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Community Participation to Support Sustainable Settlement and Economic Development

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Keywords: *economic development, participation, sustainable housing.*

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COMMUNITY PARTICIPATION TO SUPPORT SUSTAINABLE SETTLEMENT AND ECONOMIC DEVELOPMENT

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Community Participation to Support Sustainable Settlement and Economic Development

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Abstract- Housing is complex sector and become a basic human need. Therefore, policies on housing directly impacts people's lives. Lately sustainable housing policy into trends and new requirements to prevent greater damage on Earth. Each policy requires public support to make it happen. The concept of sustainable housing related to environmental, social, economic, and cultural aspects. The purpose of this research is to understand activity of environmentally friendly by residents of kampung and its benefits in the economic field. This study will focus on the environmental and economic aspects. Selected case studies is a village that ever won an awards of green and clean from Surabaya city government, This kampung has succeeded in creating an environment beautiful and well cared for, also received economic benefit of the activity. The method used in this research is descriptive qualitative comparative analysis. The study examined the causes of the condition and explain it with words. Community participation in the study area to support economic development and sustainable housing include greening activities, nursery, waste recycling, waste water filtration, greening education, sales seedlings and waste bank program. The research indicates a good level of participation, so that the concept of improvements that can be made include any additional counseling, use of renewable energy resources, the revitalization of drinking water processing technology, rooftop greening, greening and plant diversity.

Keywords: economic development, participation, sustainable housing.

I. INTRODUCTION

Housing and residential area is one of strategic sector in territory development. This sector is the basic needs because people always grow and grow every year. Housing and settlement development sector will also contribute to the development of other sectors such as industry, trade and services, including infrastructure. The construction of housing and settlement activity is multi sector, whose outcome is directly touching one basic needs of society. Housing problem has been a complex problem that is not merely the construction of the physical aspects. It is related very broad sector in procurement, such as land, industrial materials building, environment, socio-cultural, and economic aspect of community, in an effort to build a harmonious society. Hence, community role would

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influence the sustainable housing and economy development.

Limited land and resources not to be a barrier for people to build sustainable housing and economy. To understand how the community role in the study areas in building sustainable housing and economic, then it required further research. This research will be screened on how the community role in support the development of sustainable housing and economy. So the purpose of this research is formulated public active role in supporting the development of sustainable housing and economy. To reach the goal targets include:

1. Identify the elements in community role, sustainable housing, and sustainable economic development
2. Identify the characteristics of the case study
3. Formulate community participation in supporting the development of sustainable economic and housing.

II. RESEARCH THEORY AND METHODS

a) Sustainable Settlement

According to UN Habitat (2012) concept of environmentally friendly settlement can be grouped according to four main aspects, namely economic, social, cultural, and environmental. Further described in 3 scale: macro (national), meso (regional, city) and micro (housing, household). In this study will be used three aspects (economic, social and environmental) in micro- scope for the study area is a residential area consisting of some households. For more details on the micro-scale framework for sustainable housing policies in the study area can be seen in Table 1.

Based Kohler in Cole & Lorch (2003) ecological aspects relating to the conservation of resources, while the economic criteria means considering the long-term conservation of natural and man-made capital; Social aspects related to fairness between generations and cultural aspects into account the conservation of cultural diversity.

There are several strategies in planning environmentally sound settlement as proposed by Grant et al in Aulia (2005), as follows:

1. The management and maintenance of the environment to be put to good use
2. Reduce the influence of buildings on the environment
3. Conserve natural resources
4. Reduce Waste

5. Increase the participation and awareness of the importance of protecting the environment.

In this study, the above strategy can be used to analyze that as an indicator in determining the role of sustainable development in the study area.

