

Impact of Development of Bogor Nirwana Resident (BNR) Housing on Indigenous Peoples and Environment

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Abstract- In the period 2013-2017, the wetland area in Bogor City has dropped dramatically to 245.7 ha (BPS of Bogor City, 2018). The main factor is the high demand for housing. Therefore it is important to examine the impact of housing development on Indigenous Peoples and Environment. Environmental impacts include the physical environment, the socio-cultural environment and the socio-economic environment.

The method used in this study is Descriptive Quantitative by means of explanatory surveys. Explanatory Survey is the result of a survey conducted, then given a detailed explanation. The survey instrument contains questions that emphasize the impact of Bogor Nirwana Resident (BNR) housing development. BNR Housing is located in Bogor Selatan District, Bogor City. The survey was conducted on residents with the status of head of household who from the beginning lived in a residential neighborhood BNR (indigenous people) had a home and identity KTP. The analysis techniques in the explanatory survey are frequency, cross tabulation, and chi Square which are very useful in exploring the basic information from the respondents.

The results of the study show that (1). The physical environmental impacts are: It is increasingly difficult to obtain clean water, in all villages / sub-districts bordering the BNR housing environment. One of the causes of the difficulty of getting clean water is because this area was originally a water catchment area, then housing was built. Therefore, it results in reduced ability to absorb water, and increase runoff of water. As a result, the potential for ground water which was originally large changed to shrink. Another reason is the use of water by the tourist attraction "The Jungle of Water Park" in the BNR housing complex, which absorbs a lot of water use. (2). The impact of the socio-cultural environment is that environmental hygiene is worse, in almost all village locations. Likewise the loss of some ancestral traditions and culture. It was also seen that the symptoms of "shock culture" began to appear, shocked by the arrival of new (urban) culture. Another impact is the fading of the tradition of helping each other neighbors / relatives and the emergence of symptoms of individualism. However, the positive impact of socio-culture is the opening of the region, the reduction of social problems such as theft and other insecurities, in some villages. (3). The impact of the socio-economic environment is the condition of village infrastructure that is getting better. This situation is certainly not solely due to BNR housing development, but also other factors, namely the extent to which village funds are used to build village infrastructure. The current condition of transportation facilities is getting better in almost all villages.

Keywords: Environmental Impact (physical, socio-cultural and economic, indigenous people), BNR Housing

I. INTRODUCTION

In the period 2013-2017, the wetland area in Bogor City has dropped dramatically to 245.7 ha (BPS of Bogor City, 2018). The main factor is the high demand for housing. Therefore it is important to examine the impact of housing development on Indigenous Peoples and Environment. Environmental impacts include the physical environment, the socio-cultural environment and the socio-economic environment.

Wetland Area (Ha) in Bogor City, 2017

Year	Irrigation Systems					Total
	Technical	Semi Technical	Non Technical	Non General Irrigation	Rainfed	
2017	1 648,0	10,0	30,2	123,4	262,4	2 074,0
2016	1 648,0	10,0	30,2	123,4	262,4	2 074,0
2015	1 398,8	10,0	0,0	124,3	261,0	1 794,1
2014	960,0	396,0	75,0	26,0	1 019,0	2 476,0
2013	964,0	396,0	75,0	22,0	1018,9	2 475,9

Source: Bogor City Agricultural Service

Rapid population growth, as well as development activities in various fields of course will lead to increasing demand for residential land. while the available land is limited. This is what drives the conversion of agricultural land to non-agriculture.

Land conversion means transfer of functions or land mutations in general involving transformation in allocating land resources from one use to another.

Based on empirical facts in the field, there are two types of conversion process of paddy fields, namely conversion of paddy fields that are directly carried out by farmers who own land and what is done by non-farmers through the sales process. Most conversion of paddy fields is not done directly by farmers but by other parties, namely buyers.

Land conversion is a logical consequence of increasing activity and population and other development processes. Land conversion is basically a natural thing to happen, but in reality land conversion is a problem because it occurs on productive agricultural land.

