each sector, like savings group, community builders, coordinators, auditor team, purchasing team.  
The non-beneficiary groups of this new site can form a task force to work with the local authority to find a possible plot of land.
4. Start saving for housing
5. Selection process of who will shift to the relocation site, with regard to social sub-groups, lifestyles (the process of selection should be done openly at the CDC, CDF level)
6. Discuss the action plan for implementing the project (construction management, budget)
7. Meeting with local authorities to show the people's action plan and work stages in which the local authority can be closely involved
8. Start implementation
  - land filling
  - develop water covert, sanitation, water supply, and electricity at cluster level
  - start developing the incremental housing

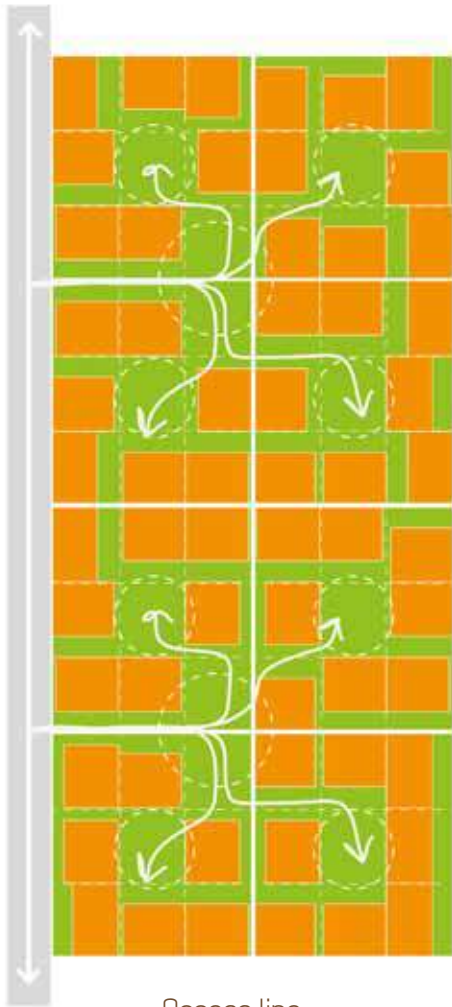
**Note:** Like in this workshop, sometimes, the outcomes of participatory design with people can be further developed by the architects and planners, to enhance the quality of space and planning in such limited and small site provided by the government. The architect has to develop the design based on the outcomes gained from workshop to meet those challenges. Here is the detailed design after the workshop follow-up.

### Idea behind the design responds to the challenges of project

The allocated land from Gopalganj municipality is located in the low-lying paddy field below the main road, in a flood prone area. Land filling to avoid flooding in the monsoon season was not possible given the available budget. These were the key challenges of design and planning for this project, which is the pilot project for this city. The design intervention from architects has to show alternative ways to meet these challenges, because these are typical challenges of housing projects in rural areas in Bangladesh. By learning from vernacular living styles which still exist near the site, local people showed the way they lived that did not require infilling of the land to escape floods. Instead, they partially fill up their land for the living space of domestic animals, and the plantation, as an island for living during the heavy monsoon season. The architects learnt and applied this idea in this project. Architects helped to develop an incremental housing concept whereby community people need not entirely in-fill the site, but only around their housing clusters and walkways that connect to the main road (which was already in-filled). Through this method, people could save about forty percent of land-filling costs. The housing design and cluster planning also applied the traditional space usage that matched with the daily lifestyle, allowing the organic growth of the village.

