



GROUP STUDY REPORT

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TABLE OF CONTENTS

1 EXECUTIVE SUMMARY	1
2 GENERAL OVERVIEW	2
2.1 GENERAL CONCEPT OF SUSTAINABLE COMMUNITY DESIGN (VANESSA)	2
2.2 RESOURCE MOBILISATION (LINI)	3
2.2.1 WHAT IS RESOURCE	3
2.2.2 HOW TO MOBILISE RESOURCES	4
3 RAPA PROJECT	5
3.1 PROJECT INTRODUCTION	5
3.1.1 BACKGROUND	5
3.1.2 PROBLEMS	5
3.1.3 LOCAL RESOURCES ANALYSIS	8
3.1.4 VISION, MISSION AND OBJECTIVES	9
3.2 STRATEGIES	9
3.2.1 RECOMMENDATIONS	9
3.2.2 STRATEGIC PLANNING	11
3.3 PROJECT IMPLEMENTATION	12
3.3.1 ACTIVITIES	13
3.3.2 PHYSICAL STRUCTURES	14
4 POSTSCRIPT	18
4.1 Challenges and solutions	18
4.2 Lesson Learned	18

1 EXECUTIVE SUMMARY

Sustainable Community Design is the plan/vision to develop a self-sustained and continual ecosystem by utilizing the community's resources to meet current needs and harmonizing social, environmental and economic factors through the collaboration of various stakeholders.

Resources, such as human, financial, natural, infrastructure and cultural resources, are often limited. Hence comes the need of collaborative management and mobilization for these resources, for instance: communication, local resident involvement, education/training, financial support, technology, supportive policy, and social media.

Our group project is Rapa Project which focus on "high density residential urban area, particularly the low to medium income classes ", our team motto is "connecting the dreams", our mascot is "Mr. Rapa Gorilla" which represents a small independent group that talking actions or activity in spontaneous to promote the comfort living in order to achieve the safe and better space living.

Emphasizing the city growth, rapid development in urban area occupy most of vacant spaces and leaves only very little for public uses. Commercialized public spaces are common practice, which limits access and most of the times only for certain communities.

Different issues and limited resources from each city or country is one of the big challenges in order to achieve a safe and better living space for everyone. However to be able to come up with creative solution through collaboration is one of the way to achieve it.

To implement the project, three strategies are recommended. The first one is raising awareness to improve community enthusiasm and knowledge regarding sense of ownership and responsibility. The second one is creating public space by using existing infrastructure and thirdly creating public space by using vacant land.

For the strategic planning, we make a five step such as collecting information in order to know the current problems and community needs, getting the key person to support community and provide in-depth knowledge and know-how to the community, meeting local community to educate how they can mobilize resources, and improve their senses of ownership and responsibility, community's own project start and support to them by Rapa team, and if we needed finance, finding finance.

Important starting point in developing a concept for effective use of public space is to raise the awareness among the residents on common issues in their living place such as safety and loose community relationship. This can be achieved through campaigns and various social activities. Tapping this awareness issue at the beginning of the process will help to create a sense of community ownership in the project. With community based participation at its center, an effective transformation using local community's assets and potential may result in the creation of quality public space that contribute to people's health, happiness and well-being. To make an underperforming space into a vital place, beautification project and basic physical infrastructure must be introduced or upgraded. By building public spaces that respond to the socio-economic needs and environmental preservation, HDRA may transform into vibrant community places.

2 GENERAL OVERVIEW

2.1 GENERAL CONCEPT OF SUSTAINABLE COMMUNITY DESIGN (VANESSA)

Based on the theme "Sustainable Community Design" (SCD), we had gone through a series of lectures on **The Reconstruction of Sustainable Communities, What is SCD** and **field studies to Toba and Nishi-Yodogawa** to have a deeper understanding of the theme. The key takeaway lessons from these learning experiences include:

- **Resources**, including human resources, finance, materials/land/materials, etc. utilized for the various activities of any society are often limited. Hence, they need to be managed thoughtfully, which lead to the sense of collaborative management of these resources as they are usually under authorities of various stakeholders.
- That requires collaboration among **various stakeholders** to achieve self-sustained community, including: (i) local community, residents; (ii) group of experts/ specialists; (iii) government/local government; and (iv) NGOs/NPOs (non-governmental/ profit organizations) and enterprises, etc.
- Any community activities need to be well planned for the **next generation**. These activities should be collaborated with and **well balanced among these three factors**:
 - **Natural environment/resources**, such as: uniqueness preservation, eco-friendly technologies and systems, eco-tourism, green city, eco-city design/ planning/ policies
 - **Social specifications** such as leadership, lifestyle, people power, education/ human resource development, awareness, sense of belonging, sense of responsibility
 - **Economic factors** such as sources of finance, Corporate Social Responsibility (CSR), Social Responsibility Investment (SRI), job creation, branding/ rebranding and marketing strategies



By synthesizing these key lessons learnt, we come up with the **concept about SCD** as below:

*Sustainable Community Design is the plan/vision to develop a **self-sustained and continual** eco-system by utilizing the **community's resources** to meet current needs and **harmonizing social, environmental and economic** factors through the collaboration of **various stakeholders**.*

2.2 RESOURCE MOBILISATION (LINI)

2.2.1 WHAT IS RESOURCE

Resources are valuable assets which are mobilized and converted to produce benefit to support the current communities and future generations. Benefits of resource utilization may include increased wealth for local economy growth, meeting needs of the community for job opportunity, eco-agricultural and eco-tourism. It also may contribute to proper functioning of a system, or enhanced the community's safety and health.