Table 1 : Micro Scale Framework for Sustainable Housing Policy in Study Area

Aspects	Micro (housing, household)
Environmental dimensions	<ul style="list-style-type: none"> Ensuring energy efficiency, water and resource efficiency. Green design, using local sustainable construction. Sanitation, preventing hazardous materials and pollution. The use of renewable resources. Increasing the resilience and adaptability of the house. Empower and ensure community participation. Ensure the health, safety, well-being at the level of the residence. Creating a sense of community, a 'sense of place', and identity
Social dimensions	<ul style="list-style-type: none"> Meeting the specific needs and desires in the housing (including those related to gender, age and health). Provides access to infrastructure and public space.
Economic dimension	<ul style="list-style-type: none"> Ensuring affordability of housing for different social groups. Providing adequate shelter to increase labor productivity; ensure housing is integrated with the work. Mendkung economic activity in the country. Support small-scale landlords and self-help housing. Management and maintenance of housing. Strengthening the resilience and futureproofing home.

Source : UN Habitat, 2012

Based on the theoretical explanation above, the elements of sustainable housing that is used in this study are:

1. The management and maintenance of the environment put to good use
 - Ensuring energy efficiency, water and resource efficiency.
 - Provides access to infrastructure and public space.
 - Management and maintenance of housing.
2. Reduce the influence of buildings on the environment
 - Ensure the health, safety, well-being at the level of the residence.
 - Providing adequate shelter to increase labor productivity; ensure housing is integrated with the work.
3. Conserve natural resources
 - The use of renewable resources.
4. Reduce Waste
 - Sanitation, preventing hazardous materials and pollution.
5. Increase the participation and awareness of the importance of protecting the environment
 - Empower and ensure community participation.
 - Ensuring affordability of housing for different social groups.
 - Creating a sense of community, a 'sense of place', and identity.

i. *Community Participation*

Based Roseland (1997), social ecology focuses its critique on domination and hierarchy per se: the struggle for the liberation of women, workers, blacks, native peoples, gays and lesbians, and nature (the ecology movement) are Ultimately all part of the struggle againts domination and hierarchy. The main parts of the ecological community that is described in this paper include:

1. Eco-Community
2. Human-scale
3. Sustainable settlement based on the ecological balance
4. Community self-reliance and participatory democracy

Based Roseland, 1997, the social community must be involved in understanding the sustainability of local persefektif. Social ecology envisions a confederation of community assemblies, working together to foster meaningful communication, cooperation, and public service in the everyday practices of civic life, and a 'municipalist' concept of citizenship cutting across class and economic barriers to address global ecological dangers. Reviews such as breakdown or the threat of nuclear war.

Based on the explanation of the above theory, the role of the community in creating a sustainable environment can be seen by:

1. Eco-community, the environmental community that formed in the community in the region study.
2. Human-scale
3. Sustainable settlement based on ecological balance, ie residential areas arranged in balance with the environment.
4. Community self-reliance and participatory democracy, namely public awareness and cooperation based on democracy.

ii. Economic Development Environmental

Strange and Bayley (2008) stated that green development is the integration and development that benefit the sector as much as possible to reach. In other words, the decision is made not only consider the impact of social, environmental, and economic but also the impact on the future. Strange and Bayley (2008) also stated that humans depend on ecosystems and natural resources to run the business and meet human needs. In addition, long-term stability are dependent on the health and productivity of the population. Growth and economic activity is the main focus of human activity. Economic activity involving the production and consumption, so it is important to know the process of production of goods and consumption trends for someone to create environmentally sound economic development. So in addition to understand what we buy, use, and waste generated, we also need to understand the ecological footprint of the products we use.

Claiton & Bass (2002) identified several challenges to achieve environmentally sound development is as follows:

1. Disparities in economic and political instability
2. Extreme poverty
3. Poor nutrition
4. Diseases
5. marginalization
6. The growth of population
7. consumption
8. Use of global energy
9. Climate change
10. Nitrogen loading
11. Depletion of natural resources
12. The loss of diversity
13. Pollution
14. Lack of water

The problem of other urban (urbanization, industrialization)

Nixon (2009) suggested 8 initiatives for environmentally sustainable economic development, as follows:

1. Cleantech Business Cluster: cluster strengthening businesses that offer products and services that are environmentally friendly, such as the efficiency of

natural resources, the use of renewable energy, alternative transportation, waste reduction / pollution and recycling.