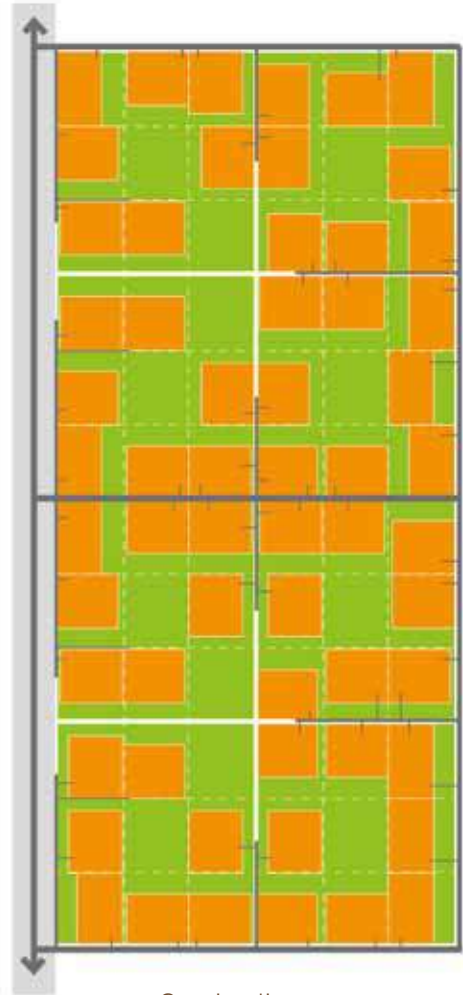


## Planning system in cluster



### Access line:

Linkage from main road to inner court of sub-cluster



### Service line:

Water supply and sanitation line

This site plan can accommodate 192 units with the same concept of site planning from the workshop. It was developed from the cluster concept plus the idea of traditional space arrangements.





- 1 This perspective section shows the cluster housing on stilts where the inner court was filled up to link with the main road
- 2-3 New housing design using local materials and keeping the traditional space arrangement
- 4 Perspective showing an ambience of linkages of sub-clusters







"Life is creative. It plays itself into existence, seeking out new relationships, new capacities, new traits. Life is an experiment to discover what's possible.

As it tinkers with discovery, it creates more and more possibilities. With so much freedom for discovery, how can life be anything but playful?"

A simpler way  
Margaret J. Wheatley

# TIPS

- Building a sense of working together
- Principal checklist for site planning and housing design
- During implementation

# Building a sense of working together

Make it easy and fun by letting people be the subject in the working process



Work in small groups so that people can easily discuss and share ideas

One group should not be more than 10 people, with people themselves forming the small groups, so that it naturally represents their social relationships



## Warming up by letting people be the subject of the workshop information

Right from the beginning, people must learn to see and analyze their information by compiling and sharing it. Then we can start to share what other data is needed and people can spend time writing it down, finding more, and starting discussions.



## To dream, draw and discuss

These are important processes so that people can express their ideas



## Find collective ideas and consensus from the ideas of the small sub-group.

Let the small sub-groups present their ideas, as there will be common ideas among them. Capturing these common ideas to discuss them in more detail for further discussion and work, professionals can share ideas with people during process. But they should not lead the whole process.



## Make it visible and tangible

We can use a 1:1 scale to let people visualize and measure their dream house, community, or road width, so that they can relate how these actual sizes fit with the use of space.



A natural leader always emerges through the working process, just wait, listen and observe

During the working process, there will be someone obviously showing their ability and who will volunteer to work constantly, who will also be accepted by other people. We have to observe this emergence and give them the right role in participatory work.



Practical information and solutions are always with the people.

We just need to listen and observe from what they draw and ask some good, open-ended questions to encourage them to give some more thoughts.



## Trust building is the key of forming small groups

When people form groups, they will form according to their relationship and trust, so that they can work together easily. Through this grouping, later on they can develop other things like savings, building houses and infrastructure.



## No need for one hero, one leader.

In the new way of working as a community, there should be many leaders for many kinds of work. From the small sub-groups, people can select representatives to work with other groups and form a community committee. This committee will work together but when the crucial decision is needed, it must be worked out in small groups to find consensus too.



Let people be active by identifying and distributing the right tasks to the right persons.

Start defining the task forces according to the needs of work, not by identifying positions first then defining the work.



For any decision making, the criteria for the decision must come from the collective ideas of people

As a support agency, we should just ask questions about how they together take decisions, or what aspects should be considered, rather than giving direct answers.





# Principle checklist for site planning and housing design

## Site analysis –selection

### - Searching for vacant land for housing development

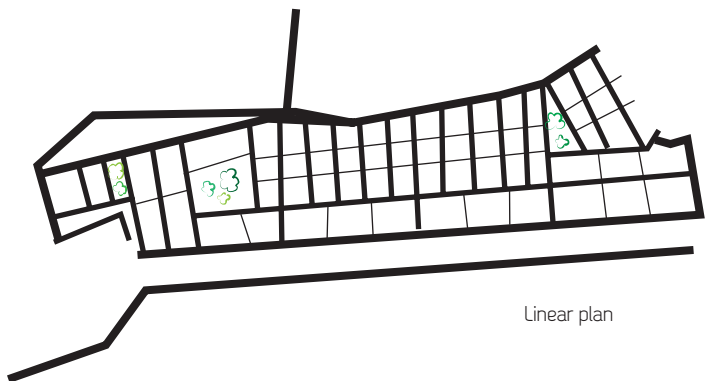
It can be government land or private land, but the important aspect is to check with the city authority master plan or development plan for long term development.

