ABSTRACT

Human activities always modify the natural environment and cause both positive and negative effects in environment. One of human activities in creating built environment is urban areas which are inhabited by the low, middle and high income people. In developing countries the development of urban areas are always influenced by the growth of low-income settlements which is mostly developed around the city center. Those settlement both slum areas and squatter settlements are occupied mostly by the poor people. This paper will discuss about how to harmonize built and natural environment within the urban areas and the focus of discussion is on the development of low-income settlements in urban areas.

Keywords: Harmony, Built Environment, Slum, Squatter

I. INTRODUCTION

Talking about the built environment, it refers to human activities which modify natural environment in order to provide what they need for living. Those activities have ranging scales from personal shelter and buildings to neighborhoods and cites that can often include their supporting infrastructure, such as water supply or energy networks.[Wikipedia, 2010] Human activities have damaged the earth gradually over the years and this damage cannot be reversed. Many experts are now trying to stop any more damage being caused to the environment. Not all effects of human activity on the environment are harmful, some are beneficial. Conservation work is going on across the country and this is helping to preserve the wildlife and countryside as well as the good urban areas that we have left. The balance between natural environment and man-made environment should be taken into consideration carefully both in planning and design.

In general there are two causal factors that can change the formation of natural environments. Those factors are human activities and natural phenomena. (see Figure 1) Human activities always modify the natural environment and cause both positive and negative effects in environment. Positive effects benefit the environment, because they beautify the god quality of environment and fix the bad quality of environment like limiting the use of natural resources, reducing environmental pollution, controlling the urban growth, etc. While the negative effects are mostly destroy the good environmental quality like develop industries without thinking the pollution control, uncontrolled urban growth, etc. There are so many evidences that human activities cause negative impact in natural environment and then influence natural phenomena that can cause natural disaster like flood, landslide, fire, pollution, etc. [Herrle, etc., 1981]
Natural Phenomena can also change the formation of natural environment specifically natural disaster like Tsunami, Volcano Eruption, Earthquake, and Hurricane. These natural disasters cannot be avoided by the people, but they can do disaster preparedness, if they live in areas which have potency to natural disaster, for instance the people who live in the settlement located in steep areas, along the riverbank, and near the volcano. A disaster may strike anytime, anywhere. It may take many forms like an earthquake, a tornado, a flood, a fire or a hazardous spill, an act of nature. It may build up over days or weeks, or it may hit suddenly, without warning. The discussion in this paper will be focused on the human activities that create the built environments within the urban areas especially in the cities.

Sustainability and Cities examine the urban aspect of sustainability issues, arguing that cities are a necessary focus for that global agenda. All cities have their slums and informal settlements. [Zahnd, 2005] Their extent, proportion and character vary not merely with income level but also with the socio-political or legislative environment and law-enforcement regime. Ironically, it is not so much the absence of a legal framework and its application that leads to slums and informal settlements; its very presence can frustrate efforts to prevent their formation and growth. In each country, there is a name for slum and squatter settlements such as bidonville, katchi abadi, bustee, favella, barrio, kampong, that reflect either their rural character or material status. Those settlements mostly develop spontaneously in developing countries and the inhabitants are also marginalized by the social intercourse of the people within the city.

Harmonize the built environment with the nature in the urban areas especially in low-income settlements is very important in order to reach sustainable development of urban areas. The Green Development Strategy will be discussed also in this paper for improving the environmental quality in low-income settlements and in urban areas as whole. With giving some evidences or real situations in the Indonesia cities, the discussion in this paper can be understood clearly.
II. BUILT ENVIRONMENT WITHIN URBAN AREAS

As it was mentioned above that one of the human creativities is the built environment within the urban areas. The development of urban area always follows the growth of its population numbers, because the more the population numbers within the city increase, the more the urban facilities in the city will be improved. Since the urban form is a result of human intervention in a natural environment, the quality of relationship among the Natural and man-made environment is depend on the men as human being who carry out their activities in urban areas. (see Figure 2) If the activities do not consider the ecological aspects of urban areas, the environmental qualities will be worst. Whereas if the human being carries out their activities with taking into consideration the ecological aspects, the development of urban areas will be in harmony and sustain. [Bawole, 2009]

In landscape architecture, the built environment is identified as man-made landscapes as opposed to the natural environment. In architecture and environmental psychology, the phrase is a useful acknowledgment that the majority of urban environments already exist, that a small fraction of buildings constructed annually, even in the industrialized world, are designed by architects, and that users of the built environment encounter issues that cross the traditional professional boundaries between urban planners, traffic engineers, zoning authorities, architects, interior designers, industrial designers, etc.

From the statements above it can be understood that almost all built environments within the city are created by the human being which has either an architectural education background or not. In general people living in the city can be divided into three categories namely low-income, middle-income and high-income people. The settlements of those three categories of the people either planned or unplanned are separated in several zones of the city. (see Figure 3) Middle to high-income people live in formal housing areas located inside the cities and in suburb areas. Whereas the low-income people live in Kampong settlements or in unused areas around the city center like areas along the railway tracks, along the riverbanks, in cemetery areas or in many vacant areas inside the cities.

