

## THE SETTLEMENT OF STREN–KALI WONOKROMO–SURABAYA: “The City Image Based on the Development of Marginal Society”

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### ABSTRACT

As human beings the poor people in informal settlements also have the right to live better like any other well-off people. Although the government regards them as illegal, they demonstrate great ingenuity in developing their residential neighborhoods. Public spaces are the living room for the people living in the informal settlements - the place where people come to enjoy their settlement. The strategy of sustainable development for informal settlements can be carried out well if the inhabitants are involved at the whole development process. In 2006 the population of Surabaya city was 2,716,971 people. An experience about urban upgrading in informal settlement along Wonokromo riverbank, Surabaya shows how the program implemented can improve the living quality of the inhabitants. With the program of Community Total Participation, the physical problems of the settlements can be reduced gradually. This paper will discuss the action research which tries to involve the inhabitants through total participatory strategy. The qualitative and quantitative data will be analyzed in order to find conclusions and to recommend alternative solutions.

**Keywords:** Upgrading, participation, informal, settlement, advocacy.

### INTRODUCTION

One of the characteristics of big cities in developing countries is the appearance of informal settlements in unused spaces such as along the riverbanks, the side of railway tracks, under the bridges, and in other spaces that are not utilized for a long time. The architecture forms of house buildings in the settlements are developed by the low class people who have no educational backgrounds in architecture. The architecture works of the poor society in the informal settlements are often considered as Marginalized Architecture because the people who carry out the architecture works in the settlements are those who are marginalized by the social stratification of the urban people.

The term “informal settlements” is the other words of squatter settlements which can be defined as a settlement area in a city which is inhabited by very poor people who have no legal land property (Srinivas 2005). There are many other terms of squatter settlement instead of informal settlement, and these terms are used by the experts to describe their attitude and approach toward the development of the poor people settlements. (Herrle 1981).

The understanding of the meaning of slum and squatter settlement is principally the same, that is, the settlement for the poor people. The term “slum” tends to refer to the condition of the poor people settlements; whereas, the term “squatter settlement” tends to refer to the poor people settlement legality.

(UNHS 1982) People who live in the informal settlement are the poor people who are often considered as the cause of bad image of the city and this condition leads these people to become people who are marginalized by the life of urban people. (ACHR 2003).

Hardoy in his book entitled “Squatter Settlement” says that poor people demonstrate their great ingenuity in developing their house environment and in organizing their house construction although the government considers them as illegal. Their ways, their planning, their designs, and the building materials that they use are frequently much more suitable with their needs and their local income, with the local climate in their surroundings, and with the local basic building-materials than with the legal and official standards that are requested by the government. (Hardoy and Satterthwaite 1989).

In “Habitat Debate” journal, Cody writes in his articles “*By regarding the poor as partners and not as problems, community responsibility, accountability, and development can be returned to the community itself, and a more responsive and sustainable system of urban environmental management implemented. To regard the poor not as a problem but a solution requires a radical change in thinking, and in expectation, but result in a society which is far more equitable and sustainable? It benefits the urban environment, ad it benefits every section of urban society.*” [Cody 1996] When we pay much attention to what Cody writes, we find that there are many

positive things that we can learn from the development of marginalized architecture. According to John Turner, the simple non-permanent houses in informal settlements are considered as the beginning of the construction development process that the poor people make (Turner 1976). The poor people show their extraordinary energy and smartness in using the available building-materials that they have and in prioritizing the usage.

Because the available infrastructure facilities in the informal settlements are very limited, the inhabitants in the marginalized settlements must be creative in order to be survived as individuals in their family and to maintain their communality as social creatures. Based on their creativity, we can see how the poor people in the informal settlements create specific forms of public spaces in the middle of the city. (Hasan et al. 2005).

