
SUSTAINABLE LIVELIHOOD PERSPECTIVE ON RURAL DEVELOPMENT IN PULAU BUNYU BULUNGAN REGENCY PROVINCE OF KALIMANTAN UTARA

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ABSTRACT

This study is a part of social mapping, which is aimed not only to understand the condition of social culture-environment and stakeholder systematically, but also the role and its influence to social condition at micro level. The scope of analysis is limited to social local community. Therefore, analysis is done at level of individual, household, group, organization, institutional, and local community in operational area of a company. The specific goal of this study is to describe the potency of sustainable livelihood which involves the potency of human resource and social issues and vulnerability, the potency of natural resource, social capital, financial capital, and public infrastructure condition, analysis of community needs to support sustainable livelihood, that become the base of research recommendation to community development program. The result shows that social economy situation and condition and community culture there is more visualized holistically. The result, then, mapping the development subjects or key stakeholder, so that they are able to become the initiator of community empowerment activities. Moreover, it could be effective as a need assessment with more factual databased on the potency of local economic resource and capacity of social and environment aspects.

INTRODUCTION

Sustainable or sustainability is one of the most familiar words currently. This concept imply a durable thing, persistent, preserving – a long lasting object that will preserve in the future – as a result, it implies the resilience to political turmoil, economic system, and environmental change as global important issues nowadays (Morse & McNamara, 2013, page 1-2). Sustainability is badly linked to human, then, like it or not, it must include and consider the activities implemented by human as a species. It is not only related to environment, which is often misapprehended, but also include other dimensions that are interconnection and

interplay one another (Oberlack, Tejada, Messerli, Rist, & Giger, 2016). One of the concept that is badly correlated to sustainability is the dimension of livelihood.

Livelihood consists of human, human capacity and way of living, including food, income and asset. Tangible assets are resource and store, and intangible assets are claim and access. Livelihood becomes environmental friendly whenever taking care or improving local and global assets that become the basic of livelihood and have beneficial effect to the livelihood. Livelihood will be sustainable socially if it can overcome and recover automatically from the pressure and still able provide the results for the next generation.

(Chambers & Conway, 1991). Therefore, being the stakeholder in implementing sustainable livelihood in to rural live is as one the strategy of development.

This study is a Stakeholder Mapping which is aimed to understand the social cultural environment condition and stakeholder systematically and its role and influence to the social condition at micro level. This study is limited to the scope of local community social analysis. Therefore, analysis is done at level of individual, household, groups, organization, institutional, and local community in an operational area of a company. The specific aim of this research is to describe the potency of sustainability livelihood that includes the potency of human resource and social issues and types of vulnerability, natural resource potency, social capital, financial capital, and the condition of public infrastructure, community needs analysis to support sustainability livelihood, that become the base of research recommendation to Community Development.

The results of the study show the socio-economic conditions and cultural conditions of the people in the study area which are more visually seemed in a holistic manner. The results of the study then map out the development subjects or active actors in community empowerment, so that they can become initiators of increasing community capacity. In addition, it is also able to "assess" needs (needs assessment) in a more real way based on the potential of local economic resources as well as environmental and social carrying capacity.

Sustainable Livelihood as a Framing Analysis

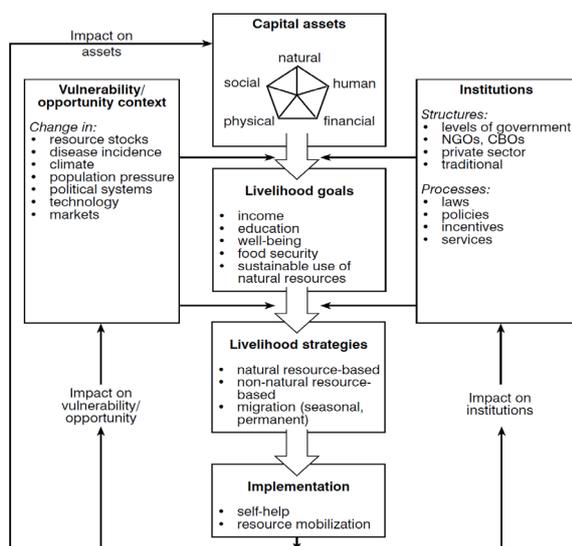


Figure 1. Sustainable Livelihood Framework from Dalal-Clayton, et al., 2003, page 15)