In general housing areas of middle to high income people have good environmental qualities and the infrastructure facilities are very good. In the other way around the low-income settlements both slum
and squatter settlements have minimal infrastructure facilities. The low income people can be divided into two groups namely upper low-income and lower low-income known as grass root people. Since the infrastructure facilities are very minimum, the inhabitants in such housing areas should be creative in developing their houses and surrounding environments. The built environment in low-income housing areas is developed spontaneously without helping architects or urban planners.

The middle to high income people have good financial capability, so that they have no problem with their houses. They can buy any type of houses with very good environment situation, because they have enough money. Whereas the low-income people especially the grass root people usually live under the poverty line. They often have problems with their houses including the surrounding environments, because in reality they are very poor and the environmental quality in their settlements is bad. Due to the bad environmental qualities of the settlements, this group of people is often blamed by the others. They say that those groups of people destroy the good image of the city and finally the local government will demolish the low-income housing areas in order to build the new facilities for other reach people.

III. GREEN DEVELOPMENT STRATEGY FOR DEVELOPING URBAN AREAS

There are many definitions of Green Development stated by the experts. The use of term “Green” is intended to be associated with the concept of ‘sustainability’ or ‘sustainable development’. Sustainability was popularized by the 1987 report of The World Commission on Environment and Development titled “Our Common Future”. In the report the commission defined sustainable development as “meeting the needs of the present without compromising the ability of future generations to meet their own needs”. In another word it can be said that the sustainability is a responsibility of one generation to the next and the interdependencies between social, economical, and ecological systems.
A Green Development Strategy is a blueprint that provides strategic direction and a framework for action on addressing sustainability. The Green Development Strategy includes the Council’s priorities and plans of action to integrate sustainable development into its policies, programs and operations, and to deliver sustainable development with its partner organizations and in the wider community, which will make the urban area a better and more sustainable place to live. [Scarbourough Council, 2010] According to the definition above the development of urban areas should be equal to the whole community of urban areas without seeing the income level of the community. In reality the development of urban areas in developing countries is dominated by the people who have more capital. The poor have no bargaining power to live in urban areas. If their housing areas are needed by the local government or private companies, they have to move to other areas. The government or private institution will bulldoze their houses, if they do not want to move. There are many evident about demolishing the kampong settlements developed by the poor spontaneously. (see Figure 4)

The implementation of green development is always closed to all aspects related to the environments without seeing the economic level of the inhabitants. The development of low-income settlements which are already more than one generation or more than 10 years should not be demolished. The appropriate program for those settlements are to implement the upgrading program for the physical aspects of the settlements and advocacy program for the inhabitants especially in socio-culture, micro-economic, and the awareness of better environmental qualities. Understanding the green development strategy, the architect and urban planner and designer should not only improve the quality of physical aspect of urban areas, but also improve the living quality of the people specifically their socio-culture, economic and their consideration of healthy environment. As whole the implementation of green development strategy will be closed to the ecological aspect of urban areas.

Concerning the ecological aspects of urban areas, several issues should be taken into account. Those issues are explained below:

- Community quality of life - Create opportunities to enhance and develop the identity of the Town and its people
- Design - Support the effective use and development of land and buildings for the benefit of the local area
- Economics - Support opportunities that enhance industrial and commercial growth and promote job creation within the local area
- Environment - Promote development that minimizes environmental impact and support initiatives to conserve and enhance natural areas
- Health - Create a safe community and healthy place to live

Figure 4. The Settlements of the poor in Jakarta and Surabaya were Demolished by the Local Government
Housing - Encourage the provision of a variety of housing types and the enhancement of lifestyle options
Transport - Provide infrastructure which supports a variety of transport choices such as walking, cycling and public transport
etc.

IV. THE ROLE OF INFORMAL SETTLEMENTS IN URBAN GROWTH

Poor people demonstrate great ingenuity in developing their residential neighborhoods and in organizing the open spaces and construction of housing, even if the government regards them as illegal. (Hardoy, 1989) The statement above is understandable, because if a man is forced by the bad situation in his life, automatically his strength will appear and he will face the problems with all creativities he has. People in informal settlements have limited capabilities and the bad situations of their life force them to be creative in handling their problems. Usually the government takes into account their creativities as illegal actions of the inhabitants. (Srinivas, 2008)

Based on the observation in several informal housing areas in 4 cities, the problems of the informal settlement begin to appear when the local government considers the informal settlement as a bad image of the city that must be removed. In fact the informal settlement has been developed up to the second generation or more than 15 years. Socio-culturally and economically, even psychologically they have roots in that area of the settlement. By removing the settlement, in one side the local government tries to beautify the area based on the concept of beauty idealized by the city planner and the staffs of the local government. On the other side, the local government stimulates indirectly the appearance of the informal settlement in other areas, because the grass root people who are not able to buy a formal house will look for another empty area in the city centre as their place to build a new informal hut. (Munt, 2008)