The development of Surabaya city is not detached from the development of the poor people settlements in some areas. There are some poor people settlements that are considered as formal, that is called slum areas and there are some others that are considered as informal, that is called squatter settlements. One of the informal settlements in the city of Surabaya is squatter settlements along the riverbanks known with the name of Stren-kali Wonokromo. This settlement has been developing more than two generations and the society life there have rooted in the area surrounding Wonokromo river. In order to give special image to Surabaya city, it is very important to do research on the strategy of the development of the poor people or the marginalized society who live along Wonokromo riverbanks. That is why, it is hoped that the research findings and the research recommendation will be able to become one of the alternatives to solve the problems of the informal settlement development in many cities in Indonesia.

**RESEARCH METHODS**

This paper is the result of action research which was done in Surabaya. The research starts with the field observation which is followed by learning more information on the society living along the riverbanks. Data collection and data analysis are done both qualitatively and quantitatively. Quantitative data are used to analyze the trend of the population growth and physical facilities in the settlement. On the other hand, qualitative data are used to analyze the activities of the society in utilizing public spaces in the settlement. Based on the analysis and findings in the field, there are conclusions that are followed by recommendation

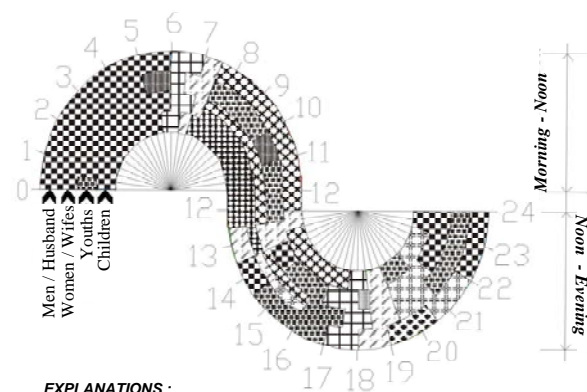
to improve the quality of the settlement in Wonokromo riverbank in Surabaya (Ribbeck 2002)

**THE CHARACTERISTICS OF THE SETTLEMENT OF STREN-KALI WONOKROMO IN SURABAYA**

To comprehend the characteristics of Wonokromo riverbank settlement in Surabaya, there are many aspects that can be observed. Some aspects that come from the result of the field observation can be explained as follows:

**The characteristics of the socio-culture of the society**

By paying attention to the social and economic condition of the low-income society who live in Wonokromo riverbank settlement, it can be understood that they are hard workers who struggle for earning a living to fulfill the basic needs for their family. Not only do the husbands work very hard, but the wives also work hard to help their husbands in order to get extra incomes. Their dependence on the ‘crowdedness’ of the city center is so strong because from this center they are managed to their informal job in order to get their salary for living everyday (see Figure 1 which shows the illustration of the society activities in 24 hours).



Daily activities of the society in the Settlement of Stren-kali Wonokromo, Surabaya along 24 hours



Morning activity, women/mothers take care of their children. The children are playing in the open spaces after school

**Figure 1.** The Daily Activities of the People in Stren-kali Wonokromo in the open spaces

Although the inhabitants in Stren-Kali Wonokromo come from various regions, they can live together harmoniously. This can be shown when one of the families needs help, the other families are willing to help. The relationship among the people who live in the Stren-Kali Wonokromo is very close; and this close relationship also goes for the people who have different ethnics, races, and religions.