However, good resource management and conservation should be characterized by top-down approach. This requires good collaboration between various stakeholders to involve and empower local community by linking their economic and social development to local resources management.

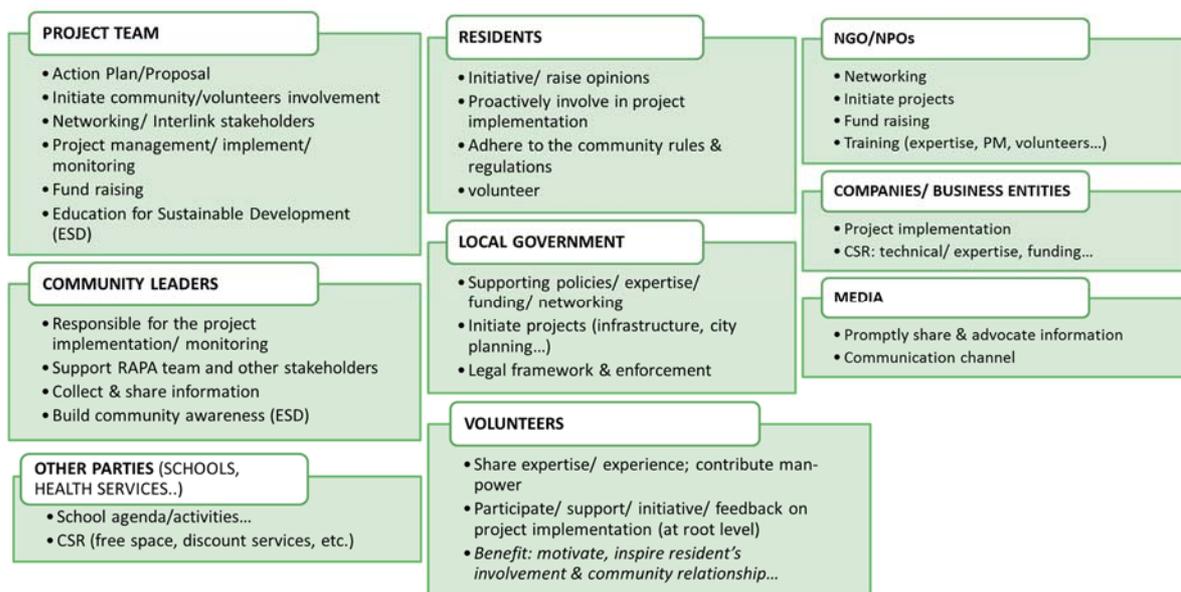


Figure 1: Roles and responsibilities of stakeholders

There are several types of resources available, namely:

- **Human resource:** people or volunteer manpower in the community.
- **Financial resource:** money generated by the community or financial aid and fund from NPOs or private company.
- **Natural resource:** substances such as forest, ocean or river that human can use to make (human-made) products.
- **Infrastructure resource:** Community existing infrastructure such as community hall, temple, and park that can function as a station to run the SCD project.
- **Cultural resource:** uniqueness of local community's art and heritage which can be deployed to promote tourism industry and preserve traditional culture.

2.2.2 HOW TO MOBILISE RESOURCES

Effective communication

Regular and consistent meetings to identify the key needs and objectives together with stakeholders are crucial process. All decisions should be based on consensus building that suits the local community interest and hope. *Example:* Through various meetings and discussion with the respective companies and NPOs, people at Nishi-yodogawa ward managed to achieve solution to combat air pollution and its recovery strategy for healthy living space

Local resident involvement

This refers to participation and expertise contribution from their own people, who knows the strength and uniqueness of their assets. *Example:* Local community, who works as Ama divers in Toba Island, knew that they cannot totally rely on fishery industry. Thus, they extrapolated their culture uniqueness and processed fisheries products to fuel tourism business.

Education/ Training

Local government, NPOs or individual professionals can share and provide knowledge or skills needed for the local people to survive independently (Education for Sustainable Development - ESD).

Example: Noda-North community who survived Great Hanshin-Awaji Earthquake shared their traumatic stories to stakeholders and younger generation. Those experiences are considered when the government designs disaster preparation and mitigation strategies. Lifesaving procedure and evacuation process during emergency also being conducted at schools and workplaces.

Financial support

The implementation of SCD and practices for low income communities often requires financial support by international agencies, NPOs and Angel fund to kick start the project. *Example:* Moku-Moku farm idea that promotes agricultural-tourism was initiated by a local businessman.

Technology

The use of suitable technology to facilitate the manufacturing process, reduce pollution, save the environment and enhance the quality of life. *Example:* organic waste management system for lifestyle of health and sustainability (LOHAS).

Government policy/ legislative

Policies, laws and regulation support from the government are also needed to tackle environmental issues in the community. *Example:* "The Pollution-Related Health Damage Compensation Law" due to severe air pollution from the factories in the Nishi-yodogawa ward.