The Sustainable Livelihood concept offers a strong focus on development planning but still translates the concept into practical guidelines for decision making and action in the real field (Dalal-Clayton, Dent, & Dubois, 2003, p. 3). Although there is a shift to decentralized planning, policy formation is still focused on measures to alleviate the symptoms of poverty rather than addressing the root causes (Laeis & Lemke, 2016). Greater and deeper understanding of the underlying causes, overcoming inequality and environmental degradation, and meeting basic needs seems to be needed for effective regional development policies (Kitayama, Onitsuka, Hoshino, & Shimizu, 2017). This can be interpreted as an effort to empower local communities to manage the resources they depend on and plan their own development, the structure of appropriate decision making and reasonable supporting policies (Biggs et al., 2015).

The policy framework in which this can be achieved includes the concept of regional rural development developed in the 1980s by German agency GTZ (German government body for international cooperation), and a focus on newer livelihoods adopted by the UK Department of International Development (DFID) The 1997 White Paper on International Development (Dalal-Clayton et al., 2003, pp. 14-15).

DFID defines sustainable livelihood as followed (Dalal-Clayton et al., 2003, page. 14):

A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base.

The sustainable livelihoods framework groups specific components of rural livelihoods: their capital assets, the context of their vulnerabilities / opportunities and institutional structures and processes that can change livelihoods.

This grouping shows the complexity of various rural livelihoods and how this

complexity can be managed (Horsley, Prout, Tonts, & Ali, 2015). It also helps identify opportunities for external interventions and the transfer of internal resources, and complementary assessments of contributions and trade-offs between outcomes. This particular perspective seems to prioritize a region-based rather than sectoral development approach, and support the delegation of resources and authority to the district level.

Whereas the definition of sustainable rural livelihood of the Institute of Development Studies (IDS) has a number of basic elements. The key question that must be asked in any analysis of sustainable livelihoods is (Scoones, 1998):

Given a particular context (of policy setting, politics, history, agroecology and socio-economic conditions), what combination of livelihood resources (different types of 'capital') result in the ability to follow what combination of livelihood strategies (agricultural intensification/extensification, livelihood diversification and migration) with what outcomes? Of particular interest in this framework are the institutional processes (embedded in a matrix of formal and informal institutions and organizations) which mediate the ability to carry out such strategies and achieve (or not) such outcomes.

This analytical framework can be applied to a variety of different scales - from individuals, to households, to household clusters, to broader groupings of relatives, to villages, regions or even countries - with sustainable livelihoods valued at various levels (Hassenforder, Smajgl, & Ward, 2015). Therefore the scale specification of analysis is very important, as is the analysis of interactions between levels in terms of the effects of net livelihoods, both positive and negative (Scoones, 1998).

METHOD

The method of this study was carried out through a combination of desk study, field observations, filling in questionnaires, in-depth interview, and Focus Group Discussion.

Observations was carried out through direct observation of the object in which the event occurred, whereas indirect observations are carried out through events that are stated

in photos, writings and so on.

In-depth interview was carried out to explore the information needed from informants with structured and open interview guides. The interview activities are carried out not only to seek answers, but also to construct them.

Focus Group Discussion (FGD) is one of the most popular method in social mapping study, because data is obtained directly from the community in a forum. Through the forum, opinions from one another can be mutually reinforcing, so that mapping the social networks cannot only be seen from one aspect.

The data analysis technique used in this study is a qualitative analysis (Miles and Hoberman, 1994), using an interactive model which consists of three components of analysis, namely: 1) Data reduction; 2) Data display; and 3) Conclusion drawing. Furthermore, the analysis is carried out by integrating (interactively) the three components.

RESULTS AND DISCUSSION

A. Sustainable Livelihood Assessment in Pulau Bunyu

1. Human Resource Capital

The population of Pulau Bunyu is 11,580 people spread across 22 RTs. The detailed composition is 6,251 male inhabitants and 5,329 women, with a population density of 58.39 people per km². The dominant education in this village is as high as 35%, Elementary School (SD) 25% and Junior High School (SLTP) as much as 9%. When referring to the data, it appears that the average level of education of the community is not at the level of primary education, but has shifted to the level of High School (SLTA) and Higher Education. This shows that there is a progress or progress in the level of higher education with a fairly good percentage.