The grass root people in informal settlement do not have a chance to live in formal settlement, because they are too poor to reach the formal housing prize. In other word it is quite difficult for them to save their money for their future better live. (UNHCS, 1996) The only alternative to stay around the city center is in a piece of land in which they do not have to buy the land or to pay for the rent. That is why so many poor people occupy vacant areas within the cities, in which the government or private institutions have not used them yet. At those vacant areas automatically there are no adequate infrastructure facilities, but the grass root people with their great ingenuity can struggle for their life. Since they live in informal settlement with minimal infrastructure facilities, they have to be creative and used the facilities within the settlements effectively. Therefore their ways, plans, designs and building materials are often far better suited to local needs, incomes, climatic conditions and resources than the official, legal standards demanded by governments. (Hardoy, 1990)

Spatial form in informal settlements can be seen as public open spaces and pathways in which many people carry out their daily activities. After finding out the spatial forms including inhabitants’ activities inside, it is necessary to choose several active open spaces within informal settlements and then use them as an orientation of the plan for urban revitalization program. The active open space is chosen because it is a place used as a centre for human activities in the settlements. The circulations connecting the open spaces available should be considered as a secondary pattern of the settlements, because the main pattern of the settlement is linear pattern following the river flow. Afterwards the houses developed along the circulations or pathways should be improved step by step individually with the strategy of self-help development. (Ribbeck, 2002)

Understanding the activities of the poor in architectural space within the informal settlements is very useful for arranging a development strategy based on the character of the inhabitants. By paying attention to the economical situation of the low income people living in informal settlements, it can be understood that they are hard workers, who are persevering in looking for their basic necessities of life for their family. (Bawole, 2007) Not only the husbands work, but also the wives work to help their husband in order to have additional incomes. Their dependence to the centre in the bustle of the city is very strong, because in the centre they can get their income every day.
The role of the informal settlements including the poor people living there is very important for the growth of the city, because they serve cheap labors to the middle to high income people and their work as a second hand colector can help the problems of solid waste. Besides the micro economic created by the low-income people in informal sectors has also contribution for the regional economic rotation. Even though the income and education level of the people are usually low, the poor knows far better their housing areas and their capability to improve them. Therefore it is much better to involve the inhabitants at the whole planning and design process for developing the low-income settlements within the urban areas.

V. HARMONIZING THE BUILT AND NATURAL ENVIRONMENTS

The Dialogue on Environmentally Harmonious Cities is ultimately focusing on reducing urban poverty and addressing the challenge of slums by improving the environmental living conditions, protecting resources and achieving better access to basic urban infrastructure, such as water and sanitation. For the middle to high income people it is necessary to implement strictly the regulation which can harmonize the built and natural environment, because they have good financial support and mostly they are educated people. The poor people who live in slum and squatter settlements have no access to information especially the information about a good environmental quality in urban areas. Besides they are very poor and their whole day work is only for their living in one day. Therefore to harmonize the built and natural environments in urban areas should focus in improving the living standard of the low-income people as well as their surrounding housing environments. [Wilcox, 1994]

As it was mentioned in Figure 2 that the human being has an important role in harmonizing the built and natural environment. If the development of built environment within the city does not consider existing natural resources and the capability of the people who carried out their activities in urban areas, the harmony among those three aspects cannot be reached well. As a group of human being, the community should have also a Harmonized Community System, in which its approach can be seen below: [Weston Soultions, 2010]

- Harmonized with the environment (nature)
- Harmonized with the buildings
- Harmonized with each other—water, wastewater, energy, storm water, transportation, energy, security, etc.

In addition to the explanation above there are three most important contexts for creating sustainable design and harmonizing the built and natural environments. Those important context are stated below:

- **Ecological**: The natural forces that shape landscape, including climate, geology, soils, water, elevation, and vegetation.
- **Cultural**: The human forces that shape and define landscape, including history, development patterns, agriculture, and social uses.
- **Economic**: The budget realities and cost-saving considerations that shape the built environments

VI. CONCLUSION

From the whole discussions above some important conclusions can be taken into account in regard to create a harmony with nature for sustainable built environment. Those conclusions are:

- Harmonizing the built and natural environment within the urban areas should give more attention to the low-income people, who live in slum areas and squatter or informal settlements
The green development strategy can be implemented well, if the implementation of the strategy is based on a responsibility of one generation to the next and the interdependencies between social, economical, and ecological systems.

The development program with demolishing the informal settlements cannot solve the poverty problems of inhabitants. In one side such development program solves only a part of the city, but in the other side the program stimulates the new informal settlements in other part of the city.

The opinion which sees that the informal settlement is garbage of the city should be changed in the other way around; it should see that the informal settlement is a special housing area that has to be developed specifically.

The grass root people in informal settlements can struggle for their life with their great ingenuity and creativities in improving their house and surrounding environments.

If the inhabitants are involved in the whole process of development program in informal settlements, the program will be sustainable.

The development of informal settlements can be more sustainable for improving the environmental quality within urban areas if total participatory strategies and advocacy development program are implemented carefully.

REFERENCES
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