Media and social networking role

This is fast and effective way to spread the information to the residents and also to increase public awareness on certain issues, including activity promotion. *Example:* Moku-Moku farm and Aozora Foundation create official websites to update and promote their latest activities.

3 RAPA PROJECT

3.1 PROJECT INTRODUCTION

3.1.1 BACKGROUND

Cities and towns are growing at unprecedented rates. In 1950, one-third of the world's population lived in cities. Just 50 years later, this proportion has risen to one-half and is expected to continue to grow to two-thirds, or six billion people, by 2050. In many cities, especially in developing countries, slum dwellers number more than 50 percent of the population and have little or no access to shelter and other basic services like electricity, clean water, and sanitation. These conditions are unacceptable. They can, and must, be changed (www.pps.org).

Emphasizing this growth, rapid development in urban area occupy most of vacant spaces and leaves only very little for public uses. Commercialized public spaces are common practice, which limits access only for the certain communities.

Yet amazingly, to pursue wealth, human beings are willingly to sacrifice their living quality. Queuing in traffic jam during rush hour, breathing polluted air, and keeping their children 'safe' in air conditioned rooms and shopping malls' playground, are normal to urbanites that live in big cities. Meanwhile, those less fortunate trim down their living quality to squeeze in high-density district, with poor accessibility, sunlight and fresh air, and compromise their children safety to play on the street or by the city main-drain due to limited public open spaces.

In most cases, this less fortunate community becomes reluctant and ignorant to reclaim better living quality by changing their living culture. This condition has become common and part of everyday urban context that make most of us forget and ignorant of its existence.

3.1.2 PROBLEMS

Quality of life incorporates all aspects of existence and spans a variety of disciplines such as geography, social sciences, and health, among others. Cities are often seen as the flipside of nature: synthetic, sleek and sometimes a little bit impersonal. In fact, bringing up elements of the wild into urban space has always been the hallmark of the well-thought-out city and innovative schemes are only on the rise.

Problems in Urban Cities

In some ASEAN countries and Japan, each country have its own problems especially in urban cities. Most of these problems are concentrated in high-density residential area (HDRA). These lead to the approach of this project, which based in the urban areas especially in low-income HDRAs.

RAPA PROJECT

Thailand

- Westernization (materialism)
- Flooding, weak disaster mitigation
- Traffic/air/water pollution
- Aging society- nuclear family
- Low communication/relationship (individualism)
- Centralization
- Huge gap between rural/urban area
- Budget allocation for SCD is low
- Lack of awareness of policy implementation
- Leadership successor issue

Japan

- Shortage of eldercare services
- Nuclear/radiation issues
- Issues with the pension schemes
- Increasing recipients of National Assistance Act
- Decreasing birthrate and aging population

Malaysia

- Waste recycling
- Public cleanliness
- Home and neighborhood safety
- Excessive use of plastic shopping bags

Myanmar

- Traffic jam
- Air/noise pollution
- Inconvenient public transportation
- Weak waste management

Indonesia

- Waste management (community and city)
- High density living area (community)
- Lack of public space, child play, ground etc.
- Car-oriented, not people-oriented development
- Slum area riverfront
- High density and polluted factory zone
- Traffic jam

Vietnam

- River/air/noisy pollution
- Lack of infrastructure system thus causing flooding, traffic jam, waste issues
- Deterioration of cultural value
- Loose community
- Materialism
- Lack of communication and information sharing
- Lack of long-term vision
- Top-down approach
- Excessive use of plastic shopping bags
- Lack of leadership

Laos

- Slash and burn forest for rice plantation
- Cutting trees to build dams
- People know how to do but do not take action

With all the challenges facing cities today, particularly in the developing ASEAN country, it can be hard to know how to tackle the problem. Each HDRA might has a different priority on which problem they must tackle for first phase.

Urban High Density Residential Area Problems

	Problem	Why this is problem?	What causes the problem?	Serious	Urgency	Priority
1	Narrow roads	<ul style="list-style-type: none"> • Road/alleys safety • Accidents • Emergency access (eg. Fire) 	<ul style="list-style-type: none"> • People do daily activities on public • Kids playing • Illegal stalls 	3	4	7
2	Drainage system	<ul style="list-style-type: none"> • Road smell • Flash flood • Health issue 	<ul style="list-style-type: none"> • Uneven road level • Waste congestion • No system 	2	2	4

	Problem	Why this is problem?	What causes the problem?	Serious	Urgency	Priority
3	Lack of Public Space	<ul style="list-style-type: none"> • Safety • Low quality of life • Loose community 	<ul style="list-style-type: none"> • Limited land bank • Poor zoning plan • Increasing population 	4	4	8
4	Weak Community engagement	<ul style="list-style-type: none"> • Lack of communication • Weak relationship • No people power 	<ul style="list-style-type: none"> • Lack of leadership • Lack of public space • Lack of community 	2	3	5
5	Air/water pollution, Poor Hygiene	<ul style="list-style-type: none"> • Low quality of life (physical and mental health issues) 	<ul style="list-style-type: none"> • Poor waste management • Poor infrastructure 	4	2	6

Streets, squares, and parks, especially in developing areas, are often chaotic, poorly planned and maintained -- if they exist at all. In this context, there are multiple challenges presented by the public spaces themselves:

Lack of Public Space and Safety. Especially in unplanned settlements, public spaces can be lacking altogether, increasing tension and stress for people who live in crowded and inadequate conditions. Streets, in particular, have been a vital part of the public realm for years, providing places where merchants can sell their wares, children can play, and people can stop to talk. The growing prevalence of the automobile has squeezed out these uses. Reclaiming streets as places for people can strengthen the communities in a variety of ways – economically, environmentally, as well as socially.