### - Visiting the actual site and measuring

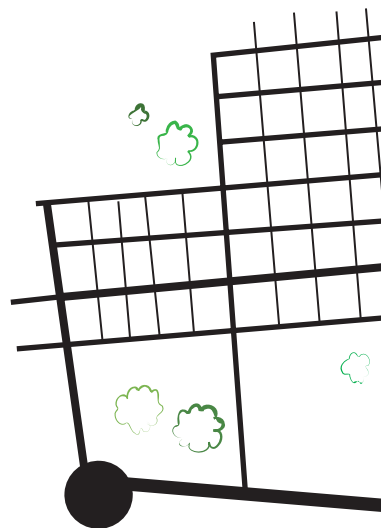
Visit the real site, don't believe only the documents. We have found many cases where the real site and the document are not the same, where the size is different from the measurement in the paperwork.

### - Checklist for new relocation site

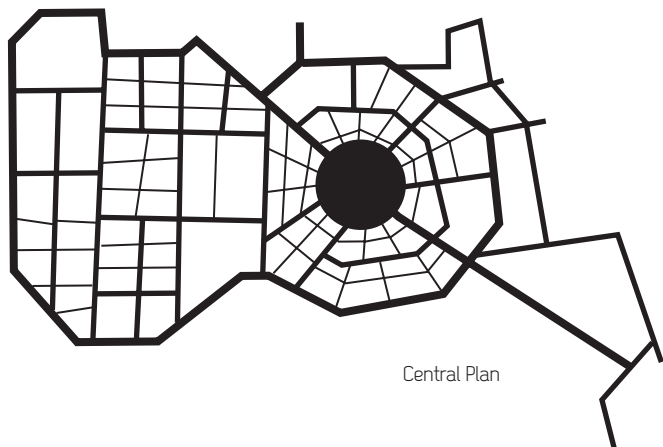
1. Check with people living near the site about flooding, quantity and quality of underground water table of each season. Sometimes when we visit the site it does not show signs of flooding, but it will be submerged during monsoon season.
2. Check the accessibility of the community entrance.
3. Check the micro climate in the locality: wind direction, rain, sunshine.
4. Check for main infrastructure services like: water supply and sanitation, electricity, schools, health care or hospital, and religious places.
5. Check many sites for possible relocation and visit them all before making a decision. Don't forget to check the land documents and the price (land price, and fee for land transferring). Measure the size on the actual site.



Linear plan



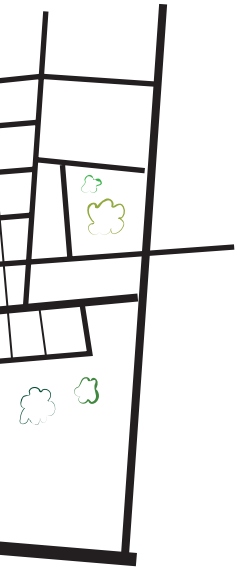
Grid plan



Central Plan



Cluster plan



## Social aspects and site planning

Keep in mind that when we lay out community plan, we are also laying out the life of the community. Peoples' occupations, beliefs, religion, living culture, and social relationships are all key aspects for planning. Here are some comparative examples of site planning which give you the facts and considerations of each plan type as a guideline for your community planning process.

### - Linear plan

Easy to plan and install infrastructures, circulation, and service line, and also in terms of security. This plan makes it quite easy to look out for each other, since there are only 1-2 entrances. But sometimes it is necessary to consider the location of common spaces, and costs of wiring and drains, because it might be more expensive than other types of plan.

### - Grid plan

Easy to plan and install infrastructures, circulation, and service line at the cheapest cost. But plans of this type have to consider the sense of community, and location of common space.

### - Central Plan

This type suits a large area and communities that have a community centre, church, or mosque in the centre. However, it is quite difficult in terms of laying out the plan and doing plot divisions by the community process, though this type can create a sense of unity and centre.

### - Cluster plan

A series of clusters within the community is suitable for communities that have many social relationships. Each cluster can have their own infrastructure and service's hub to be taken care of together, like common space, septic and rainwater tanks. But type of site layout and plot allocation is quite difficult to do by the community themselves.

## Basic facilities and services

### Infrastructure and service:

- All pavements can be earthen ground, or covered by gravel rather than concrete pavement, to absorb rainwater into the ground.
- Road and circulation systems that use minimum space can allow more space for housing and open space. Common car parking is preferable.
- Surface drainage should be openable, deep enough for monsoon season, and with a manhole every 10 m. distance

### Electricity and wiring

- Check the number of households and community activity to choose the capacity of generator and wiring network.
- Wiring can be done in 2 ways: wiring with standing post and underground wiring.
- There must be the central circuit breaker in each cluster in case of fire, flooding, and lightning.

