

LOW-INCOME PEOPLE CAPABILITY IN CREATING A DEVELOPMENT PLAN OF KAMPONG SETTLEMENT IN YOGYAKARTA CITY

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Abstract

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 settlements, both slum areas and squatter settlements are occupied mostly by the poor. There are many positive aspects that can be found in informal settlements, if the settlements are observed carefully without having negative prejudice before. Those positive aspects are creative process of the inhabitants for struggling in the settlements which have very limited housing facilities. This paper will expose a result of the research study about how the low-income people in Kampong Settlement in Yogyakarta – Indonesia can be empowered through their participation in making a Development Plan of Kampong Settlement.

Keywords: Kampong Settlement, low-income, empowerment, capability

Abstrak

Judul: *Kapabilitas Masyarakat Berpenghasilan Rendah Dalam Membuat Rencana Permukiman Kampung di Kota Yogyakarta*

Di negara-negara berkembang perkembangan daerah perkotaan selalu dipengaruhi oleh pertumbuhan pemukiman berpenghasilan rendah, yang sebagian besar dikembangkan di sekitar pusat kota. Permukiman, baik permukiman kumuh dan permukiman kumuh, sebagian besar ditempati oleh orang miskin. Ada banyak aspek positif yang dapat ditemukan di permukiman informal, jika permukiman diamati secara hati-hati tanpa prasangka negatif sebelumnya. Aspek positif ini adalah proses kreatif penduduk untuk bertempur di permukiman yang memiliki fasilitas perumahan sangat terbatas. Makalah ini akan menyajikan hasil studi penelitian tentang bagaimana masyarakat berpenghasilan rendah di Desa Permukiman di Yogyakarta - Indonesia dapat diberdayakan melalui partisipasi mereka dalam membuat Rencana Pembangunan Permukiman Desa ...

Kata kunci: kata kunci 1, kata kunci 2, kata kunci 3, kata kunci 4, kata kunci 5.

Introduction

Currently more than one-fifth of the world's population lives below the poverty line, with about half of this group living in the cities. Urban poverty is increasing rapidly in almost all developing regions. In informal housing areas poor people develop their houses first with very simple materials such as pieces of cardboard, plastic, bamboo or wood. Since the worst environmental quality within the city is mostly in slum areas and squatter settlements, many people including the government officers and private institutions have an opinion that the slum areas and squatter settlements are the garbage of the city which makes worsening

the image of the city. Therefore there are many urban planners and designers, who want to change the slum areas and squatter settlements into a more beautiful area according to their interpretation.



Figure 1. Kampung Settlement in Sub district Tegalrejo, Yogyakarta grows along the Winongo Riverbanks

Like in other developing countries, almost all big cities in Indonesia have their Kampung settlements in which the poor people live. In all Kampong settlements there are some inhabitants live without having a legal land certificate and building permission for their houses. Nevertheless there are many families, who pay retribution to local government in regard to their living. Therefore they have objections and do not agree, if the government or other institution says that they squat the vacant areas within the cities, because actually the local government knows that the poor and their Kampong settlements exist in parts of the city. (ACHS, 2003]

In the city of Yogyakarta poor people in Kampong settlement have to deal with minimal infrastructure facilities. They have to live with bad access to the main road, bad environmental quality, lack of playgrounds for the children, etc. This situation forces them to be creative in using the physical facilities within the housing areas. Besides, the relationships among the inhabitants are very close, so that people will help each other if one of them has a problem. Providing adequate housing for all people within the city is not an impossible goal. Strategy of providing adequate houses can solve the serious housing problem, if we can begin to see the urban poor settlements not a problem, but as a source of energy and important contribution to the production of housing. It is also possible if the poor is not seen as beneficiaries of the ideas of others, but as a lead actor at the center of their own housing development.

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.

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.

Research Metodology

The target of this research is the discovery of the characteristics of urban Kampong settlements that have developed in the riverside area in Yogyakarta. The research basically uses a qualitative approach. However, in some elements this initial research combines a qualitative approach with a quantitative approach, especially in measuring environmental quality and using a questionnaire to obtain primary data directly from the field. This research will take the location with the following criteria:

- (1) the urban settlement area that develops by the river;
- (2) Being in the Yogyakarta Municipality, DI Yogyakarta Specialist;
- (3) Consider the quality of the settlement environment which is reflected in the available infrastructure facilities.