2. Green Business: improvement of environmental quality and financial state of the company.
3. Sustainable Real Estate Development: support pedestrian facilities, mixed-use, mixed-income, transit-oriented real estate development.
4. Green Investment: investment initiatives on environmentally friendly vehicles.
5. Green Jobs: remove or improve the system development with green jobs green skills training.
6. Green and Cleantech Business Attraction and Retention: supports a city or region as the optimal place for green and clean technology businesses to start, is located, evolve, and grow in the long term.
7. Green Underserved Communities: linking business of green technology and clean and sustainable real estate development was initiated by the citizens of developing countries, women, and disadvantaged communities with appropriate business acceleration services, also through an agreement between the low- and middle-income workers in saving through ecological efficiency.
8. Sustainability Community Engagement: Agreement citizens in understanding the concept of sustainability, participate in the process of building a sustainable economy and decided to buy environmentally friendly goods.

Based on the above theory, environmentally sustainable economic development element used in this study include:

- Cleantech Business Cluster
- Green Business
- Sustainable Real Estate Development
- Green Investment
- Green Jobs
- Green and Cleantech Business Attraction and Retention
- Green Underserved Communities
- Sustainability Community Engagement

Table 2 : Synthesis

No	Aspects	Theory	Research Variables
1	Sustainable housing	<p>1. The management and maintenance of the environment put to good use</p> <ul style="list-style-type: none"> Ensuring energy efficiency, water and resource efficiency. Provides access to infrastructure and public space. Management and maintenance of housing. <p>2. Reduce the influence of buildings on the environment</p> <ul style="list-style-type: none"> Ensure the health, safety, well-being at the level of the residence. Providing adequate shelter to increase labor productivity; ensure housing is integrated with the work. <p>3. Conserve natural resources</p> <ul style="list-style-type: none"> The use of renewable resources. <p>4. Reduce Waste</p> <ul style="list-style-type: none"> Sanitation, preventing hazardous materials and pollution. <p>5. Increase the participation and awareness of the importance of protecting the environment</p> <ul style="list-style-type: none"> Empower and ensure community participation. Ensuring affordability of housing for different social groups. Creating a sense of community, a 'sense of place', and identity 	Energy Water Resources Natural Resources Human Resources infrastructure
2	Public Participation	Community participation in creating a sustainable environment can be seen by: <ol style="list-style-type: none"> 1. Eco-community, the environmental community that formed in the community in the region of study 2. Human-scale 3. Sustainable settlement based on ecological balance, ie residential areas arranged in balance with the environment. 4. Community self-reliance and participatory democracy, namely public awareness and cooperation based on democracy. 	Communities Public Participation
3	Economic Development Environmental	Elements of environmentally sound economic development include: <ul style="list-style-type: none"> Cleantech Business Cluster Green Business Sustainable Real Estate Development Green Investment Green Jobs Green and Cleantech Business Attraction and Retention Green Underserved Communities Sustainability Community Engagement 	<ul style="list-style-type: none"> Cleantech Business Cluster Green Business Sustainable Real Estate Development Green Investment Green Jobs Green and Cleantech Business Attraction and Retention Green Underserved Communities Sustainability Community Engagement

Based on the translation of the above theories as well as the synthesis of a literature review can be seen that between sustainable housing and environmentally sound economic development is influenced by community participation.

iii. *Research Methods*

The method used in this research is comparative qualitative descriptive. According to Travers (1978) in Klee (1999), The descriptive meant to depict the nature of a circumstance that is on-going at the research done to examine the causes of a particular. Taylor and Bogdan (1984) Explained that qualitative data shaped descriptive, in the form of words spoken or writing about human behavior that can be observed. Sugiyono (2011) stated that analysis of descriptive qualitative step was as follows:

1. Data Collection
2. Data Reduction
3. Data Display
4. Conclusion

In this analysis variable resulting from study the sintesa the theory, assessed according to its existing data the study areas. Then it studied again based on sectoral planning documents relating to public active role in supporting sustainable housing and economic development. So that obtained the concept that recommended in this research. So is the descriptive analysis comparative qualitative.