### Water source, supply and piping

- Drinking water source should to be located in a clean and safe place, and maintainable.
- There has to be water storage tanks, or rainwater harvesting within the community for the dry season.
- Water storage should be at a higher level in case of electricity shortage, so water can flow through gravity.
- Location of water meter and its piping has to be planned along with the site plan to avoid water pressure problems.

### Community communication

- Install the community speaker that can keep the community updated and issue emergency warnings.
- Sign board nearby the community centre or entrance.

### Water sanitation

- Each household has to have a septic tank connected to their toilet, or can share one septic tank per 2-4 households.
- Low-cost or hand-made grease trap should be installed in the kitchen to trap all grease in waste water before flowing into the drain. This grease and its sediment can be used as fertilizer.
- People can learn how to produce Effective Microorganisms (EM) to use for catalyzing process in the septic tank and avoid unpleasant smells.

### Solid waste and recycle

- Solid waste management in the community can be an issue of discussion in site planning. The location of the deposit area has to be easily accessed and maintain, and far from living areas. Waste can be recycled to reuse, sale to sell, and as fertilizer.

## Basic facilities and services

### Fire and safety

- Try to separated fire risk activities from living and housing areas.
- With in the community there should be fire extinguishers like sand buckets in each household in case construction materials are flammable.
- When designing site plan, the fire escape has to be demarcated and known to all members. Space between houses, and the width of the main road, has to be sufficient for fire trucks to access.

### Natural disasters

- Planning in ways that does not obstruct the natural water ways or drains.
- It is importantce to identify the location nearby for the temporary shelter or safe place, in case of disaster like flood, earthquake, tsunami, or eruption.

### Plan so that community member can look after each other

- Avoid hidden corners and inaccessible areas in site plan, dead-end areas need sufficient lighting.
- Try to create common spaces or pocket gardens within each cluster or in the overall site plan. These places assist relationship-building amongst the community members.

### Livestock and healthcare

- In the case of communities that raise livestock, cages have to be separated from housing area. Those area should be light with natural light, and have good ventilation.
- If the number of livestock is quite large, there is the possibility of building a biogas tank to generate power, and organic fertilizer.

### Landscaping

- Use local plants for landscaping, the plant that have medical properties, are edible, and useful in daily life such as bamboo.
- Try to design a landscape that relates to local climate, geography, and culture.
- Try to preserve the ecologically fragile areas like river bank, swamp, community forest, by landscaping or creating buffer zone.

## Factors in housing design

- Budget and payment capacity
- Local climate and weather
- Space arrangement that is suitable for household members, their job, religion, age, needs, behavior
- Construction materials and availability of local skills
- Design with natural and cultural aspects
- Building codes and community regulations
- Construction cost

# Implementation



Start with communal infrastructure or main community works that everyone will be sharing.

The aim is to get all community members involved in working together during the construction process.



Start to build a pilot house by taking the poorest house as the first one.

Through this process we can learn how to build in the cheapest way, and learn how to manage the budget in construction processes.



Link with technical support for construction and develop alternative materials and techniques.

Some communities link with academics to support a training program for construction and develop new materials, like earth blocks or bamboo. Through this training, community people can gain more skills and develop their skills into a co-operative for material production, and income generation through the grouping of skilled labor.







We can put our whole heart into whatever we do; but if we freeze our attitude into for or against. We are setting ourselves for stress. Instead, we could just go forward with curiosity, wondering where this experiment will lead. This kind of open-ended inquisitiveness captures the spirit of enthusiasm, or heroic perseverance.

Pema Chodron, buddhist teacher.

# T O O L S

- maps and aerial photos
- understanding space usage and arrangement
- dream house, dream community
- design with financial plans
- model making
- imaginary picture
- 1:1 model house
- material experimenting
- learning from traditional way of living
- informative cartoon book

# M

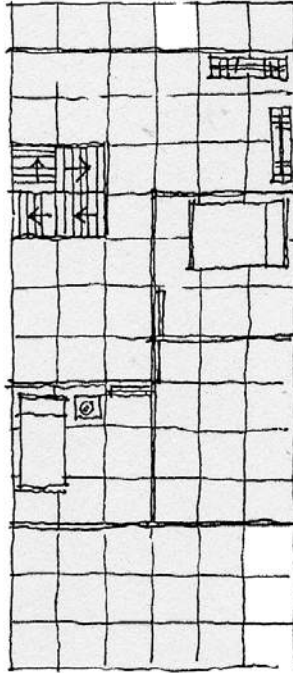
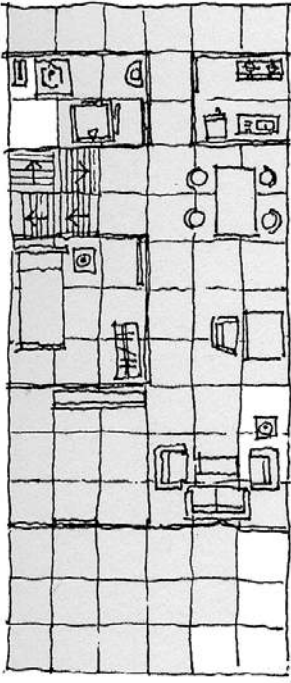
## aps and aerial photos