In this research data collection was carried out by in-depth interviews, observation, questionnaires, and documente. All data obtained from informants are processed starting from the research in the field with steps, first the data obtained will be written in pocket notes or recorded on tape-recorders, then will be rewritten into description and reflection notebooks. For data obtained from respondents will be processed using coding, editing and tabulation which will then be presented in the form of tables and graphs. Data analysis was carried out in two stages: analysis when research in the field and analysis after research in the field. First, analysis when in the field after data processing is analyzed induction-analytically. Second, the analysis after in the field will be carried out using content analysis.

Typology Of Urban Form In Yogyakarta City

The development of cities is never ending, except there is a disaster that destroys the city. War, fire and natural disasters like earthquake, flood, volcano eruption, and hurricane can easily destroy the city. In general the urban form of the city in developing country like Indonesia can be divided into formal urban form and informal urban form. As it was mentioned in introduction the Formal Urban Form is an urban form in which its growth is following the master plan of the city. To maintain the urban form the local government should control strictly the development of every part of the cities. The formal urban form can be radial, grid, cul-desac, linear or maybe curvilinear. In formal settlements the character of urban form has been developed in accordance with the plans that have been made before. Meanwhile, the growth of informal settlements develops sporadically without any planning, hence the spatial pattern of the settlement formed also becomes irregular.