III. RESULT AND DISCUSSION

Case studies chosen were in Rungkut Lor gang VII mosque. The location of case study can be seen from figure 1. This kampung got an award of Surabaya green and clean in 2008. This is consistent with placard award displayed in one side of the road. Other accomplishment is to become the top 10 posyandu competition and cleanliness winner of the neighborhood level in Surabaya. Hence, this kampung has often used as an example of successful kampung. Home improvement efforts initiated in 2005 that produces 9 programs. This kampung is densely populated, but about 60 percent of its citizens not settled. Most residents come from outside the city who work as laborers in Surabaya. This housing shaped elongated, and equipped several facilities to support the activities of environmentally friendly scattered in order to facilitate access to all citizens. This can be seen in figure 2.

a) *Identify The Characteristics of The Study Area*

The location is in the Highway Rungkut, belonging to the village Rungkut District of Kalirungkut. The boundaries of this region include:

- North: Lor Rungkut Gang III
- West: Road Rungkut Lor
- South: Lor Rungkut Gang X
- East: Highway Rungkut



Figure 1 : Study Area Location

Source: Google Map, 2014



Figure 2 : Kampung Rungkut Lor Gg VII Masjid Siteplan

Source : Personal documentation

Table 3 : Identify The Characteristics Of The Study Area

No	Aspects	Existing Data	Informations	
			Condition	Others
1	Number of Real Households	80 householders	Real Population	Work in the informal sector
2	Number of Stranger Households	240 householders	Stranger Population	Worked as a factory worker
3	Number of Private Houses	80 units	The Size is 5 x 12 – 13 m	Simple house typical village , row house
4	Number of rental house	19 units	House -shaped barracks	Usually inhabited by a family and spouse
5	The availability Infrastructure	Drainage	Good, the wide is 30 cm	When heavy rains , sometimes overflowing but quickly subsided There are closed drainage , there is an open drainage
		The electricity	Good	
		Street lighting	Good Self-help	No help from the government so that the self-help
		Sanitation	Good	Use of septic tanks and wastewater treatment are / domestic effluent for watering plants
		Road	Good, Paving	Most government assistance, partly self-supporting
		Communication	No Base Transceiver Station	Already using cell phone
		Garbage	Good	There are innovations of the community (banks garbage, recycling of plastics and paper and composter), the system managed by the community
		Clean Water	Good	There is help water treatment apparatus of the Party of Japan but was broken and could not be repaired
		Gas	Good	Most use the gas network, partly using LPG gas cylinders
		Posyandu	Good	Very active and never Runner II IHC best in Surabaya
6	Public Facilities Availability	RT Hall	The size is 4 x 2 m	Used as an archive storage, office RT and the PKK as well as a chat
		Tourism Park Village	The location is in the middle of the village and is a center for residents	In the form of a garden with ornamental plants and nursery herb plants

No	Aspects	Existing Data	Informations	
			Condition	Others
		Mosque	Tholabuddin	Being in front of the alley, the service includes one village
		Prayer house	2 x 3 m	Scale 1 RT services
		Urban Farming and Breeding	Locations in places that can be planted	Empty fields and other spots that can be used as an ornamental plant nurseries and toga (herb)
		Gazebo	2 x 2 m	Used to hang out
7	Community Social	PKK	Empowerment activities housewife whose activities focus on social, environmental protection and health	
		Youth group	Youth empowerment activities of the village which includes social, environmental preservation and religious	
		KRUCIL	Children's education with a focus on social and environmental conservation activities	
		RT	A micro-level organization of systematic and organized and facilitate all activities of citizens	

Source: existing data, 2014

b) Formulating Community Participation hearts support Housing Development Environment and Sustainable Economy.