Lack of Participation and Poor Design. These are not only matters for planners, designers, and bureaucrats to decide in a void. Only with full public participation in the creation of public spaces, can truly great places come into being. Building a city is an organic process, not a simple recipe or a one-size-fits-all pattern. Local customs must always be considered and honored. Maintenance costs must be considered for the involved community.

Lack of community engagement. The best public spaces bring together people from all walks of life and all income groups. The presence of multiple types of people ensures that no one group dominates, and that the space is safe and welcoming for all, including women and youth. Where public space is absent, inadequate, poorly designed, or privatized, the city becomes increasingly segregated. Lines are drawn based on religion, ethnicity, and economic status accordingly. The result can be a dangerously polarized community where social tensions are more likely to flare up and where social mobility and economic opportunity are stifled.

Sometimes, builders create “public” space that is actually private — behind the walls of gated communities, inside malls that are patrolled by security guards, or within exclusive club like recreational areas. All of these types of spaces create the illusion that public space exists, but in fact function to separate people by class and income, as well as sometimes by ethnicity and religion.

Better Living Spaces Through Creating Place. The Creating Place process, when it is conducted with transparency and good faith from the bottom up, results in a place where the communities feels ownership and engagement, and where design serves function. Here, human needs will be met and fulfilled, for the betterment of all.

Creating space approach is defined by the recognition that when it comes to public spaces, “the community is the expert.” Strong local partnerships are essential to the process of creating dynamic, healthy public spaces that truly serve local people. Public spaces are also a common goal that local governments, NGOs and various entities can collaborate in a harmonizing process.

Each place, each culture, is unique. Questions of societal norms, climate, and tradition must all be considered. What works for one community might be inappropriate for the others. Therefore, every culture needs to find the tools and approaches that work for them.

3.1.3 LOCAL RESOURCES ANALYSIS

The below part identifies different resources available within community and their potential involvement or partnership during community development.

Existing infrastructure

Types	Resource Utilization
1. School, kindergarten	<ul style="list-style-type: none"> • School is valuable community assets which could be available for community use when not required for school purpose; • Community use of school facilities provides benefits to both school and their community such as: <ul style="list-style-type: none"> • Enhancing cooperation between school, students and the community • Additional extra curriculum learning opportunities • More effective use of valuable facilities
2. Temple, church, mosques	<ul style="list-style-type: none"> • Mutual benefit usages in community • Gathering local residents • Time sharing
3. Resident houses	<ul style="list-style-type: none"> • Coloring wall & Vertical garden: It is good to maximize the use of limited space, make the area be known as green area and become popular to improve the aesthetics.
4. Alley/Street	<ul style="list-style-type: none"> • Rearrange to promote safety and neighborhood connectivity; • Widen alley/ street to create assessable security system and enhance walkability in the community

Human resources

- Volunteers
- Communities leader
- Community residents
- Internal and external experts such as: Rapa Team, other parties (school, NGOs, Health Service...)
-

Financial support

- Government budget
- Community's contribution
- NGOs funding
- Private sector (CSR, SRI...)

3.1.4 VISION, MISSION AND OBJECTIVES

Vision

RAPA Team aspires to be an eco-urban creative organization that promotes safe and healthy lifestyle, thus enhancing human relationship, where people benefit from their participations in the community.

Mission

RAPA Team aims to work with people in high-density area towards safe and better living space to achieve sustainable community development.

Objective

To achieve safe and better living space by optimizing resources to meet the basic needs in a sustainable way of the community in high residential urban area, particularly the low to medium income classes.

3.2 STRATEGIES

3.2.1 RECOMMENDATIONS

According to the problems arising from HDRA and the Local Resource Analysis mentioned above, we would like to give recommendations for safe and better living space in HDRA as follows.