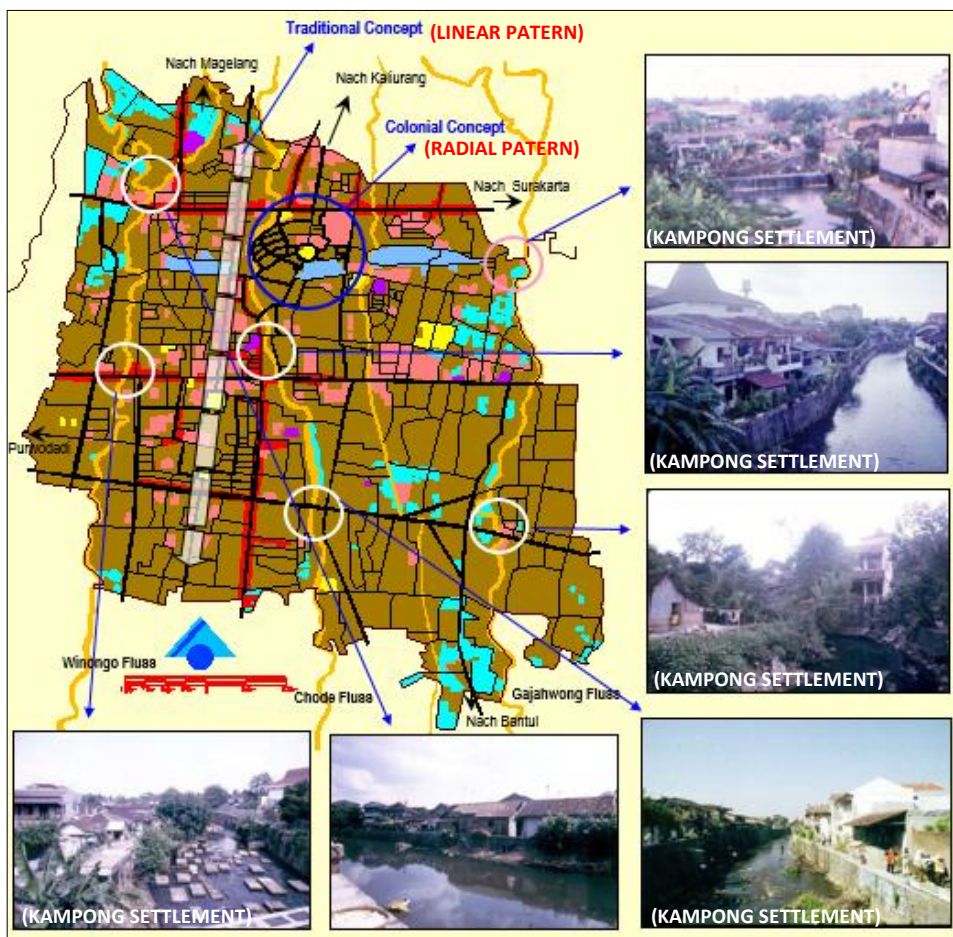


Figure 2. Urban Form Typology of Yogyakarta City - Indonesia

The physical environment within the spontaneous housing areas has specific characteristics because people develop their houses and the surrounding environment without any plan and the developments are adjusted to their demand

and capabilities. The relationship between the way the people develop their housing areas and limited facilities available creates specific characteristics. Hence there are many interesting places created spontaneously and the people use them very intensive. 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.

During certain times the housing area grows spontaneously. Because the environmental quality within this area is poor, the government implements revitalization programs in the informal settlement which often gets rid of the settlements and move the people to other areas. Sometimes if people refuse to move, the government forces them by burning or bulldozing the settlements. (ACHS, 2003)

In Kampong Settlement, Yogyakarta poor people develop their houses first with very simple materials such as pieces of cardboard, plastic, bamboo or wood. During certain times the housing area along the riverbanks grows spontaneously. Because the environmental quality within this area is poor, the government implements upgrading programs on the riverbanks which involve the community in every step of development plan. Because they cannot afford the price of formal houses developed by the government or private developer, therefore the upgrading program is acceptable by the community in Kampung settlements, Yogyakarta. Demolishing the informal settlements does not solve the problems, but it stimulates the growth of informal settlements in other areas.

Creativities in Developing the Settlement

According to Hardoy, Poor people demonstrate great ingenuity in developing these new residential neighborhoods and in organizing the construction of housing-even if government regards them as illegal. Their ways, their plans, their designs and their building materials are often far better suited to local needs, local incomes, local climatic conditions and local resources than the official, legal standards demanded by governments. Like in previous discussion, this is usually because official standards are derived from western models which have little relevance to local circumstances and take no account of local climate, local preferences and availability of local building materials. (Hardoy, 1989)

Many poor people in Yogyakarta build their houses in the same areas. Open spaces, alleys, pathways and streets are formed spontaneously too. Therefore the creativities in dealing with minimum infrastructure facilities can be seen in the design of their housing areas such as settlement pattern, public open spaces, building architecture, landscape, infrastructure, etc.

Research has shown that slums are in fact often highly organized both spatially and socially, that their occupants participate fully in the urban economy, that they are culturally diverse and dynamic, and that their residents are motivated, entrepreneurial and not delinquent. Some established slums have within them vibrant local economies, dynamic informal housing and land markets, and diverse

social and cultural groupings. While some slums are indeed characterized by squalor, disease, acute poverty and exclusion. [Bawole, 2007]



Figure 3. Karakter of Kampong Settlement Located Along the Chode Riverbank in the City of Yogyakarta

Although the people come from different regions, they are able to live together in harmony. It can be observed when one family needs help; many other families will extend their hand to give their help. The relationship among the people living in the low-income settlement is very close. It is not limited by the difference of ethnic group, religion and race. Hence the potency can be used as a tool for improving the environment quality of their housing areas, because it is not so difficult to stimulate the poor in low-income settlement to work together (*gotong royong*) in order to make their housing areas healthy and environmental friendly.

The Characters of Kampong Settlements in Yogyakarta

In general the Kampong settlements in Yogyakarta have the same characters, because usually they are built by the inhabitants who have limited financial capability. [Bawole, 2012] Besides, the developments of their house depend on the second hand building materials founded or bought by the inhabitants. The other characters are followed:

- The density of housing areas in informal settlements is very high
- The front façade and the back façade of the house in informal settlements especially the settlements developed along the riverbanks are very different. The location of informal settlements is hidden by the houses or shop-houses developed formally.

- In the case of informal settlements along the Winongo, Chode and Gajahwong riverbanks, the bad situation of such settlements on the back of the house is camouflaged by good performances of the front façade which are facing the street.