This quality of human resources is quite good. Improving the quality of education is an important aspects of people's lives, because improving the quality of education will improve the quality of community participation in managing local development (Zasada, Reutter, Piorr, Lefebvre, & Paloma, 2015). Education is a part of human capital to influence people's productivity in all aspects of life.

Basically, agricultural knowledge is part of the good agricultural practices that are shared by key person to manage the land (soil, plants, water, weather as well as pests and plant diseases). Similarly, those related to capture fisheries. The knowledge gained over the years is inherited through culture in everyday life that produces skills (Inwood, 2017). In general, the forms of knowledge and skills of the community have not been highly specified even though there are several types of industries operating in the location. Often people during work vacations carry out activities that are outside the work of the community such as raising livestock, fishing / fishing, and trading as a side job. In the odd jobs, there is multi-skill knowledge that is owned by the community and provides comfort in accessing work. The character of contractual work in the mining area is also the reason for this (Zasada et al., 2015).

Whereas Safety behavior is the impact of the existence of a company in Bunyu area that has an influence on the culture of the community. Safety behavior considerations are new habits in people's behavior even though they are not in the work area. Like the use of safety shoes when gardening. Usually people around the company ask for safety shoes for the mine workers that they can use in gardening activities. The same is true when people request safety clothing, although not new, as well as the use of work clothes that meet the safety requirements of construction workers. Safe and comfortable choices in carrying out work activities seem to be increasingly carried out by the community.

2. Natural Resources Capital

The area of Pulau Bunyu consists of land area of 6,912 Ha. The use of land in Pulau Bunyu is mostly for agricultural and plantation, while the rest is in the form of ponds, dry land used for buildings and other facilities. Pulau Bunyu has unused land that is still untapped by the village community to increase productivity and welfare for farmers. For this reason, agricultural development, especially crop cultivation in idle land, can be an option in regional development. As a village that is predominantly agricultural activities as a productive community, Pulau Bunyu has agricultural production including crops, vegetable horticulture, and fruits. Agricultural commodities produced include

corn, peanuts, cassava, sweet potatoes, chili, mustard greens and tomatoes. Whereas the largest agricultural products are produced from plantation crops that produce bananas, durians, jackfruit, mangoes and other fruits. In addition to agricultural products, fishermen also carry out fishing and fish cultivation activities in ponds. Generally a milkfish and shrimp pond. In addition, the people of Pulau Bunyu are also used to looking for mangrove crabs along the coast and rivers that are overgrown with mangroves.

3. Financial Capital

Being an employee is an important part of people economic life. The companies in Pulau Bunyu inspire and motivate people and migrants to earn income from the existence of the company, so that the development of the community is very depends on the existence of these companies. Small and Medium Enterprises (SMEs) do not appear to be the economic foundation of the community, and are less able to develop optimally.

The majority of the respondents' main livelihoods are company employees, which is 50%. Whereas other livelihoods are 10% for fishermen, 8% for entrepreneurs and traders / street sellers. Judging from livelihoods, the residents of Pulau Bunyu are very dependent on the companies existing there, both oil and gas companies and coal companies. Economic activities as farmers and fishermen cannot be an economic strength for the Bunyu region. Generally the economic activities that develop in Pulau Bunyu are trade and services.

The population in Pulau Bunyu have side jobs to increase family income, most of the population in Pulau Bunyu (55%) is self-employed, 20% of them are seller, 10% are farmers / breeder, and 15% of the population are labor. The job of employees is seen as being able to provide the power to generate a side business and be productive for the economy of the community. This can be compared with fishermen who do not provide productive offers to develop the community's economic business. Besides that, 55% of trade services are the most productive business to increase family / community income. The location of areas far from the center of commodity production goods and the difficulties in the production of commodity lines provide opportunities for the community to conduct trading business which can shorten

the distribution channels of goods to gain profits. Besides that, local processed products are also businesses that are started by the community, and have the potential to be developed in an effort to increase economic productivity.

