



Local Community Perspective on Environmental Change Due to Urban Development: Study in the North-Coastal Area of Java in Demak Region

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Abstract — Communities have their own perspective on their environment. That perspective is shaped by the long history of their life. The process of development in urban areas has created environmental impacts that were not previously imagined. This study aims to reveal the perspective of the community regarding the current environmental conditions, the causes the current conditions to arise, and their views about the impact of the current environmental conditions. Applying qualitative research methods, with field study and ethnographic approach, this study found that according to the community their environment now is a different to the environment they lived in before. Their previous residence was a place that gave them life, both the land and the sea. Currently, land cannot provide life because of high tides, while marine products cannot be obtained because most of the ponds have sunk, rivers and seas are polluted so fishing is hard to do.

The worsening living conditions of rural communities on the north coast of Java in Demak is caused by deteriorating environmental conditions as a result of the ongoing development process in the north coast of Java which does not consider the balance of the regional ecosystem, so that the impact is very detrimental to the community. The impact that emerged in the north coast of Java was the sinking of the coastal village area, that changed the lifestyle of the community. On the one hand, if they decide to stay in their area, they must always raise up their house level and they maintain their livelihood pattern as fishermen. If they decide to leave the village, they have to find a new place to live and adjust their livelihood to the new area, and generally they work as factory workers or small traders. The both are hard options for them.

Keywords — environmental change, lifestyle, efforts to survive, ecosystem imbalance

I. INTRODUCTION

The local community always has a perspective on everything in their environment. In Spradley's view [3][4], this perspective is a knowledge system that is formed together with their lives. This knowledge includes various knowledge, both related to the material environment that surrounds them and their social environment. Knowledge of the material environment, for example, relates to knowledge of natural phenomena to predict natural changes, knowledge of the right season to plant certain crops, and how to manage their territory. With the above description it appears that the community has a knowledge system about their environment

because it is in that environment they live, so that this knowledge system is used to set their life strategy within the framework of managing and overcoming the problems they face.

Several studies on local perspectives, environmental change and urban development which are the key themes in this study, have been carried out by many experts. Studies regarding local community perspectives appear to be widely carried out by experts regarding changes in land use in various regions. The changes in land function include, among other things, the orientation of ecotourism development [10], efforts to reduce risks by changing infrastructure are also discussed in the Wedawatta study (2016) [11]. The demand for a responsible tourism program [12] as well as links to tourism and empowerment are also concerns [13].

It seems that many experts have carried out studies regarding environmental change regarding the impact of environmental change on various aspects of life, such as the development of disease [14]. It is assumed that the environmental change increase the rate of contagious of some diseases. Some other studies focused on the changes in the development of food crops because of the environmental change [15]. These studies found that the food crop tended to decreasing the productivity because of the environmental change effected in the decrease of soil quality. The changes in processes of environmental change also become the focus of the study of some expert [16]. There are much variabilities in the processes of environmental change. Ford et al. (2020) [17] is a researcher who studies community resilience to environmental change. It was found that community members generally carried out various strategies for resilience

Meanwhile, much of the study of urban development is linked to sustainable urban development. Some studies focused on the steps for urban development orientation [18]. The other studies focused on the themes of urban development in relation to cultural heritage [19] which underlined the importance of conserving local cultural heritage in the processes of urban development. The other focus of study is about city metro-system development [20]. This kinds of study discussed many ways to design city-metro system development. And the other studies discussed the global urban development agenda [21]. This group of studies

combined many lesson learnt from countries in the world in implementing urban development

This research complements various studies that focus on the impact of urban infrastructure development in relation to environmental change, but not in terms of how development proceeds, and how the environment changes, as well as development and environmental policies, but how society views the causes of urban development failure with environmental damage. result in changes in people's lives. And the context of this study is the people of the north coast of Java

This study is important in an effort to disseminate the idea that people have a perspective on development because they have experiences in dealing with various things in their lives, and these experiences are neglected in the development process. This study aims to reveal the perspective of the community regarding the current environmental conditions, the causes the current conditions to arise, and their views about the impact of the current environmental conditions.