Any available city maps are important for city-wide survey processes, for plotting the location of informal settlements throughout the city onto the map and analyzing it along with city plans, and the direction of development and growth of the city. It can help the community networks and working teams to make a decision within the broader view of the city scale.

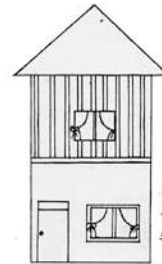
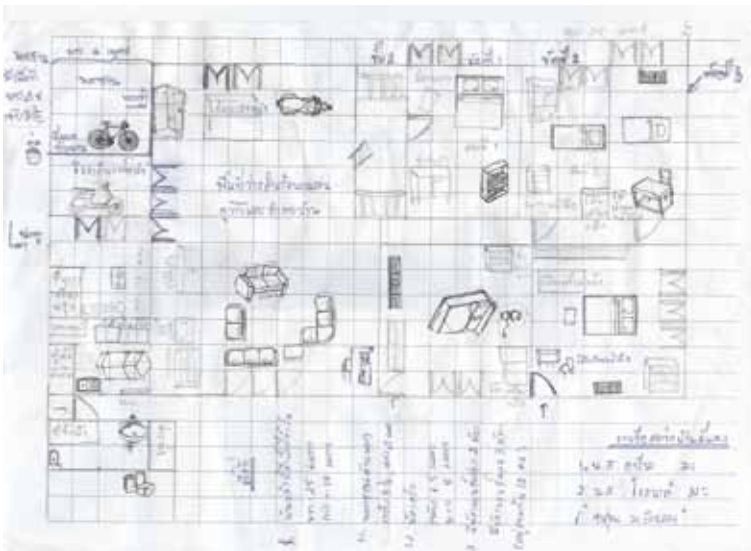
Aerial photos are an important tool to help people and work teams to understand the overall picture of the site and its geographical context during mapping and site planning.

# Understanding space usage and arrangement

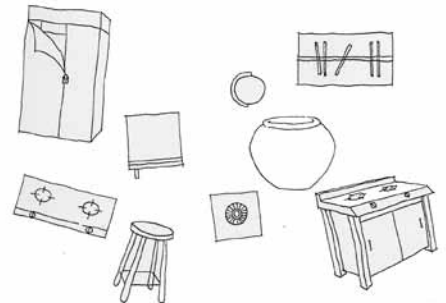


Cutting and pasting of furniture di-cuts and laying them onto grid paper is one tool that can help people plan and precisely think about their house size and its design.

It is good to let people look back at how they live and what are the things they like in their house, and what needs to be changed or adjusted. Through this tool we can learn how people design their living space, and architects can share their ideas based on people's understanding.



1. 2nd floor: 1 room  
2. 1st floor: 1 room  
3. 1st floor: 1 room  
4. 1st floor: 1 room  
5. 1st floor: 1 room