The domestic income of main job or side job is 35% or around Rp 3,000,000 – Rp 5,000,000 per month. In means that the residents' income is above standard minimum wage of Province of North Kalimantan, it is Rp 2,000,000. While, 39 % of the community earn under Rp 2,000,000. 11% of the community have income Rp 5,000,000 – Rp 10,000,000. If it is calculated approximately, the amount of community income per month in Pulau Bunyu is around Rp 3,000,000. Based on data, the average spending of the community in Pulau Bunyu is more or less Rp 2,000,000. The spending is mostly for consumption, particularly for the cost of kitchen, transportation, and health. Whereas, the 77% of the community income is consumption, 10% for transportation, 9% for cellphone credit. It can be seen that the cost of the community is high. Data comparison of average domestic income with domestic outcome shows the difference between income and expenditure, it is more or less Rp 700,000. It means that the family financial ability is closely safe to meet the needs of family in Pulau Bunyu. The difference owned can be used to carry out other productive activities. Moreover, it can also make investment, which can give benefit to family economy.

Besides financial capital, the residents in Pulau Bunyu also have assets except land. If it is quantified financially, they have value asset less than Rp 50,000,000. That asset usually liquid asset. It shows that the community asset ownership tend to be good, with 48% has less than Rp 50,000,000, and 20% has Rp 50,000,000 – Rp 100,000,000 and 10% has asset Rp 200,000,000 – Rp 400,000,000. This condition can motivate the community to invest and conduct a productive business. The average asset of the community in the form of motor cycle, jewelry, livestock, and others. The assets, which is included here is a liquid asset that is easy to use as the capital to conduct another productive activity or urgent needs.

4. Social Capital

Social capital has important role to maintain the social condition and encourage the social change, whether it is positive or negative in community. In this case, conceptually, social capital related to two dimensions, social bonding and social bridging (Lang & Hornburg, 1998). Social bonding relates to social trust and willingness to participate. While, social bridging is not only related to the existence of group ties but also the openness of the member of the community to interact with the resources outside them (Neumeier, 2017).

Social solidarity of the residents in Pulau Bunyu still tends to have a closely relationship with high empathy among others. The spirit to help one another and conduct the mutual assistance is still being the standard of social norm to live together, such as traditional ceremonies, religious activities, and social aid. The condition of poverty and distress in Pulau Bunyu is hidden by a tightly communal living and highly empathy among the member of the community. One's distress changes into community's distress wider, so that social aids are easily appear in the community. The attitude of care is the depth living philosophy of the community of Pulau Bunyu that is tied automatically. Encouragement to share, out of basic character which the empathy is easily set up to other people condition. Therefore, the togetherness and attitude to help one another in daily live of the people in Pulau Bunyu.

Mechanical solidarity becomes social mentality can link between the members of community easily. Social control is faster and stronger, so that each build and maintain the trust among others. It can turn up a positive attitude in-group, in form of internal solidarity, and can emerge a negative attitude from out-group.

5. Infrastructure Capital

The existence of social economy infrastructure is very important for community to support the living of community. Full infrastructure is needed to give supportability living of the community better. Public means are the main focus that must be concerned.

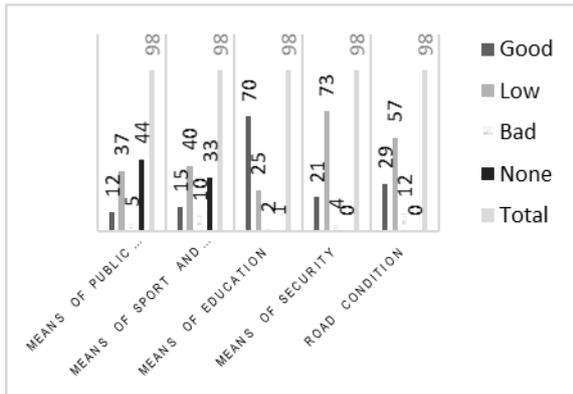


Figure 2. The Perception of Community on Infrastructure Condition in Pulau Bunyu

The graphic shows that, there are at least three infrastructure considered enough, among other are village market, religious and education facilities. While, there are some infrastructure considered as low, they are; public transportation, road condition, and security means. Besides, health facilities becomes the next analysis that seen low from the respondents. It seems that the distance of health facilities from the capital of regency, it is expected that health facility at village level can provide a maximum service. There are 1 public health center, 27 integrated service center, 3 clinic, and 1 smaller public health center with 4 medical staffs, 28 nursing staffs, 14 obstetric, 4 pharmacy staffs, 7 other health staffs.