The Pattern of Circulation within the Low-income Settlements

- As it was mentioned before that the Kampong settlements in Yogyakarta were developed spontaneously without any planning. Consequently there is no certain pattern of circulations within the settlements. The combination between the main pathways and any other small pathways or alley makes the settlements special. The main pathways are very important for the inhabitants, because many inhabitants use them as a public space in which they are doing their social interactions. The characters of circulation in informal settlements can be seen at the picture below.



Figure 4. Linear Pattern in Kampong Settlement Following the River flow of Winongo Riverbank

- Usually circulation pattern in informal settlements is linear following river flow or the street
- If the main circulation is developed in the middle of the housing areas, the front façade facing the street has better performance compare to the back. If it is developed along the riverbanks, the inhabitants will throw any waste they produce every day directly to the river.
- The other secondary circulations in the settlements do not have special pattern, because they were developed spontaneously following the pattern of housing areas.
- There are many small streets, tiny paths or alleys usually called mouse path (*Narrow Street*) which are used by the inhabitants as an alternative circulation to the main street.

Infrastructure Facilities in Kampong Settlements

The inhabitants in Kampong settlements need infrastructure facilities for struggling their life. Even though the facilities are very limited in the settlements, the inhabitants used them very intensively. The infrastructure facilities available in informal settlements can be identified as follows:

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- Almost all families in Kampong Settlements have electricity in their house.
- Clean water facilities used by the inhabitants are public wells and water spring available on the riverbank. Few families use the clean water tap provided by the local government.
- Since within the settlements there is no adequate drainage, the waste water produced by every family is thrown directly to the river without any treatments.
- Social infrastructure facilities especially the facilities which can stimulate social interactions among the inhabitants are always available in the settlements. Those facilities are guarding post, small mosque (*mushola*), informal small playground, inadequate sport facilities, small kiosks, etc.

The socio-cultural character of the people

By paying attention to the socio-economic 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. Not only the husbands work, but also the wives work to help their husband to have additional incomes. Their dependence to the centre of city bustle is very strong, because from the centre they can get their income everyday.

Although the people in informal settlement come from different regions, they can live together in harmony. It can be showed, when one family needs help, many other families will extend their hand to give their help. The relationship among the people living in the informal settlement is very close and it is not limited by the difference of ethnic group, religion and race.

According to the field research carried out in Kampong settlements along the Winongo, Chode and Gajahwong riverbank , many young men and the fathers are not available in the settlements during the day time, because mostly they are working outside the settlements in informal sectors as pedicab (*three cycles*) drivers, second hand collectors, street vendors, parking guards, etc. They are going from their house at 07.00 in the morning and coming back at 16.00 or sometimes at 18.00 in the afternoon. The mothers stay more in the settlements because they have to take care of the children and also manage household activities like cooking, washing the clothes, taking care the small children, cleaning the house, etc. (Ribbeck, 2005)