# Dream house, dream community



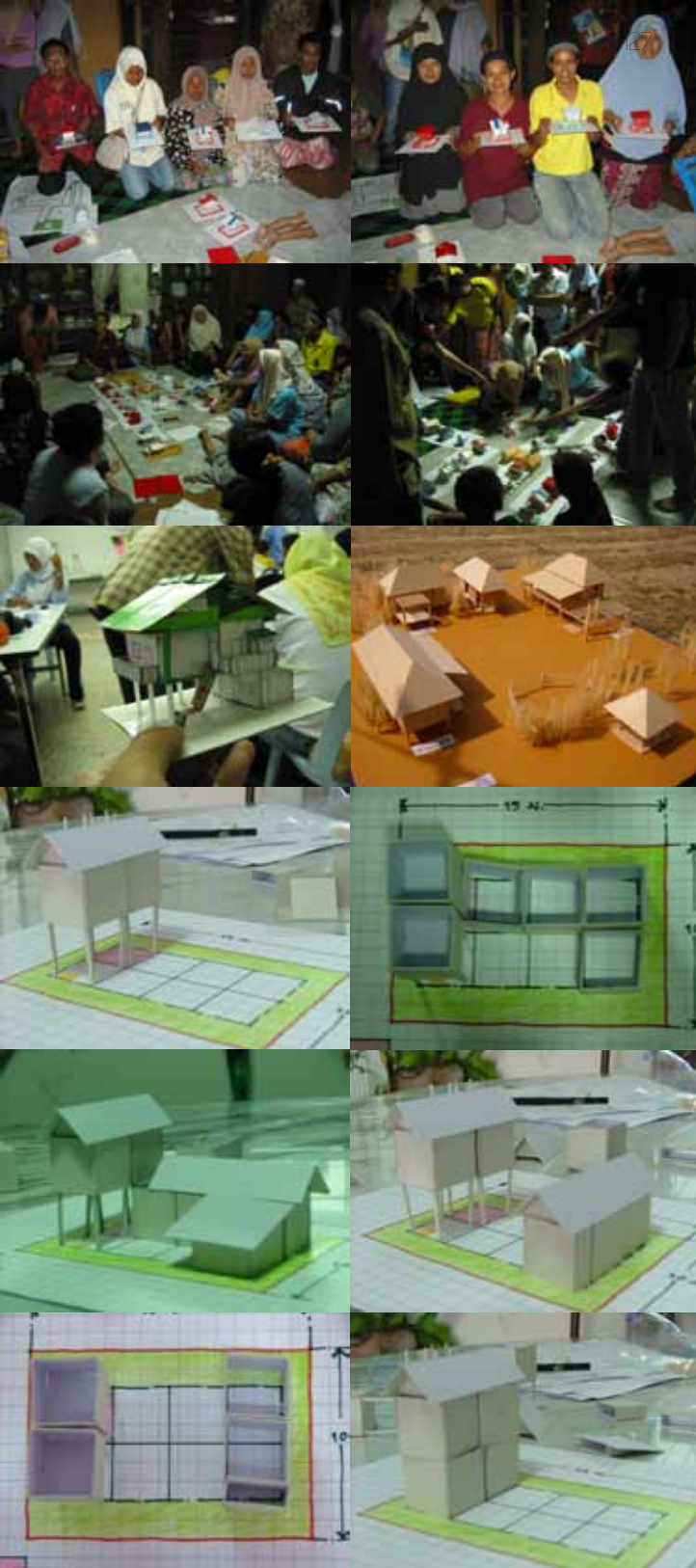
Through this process of drawing and discussing we together learn about how people visualize their new house and their community, how big a household plot is needed, how traditionally people used their house, and what are the components that are important to them.

# Design with financial plans



Housing design and its financial planning can virtually help people relate their daily saving and income to the house type that they can afford.

# Model making



Community builders and carpenters are the key persons for the model making workshop. Once they know the concept of making models, they can help to calculate amounts and sizes of structures, and the practical construction processes by their skill.

By letting people make their house models by themselves, when they lay those house models together as a community, they can easily understand the concept of site planning by how one house can affect to other houses and the community. Then they discuss and adjust their design and size.

Architects can try to experiment with the space usage of house plots and the possible designs relating to area, community lay-out, and available budget.

Architects can make a model of the overall project to help people visualize the linkage of building and the space usage, as well as building form and materials.





# Imaginary picture



Images of the new community can encourage people to see the new possibilities of community upgrading and planning, and add creative functions. This perspective also shows how nice the new community can be if there is greenery with open space and a community center.

# 1:1 model house



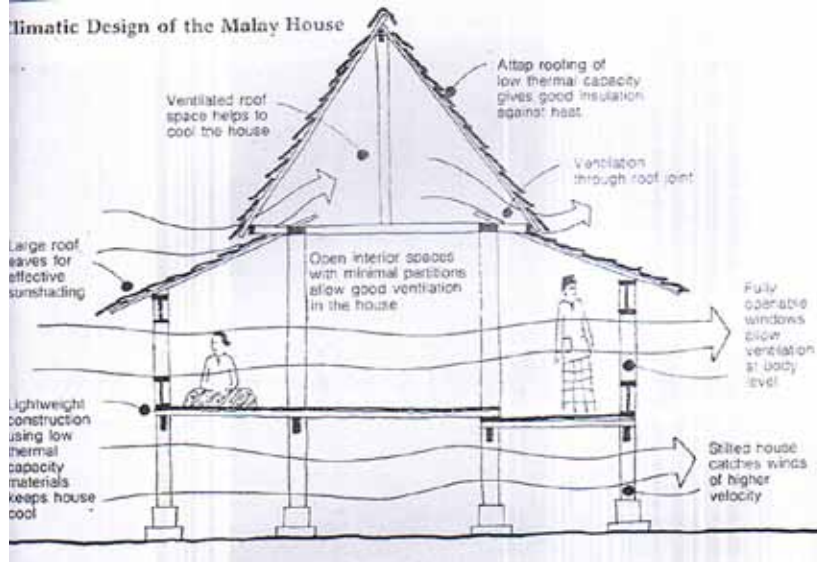
Making a 1:1 model house is very useful for visualisation, and can also help people to calculate the materials needed and cost of the house and is very exciting for people!