Related to public transportation, it actually has not been provided yet in Pulau Bunyu, the people rely on private vehicle. While, transportation from island to another island is quite good, in spite of it is very limited to cross directly to other island because every transportation must cross over Tarakan City. It is particularly toward the capital city Bulungan Regency, the people expect that there will be a schedule and special transportation to fulfill their needs.

According to the community, clean water condition is very hard to get. The quality of ground water is bad, Regional Water Company (PDAM) can't reach the services of the entire population, rain water to help supply water needs according to the community is not feasible to use. People must buy water for their daily needs at their respective prices. 70,000 / 2200 liters of tank profile is enough for 5 days of consumption of a small family, so in 1

month the expenditure for clean water is IDR 420,000.

The PDAM is currently flowing in the Bunyu Island area, while the water from the PDAM is generally not for consumption. The PDAM is also constrained if it rarely falls in Bunyu, so people must have clean water reserves ranging from drums to profile tanks that store water. Some drums used by people to store water are used drums of chemicals that are not recommended for use.

Security is a condition that requires attention, because in recent years theft has often occurred which even though it is of little value, but provides an uncomfortable atmosphere for the community. Stolen objects are generally harvested commodities, drums, and other items that are easily sold.

On the other hand, drugs according to the community are another important thing that must be taken seriously, because of the information circulating, drugs are relatively easy to obtain. Narcotics is a threat to the Bunyu region, because according to the community with the condition of the island region, it will facilitate the entry of drugs from outside, and Bunyu is one of the drug distribution and trafficking routes. According to information, many prospective rig workers did not qualify for the selection process because they indicated positive drugs.

B. Analysis of Sustainable Potential Capital in Pulau Bunyu

To support sustainable development, the people of Bunyu Island need to meet their needs in the fields of social culture, education, health, economy, infrastructure and the environment. Departing from the social problems of development, the expectations of the community are related to the four main development priorities as the answers in the questionnaire are: 1) Facilitation of capital; 2) Development of public infrastructure; 3) Development of community economic business activities; 4) Increased group knowledge and skills. In addition, other priorities of Bunyu Island regional development are the provision of facilities for agricultural, livestock and fisheries production, as well as religious programs, and the development of cultural and sports arts activities.

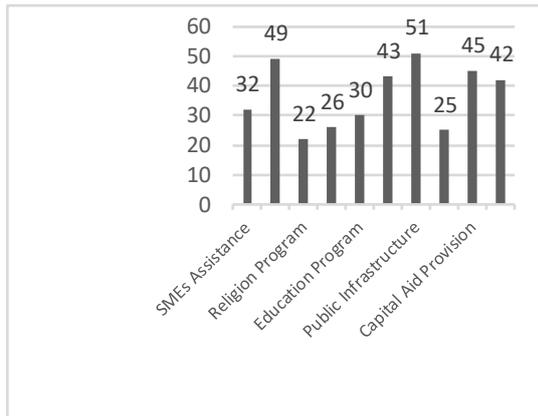


Figure 3. Development Program Priority

In detail, community expectations regarding the alternative Community Development (CD) program are outlined in the following table:

Table 1. Development Program Priority

Rank of Priority	Program	Number (%)	Example
Priority I	Program of Capital Provision	14%	Cheap and easy capital assistance for small enterprises, such as appropriate technology for processing fish-based products and agricultural products
Priority II	Public / Social Facilities Development	13%	Cheaper transportation to reduce the cost of goods
Priority III	Rural economic development	12%	Cheap and easy capital at the village level and business group development through BUMDes
Priority IV	Knowledge and skill Improvement of the individual-group-institution	11%	Post-harvest training on horticultural agriculture; Training of processed fish for SMEs community

The table shows at least some of the community's priority needs today. In Priority I, respondents are expected to be related to capital facilitation. However, related to this matter must go through further studies, considering the existing procedures in the TJS program for the oil and gas industry are not

possible in cash, so that it can be considered the involvement of other parties who do have competencies regarding capital revolutions for these MSMEs.