Table 1 : Analysis

No	Aspects	Research Variables	Analysis Based on Existing Condition
1	Sustainable Housing	<ul style="list-style-type: none"> • Energy • Water Resources 	<p>Rungkut Lor village Gg VII has used innovation sewer water purification to water garden seeds. This is one of the innovative energy efficient and environmentally friendly (water resources and electricity). This innovation made by the people themselves based INSAG existing programs.</p> 

No	Aspects	Research Variables	Analysis Based on Existing Condition
	Natural Resources		<p>One of the activities of the community in preserving the environment is urban farming and breeding. Urban farming and breeding conducted an ornamental plants and herbs (toga). The results are in addition to environmental sustainability can also be sold for cash to add RT. This activity is carried out once a week at the end of the week in mutual cooperation or togetherness. Not only adults are invited to grow crops but early age children were trained to grow crops.</p>
	Human Resources		<p>In the study area there are many activities that involve citizens and communities both in terms of social, health, environmental and religious. Here is a community located in the study area:</p> <ul style="list-style-type: none"> • Organization of the RT-level residents • empowerment activities housewife or PKK • Youth • Krucil <p>As for the activities carried out such as:</p> <ul style="list-style-type: none"> • The logic Bu = PKK activities in combating mosquito Aides Aigepty • Krucil = activities of children of early age in the form of nurseries and urban farming is done once a month • Powerful cangkrukan = communication means residents in disseminating environmental cleanliness • nursery and urban farming activities undertaken work together • Event processing and recycling of waste, namely Bank Trash (dry)

No	Aspects	Research Variables	Analysis Based on Existing Condition
			<p>waste into goods creations) and Composter (wet garbage and leaves into compost)</p> <ul style="list-style-type: none"> • Posyandu activities that focus on child and maternal health • Physical improvement activities carried out by the Organization residential neighborhood RT
	Infrastructure		<p>1. Road</p> <p>Road paving which is help city officials and local governmental organizations. Street decorated with various colors and well maintained. Road accessible via Highway Rungkut and through Rungkut Lor Gang V.</p>  <p>2. Electrical</p> <p>PLN electricity network served by reaching all homes in the study area. Electricity network also connects the lighting in the study area.</p>  <p>3. Gas</p> <p>Gas network served by national gas pipeline (PGN), which serves most of the homes in the study area. For unserved home network using LPG gas cylinders to meet the needs of gas.</p>  <p>4. Water</p> <p>Water networks served by the water network, but citizens also been using a water filter that is aid from Japan, which is still broken.</p>

No	Aspects	Research Variables	Analysis Based on Existing Condition
			<p>5. Drainage</p> <p>Drainage network of empowered communities through close above the channel with the aim of reducing odors and put potted plants on it.</p>     <p>6. Sanitation</p> <p>Residents use INSAG system to process waste water from the drainage network for watering plants. Domestic sanitation systems also use septic tanks.</p>  <p>7. Garbage</p> <p>System of waste services performed by the citizens through the waste transport system which is done twice a week. Previous garbage bins can be divided into dry and wet. Dry waste such as bottles and plastic wrap in capacity in the waste bank and then processed into goods creations. While wet waste such as food scraps and leaves inserted into Takakura Composter that 6 months later into compost.</p> 

No	Aspects	Research Variables	Analysis Based on Existing Condition
2	Community Participation	Community Participation	<p>Communities in the study area include RT organization, PKK, Youth, Krucil and IHC. Activities include social, environmental, health and religious.</p> <p>Community very actively involved in sustainable development in the study area, seen with many facilities and activities that are innovative and non-residents.</p> 
3	Economic Development Environmental	Cleantech Business Cluster	<p>Grouping in favor of environmentally friendly efforts can be seen from the success of the city of Surabaya to reduce waste from residential level with the Garbage Bank program. Trash has been reduced and separated prior to the landfill. This can reduce the burden on the city to manage waste on a large scale. Moreover, in the village Rungkut Lor Gg VII have found innovative sewer water purification to water the garden seeds are INSAG. Water treatment technology into potable water which is a relief from the Japanese as an appreciation for the success of this ward caring for the environment. This tool can add eco-friendly technology in this village if not broken. So where technology is not just about the amount and availability but the most important is the impact and sustainability of these technologies</p>
		Green Business	<p>Environmental well maintained village, villagers always maintain the cleanliness and beauty of the environment. The initiative to urban farming in the form of seed gardens provide income for the village to be used as capital of other eco-friendly programs or to maintain the environmental conditions (eg, increase reforestation). So the seed garden in this village can be called as a green business, in addition to the environmental benefits of plants is also economically beneficial to the villagers. In addition, there is also a waste bank programs that can increase incomes while reducing household waste.</p>
		Sustainable Real Estate Development	<p>Location village adjacent to the industrial area Rungkut, can reduce a person's mobility to the workplace. The village is probably not specifically designed as a formal housing, but thrive because of high demand for homes in the area. So maybe you need to watch out for</p>