II. METHOD

This research is a qualitative research with a type of field research and ethnographic approach. The ethnographic approach was chosen because this approach allows the disclosure of local knowledge regarding the taxonomy of the reality of local community knowledge systems towards their environment. From this taxonomy, in the end, the cultural concept that underlies the knowledge system held by the local community will be found Pelto (2016) [1].

Several methods were used to obtain data: observation, interviews and participative observation [2]. Observations were made to observe the general conditions witnessed by research in the study area. Data observation is used to obtain confirmation from informants. Interviews were conducted with informants, both structured and in-depth interviews. While involved observations were carried out by researchers in the research area in sufficient time.

Participants involved in this research included key informants and informants. The key informants included three village leaders, namely the village head, the village secretary, and a religious figure. These three figures orient researchers regarding informants who can be involved in research. This study involved six informants which included two village leaders, two youth leaders, and two women leaders. With the involvement of the six informants, it is assumed that the representation of the community under study has been fulfilled.

III. RESULT AND DISCUSSION

The perspective of the community regarding the current environmental conditions

According to the community their environment now is a different to the environment they lived in before. Their previous residence was a place that gave them life, both the land and the sea. Currently, land cannot provide life because of high tides, while marine products cannot be obtained because most of the ponds have sunk, rivers and seas are polluted so fishing is hard to do.

Several informants conveyed several things related to the condition of the area prior to the various environmental changes. Informant R1 as an example said: "Previously this village was a fertile village. All kinds of plants grow here. The people here also live in prosperity because they can meet the needs of this village. It is different to the nowadays condition. All is difficult now"

Another informant, namely R2, and R4 said: "20 years ago we got our livelihood from the land, fish ponds, and the sea. So we were very prosperous. From the sea we could get fishes, from the fish ponds as well, and from land, both gardens and rice fields, all gave livelihood"

Based on the data above, it can be concluded that the living conditions of the community before environmental changes occurred provided a guarantee of life, namely by providing the source of life needed by the village community. The table 1 depicted the knowledge system of beforehand and nowadays condition.

Table 1: Comparison on ideal konsep of life

Domain Identification	Former Condition	Current Condition
Expression	Fulfilled, satified	Unfulfilled, dissatisfied
Natural resources	Land, fish ponds, sea	Sea
Production	Rice, vegetable, fruit, trees, fishes and other sea products	Limited fishes and sea products

Source: Primary data

From the knowledge map regarding the comparison of people's lives in the past and the present, the cultural concept they are oriented towards is a satisfying life and fulfilled needs. As conceptualized by Spradley (2016) [3][4][5], they get the knowledge system regarding meeting needs because it has been formed over time through the process of enculturation.

The causes the current conditions to arise

The worsening living conditions of rural communities on the north coast of Java in Demak is caused by deteriorating environmental conditions as a result of the ongoing development process in the north coast of Java which does not consider the balance of the regional ecosystem.

Several informants, for example R2 and R4 said that the condition of the village had worsened after land subsidence and sea level rise in the last twenty years. "In the past, tidal water was not like it is now. Now it cannot be controlled, and sometimes comes unimaginable". Another informant, R3, said: "Not only the environment around the house, our house is no longer safe. Because sea water always rises, we also have to raise the floor of our house. If not, we have to live around water." Another informant, R5, a mother, said: "Our social facilities, such as schools, mosques, and the buildings where we gather are also experiencing the same condition. They are drowning, and always flooded, so it is very concerning and unhealthy."

The worsening living conditions of rural communities on the north coast of Java in Demak is caused by deteriorating environmental conditions as a result of the ongoing development process in the north coast of Java which does

not consider the balance of the regional ecosystem, so that the impact is very detrimental to the community.

Based on these data, it can be concluded that people's views regarding current living conditions are that the overall

living conditions, from sources of livelihood, shelter, and social facilities have changed in about two decades.

All of the condition causing the deterioration on the life condition may be mapped in Tabel 2.