3.2.1.1 Raising awareness

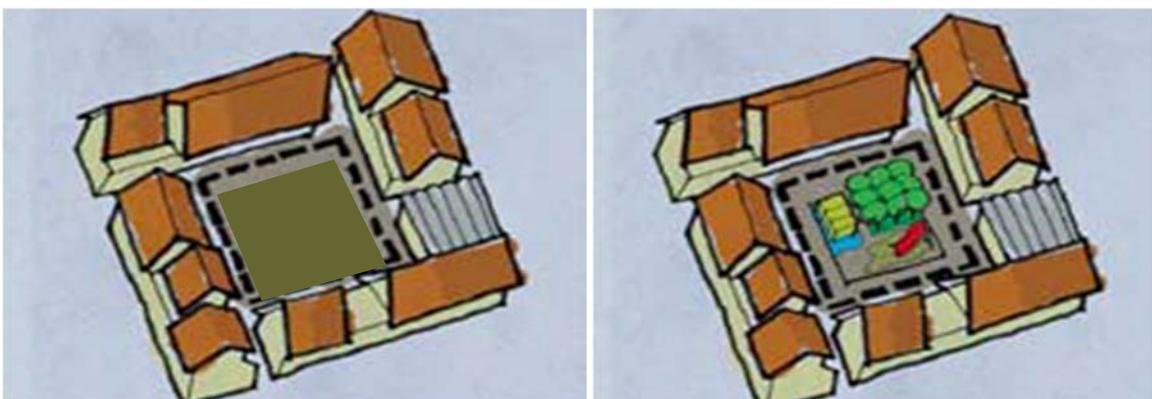
Definition	<ul style="list-style-type: none"> Public awareness refers to the important role that community enthusiasm and knowledge has in building sustainable community. Raising public awareness is not the same as telling the public what to do – it is explaining issues and sharing knowledge to people so that they can come up with their own solutions and make their own decisions.
Challenges and Solutions	<ul style="list-style-type: none"> Challenges: For the low-income HDRA, local people may find it more urgent to focus on their works and basic needs (food, clothing, and shelter) than to solve the community problems. They will less willing to cooperate due to the lack of awareness in environment problems and SCD. Solutions: Raising awareness and education of the benefits that local people can get from the project.

3.2.1.2 *Creating more public space by using existing infrastructure*



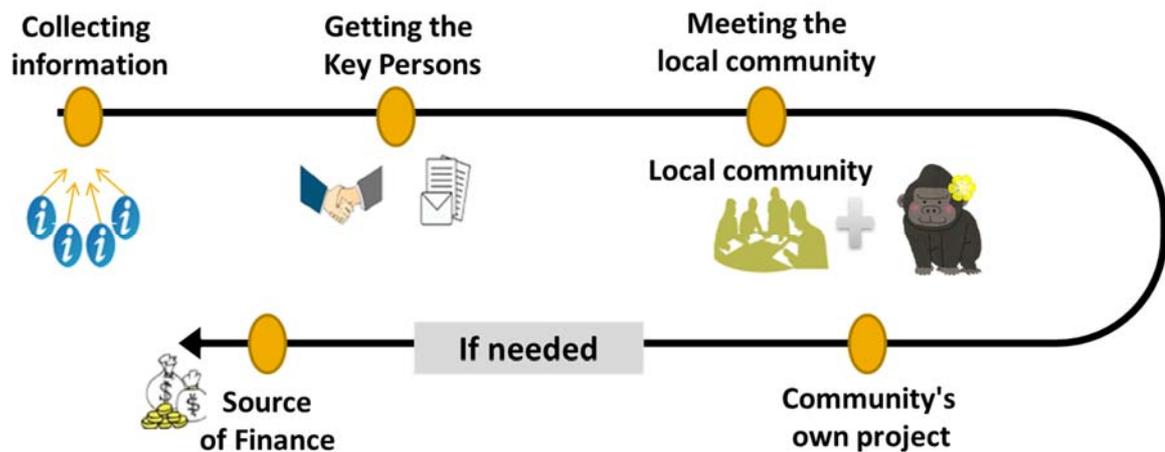
<p>Definition</p>	<ul style="list-style-type: none"> Existing Infrastructure refers to the fundamental facilities and systems which stand and currently remain in the community. For example alleys or roads, school, temple, part of local residents and used materials.
<p>Challenges and Solutions</p>	<ul style="list-style-type: none"> Challenges: (i) get approval from the house owner to utilize part(s) of their resident houses such as wall or pipeline system to build vertical garden; (ii) get construction approval from local authority to comply with building law, building control act and other regulations. Solutions: educating the local residents to let them know how importance and beneficial the project could be for them.

3.2.1.3 *Creating more public space by using vacant land*



<p>Definition</p>	<ul style="list-style-type: none"> Vacant land is any tract of land that does not have building structures. It may be available for development, or be set aside by a government or a private owner to remain vacant.
<p>Challenges and Solutions</p>	<ul style="list-style-type: none"> Challenges: In HDRA, vacant land might be limited and also require heavy materials to build infrastructure which might be unavailable within the community. Therefore, financial support, and also in some cases local government and community approval, might be required. Solutions: the problem can be overcome by using existing resources in the community. Also manpower from local volunteers can be used to build the public space.

3.2.2 STRATEGIC PLANNING



Phase I - Preparation

Collecting Initial Information

Rapa team will collect the information to understand the real current problems and to know what the local community needs by conducting survey, interviews.

Getting the key persons

The key persons might include community leaders or internal/ external experts because: (i) community leaders play important role in the community, they can influence/lead the community to involve in the activities; and (ii) the experts can provide trustworthy and in-depth knowledge and know-how to the community. Rapa team can contact the key persons through direct visits or get someone introduced.

Meeting the local community

Through workshops and seminars, Rapa team, community leaders and experts can engage with the local community to raise their awareness about SCD, educate them on how to mobilize local resources, and enhance their senses of ownership and responsibility.

Community's own project

The community initiate their own project by identifying the problems and the local resources.