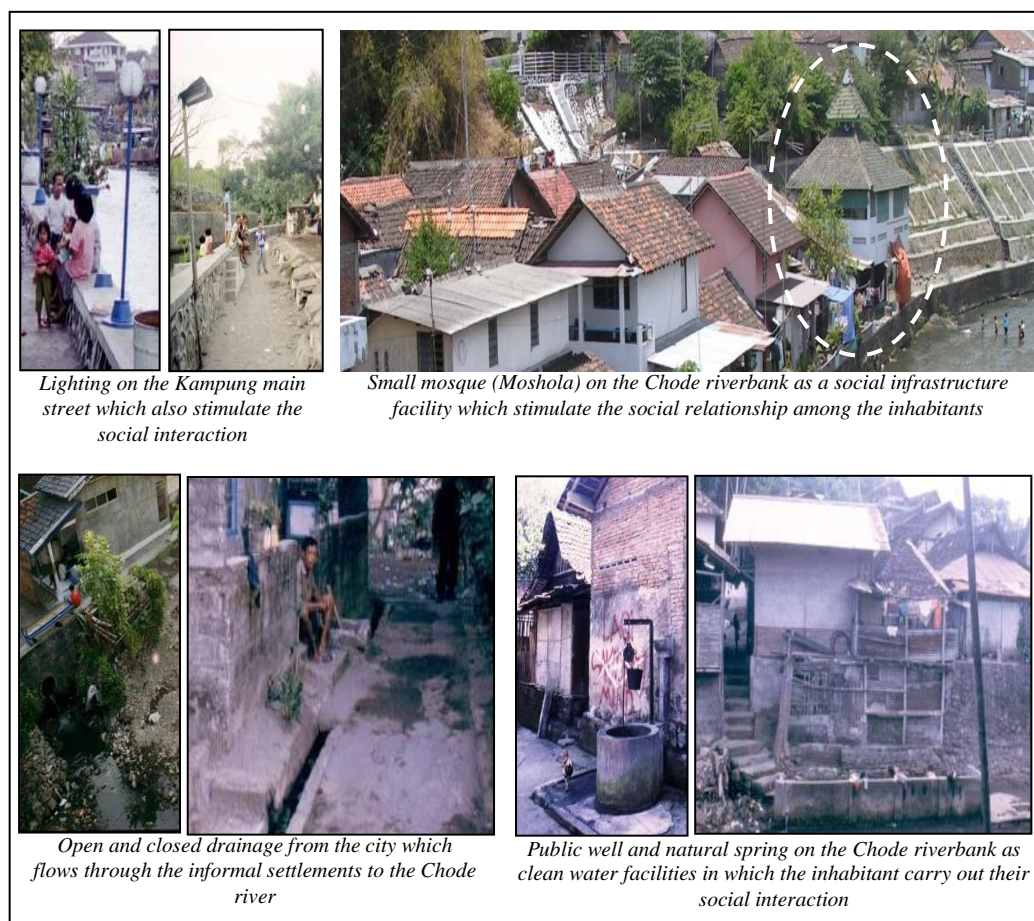


Figure 5. Social and Technical Infrastructure Facilities within the Informal Settlements along the Chode Riverbanks in Yogyakarta

The social interaction among the inhabitants mostly happens in informal public spaces inside the settlements. Even though the public spaces available are not so wide, but the inhabitants use them very intensively by ‘time sharing.’ In the morning usually the mothers use the space for their interaction and meanwhile they take care of their small children. At noon after coming back from the school the children play at the same place used by the mothers before. Then in the afternoon after coming back from their work, the young people are doing their social interaction also at the same place. In the evening the fathers use the same place for their interactions with walking a. Usually the open spaces which have housing facilities like small mosque (*mushola*), public well or public toilet, guarding post, and kiosks are used very intensively by the inhabitants for keeping their social interactions. (Bawole, 2007)

Enhancing the Local Knowledge for Upgrading The Kampong Settlements

Knowing the local knowledge created by the low-income people is better for developing strategies for settlement improvement. To understand the daily life of low-income people in informal settlements, it can be very helpful to live together

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with the people, because with living together it is easier to understand how the poor could struggle with their living environment. They will know how the people create the public spaces and use them intensively for social relationship. The creativity in designing architectural forms is stimulated by the limitation facilities they have within the settlements. (Cody, 1996)

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. They 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. 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. (Nierman, 2005).

Enhancing the local knowledge makes the development process easy, because the inhabitants are already familiar with their creativities in developing the settlements. There are several circumstances that have to be prepared in order to enhance the local knowledge for improving the living standards of the low-income people. Those circumstances are:

a. Changing the Appreciation of Informal Settlements in the City

To regard the poor not as a problem but as a solution requires an honest good motivation, because it is quite difficult to appreciate the poor activities and creativities positively. If the inhabitants improve their surrounding environment as well as their living quality with their own effort, they will maintain the environment very well and the development of the informal settlements will be sustainable too.

There are many institutions can involve in urban upgrading program in informal settlements like funding institutions, private developer, government institutions, academic institutions, NGO's, etc. The first step to appreciate the informal settlements is that all participants interested in helping the poor must have a great honest heart. Besides, all participants should not take any profits or any self advantages of development plan in informal settlements. They should have a positive thinking in regards to face the reality in informal settlements. Afterwards there are two main actions should be implemented concerning the development of informal settlements in the urban areas: *preventive actions and helping actions*.

