



CITIES 2015 International Conference, Intelligent Planning Towards Smart Cities, CITIES 2015,
3-4 November 2015, Surabaya, Indonesia

Adaptation of social-economic livelihoods in coastal community: The case of Mangunharjo Sub-district, Semarang city

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Abstract

Vulnerability represents an inequity relationship between the physical and non-physical threats which are openly accepted by community and their capability to overcome these threats. Vulnerability can be categorized into social, economic, and environmental. Social and economic vulnerability occurs when the population income continues to decline and there is a loss of interactions/relationships among population community. Moreover, the environmental vulnerability is caused by the depletion of natural resources and environmental degradation. These changes affects to the significant impacts to their livelihoods. These conditions occur in Mangunharjo sub-district, Semarang. To address these vulnerabilities, community in these areas adapts and modifies their social and economic livelihoods. This paper aims to analyze the modification of social-economic activity. It is important to develop the social-economic resilience. The result shows that modification of social-economic activity, such as their livelihood systems and activities, their income and their social relationships. However, there some differences in the social and economic adaptation based on natural resource and non-natural resources to build resilience.

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Peer-review under responsibility of the organizing committee of CITIES 2015

Keywords: coastal community, vulnerability, social-economic livelihoods, resilience.

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1. Introduction

Climate change is the impact of global warming which raises vulnerability conditions in Semarang. Vulnerability is the degree to which geophysical, biological and socio-economic systems are susceptible to, and unable to cope with, adverse impacts of climate change, for example in low-lying islands, coastal cities, agricultural lands or forced migration (Schneider, Stephen, Semenov, and Patwardhan, 2007: 783).

Vulnerability can be categorized into social, economic, and environmental vulnerability. This vulnerability makes an inequity relationship between the physical and non-physical threats which are openly accepted by community and their capability to overcome these threats. One of vulnerable location is Mangunharjo Sub-district, Tugu District, Semarang.

Mangunharjo Sub-district is a coastal area where the majority of the population earn their living as fish-pond farmers. As a result of sea level rise and abrasion in 2010, the damage of coastal environment resulted in 161 ha fish-ponds were drown from 236 ha in 2000 and they become less-productive. The fish-ponds that do not drown become less productive due to changes in salinity. Total area of fish-ponds in 2015 is only 7,5 ha. This condition makes the income of fish-pond farmers become uncertain. There is no income at all or only Rp10.000,00-Rp 30.000/month. In fact, aquaculture is the main source of their livelihood. In addition, there is a change on their social lives. Fish-pond groups rarely interact or have a discussion, become individualistic, and there is lack of cooperation. Therefore, fish-pond farmers have socio-economic vulnerability.

Since then, fish-pond farmers began to think about how to adapt to environmental conditions which have changed. Adaptation needs to be done because the fish-pond farmers want to live in their origin, Mangunharjo Sub-district and get their livelihoods there. Adaptation is a form of adjustment to the social, economic, and environmental factors in response to the changes (Adger, 2003). It leads to a process, practices, and structures to minimize potential loss or use the opportunities of climate change (Smit and Piliposofa, 2007). Related with the problems faced, the social economic vulnerability due to less productivity of ponds, in 2006, they have chosen to adapt in order to increase their social and economic livelihoods.

This paper aims to analyze the modification of social and economic livelihoods in Mangunharjo Sub-district, Semarang. The adaptation of social economic livelihoods are important for coastal community because it is influenced their income and their daily needs of coastal community. This adaptation of livelihood activities aim to increase and enhance the social and economic conditions of coastal community, so they can live normally, although the environmental conditions is decreased. The result of the identification of social and economic livelihoods can be used as recommendations for Semarang government to help the coastal community to face the climate change vulnerability. Moreover, the social and economic livelihoods adaptation which is developed in this area becomes lesson-learned to other areas which have similar problems with Mangunharjo Sub-district, Semarang city.

2. Methods

This paper used descriptive qualitative method. This method required to provide object depiction and studies in real, objective, and detailed. The descriptive qualitative technique was conducted by categorizing data from the interview manuscripts, looking for the keywords that are relevant to the variables study in order to explain the social-economic vulnerability di Mangunharjo Sub-district and analyse the adaptation of social and economic livelihoods. In addition, an evaluative method was applied also to find-out the beneficial of adaption in social-economic livelihoods to build social and economic resilience in Mangunharjo Sub-district.

To get data dan information, it was used a purposive sampling to select the respondences. In order to select those respondenses, there were several considerations, such as:

1. Respondences who live in Mangunharjo Sub-district more than 5 years, so they can give the information about coastal condition of Mangunharjo, their social-economic vulnerability, and their adaptation of livelihoods.
2. Age of response is more than 25 years and they are neutral, honest, and open-mind in giving information for this study.

3. Result and Discussion

3.1 Coastal condition and social-economic vulnerability in Mangunharjo Sub-district

Mangunharjo Sub-district is a part of Tugu District, Semarang. It is located in the western-part of Semarang city. Total area of Mangunharjo Sub-district is 347,12 Ha with the length of shoreline is 1960 meter. Because its

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