Source of Finance

Rapa team will assist the community to identify whether the project needs money, for example to create new infrastructure. To do so, there are two ways:

- Using external fund: the value and benefit that project could bring about must be clearly identified. Then, we can make a proposal to get fund from the company or local government etc.
- Utilizing local resources such as community's contribution, local manpower, and existing local materials.

Phase II - Project Implementation

The community starts their own project which match their needs and resources ***Action Plan (Implementation) ***

Phase III - Monitoring and Evaluation

After the implementation of the project, we will start monitoring and evaluating, so that we can know if our project achieve our goal or not.

3.3 PROJECT IMPLEMENTATION

Activities	Physical Structure
<p>Campaign</p> <ul style="list-style-type: none"> Promoting local rules and regulations enforcement in the community, for example restricted time for using vehicles in the night time or early morning Raising awareness in community about safety and better living space 	<p>Creating park and playground</p> <ul style="list-style-type: none"> By utilizing existing infrastructure such as temple, church, school, mosque (time sharing schedule, indoor and outdoor activities) Acquiring vacant land with financial support from private company’s corporate social responsibility. The area could be used as: <ul style="list-style-type: none"> Community center Evacuation area Education purpose Recreation area Weekend market
<p>Social Activities</p> <ul style="list-style-type: none"> Picking up trash event during weekend Waste collection management RAPA Team, NGOs, expertise may provide education on relevant issues: <ul style="list-style-type: none"> Road safety Hygiene care Emergency practice (evacuation) Environment protection and preservation Voluntary activities (students, local residents and other agencies) <ul style="list-style-type: none"> Cleanliness Flyer, booklet, pamphlet Assistance for project team in construction, teaching and health care activities Link to other agencies for expert opinion, assistance and fund. 	<p>Beautification House and Street</p> <ul style="list-style-type: none"> Wall mural, painting Vertical garden Street light
	<p>Upgrading infrastructure</p> <ul style="list-style-type: none"> Absorption well Water tank Recycle bin Rain water collection Drainage system

Table 1: Summary of project implementation

RAPA project implementation is divided into two main parts, which are activities and physical structure. This strategy is to ensure that we may focus on specific resources mobilization and engage the local community with the activities, optimally.

3.3.1 ACTIVITIES

There are various ways to raise public awareness such as events, poster campaigns, social media (websites), newspaper articles in schools and workplaces to create long-term effect. When the SCD concept is discussed over time using different approaches, the awareness will gradually be part of normal lives and people will remember it naturally. We would like to adopt two strategies as below:

Campaign

Our plan is to share the message or methods to improve the community, which first can start by contacting local community leader. This is a very important step to follow and respect the local community to inform them before any further action or plan implementation.

Social Activities

Environmental cleanliness

This activity will promote awareness regarding the cleanliness of the public space where local residents live and pass by every day. The recommended action plan is as below:

- Local residents have to clean their community on weekend
- Local residents have to take part in any environmental social activities provided by local government

Waste-collecting management

This activity is to motivate local residents in the community to clean public space in their community. The purpose of this idea is to educate local residents in the community on how to use garbage effectively in order to generate income and save money. The activity, RAPA team plans to work with NGOs, experts and people who are in charge of reusing the garbage in order to giving knowledge on waste management to local residents.

Providing Educational

To prepare for training period, RAPA Team will cooperates with other parties such as NGOs and expertise to provide knowledge and know how skill in each field such as road safety, hygiene care, emergency practice, and environmental cleanliness. Through knowledge providing, we anticipate that community will be much more educated and aware of the consequences of their action and also ensure their safety and better living as well.

Voluntary activities

Why should we plan the involvement for volunteers? As with other organization does, planning your volunteer program will help project run smoothly and easily with low cost investment. Besides that, volunteering can benefit both community and the volunteer themselves. This is a good opportunity for volunteers to integrate with the project activities in the community. Since they have certain knowledge and practice base on their major specialization. Therefore, it will be a good starting point for volunteers to utilize their potential to create a better living in community.

RAPA PROJECT

The role of volunteers:

- Helping local residents understand their attitude towards environment issues;
- Being an assistance, coordinator and provider for RAPA project;
- Using their expertise to contribute such as teaching, constructing, painting, and sharing;
- Promoting RAPA project through their activities;

Regulation for local community

- Vehicle and parking: Personal vehicle shall not allow to enter the community from 9:00 PM to 6:00 AM to reduce noise pollution, ensure road safety and more walkability space for people.
- Local residents, non-local residents are not allowed to throw trash, littering in community, Otherwise, they will pay fine (US\$5 per time).

3.3.2 PHYSICAL STRUCTURES

Vacant land is the best solutions for creating public space in terms of utility and functions as it can provide a proper open public space and can be designed to meet community needs in various types, for example a multi-function park. Such multi-function park can be used as a safe playground for children, market of local residents who usually use public alleys in the HDRA for their stalls. These places can be used to gather the community both in normal situation to strengthen community bond or can be served as evacuation spot in emergency situation.

The existing infrastructure can be varied depending on each community and how to utilize it may be different in terms of community creativity and needs. In comparison to vacant land, utilizing existing infrastructure bear less cost as it is internal resources and no need to build extra infrastructure.