The preventive actions should be implemented by the government or any other institutions in order to anticipate the development of informal settlements in the city. The most important thing of these actions is to develop other small centers in suburb and develop as soon as possible any vacant areas inside the city especially around the city centers. Through these actions the distribution of populations in the city can be separated evenly up to suburb and the poor people do not have a chance to develop their huts in vacant areas in the city, because the government or other institutions will develop the areas in advance.

Since demolishing houses in informal settlements cannot solve the problems of the poor settlements, the government and other institutions should help the poor in order to develop environmental qualities of their housing areas. They have to change their negative opinions about facing the living qualities in informal settlements. The most important action for helping the poor in informal settlements is to give guarantees that the governments or other institutions do not destroy the houses in informal settlements. They have to carry on land consolidation programs in informal settlements, so that the poor can improve their housing areas as well as their living qualities without being afraid of demolishing programs.

b. Doing the Total Participation

Concerning the sustainable urban upgrading in Kampong settlements, from the beginning the planning program should involve the inhabitants. Total participatory must be carried on in order to compile the *idée* and thinking of the inhabitants about how to develop their housing areas. An alternative approach for urban upgrading in Kampong settlements is “Advocacy Development Planning for and with the Poor” In this approach all institutions interested in helping the poor people together with local inhabitants should discuss and establish teams for doing the research, making a development plans and also implementing them. The team will be divided into two groups: *team for Field Research and People Participatory*. These teams will prepare everything regarding the preparation of the research, the whole research, workshop with the poor people, making development plans for the Kampong settlements and implement them.

The field research team will observe the physical aspects of Kampong settlements especially the open spaces in which the inhabitants carry on their daily activities. Through the observation of the physical aspects, it can be understood how the people carry on their activities in available open spaces intensively. Besides there are also special form of pathways, alleys and also other types of open space developed spontaneously. The information above will be compiled and analysed carefully, because it will be transformed into the basic strategy for making urban upgrading program in informal settlements. (Wilcox, 1994)

Research about people participatory will be done in order to find out how the poor people thinking about good environment around their housing areas, if they have a chance to improve their living qualities. According to the experiences, if the poor people think about having enough money, they will have also an ideal housing areas for their daily live. Usually the data got from the participatory research are ideal ideas and thinking that have a contradiction with the real situation of informal settlements. Those data will be record carefully because serial workshops they will be cross checked with the real situation gotten from the research of physical aspects. (Munt, 2008)

The further process is to carry out the serial workshops for making an urban upgrading plan. This process will be done several times until the compromises of development strategies of urban upgrading plan can be reached. The discussion in serial workshops will be focused on finding out the spatial form of informal settlements that can be transformed into the strategy of urban upgrading plan.

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With involving the poor people who live in informal settlements, they can be aware of the environmental quality within their housing areas. Afterwards they will also aware about how important to improve their living quality including the environment around the settlements. If the implementation of urban upgrading plan in informal settlements can also involve the inhabitants, the development program in informal settlements will be sustainable.

c. Transforming the Spatial Experiences of the Poor to the Urban Upgrading Program

Spatial form in informal settlements can be seen as a public open space and pathways in which many people carry on 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 upgrading program. The active open space is chosen because it is a center of human activities in the settlements. The circulations connecting the open spaces available should be considered as a pattern of the settlements. Afterwards the houses developed along the circulations or pathways should be improved step by step individually.

Technical infrastructure facilities like clean water supply, electricity, and drainage are very important for the families in Kampong settlements. If it is possible the technical infrastructure facilities should be installed in advance, because these facilities are needed for their daily live. The development of infrastructure facilities follows the settlement patterns formed by the open spaces and circulations. Social infrastructure facilities are also needed by inhabitants, because usually these facilities are used for social interactions among the inhabitants. The social infrastructure facilities like guarding post, local government offices, religious building and any other facilities are developed around the public open spaces.