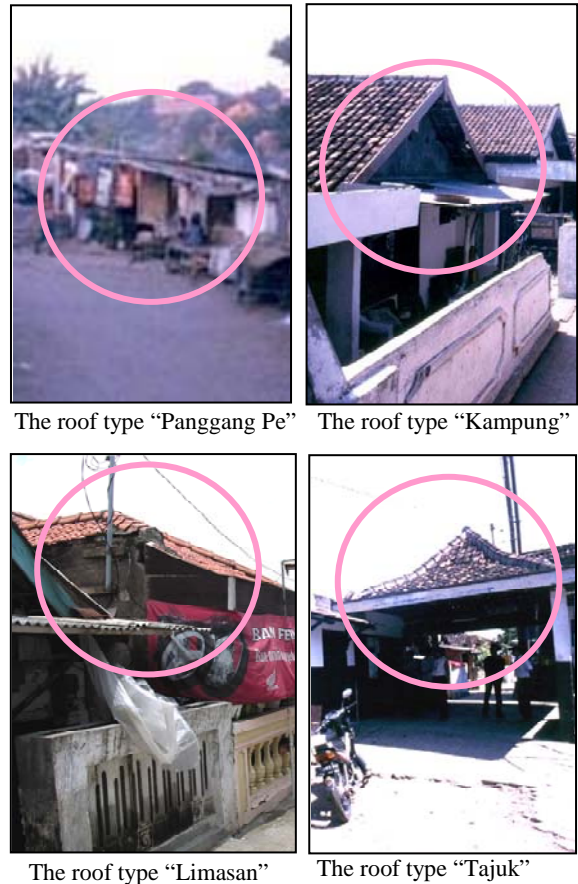
Based on the field observation which is done in Stren-Kali Wonokromo, there are many youths and adults who are not available in the settlement during the daytime, because most of them are working in the informal sectors outside the settlement as pedicab drivers, used-stuff gatherers, street vendors, parking men, and so on. They leave their houses for work early in the morning at 07:00 and go home in the afternoon between 16:00 and 18:00. The women stay at home because they have to take care of their children and do housework such as cooking, washing clothes, making their houses clean, and so on.

**The Settlement Patterns and the Characteristics of the Architecture Building of the Marginalized Society**

The position of the informal settlements cannot usually be seen directly from the main street, because the settlements exist and grow behind the shopping areas or housing estates which are built legally. The patterns of the informal settlements which are developed by following the circulation are frequently seen sporadically development, so that the informal settlements mostly have no specific patterns (Bawole 2008). The building density in Wonokromo riverbank settlement is very high and the position of the houses is very close one another and even the houses are really next to each other closely.

The architecture typology of these houses is relatively simple as shown by the rectangular sketch form and the building orientation toward kampong streets or toward public open-spaces. Generally, there are two entrance doors: one is the main entrance door and the other is the side door. Because of the very limited land they have, they build their houses efficiently and the building is adjusted to their primary needs.

The roof forms are dominated with the typology of the simple roof forms of the traditional Javanese housing types: “Kampung” and “Panggung Pe”. (Figure 2). The other traditional Javanese roof forms such as “Limasan”, “Tajuk”, and “Joglo” can be found only in three or four houses; and the “Tajuk” roof is used for religious service houses. Generally, the houses which are built with simple or used building-materials such as zinc, bamboo netting, hardboards, concrete-hollow-blocks, fire-clay bricks; the floor building-material is bamboo netting, cements, grey tiles, and even there is still dirt floor, no material at al.

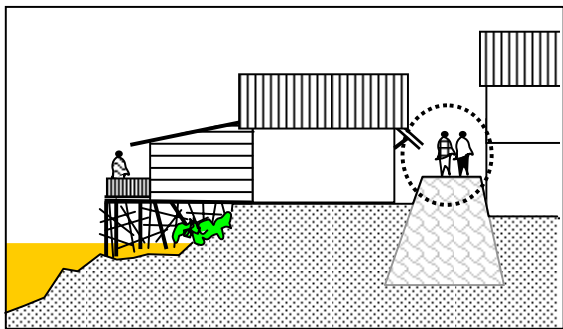


**Figure 2.** Typology of the house-roof forms in Stren – Kali Wonokromo, Surabaya

The numbers of rooms inside the house are various. There are houses with one room only and there are houses with more than three rooms. Generally, the room arrangement is divided into public rooms such as a terrace and a dining room in the front, and semi-private rooms such as bedrooms, a room for work, a dining room in the middle, private rooms such as kitchen, bathroom, and a room for washing clothes in the back. The grass-root society uses their rooms inside the house in flexible ways such as using the dining room for working, even also for sleeping.

**The Patterns of Open Spaces and Circulation Characteristics in the Settlement**

The open spaces in the informal settlement were formed spontaneously following the patterns of house location which is also developed spontaneously without planning. (Figure 3) The open spaces in Stren–Kali Wonokromo have no certain patterns; however, the local people utilize these spaces effectively and efficiently. Based on the field observation, there are some situations that stimulate the society activities in the open spaces of the kampong streets. One of the situation that stimulates them is the open space that is surrounded by houses.