1. Creating and providing playground and park

Playground for children

Problem:

- As kids **do not have designated safe area to play**, they tend to play on street in front of their houses. This unsafe situation may lead to accident to happen and putting risk not only to those kids but also to the motorcyclist who passes by. The ball may hit them or they probably lose control and get skidded.

Solution:

- **Provide alternative playground by using available community's infrastructures** such as the school field, temple, church and mosque's courtyard. This can be achieved by time-sharing schedule, as not to disturb their administrative program. For example, school activities ends at 4pm, the children then are allowed to use the field from 5 till 7pm.

RAPA PROJECT

Park

Problem:

- Peoples who live in HDRA tend to have **loose social relation** because they do not have a place to gather and do activities together to strengthen their community bonding. This will lead to loose community relationship, and will not support each other during hard time.

Solution:

- Park as a communal area using available community's infrastructures or vacant land acquisition
- Encourage them to become a member of society through socialization by providing place to socialize. This target can be achieved by **using available community's infrastructures** such as the school and temple for gathering by time sharing method, as explained above. Second alternative is by **vacant land acquisition** to create the community own park. Some companies are willing to contribute financial assistance through corporate social responsibility (CSR) practice. However, a legal agreement must be made between the companies whom contributed to purchase the land that they will not claim it as their own property in the future as long as it used for communal purpose. The process of finding the vacant land and legal documentation preparation may take up to one year. This might delay the project implementation.
- Advantages: This park not only can be used as an outdoor community center, weekend market and recreation place for the community to practice healthy lifestyle, but also can serve as an evacuation area during fire emergency or natural disaster. NPOs and volunteers who want to reach this community and provide free tuition to kids or teach lifelong skill to the housewives (e.g. make a handcraft using local resources) also can use this center. Lot of other social activities can be planned afterwards to support sustainable development of this community.

2. Beautification the street and houses

Problem:

- **Narrow Street/ Alleys** in between houses and apartments can be intimidating and it is common scenario in high-density area. Most of time, the residents will park their bicycle or motorcycle in front of the house and put their belongings outside. This will make the narrow street become narrower and also not safe to the pedestrians and to the kids who play on the street.
- **Not having a proper waste collection system and infrastructure**, coupled with community's low awareness towards cleanliness, lead to street littering. All litters that end up in the street make the area looks dirty, uncared unattractive and messy. It also can attract vermin like rats, cockroaches and mosquitoes which carry diseases.

Solution:

- **Flower planting:** A beautification project by planting flowers in pots along the street or in front of the house is easy to be accomplished and maintained.
- **Vertical garden on alley walls and houses**
 - It is good to maximize the use of limited space by constructing vertical garden, creatively. This garden is also known as living walls or green walls and it now becoming popular to improve the aesthetics. Vertical Garden is the term of used to refer to all forms of vegetated wall surfaces (Green roof organization 2008). Green walls are not only spectacularly beautiful, but

RAPA PROJECT

also helpful in enlivening the ambiance. Green walls can absorb heated gas in the air, lower both indoor and outdoor temperature, providing a healthier indoor air quality as well as a more beautiful space (Yeh 2012).

- The volunteers and NPOs can help to distribute flower and vegetable seeds, pots and other gardening tools to facilitate the planting process and painting. If they follow through this program, perhaps this home vegetable garden idea is a good alternative for them to grow organic food for family economic survival in big cities which requires high living cost.



Figure 2 and 3: Example of vertical garden

- **Coloring and mural:** To highlight the vibrancy of this area and give a unique identity, coloring and decorative murals on the walls of the houses or surrounding area can be done. Rapa Team can help the community with the design of the garden and mural painting based on their preference, culture and suitability of the local weather.



Figure 4 and 5: Example of mural painting and decoration

- **Providing street light:** Adding street lighting is useful for community safety to assist either drivers or pedestrians in finding their way in the dark. Moreover it also may help with beautification as well. Using renewable energy like solar street light is cheap and eco-friendly, and low maintenance cost.
- **Cleaning activity:** Besides that, cleanliness issue also should be taken care of by creating awareness towards personal hygiene and the environment, providing garbage bin or recycle bin and imposing rules in their own area. We believe that beautiful and clean physical environment do affects the mental well-being, work, comfort and happiness of the people who live in HDRA. Green spaces make us feel better and it can help to reduce stress after tiresome work.

The community leader needs to highly encourage active participation of their people to get involved in this beautification activity. This activity also promotes physical exercise if we can make it more

enjoyable and fun as one of the community program. If this pilot project is successful, this community can be a role model to other residency area. For the start, we need small budget investment which can be obtained from fund raising and CSR or utilizing local people's resources. RAPA team, talent in the community who works in this area of expertise, NPOs and volunteers can teach necessary knowledge and skill needed for this activity to the community. However the community need to play active role to maintain this project in order to make it self-sustain.

3. Upgrading basic infrastructure

Problem:

- Basic infrastructures in HDRA is usually poorly planned and developed. The most critical issue is garbage disposal and collection facilities, and drainage system. Recurrent flash flood is common issue in HDRA due to absence of drainage system. In addition, littering attitude and throwing trash into the drain make it clogged and interferes with the water flow especially during heavy rain. Clogged water drains and stagnant is usually smell and creating bad odor. This can create health risk to people who live in that area. Lack of drainage system also leads to lack of land water absorption, which leads to water stagnant during heavy rain and may cause floods and health issues.