To improve the environment qualities in informal settlements, several types of vegetations should be planted. In public open spaces some intermediate trees should be planted for creating the shadows in public open spaces in which many inhabitants carry on their daily activities. Decorative vegetations can be planted in pots and put them in front of th house or hang them up on the roof structure. If there is no place for planting the vegetation, every family should have pots and plant the small vegetation in the pots.

Conclusions

After discussing several aspects about empowering the low-income people in Kampong settlement within the city of Yogyakarta, several conclusions can be taken into account as follows:

- 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 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.
- provide a possibility for the poor to express their capabilities and knowledge in order to improve their living standard
- provide space for home-based economic activities;
- If the inhabitants are involved in the whole process of development in informal settlements, the development program in minimizing the risks of natural disasters in low-income settlements will be sustainable
- Local community groups should have the chance to influence decisions and manage resources to help reduce their vulnerability and cope with risk, because they know very well their housing areas.
- Public awareness is essential to convey the benefits of experience to vulnerable communities in terms that relate to local perceptions of need

References

- ACHS (Asian Coalition for Housing Rights).[2003] *Housing by People in Asia*, October 2003, No. 15
- Bawole. Paulus. [2007] *Informelle Siedlungen an Flussufern in Gefährdeten Stadtgebieten Indonesien, Indonesien*. Diss. Städtebau Institut - Fakultät Architektur u. Stadtplanung - Universität Stuttgart.
- Bawole. Paulus. [2010] "A Collaboration of Spontaneous Architecture and Environmental Design Developed by Marginalized Inhabitants" in *Proceedings: Arte-Polis 3 International Conference: Creative Collaboration and the Making of Place: Learning*, Bandung.
- Cody, Eleanor. [1996] "Poverty and the Environment – A problem or a solution ?" *Habitat Debate* Vol.2 No. 2 (June 1996)
- Hardoy, J.E.; Cairncross, S.; Satterthwaite, D. [1990] *The Poor Die Young*. Earthscan Publications Limited, London, .
- Hardoy, J.E.; Satterthwaite, D.[1989] *Squatter Citizen*. Earthscan Publications Limited, London,.
- Herrle, Peter. u.a [2005] ., *Improvement of Sanitation and Solid Waste Management in Urban Poor Settlement*. Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH, Eschborn, Deutschland.
- Khudori, Darwis. [2002] *Menuju Kampung Pemerdekaan*. Yayasan Pondok Rakyat, Yogyakarta.
- Munt, Richard. [2008] *Building Community Participation*.
(<http://www.aifs.gov.au/sf/pubs/bull2/rm.html>)
- Nierman, Manfred. [2005] *Armutbekämpfung in Städten*. GTZ GmbH, Eschborn.
- Ribbeck, Eckhart.[2002] *Die Informelle Moderne: Spontanes Bauen in Mexiko-Stadt*. Architektur und Wirtschaftsförderungs-Verlag. Heidelberg,
- Ribbeck, Eckhart.[2005] *Die Welt Wird Stadt*. Jovis Verlag GmbH, Berlin.
- Srinivas, Hari [2018] *Defining Squatter Settlements*,
(<http://www.gdrc.org/uem/define-squatter.html>)
- Tebbal, Farouk and Ray, Kalyan.[2001] "Housing the Urban Poor" *Habitat Debate* Vol. 7 No. 3 (September 2001) : 1 – 5
- UNHCS (Habitat).[1996] "Human Settlements and the Urban Poor : Specific Recommendations" *Habitat Debate* Vol.2 No. 2 (June 1996)

INTERNATIONAL PROCEEDINGS

LOCAL GENIUSES GENERATE FUTURE DESIGN, 16-17 November 2018

United Nations. [2006] *Millennium Development Goals*. The United Nations Department of Public Information, 2006.
(<http://www.un.org/millenniumgoals/documents.html>)

Wilcox, David. [1994] *The Guide to Effective Participation*. Delta Press, Brighton.

Zahnd, Markus. [2005] *Traditionelle Stadtquartiere in Semarang und Yogyakarta, Indonesien*. Diss. Städtebau Institut - Fakultät Architektur u. Stadtplanung - Universität Stuttgart.