The Bogor Nirwana Resident (BNR) housing located in South Bogor Subdistrict is a suburb of Bogor that has a large amount of productive agricultural land. The first sight seen when entering the Mulyaharja area was dozens of paddy fields that lay wide on the left and right sides of the road. Lately the area of agricultural land around the BNR housing has diminished. This is because of the increasingly intense phenomenon of land conversion in the region, mainly as a result of the construction of Bogor Nirwana Resident housing.

Based on the background stated above, the purpose of this study was to analyze the impact of Wetland Area as a result of the construction of Bogor Nirwana Resident housing for the environment and indigenous people.

II. RESEARCH METHODS

This study uses a mixture of quantitative and qualitative methods. In a quantitative approach, this study uses a survey method. The survey research method is research that takes samples from the population using a questionnaire as a basic data collection tool (Singarimbun, 1989). While the qualitative approach is carried out by the case study method.

Quantitative data obtained from the results of the questionnaire as the main instrument. While qualitative data is obtained from direct field observations and in-depth interviews conducted to informants to get more in-depth information. Informants interviewed were those who were considered to know the situation such as community leaders and the local community. In conducting in-depth interviews, researchers are provided with question guides.

The data used in this study are in the form of primary data and secondary data. Primary data obtained from filling out questionnaires and the results of in-depth interviews. While secondary data is obtained from documents, BPS, village offices. Other sources of literature used as secondary data in this study are books, articles from the internet, theses, and papers related to the topic of research.

III. RESULT AND DISCUSSION

Environmental Impact

The environmental impact in this study is environmental changes caused by human development activities. The method of measurement in this study is based on the opinions of respondents giving their opinions. This respondent's opinion is important as an indicator of impact, because they feel directly what is happening in their environment. From before housing was built until after the construction of BNR housing (land conversion). Environmental impact is grouped into 3 indicators, namely: (1) *Physical Environmental Impacts*, Physical impact measure: access to clean water before and after land conversion, soil fertility conditions before and after land conversion, agricultural / fishery / livestock production owned by respondents before and after land conversion, natural disaster events before and after land conversion, pollution of well water before and after land conversion, soil pollution before and after land conversion, air conditioning of the neighborhood, before and after land conversion. (2) *Environmental Impact of Socio-Culture*, socio-cultural impacts measure: Cleanliness of the environment in which they live before and after land conversion; Relationship and social interaction in the community today; interaction between neighbors in the community after many immigrants; uphold the traditions and culture of our ancestors. and (3) *Environmental Social Economic Impacts*, socio-economic impacts measure: Income from the agricultural sector before and after land conversion; condition of village infrastructure before and after land conversion; Accessibility to market agricultural products before and after land conversion; access to children's schools; access to 'puskesmas' services; and access to get a job.

1. *Distribution of Physical Impact According to Domicile*

1.1. Physical impacts related to access to clean water.

Ninety-one percent of respondents in four villages bordering BNR housing argued that access to clean water at the time before the BNR construction was better, meaning that getting clean water was easier. After the construction of BNR housing, access to clean water has become more difficult. This shows that after the construction of BNR housing, access to clean water is worse / harder. It can be understood that the need for clean water in housing causes the suction of the potential of clean water around the BNR housing, as a result the residents around him also feel the difficulties. One reason is because "The Jungle of Water Park" is in the BNR housing complex. The Jungle of Water Park is a swimming pool and water playground. The ticket price is quite expensive for the average Indonesian population, which is Rp. 100,000 / month. This place is never empty of visitors during the school holiday season.

1.2 Physical impacts related to soil fertility.

According to respondents more than 80 percent in four villages bordering BNR housing argued that the condition of soil fertility before the construction of the BNR was better, meaning that the current state of soil fertility was mostly worse. For villages with good vegetation conditions, soil fertility does not change.

1.3 Physical impacts related to natural disasters.

Most respondents did not know of the disaster events because of the narrow coverage of the disaster area, only a small proportion of respondents (23 percent), who said that after the BNR construction the occurrence of disasters was more frequent. That is, most respondents pay less attention to disasters or because the quality of the disaster is not large. The negative impact that began to be felt by the population around the BNR was the flood that began often happened. Elite housing area and BNR tourism previously it was a water catchment area in the South Bogor region. Hydrological theory says, the reduction in water catchment areas has the potential to increase surface flow. This hydrological theory can explain why there has been a recent flood in the area.