No	Aspects	Research Variables	Analysis Based on Existing Condition
			is a high population density, so that the estate planning should be more focused on the development of the village in order to remain habitable.
		Green Investment	There has been no initiative to create an environmentally friendly means of transportation. However, this village can reach public transport easily. With its location adjacent to the industrial area, should the potential for residents to use public transportation is also higher.
		Green Jobs	Surabaya government has conducted training by inviting some representatives of this village to be able to manage waste and sewage processing for garden watering seedlings. Training and socialization program is environmentally friendly positive response by the villagers.
		Green Cleantech Business Attraction and Retention	This can be attributed to the level of citizen participation Surabaya high. Participation showed good response making it suitable for developing business related to environmentally friendly programs.
		Green Underserved Communities	Each of the villagers can participate and express their opinions in a routine meeting. According to Mrs. RT, residents most industrious men to be invited to voluntary work and meetings, while the female residents prefer to make dry waste recycling while socializing. So every citizen both men and women can express the proposal but probably in a different forum.
		Sustainability Community Engagement	Discipline and willingness whole villagers to support environmentally friendly activities that have been agreed upon can not be separated from the existing sanctions. As villages are located close to the industrial area, most of the houses in this village used as a boarding house so many people who do not live long. Therefore, the need for more efforts to promote environmentally friendly activities this village. Sanctions are given when people do not obey the rules are complicated for residents will be paperwork. These sanctions proved able to "force" people to run programs environmentally friendly village well.

Source: Analysis, 2014

i. *The Result of Analysis*

Community participation in the study area to support economic development and sustainable settlement include:

- 1) greening in their homes and the environment by planting (at least 5 pot plants)
- 2) nursery by utilizing existing vacant land
- 3) Dispose of waste in place and differentiate dry and wet garbage
- 4) Recycling and garbage composting
- 5) Filtration of waste water for watering plants
- 6) Provide education to children greening early age.
- 7) Sell aunt nursery crops by the community.
- 8) Sell the results of the bank trash like trinkets recycling.

It can be said that the understanding of the sustainability of the public perspective in the study area

is pretty good and can be developed to a higher level again as making innovations that are environmentally friendly.

ii. *Recommendation*

The concept that can be done in the study area through community participation are:

- 1) Build and redesign the mindset of society through education and practice
- 2) Using renewable energy resources such as solar energy as an energy source the study area
- 3) Recycle and purify water for drinking
- 4) Using the energy and material resources (to build) the efficient
- 5) Planting herbs, vegetables and organic fruits to reduce the use of plastic wrap and pesticides
- 6) Building a green house that can be placed on the roof and a hydroponic garden.

To support the above concept, the things to do in the near future are:

- 1) There needs to be more support from the Provincial Government related to the development of villages in the study area both in terms of financial, moral, educational, and program development.
- 2) Conduct a comparative study program between villages in the entire region of East Java that aims to share knowledge, experience, knowledge and innovation created by each region.
- 3) Provide the spirit and space to innovate and creativity through the provision of competition between villages

IV. CONCLUSION

The participation of the study areas in support the development of housing complex and sustainable economic includes:

1. Conduct greening program in their homes and environments with grow crops (minimum of five plants pots)
2. Do nursery in vacant lots
3. Throw garbage in place and distinguish dry and wet waste
4. Recycling and garbage composting
5. Waste water purification for watering plants
6. Give greening education to children an early age.
7. Selling seeds from nursery plants conducted by the community.
8. Sell the result of trash bank

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