Solution: Providing basic infrastructure or upgrading current infrastructure through several ways started with workshop with discussion with local or volunteer expertise from Rapa networking. There are several basic infrastructures that we would like to propose to be upgraded for this project.

- **Infiltration well**, which can preserve more land water absorption. Infiltrate water can be made along the narrow alley road integrated with the small street structure.
- **Rain water collector tank**, this is basically rain water collection tank installed integrated with the park, this also can be use by using small scale home –technology of water filtration that the output can be used as flush water for public toilet or gardening for example.

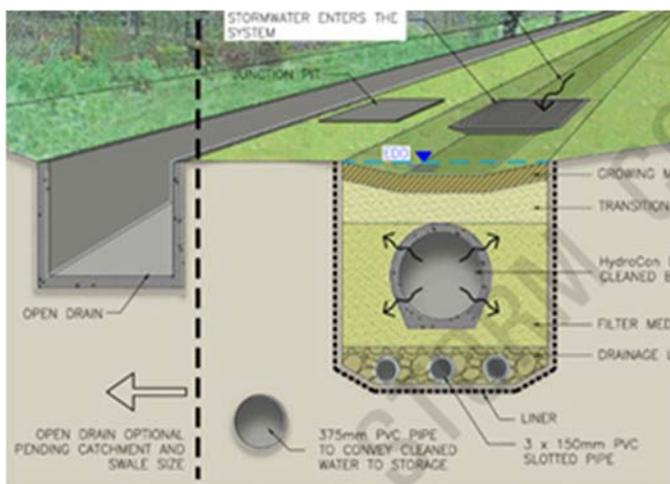


Figure 6: Infiltration well

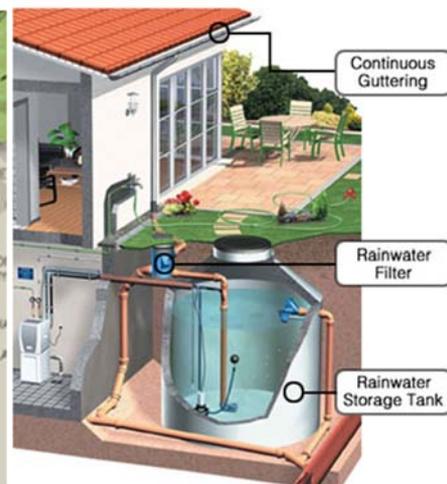


Figure 7: Rain water collector tank

- **Create river filtration – cleaning the river**, some areas which has river usually have problem with river water cleanliness, by providing voluntarily expertise along with the community providing home-technology of filtering waste from the river.
- **Street light**, solar cell street light with unique design can provide not only safety and security for the people walking in the alley but also apply the renewable energy by using solar energy.

4 POSTSCRIPT

4.1 Challenges and solutions

During our group study, we faced so many challenges. However, we also could manage to come up with the solutions and overcome the challenges.

It is quite difficult to understand and get the clear picture of the issue regarding high-density area in urban city because seven of us has each own idea. Thus, the discussion process to make a decision sometimes is quite lengthy, tough and challenging. So, we have to get into a collective agreement in order to reach a consensus by brainstorming, compromising and be open-minded.

Of course, language barrier also happened because the English not our native mother language. In order to solve this problems, we tried to solve it by talking clearly, using simple words, asking for clarification and using the medium person to convey the idea.

When we discussed about certain issue, member has different background and also communication style and it's difficult to get the same understanding among us. Applying attentive listening skill is one of our methods to make member more understandable. We sometime raise questions to clarify the meaning of a certain point in order to avoiding the misunderstanding among members.

Self-control is one thing that we must be careful during the group discussion. For this reason, each of us has to make every effort to restrain from our personal emotion and avoid his/her anger towards other persons. In this case, we have to stay calm and positive in order to get our work done.

For the time management, We had a very long meeting whenever we made a group discussion and we still couldn't finish even after midnight. For that problem, we solved it by allocating the tasks for each member sometimes, and discussing all together sometimes.

4.2 Lesson Learned

There are several lesson learned by all members of our group which are all good points to improve ourselves in the future. With those challenges, we learned lesson throughout group study.

- Before we started our project, we had sharing session in order to know everyone's expertise as well as share with the team in terms of rule, facilitator, secretariat, timekeeper and agenda. And then we have assigned certain roles in every meeting.
- As we want to improve safe and better living space, team members had to share each country issue. So, we learned oh how to analyze common issue by using analysis table.
- As we have different background, all members realized their roles and can accept idea from different point of view and contribute ground discussion base on each expertise.
- It is important to check each understanding and make sure no one leave behind. We learned how to keep it on track, and clarify before moving to the next discussion. This is also to prevent any misunderstanding that might occur during the discussion process.
- At the end of every meeting, we always reviewed what we have done on that day and we had to assign more on homework in order to make our process faster due to time constrain. This is one of the method that can estimate our approach day by day.

Over all, we've learnt how to work together as a group with the different multinational people. By knowing ourselves, being aware of each of our strengths and weakness, we come together, help and collaborate with each other to solve the issues and the problems.