1.4 Physical impacts related to soil pollution.

Soil pollution is a condition of the entry of one or many chemical, physical, or biological objects into the soil where these objects can damage the soil structure and make it difficult for plants to adapt. Land contamination is damage from the ground, directly or indirectly as a result of human activities in the misuse of land resources. Soil contamination occurs when waste is not disposed of properly or can occur when humans dispose of chemicals to the soil in the form pesticides, insecticides and fertilizers in agricultural practice activities. Based on the definition of pollution above, most respondents (73 percent) do not know or do not understand the occurrence of soil contamination in his place. Based on observations of researchers, there is no pollution significant land. There are in several villages in RangkaMekar and other there is soil pollution due to the volume of waste. But there are also agricultural businesses that are able to increase soil fertility as they do by Jimmy Hantu, who develops organic fertilizer that can. Increase crop productivity. This has been implemented in Mulyaharja/ cibeureum, RangkaMekar and Pabuaran / pamoyanan.

1.5 Physical impacts related to the air conditioning of the neighborhood.

In all villages (more than ninety percent) respondents felt that the coolness or comfort in their living environment had diminished their current comfort compared to before the construction of BNR housing. This shows that the quality of the environment, especially air, has decreased significantly. Based on the responses of respondents, the environmental conditions in which they live, it is strongly suspected that there has been a decrease in the quality of the environment, in this case air quality.

1.6 Environmental impacts of the environment associated with temporary flooding in the streets.

Momentary floods are floods that come suddenly by overflowing, inundating and flowing with heavy materials such as rocks, wood and others. Occurs in low surface areas due to continuous rain. The frequency of instant flooding in the streets around the BNR is mostly (53 percent) in almost all villages not experiencing their environment after the construction of the BNR. Meanwhile, 29 percent of respondents who live in Pabuaran / Pamoyanan, Pabuaran / Mulyaharja, RangkaMekar, Others; stated that they experienced more frequent floods after the construction of BNR housing. This was allegedly because in Pabuaran / Pamoyanan, Pabuaran / Mulyaharja and RangkaMekar a road structure built outside the BNR residential area did not facilitate the existence of a drainage channel. Road hardening that is not accompanied by the making of drainage has the potential for a momentary flood, moreover the BNR environment is hydrologically a water catchment area. The negative impact that began to be felt by the population was flooding that began to occur frequently. BNR's elite housing and tourism areas were previously water catchment areas in the South Bogor region. Hydrological theory says, the reduction of water catchment areas has the potential to increase surface flow, which is the cause of recent flooding in the area.

2. Distribution of Socio-Cultural Impacts According to Domicile

2.1 Socio-cultural impacts related to the Cleanliness of the Neighborhood.

Sixty-five percent of respondents in all villages thought that current environmental cleanliness was worse than before the BNR construction. However, there are also places that are cleaner in the environment, especially those close to tourist areas such as Pabuaran / Mulyaharja, RangkaMekar and two other places. So in general the impact of BNR development on environmental cleanliness is worse than before.

2.2 Socio-cultural impacts relating to preserving Tradition and Culture of Ancestors.

Tradition (Latin: traditio, "forwarded") or habit, in the simplest sense is something that has been done for a long time and is part of the life of a community group, usually from the same country, culture, time or religion.

Fourty-four percent of respondents in almost all villages thought that the Tradition and Culture of Ancestors was not maintained, while 23.4 percent of respondents who lived in the villages of Pabuaran / Pamoyanan, Rangka Mekar, WarungLimus / Mulyaharja, Mulyaharja / Cibeureum and Others stated that Tradition And Ancestral culture is still maintained. Interestingly, there are almost 18 percent of respondents who stated that they did not know about the Tradition and Culture of Ancestors. This is allegedly because they lack attention to Tradition and Culture of their ancestors or their parents do not teach their children about this tradition continuously and truly, so it does not feel important to be maintained or used in modern life.