Table 2: Knowledge System on the Current Environment Conditions and the Causes

Current Environment Condition	Surrounding Effects	Causes	Causes of the deterioration
Flooding, humid, wet, drowned, uncertained wave, unhealthy	Housing, land, road, public facilities	Ongoing urban development: toll, sea belt program	Development program neglected the aspect of local environment; Development did not consider the balance of the regional ecosystem

Source: Primary data

Based on the knowledge system table regarding their living conditions and their causes, it can be seen that according to their knowledge system, the conditions they did not expect were caused by urban development projects that did not pay attention to local conditions and did not consider environmental harmony.

Their view about the impact of the current conditions. The impact that emerged in north coast of Java was the sinking of the coastal village area, that changed the lifestyle of the community. As stated by informant R1, "the impact of environmental changes on people's lives is very broad. From changes in livelihoods, lifestyles, the economy, everything has changed." Informants R3 and R4 stated:

"The people in this village used to be farmers and fishermen. They got their jobs and skills as farmers and fishermen from generation to generation. When conditions change they can't just change their jobs."

Informants R1 and R2 provided an explanation

"Since very long times the people here have been farming and fishing. When agricultural land could not be

cultivated, ponds had also experienced sea erosion and disappeared, so the only job they could do was as fishermen, either fishermen in rivers and seas. That's from a job perspective."

Informants R4 and R5 conveyed about their houses

"Every year we have to compete with rising sea levels. So we have to raise the floor of our house, in order to make the house possible for us to live it doesn't sink. We don't want to leave our hometown because we feel comfortable living here. If they decide to stay in their area, they must always raise up their house level and they maintain their livelihood pattern as fishermen."

Informant R3 and R6 added the explanation: "If they decide to leave the village, they have to find a new place to live and adjust their livelihood to the new area, and generally they work as factory workers or small traders. The both are hard options for them"

Based on the above data, it can be concluded that environmental changes have had several impacts. It can be mapped into Tabel 3.

Tabel 3: Knowledge System on Impact of Environmental Change toward Community Life

Domains on Impact of Environmental Change	Forms of impact	Causes
Environmental Quality	Unfriendly surrounding; Poor quality of water and soil; decline of public health.	Higher level of sea water line; decreasing land level; over loaded river surrounding.
Livelihood	Changes of jobs	Sinking fish ponds and land
Social	Unsafe and anxiety	Sinking surrounding and houses
Economy	Lost of job; decreasing productivity	Sinking fishponds and land
Politics	Become the topics of political campaign	Deterioration on surroundings and livelihood

Source: Primary data

Based on the knowledge system regarding the impact of environmental changes due to development programs, if one explores the cause of such a massive impact, it is because local aspects in development were not paid attention to. The wealth of local knowledge is not well accessed by development actors [7]. In fact, the development orientation is stated as sustainable development [6]. Namely development that aims to improve the quality of life of people throughout the world, both from current and future generations, without exploiting the use of natural resources that exceed the capacity and carrying capacity of the earth [9]. Observing the phenomenon that occurred in this study, where

infrastructure development has resulted in a decline and destruction of the quality and carrying capacity of the environment for human life, it is necessary to question the concept of sustainable development referred to by development actors.

Referring to the concept of policy from Shore (2003) [8]. that policy is a powerful social engineering tool that have command characteristics so that the subject of the policy is forced to obey the policy. Currently the strength of democracy is encouraged to have a strong base of community support, both as a source of data and resources of finance, so policies should have strong legs from the community base,

government institutions and non-government organizations. But in reality the policy is detached from the community base. The policy runs with concepts that are in an external context so that it is separated from the context in which the policy is implemented. In connection with the phenomenon of tides and floods that always hit the coastal villages in Demak, local knowledge says that development programs in coastal areas should be preceded by normalization of the river, so that water finds its way to the sea. When the infrastructure development policy is not preceded by normalization of the river, the water is not accommodated and results in the emergence of inundated areas. This inundation area is getting worse because it is accompanied by an increase in sea level rise. In a context like this, the idea is very relevant that policies, including infrastructure development policies, should consider local knowledge as Scott stated (2020) [7]. as an accommodation for the ideas of local communities, which thereby also strengthens the democratic aspect.

IV. CONCLUSION

Based on the data and discussion above, it can be concluded that based on the life experiences experienced by community members, the community has a concept about their living environment. This experience is expressed in life experiences that they see as providing prosperity, the changes they experience and their causes, as well as the impact of environmental changes they experience.