For Priority II, the construction of public / social facilities, cheap social transportation facilities and clean water installations are the expected proposals. High cost of transportation leads to relatively expensive commodity goods on Bunyu Island, even though they are staple goods, such as basic necessities, and clean water installations for the public interest. PDAMs should play a role in providing quality services to the community. At present, most of Bunyu Island has been served by PDAM. Nevertheless, there is still a need to improve the quality of services, and at certain times there is still clean water traded by the private sector.

While related to Priority III, village economic development, the direction of this priority is to foster community productivity through easy and inexpensive financial capital. BUMDes should be maximized for economic development at the village level.

While for Priority IV, that is to increase the skills knowledge of individual groups. Training for productive enterprises needs to be encouraged, especially those concentrating on women's groups, because women's empowerment activities will lift the village economy.

However, programs related to youth issues / issues are also important to note. Because as a vulnerable group, young people easily get negative influence and eventually do actions that harm society. Activities that can be facilitated include various fields of training that are self-developing and skills that can enhance competitiveness in the labor market.

C. Constraints related to the Sustainable Livelihood Potential on Bunyu Island

1. Problems faced by the Bunyu Island Community

The oil and gas drilling and exploration activities on Bunyu Island since it was first carried out by the Dutch oil company BPM up to now, have changed the face of the deserted Bunyu Island into an increasingly crowded island and many inhabitants. To support oil and gas mining activities on Bunyu Island, the Dutch colonial government gradually brought contract workers from Java, South Sulawesi and other regions in the archipelago through a

system of forced labor. From interviews with several residents as informants, as well as from FGD activities involving community leaders from Bunyu Timur Village, West Bunyu and South Bunyu, data and information were obtained in the field relating to the development and socio-cultural problems of the community and the relationship between stakeholders on Bunyu Island which needs attention from the local government and the local government of Bulungan Regency and oil and gas and coal mining companies. In the context of the development of Bunyu Island, the socio-cultural aspects of the community and relations between stakeholders have a close relationship with each other. Based on the results of the questionnaire, there are several problems perceived by respondents:

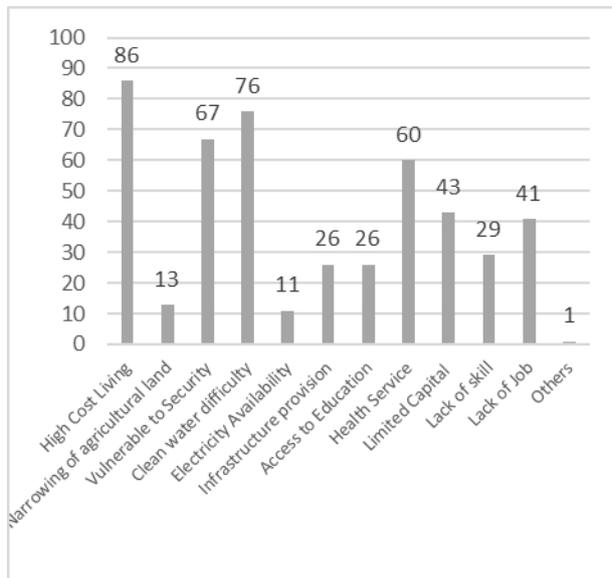


Figure 4. Main Problems of Respondents' Life on Bunyu Island

Related to the perceptions of respondents there are at least several main issues and problems faced by the community in their area. Occupying rank 1, is an issue concerning the high cost of living; Second place, issues related to clean water difficulties, while issue 3, is related to security vulnerability, and ranking issue 4 is related to health services.

Meanwhile, in line with these results, the results of interviews with several informants and information obtained from Focus Group Discussion (FGD) activities found several problems in the development of Bunyu Island that were raised by the community such as the issue of water supply, education and human

resources, health infrastructure, and environmental preservation.

First, access to clean water. The supply of clean water for the residents' households by the Bunyu PDAM is still constrained by the small amount of raw water that can be processed into clean water. According to Bunyu District Monograph data in 2011, only 339 (11.74%) of the 2,887 population households had received clean water services from the Drinking Water Company (PAM) managed by the local government of Bulungan Regency. As the population continues to grow due to birth and migration, the provision of clean water will become a social problem in the future that comes on Bunyu Island.