Social problems also begin to show symptoms. In terms of sociology known as "shock culture", was shocked by cultural change. The community around the BNR is generally a community with a relatively low level of education and economy. Luckily for residents who have sufficient land, because their land is bought at high prices by the developer. However, the presence of BNR and all its luxurious facilities cannot be enjoyed by most people in the area. The BNR often invites famous capital bands for live shows, a very interesting entertainment. For teenagers in the upper middle class they can enjoy it while eating and drinking in cafes or food courts that are scattered on the BNR. What about village teenagers? they enjoyed entertainment by sitting on the side of the road, while making out in the village style, imitating the city youth who abandoned their ancestral habits.

2.3 Socio-cultural impacts related to uphold the traditions and culture of ancestors.

The tradition of helping to help between neighbors, almost 65 percent in all villages stated that their condition was worse. This means that the symptoms of individualism began to spread, and this was a symptom of urban society or a symptom of the city's cultural influx. It is undeniable that the culture of the city began to enter and develop in this region.

2.4 Social impacts related to theft / laziness / and other insecurities.

According to SoerjonoSoekanto, social problems are a discrepancy between elements of culture or society, which endanger the lives of social groups. If there is a clash between the elements that exist can cause social relations disruption such as shakiness in the life of the group or society.

Social problems arise as a result of the striking differences between values in society and existing reality. Which can be a source of social problems, such as social processes and natural disasters. The existence of social problems in the community is determined by institutions that have special authority such as community leaders, government, social organizations, community meetings, and so forth. One form of social problems triggered by economic factors is theft / laziness / and other insecurities. Economic factors, this factor is the biggest factor in the occurrence of social problems. Especially after the global crisis, termination of employment broke out everywhere and could lead to criminal acts because people had difficulty finding work.

After the BNR housing construction, the occurrence of theft or sloth or other insecurity was felt by respondents (reduced). This was felt by at least 50 percent of respondents in almost all villages. This shows that when this area is still a closed area, events related to social problems occur more frequently. But after the region became an open area, the incidence of incidents such as theft or laziness or other insecurity was felt by respondents better ...

3. Distribution of Socio-Economic Impacts According to Village Domicile

The study was conducted to examine and analyze the various impacts that occurred both positively and negatively from each stage of the activity starting from the pre-construction, construction, and operation stages.

3.1 Socio-economic impacts related to income from the agricultural sector.

Only a small proportion of respondents were able to answer this problem, this was indicated by almost 80 percent of respondents in all villages who answered they did not know. This is because after they sell their land, they then switch jobs from agriculture to non-agricultural jobs.

Most of the 20 percent who survived as farmers stated that the income from the agricultural sector was better before the BNR housing development compared to after the BNR housing construction. This

phenomenon occurs in farmers who still have sufficient land. For farmers who leave a small area, production activities are not profitable because they are not efficient. This means that those who maintain extensive agricultural land actually enjoy excess income from the agricultural sector. Fortunately, farmers who do not sell all their land and leave enough land. Because the socio-economic life is getting better.

3.2 Socio-economic impacts related to the condition of village infrastructure.

The Ministry of Village, Development of Disadvantaged Areas states that village funds are used mostly for infrastructure development, including village roads, village bridges and irrigation. The current condition of village infrastructure around BNR housing, according to most respondents in almost all villages, more than 60 percent stated that their condition was better. However, not a few also stated otherwise, especially in the Warunglimus / Mulyaharja area. Infrastructure conditions have not been addressed. This is confirmed by the statement of all respondents originating in this region (Warunglimus / Mulyaharja) stating the same thing. While in other regions, opinions about the condition of village infrastructure in each region are still diverse, meaning that there are those who state better or vice versa. This situation is certainly not solely due to BNR housing development, but also other factors, namely the extent to which village funds are used to build village infrastructure.

3.3 Socio-economic impacts relating to the Conditions of the Facilities of Transparency.

Facilities and infrastructure are two very important things in reducing poverty, creating jobs, and specifically supporting the development of the agricultural sector and economic growth.

Rural Transportation is also called Angdes or Angkudes is transportation from one place to another in one district area that is not included in the city transportation route that is within the district capital area by using public bus cars or public passenger cars bound on routes. Rural transportation is an important regional support facility in addition to road infrastructure, telecommunications, and other infrastructure such as electricity and water.