Kampong street in Ngagel Rejo sub-district which is utilized intensively by the society as a public space for social interaction



A mother utilizes the shadow of the building for shelter while she is washing clothes on the street



The situation of many informal evening markets along Stren – Kali Wonokromo riverbank

**Figure 3.** The Characteristics of the Open Spaces and Circulation in Stren–Kali Wonokromo, Surabaya

Because of the houses which overlook one open space, the social interaction and the communication among the people are very intensive. They utilize the open space by time sharing. In the morning women use it to have social interaction; at noon the children use it; in the afternoon and evening the youths; and adult use it for their social interaction. The other situation that stimulates the people activities is the existence of public facilities, that is, the technical infrastructure such as taps and well for public and the other social infrastructure facilities such as patrol post, food traditional-stores, mosques, sport field, and so on.

The settlement facility which is close to the open space in Stren – Kali Wonokromo is the kampong main street or the streets that put through to one another in the settlement. As the open space, these kampong streets exist spontaneously and have sporadic patterns following the development of the houses.

**Infrastructure Facilities in Wonokromo Riverbank Settlement**

Although there is lack of the infrastructure facilities in the informal settlement, many families have electricity in their houses. On the other side, the grass-root society does not have this kind of facility; they use kerosene lamps in their houses. For those, whose have electricity facility, have also electronic

devices such as radios, tape-recorder, television, video-player, and so on. For street lighting, each family usually set up lights in front of the house.

The other infrastructure facilities in the informal settlement are taps/well for public, public toilets, and gutter. Some families have private clean-water facility in their houses. When the family does not have this facility, they will take the clean-water from the public clean-water facility. In some cases, the gutter from the city flows to the river through the closed or open drainage. If the informal settlement is along the riverbank, automatically the dirty water flows to the river through the informal settlement. Because of this situation, many people from outside the informal settlement may think that the dirt in the river is due to the fact that the poor people throw the trash away directly to the river. It is true that there are many people in the informal settlement throwing the trash away to the river; nevertheless, the urban society in the formal settlement also give contribution in throwing the trash away to the river (Figure 4).



Electricity      Clean Water      Drainage from the City

*Technical Infrastructure Facilities*



Mushola Facilities



Pos Ronda Facilities



Space for social



Informal Child Play Facilities

*Social Infrastructure Facilities*

**Figure 4.** Technical and Social Infrastructure Facilities in Stren Wonokromo, Surabaya

**THE SIMPLE BASIC SUSTAINABLE-DEVELOPMENT THEORY BY THE MARGINALIZED SOCIETY**

In the future, cities in developing countries will be supported, developed, and surrounded by the low-income society, used-stuff gatherers, shoe-repairmen, street-vendors, dress-makers, servants, shoe-shine servicer, and so on. The society provide cheap stuffs and cheap workers that are needed in urban economy activities (Hardoy et al. 1990).

Understanding the activities of low-income people in architectural spaces within the informal settlement is very useful for developing the strategy of settlement arrangement based on the understanding of existing characteristics of the settlement and the capability of the inhabitants (Khudori 2002). They are managed to survive with the minimum infrastructure facilities and use them effectively and efficiently.

In the case of the informal settlement in Stren – Kali Wonokromo, Surabaya which develops and grows along Wonokromo (Brantas) riverbank in Surabaya, the local inhabitants build their houses indigenously without planning and help from the architect. They always renovate their houses and also the surroundings to solve their problems. The smartness in solving them creates the specific characteristics in the architecture form of the marginalized society. Because of the limited land for their houses in the riverbank, they build their houses with the construction of house on stilts and utilize used building-materials that are found in their surroundings or bought with cheap price. (Figure 5 which describes the process of the development of Stren-Kali Wonokromo).

Because they live in the informal settlement with minimum facilities, they must be creative and have great efforts to use the available facilities very effectively. That is why, the ways, the planning, the building materials that they choose are better and more suitable to their local needs, their local income, local climate, local sources than to the legal standard that is decided by the government.