# Material Experimenting



To explore new possibilities with available or waste materials is an important process to bring new ideas for producing materials for construction.

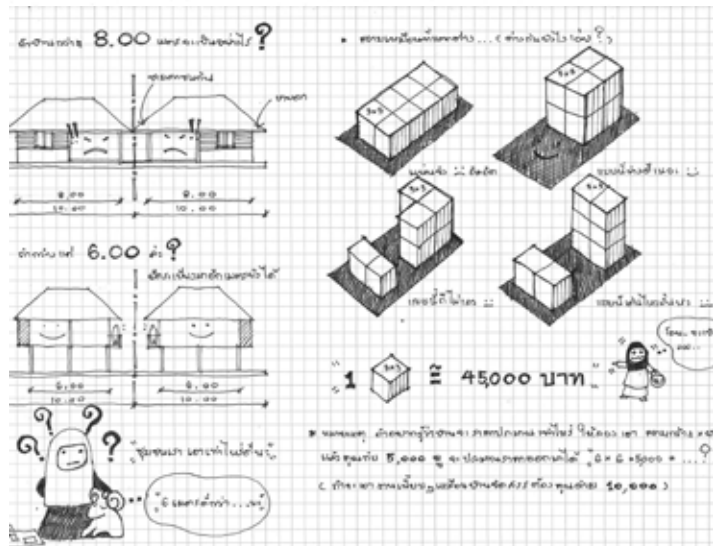
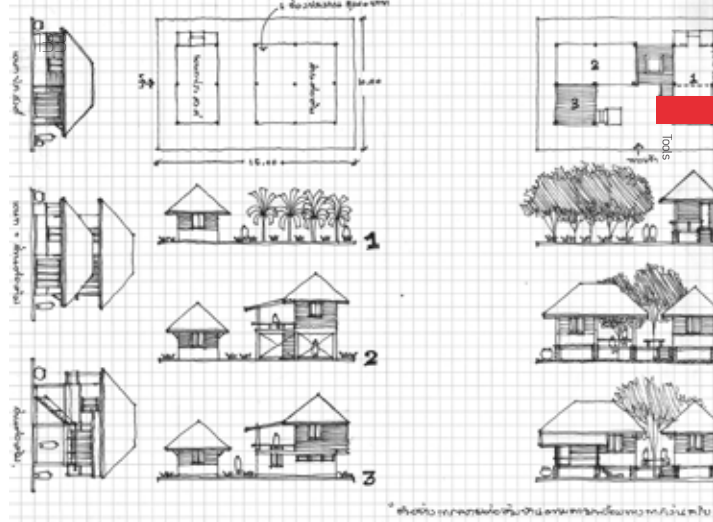
# Learning from our traditional ways of living



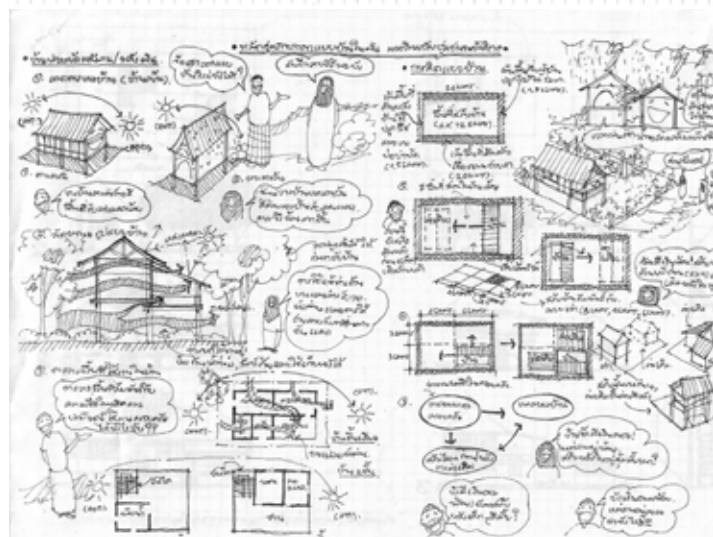
Sometime we show people the picture of traditional houses and traditional ways of life. These inspirational pictures can be discussed for many aspects of community life and housing design suitable for the local climate, available materials, and culture of living.