This study is a limited study, only focusing on a small locus in the northern coast of Central Java, however, this study can provide an overview of environmental cases that occur, and can be a reflection for programs in other regions.

The limitations of this study provide opportunities for other studies to be conducted in different environmental contexts with different program stimuli. This will allow the accumulation of studies that will ultimately provide more comprehensive data

REFERENCE

- [1] Pelto, P. J. (2016). *Applied ethnography: Guidelines for field research*. Routledge.
- [2] Mannik, L., & McGarry, K. (Eds.). (2017). *Practicing ethnography: A student guide to method and methodology*. University of Toronto Press.
- [3] Spradley, J. P. (2016a). *The ethnographic interview*. Waveland Press.
- [4] Spradley, J. P. (2016b). *Participant observation*. Waveland Press.
- [5] Nesje, A., & Dahl, S. O. (2016). *Glaciers and environmental change*. Routledge.
- [6] Kötter, T. (2019). Urban development. *The Bonn Handbook of Globality: Volume 1*, 701-712.
- [7] Scott, J. C. (2020). *Seeing like a state: How certain schemes to improve the human condition have failed*. Yale University Press.
- [8] Shore, C., & Wright, S. (Eds.). (2003). *Anthropology of policy: Perspectives on governance and power*. Routledge.
- [9] Carley, M., & Christie, I. (2017). *Managing sustainable development*. Routledge.
- [10] Lasso, A. H., & Dahles, H. (2023). A community perspective on local ecotourism development: Lessons from Komodo National Park. *Tourism Geographies*, 25(2-3), 634-654.
- [11] Wedawatta, G., Kulatunga, U., Amaratunga, D., & Parvez, A. (2016). Disaster risk reduction infrastructure requirements for South-Western Bangladesh: Perspectives of local communities. *Built Environment Project and Asset Management*, 6(4), 379-390.
- [12] Rasdi, A. L. M., Som, A. P. M., Usolludin, H. H., & Nordin, N. (2019). Responsible tourism and quality of life: Perspective of local community. *Journal of Tourism, Hospitality and Environment Management*, 4(13), 49-56.
- [13] Gohori, O., & van der Merwe, P. (2022). Tourism and community empowerment: the perspectives of local people in Manicaland province, Zimbabwe. *Tourism planning & development*, 19(2), 81-99.
- [14] Nava, A., Shimabukuro, J. S., Chmura, A. A., & Luz, S. L. B. (2017). The impact of global environmental changes on infectious disease emergence with a focus on risks for Brazil. *ILAR journal*, 58(3), 393-400.
- [15] Scheelbeek, P. F., Bird, F. A., Tuomisto, H. L., Green, R., Harris, F. B., Joy, E. J., ... & Dangour, A. D. (2018). Effect of environmental changes on vegetable and legume yields and nutritional quality. *Proceedings of the National Academy of Sciences*, 115(26), 6804-6809.
- [16] Post, J. E., & Altman, B. W. (2017). Managing the Environmental Change Process: Barriers and Opportunities 1. In *Managing green teams* (pp. 84-101). Routledge.
- [17] Ford, J. D., King, N., Galappaththi, E. K., Pearce, T., McDowell, G., & Harper, S. L. (2020). The resilience of indigenous peoples to environmental change. *One Earth*, 2(6), 532-543.
- [18] Tonne, C., Adair, L., Adlakha, D., Anguelovski, I., Belesova, K., Berger, M., ... & Adli, M. (2021). Defining pathways to healthy sustainable urban development. *Environment international*, 146, 106236.
- [19] Guzmán, P. C., Roders, A. P., & Colenbrander, B. J. F. (2017). Measuring links between cultural heritage management and sustainable urban development: An overview of global monitoring tools. *Cities*, 60, 192-201.
- [20] Lin, D., Broere, W., & Cui, J. (2022). Metro systems and urban development: Impacts and implications. *Tunnelling and underground space technology*, 125, 104509.
- [21] Parnell, S. (2016). Defining a global urban development agenda. *World development*, 78, 529-540.

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