The development strategy of Stren-Kali Wonokromo, Surabaya tries to stimulate the local society in order to solve their problems together and improve their settlement quality to be better. The main basic of settlement development is trying to have great efforts for utilizing the existing settlement that is built by the low-income society. Furthermore, the society capability in building their houses and the environment becomes the focus of the development strategy.

Having great awareness, the society who live in Sten – Kali Wonokromo, Surabaya cut the back part of their house minimum 5 meters so that they can still have space for the street along the riverside. By the existence of the street, the orientation of their house is not directly toward the river, but toward the street. Step by step, they set up the street along the riverside by self-help and by the help from other institution. The street along the riverside can also be used as the street for those who do inspection to clean the river.

After they work together to do cutting the back part of the house, the society of Stren–Kali Wonokromo, Surabaya try to renovate their houses individually based on their own ability. Some people have efforts to built communal septic-tank to minimize the water pollution in the river. Furthermore, some people also begin to process the solid-waste to be used as compost.

**THE INITIAL CONDITION OF THE SETTLEMENT**



The initial condition of the settlement at Gunung Sari II



The initial condition of the settlement at Ngagel Rejo (Bratang)



**THE DEVELOPMENT PROCESS**  
Changing the Orientation from House to River



The process of cutting the back part of the house in Gunung Sari II and change the orientation to the river



The process of settlement development at Ngagel Rejo (Bratang)



**THE CONDITION OF THE SETTLEMENT AT PRESENT**



The Condition of the Settlement at Gunung Sari II at present



The Condition of the Settlement at Ngagel Rejo at present

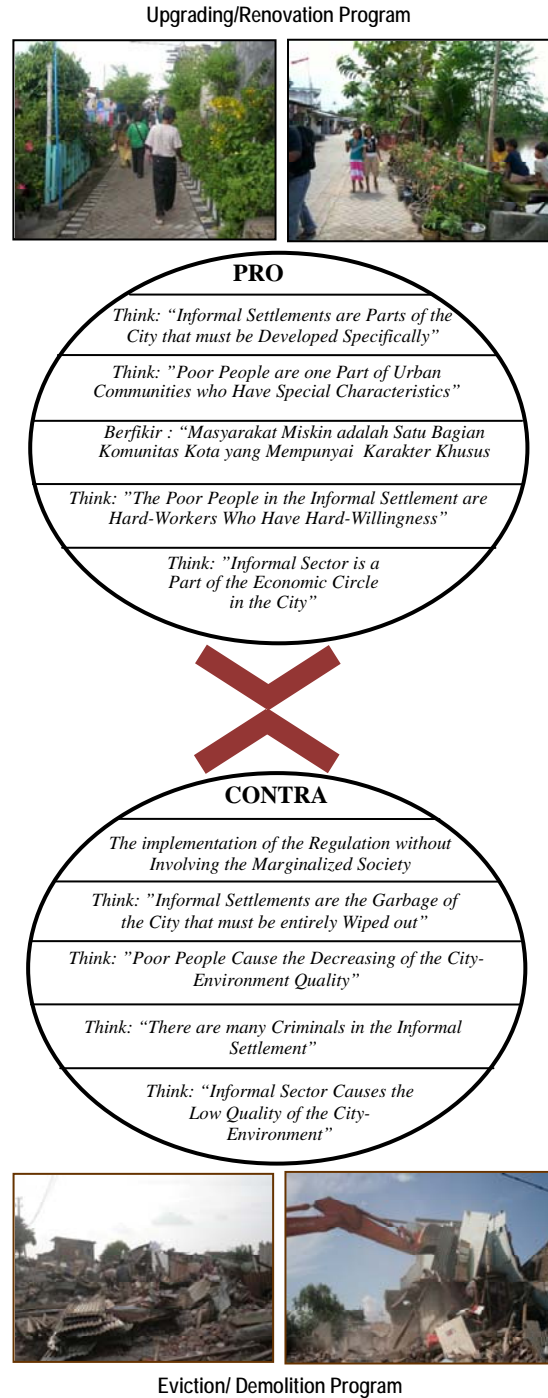
**Figure 5.** The Sustainable Development Process Carried out by the Low-Income Society in Stren–Kali Wonokromo, Surabaya

Based on the society awareness toward the healthy settlement environment, the harmonious life in the areas of Stren–Kali Wonokromo can be seen from the relationship among the natural environment, the man-made environment, and the low-income society as human beings who take important roles in harmonizing the arrangement of the natural environment and the man-made environment.