# Informative cartoon book

This cartoon summarizes ideas of vernacular architecture in the southern part of Thailand. It aims to show how our ancestor lived in a simpler way, and by these stories people can adapt these ideas to their house design.



This cartoon book aims to question and show people the possibilities of housing design schemes according to the house setback, incremental design, costing.







# A PPENDIX

- city-wide survey for comprehensive upgrading
- household survey for community upgrading
- price of construction material survey
- table of budget estimation
- financial plan of household level





# Household survey for community upgrading

Community's name: \_\_\_\_\_ Detail contact: \_\_\_\_\_  
 Location (before relocation): \_\_\_\_\_  
 Location of new relocation site: \_\_\_\_\_  
 Brief about situation: \_\_\_\_\_  
 \_\_\_\_\_  
 Date: \_\_\_\_\_ Surveyed by: \_\_\_\_\_

No.	Name of HH head	Family members	Household No.	Occupation	Skill	Income/day	Saving/day	Contact	Remark
<b>TOTAL</b>									



# Table of budget estimation

Community's name: \_\_\_\_\_ Location: \_\_\_\_\_ Project's type: \_\_\_\_\_  
 Number of household: \_\_\_\_\_ Interest rate: \_\_\_\_\_ Paying back's duration: \_\_\_\_\_  
 Date: \_\_\_\_\_ Calculated by: \_\_\_\_\_

No.	Item of material/task	Quantity	Unit	COSTING / unit		TOTAL COST		Supported Budget	Net cost for people paying
				Labor cost	Material cost	Labor cost	Material cost		
<b>TOTAL</b>									

# Financial plan of household level

Community's name: \_\_\_\_\_ Location: \_\_\_\_\_ Project's type: \_\_\_\_\_  
 Number of household: \_\_\_\_\_ Interest rate: \_\_\_\_\_ Paying back's duration: \_\_\_\_\_  
 Date: \_\_\_\_\_ Calculated by: \_\_\_\_\_

Household Cost	Name .....	Name .....	Name .....	Name .....	Name .....
	HH. No. ....	HH. No. ....	HH. No. ....	HH. No. ....	HH. No. ....
<b>LAND</b>					
<b>INFRASTRUCTURE</b>					
1. Walkway					
2. Electricity					
3. Water supply					
4. Sanitation					
5. Etc.					
<b>HOUSE</b>					
1. Main structure					
2. Temporary wall/partition					
3. Permanent wall/partition					
4. Toilet					
<b>TOTAL COST</b>					
Amount of loaning					
Ability of pay-back per month					
Interest rate ..... % per .....					
Total pay-back amount					
Total pay-back amount per month					
Total pay-back amount per day					



# Credits

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## It is our turn

Throughout human existence, there have always been people willing to step forward to struggle valiantly in hope that they might reverse the downward course of events. Some succeeded, some did not. As we face our own time, it is good to remember that we are only the most recent humans who have struggled to change things.

Getting engage in changing things is quite straightforward. If we have idea, or want to resolve an in justice, or stop a tragedy, we step forward to serve. Instead of being overwhelmed and with drawing, we act.

No grand action is required; we just need to begin speaking up about what we care about. We do not need to spend a lot of time planning or getting senior leader involved; we do not have to wait for official support. We just need to get started-for whatever issue or person we care about.

When we fail, which of course we often will, we don't have to feel discourage. Instead, we can look into our mistakes and failures for the valuable learning they contain. And we can be open to opportunities and help that present themselves, even when they are different from what we thought we needed. We can follow the energy of "YES!" rather than accepting defeat or getting stuck in plan.

This is how the world always changes. Everyday people not waiting for someone else to fix things or come to their rescue, but simply stepping forward, working together, figuring out how to make things better.

Now it is our turn.

## Perseverance

Margaret j. Wheatley



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Our ethos is to ensure that all processes of working still maintain space for people to share their ideas and be the subject of their dreams and solutions, as much as possible.

Even if some persons may not feel like participating, this does not mean that participation should be ended in favour of the community architects leading all the processes. There is still the potential for mistakes to occur along the way, either by the support agency or the people, or both.

The right way seems to be to give the people encouragement and a chance to participate from the beginning, something they do not usually experience in the traditional institutional framework of development. Little by little, people will learn the role they have to play when working together.

People as the  
"SUBJECT"  
of development