The condition of transportation facilities in the current research location is better than before the BNR housing development. This is stated by almost 70 percent throughout the village. That is, all villages experienced an increase in the quality of the Transparency Facility after the BNR Development. However, not all respondents think the same, there are also roads that are not functioning because new roads are made, so the area becomes more difficult to reach. This was stated by at least 20 percent of respondents from villages such as Pabuaran / mulyaharja, Warunglimus / Mulyaharja, Mulyaharja / cibeureum, RangkaMekar.

3.4 Socio-economic performance related to children's school access.

Education is one of the most important pillars in improving human quality, which is also a variable component in calculating the Human Development Index (HDI). Therefore, the development of education in the South Bogor Sub-District must be able to guarantee equal distribution of educational opportunities quality and relevance and efficiency of education management, to answer challenges in accordance with the demands of life change in the future. access to children's schools is a varied phenomenon. It turned out that 44 percent of respondents felt that access to children's schools was easier before the BNR.

3.5 Socio-economic impacts related to access to puskesmas.

Efforts to improve public health services continue to be carried out by the Bogor City Government. Health as one of the basic rights of the people which is protected by law is currently being built and improved. However, to achieve the quality of public health as expected is not an easy job. There are so many challenges that must be faced, especially in creating the participation of all levels of society.

There was no significant change in terms of access to treatment to the health center. Respondents who stated better and worse were balanced. That is, respondents felt that access to medical treatment at the health center was relatively not much different. Thus, the impact of the construction of the BNR is less influential on access to treatment at the puskesmas around the BNR housing estate.

3.6 Socio-economic impacts relating to access to employment.

Job opportunities are conditions that describe the availability of jobs for job seekers. So employment is the number of jobs available to people who are looking for work. Or it can also be said that the availability of jobs for those who need work.

In general, job opportunities are conditions that describe how much the total workforce is able to absorb and participate actively in the economy. Job opportunities can also be said as the number of people who are working or who get a job, if more and more people are working to eat the job opportunities are quite extensive or many.

Access to get work before and after the BNR development, is relatively no different. Some respondents (almost 30 percent) stated that it was more difficult to obtain jobs in the area. While 35 percent of respondents stated it was easier to get jobs in this area. This condition is relatively similar in almost all villages bordering the BNR housing.

That is, the housing development of the BNR has not been significant in helping to create jobs for residents who live in the region, especially for local residents.

IV. CONCLUSION

The impact of the environment and indigenous people, can be divided into three, namely: (1) Physical Environmental Impact, (2) Environmental Impact of Socio-Culture, and (3) Impact of socio-economic environment.

(1). The physical impact is the more difficult it is to get clean water for residents in all villages that borders BNR housing. One of the causes of the difficulty in obtaining clean water is because this area was originally a water catchment area, then housing was built which essentially converted from agricultural land into a built area. Because it is a built area, it results in a drastic reduction in the ability of the soil to absorb water, while simultaneously increasing runoff water flow. As a result, the potential for groundwater that was originally large changed to a much reduced level. Another reason is the use of water in the tourist attraction "The Jungle of Water Park" in the BNR housing complex, which absorbs a lot of water.

(2). The impact of the socio-cultural environment is:

The environmental hygiene looks worse than before the BNR housing, in almost all villages that bordered BNR housing. Another thing is the loss of some ancestral traditions and culture and the start of the "shock culture" phenomenon, shocked by the sudden cultural change. It began to fade the tradition of mutual cooperation between neighbors and the emergence of individualism which was a symptom of urban society. However, with the opening of this region, the social problems associated with theft / sluggishness / and other insecurities, are relatively reduced in some villages / kelurahan, which previously appeared a lot.

(3). The impacts of the socio-economic environment are:

The condition of village infrastructure is getting better. This situation is not directly caused by BNR housing development, but also due to other factors, namely village funds used to build village infrastructure. Current conditions of transportation facilities in the research area are improving in almost all villages. Thus the population of the population in this region is getting better. With the better mobility of the population, this area is increasingly open. With the opening of this region, it will accelerate the development process. Finally it can improve people's welfare.

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