**THE PRO AND CONTRA OF INFORMAL SETTLEMENT DEVELOPMENT**

Based on the field observation, there are pro and contra in facing the development of the informal settlement. These pro and contra can be seen clearly if the Indonesian Government written-regulations are compared to the implementation of these regulations in the society, especially related to the informal settlement (Figure 6). In the regulation it is clearly stated that the government will pay attention to the poor people and try to help them to have better life and improve the quality of their settlement. In the implementation of the regulation in the local government, there is contradiction because to improve the quality of the poor people settlement, the local government tends to give more priorities to the beauty and business consideration than to the consideration of quality improvement for the poor people life. (UNHCS 1996).

The other pro and contra lie on basic thought of the people in seeing the development of the poor settlement in the middle of the city. On one side, there are some people who think that the poor settlement as one specific part of the city and it needs special attention from both the local government and the other institutions. On the other side, the society tends to think that the poor settlement is the garbage of the city that destructs the city image and therefore they must be swiped out. By the existence of the pro and the contra, it is clear that whoever having power and authority in the urban territory will control the development project of the poor settlement in the middle of the city. Without having sincerity to help the poor, they will wipe out the poor settlement. Based on the experience in doing observation in some cities, the program of wiping out the poor settlement does not solve the poverty problem. This program is actually the same as solving one problem and at the same time creating another problem. It happens because on one side the local government wipes out the slum areas in a certain area, on the other side it causes the poor people to become poorer and poorer and they will find another new informal settlement (Chitekwe et al. 2001).



**Figure 6.** The Pro and Contra in Facing the Development of Low-income Settlement

The opinion that the poor people causes the deterioration of the city environment and the city image, many crimes, and the other negative opinions also lead the poor people to become worse with their poverty. In his article Hardoy et all explains the situation that describes that the poor people build their houses in the unutilized urban-land because they can build their cheap and simple non-permanent houses and they do not need to pay the leasehold land or buy

the land (Hardoy et al. 1990). Besides, when they want to renovate them, they know much how to improve the settlement quality which is suitable with the local climate, their needs, and their income.

## CONCLUSION AND RECOMMENDATION

It has been stated that by all their limitation the poor people try to demonstrate their smartness to develop the settlement environment and build their houses. When the poor people in urban areas are given opportunities to develop their settlement, it is better to pay attention to the following specific recommendation from UNHCS on how to develop the poor people settlement in urban areas.

The recommendation is as follows:

- a. Prepare the land for the settlement
- b. Provide the sources of the financing institutions for housing
- c. Improve the access to and the poor people purchasing-power toward building-materials
- d. Give opportunities to create jobs
- e. Stimulate the availability of cheap lease-accommodation
- f. Introduce the role of houses as the place to work
- g. Stimulate the cooperation among government, local authority, and communities

The first step to set up the sustainable development in urban area is to change the negative perception and opinion on the informal settlement including its society. Because of this, the government and other institutions will have a good consideration that the informal settlement is a part of the city that has specific characteristics; and it must be paid attention specifically. If the perception and opinion have been changed, the government and the other institutions can implement the strategy of the pro-poor settlement development in solving their problem and understanding their potentialities and capabilities. Finally, the sustainability development to improve the quality of the informal settlement can be achieved by the urban poor-people together with the local government and/or the other institutions.

In the condition of the development of the slum areas and their poor people, the main focus in solving the problems is not on the increasing of the aids and the financial-debt release or on the strategy to reduce the number of poverty in the national level, but on the changes of the strategy in the local level which has many slum areas or squatter settlements. If we see the current development, there are many places of the poor settlement which are developed spontaneously

by themselves. One important question that must be answered is how to make the local government or local organizations side much more with the poor people or how to set up the good relationship between the city municipal and the people in the squatter settlement in order that they become good partners.

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