At present the source of raw water processed by the Bunyu PDAM is obtained from the Pasir dam which has diminished its discharge and the quality of the water has also declined, especially during the dry season. In the context of the development of Bunyu Island, the village administration and Bunyu Sub-district have fought for the construction of several new dams through the Musrenbang forum at the district level, but until now this has not yet become the priority scale and development plan of the Bulungan Regency government.

A total of 11.74% of the residents of Bunyu Island who have received clean water services are concentrated in the Bunyu Island area which has received clean water supply for days from the PDAM. Whereas residents in the villages of East Bunyu and South Bunyu still rely on the fulfillment of daily clean water requirements from rainwater, and buy clean water from traders at relatively expensive prices. As a result, most residents of Bunyu Island spend around 20-30 percent of their income to meet their daily needs for clean water.

Second, the problems of education and human resources. Education is an important aspect that has a direct relationship with efforts to improve the quality of human resources (HR). The awareness of parents on Bunyu Island about the importance of education for their sons and daughters is generally quite good. However, the problem faced is the limited availability of formal and informal educational institutions on Bunyu Island which can produce skilled workers, so that they can fill vacancies with certain skills in oil and coal mining companies. Because

Bunyu Island is a mining island, the local government of Bulungan Regency then pioneered the establishment of a vocational high school (SMK) majoring in mining in Bunyu District. Two high school (SLTA) on Bunyu Island are Al-Khairat private high school and Aliyah Madrasah.

In addition, there is no skills education institution in Bunyu Island with certain competencies that are in accordance with the position of Bunyu Island as a mining island. As a result, before operating a coal company, only a few local residents could be accepted to work as oil and gas company employees. This is due to petroleum drilling activities requiring employees or workers with certain skills or skills in the oil field. In general, the local population of Bunyu Island does not have the skills / expertise needed by oil and gas companies, so that very few local residents of Bunyu Island can be accepted to work in the company.

To get workers with certain skills / skills in drilling or oil exploration activities, the oil and gas companies generally bring in skilled workers from outside the region. This has implications for the emergence of social jealousy from local residents who regard oil and gas companies as not providing employment opportunities to local residents. The social jealousy of the local population can have an impact on the emergence of greater social problems in the future, if not as soon as possible, a solution can be found to overcome them.

Today, the presence of coal mining companies on Bunyu Island has indeed helped reduce the social jealousy of local residents to migrant workers from outside Bunyu Island. Coal mining activities that require a lot of non-skilled labor, have absorbed many local residents. The 2011 Bunyu District Monograph data shows that 2,446 people in Bunyu Island worked in mining companies. Of these, only 350 people can be accommodated to work in oil and gas companies. More than 2,096 people work in coal mining companies.

The lack of expertise possessed by the Bunyu Subdistrict community coupled with the massive termination of employment from one of the coal companies has caused an increase in the number of unemployed people in this area. So it is necessary to conduct training for local communities to improve the quality of human resources. It is expected that

training for local communities can reduce the number of unemployed people.

Besides that, the influence of illegal drugs is also one of the most troubling things in this area. The rise of drug trafficking from outside has an impact on the younger generation, especially the local community. This must be followed up because it can be detrimental to many parties, because the influence of drugs can have an impact on the quality of existing human resources and be a bad influence on the younger generation in Bunyu District.

Third, health problems. Public health services for residents are also a social problem that many people of Bunyu Island complain about. The limitations of health service facilities, especially hospitals and doctors and paramedics, have caused health services on Bunyu Island to be limited to basic health services served by Puskesmas / Sub-Puskesmas, as well as Polyclinics owned by Pertamina EP which generally service oil / gas workers and their families.

At present, on Bunyu Island, which is rich in oil and gas and coal mines, there are no specialist doctors. As many as 11,580 inhabitants of Bunyu Island are only served by general practitioners who work at the Puskesmas / Assistant Puskesmas and Pertamina Polyclinic. In providing health services to the community, the doctors are assisted by nurses and midwives. The absence of hospitals and specialists on Bunyu Island is a social problem for sufferers of diseases that require hospitalization with specialist services.

Provision of hospital facilities and placement of specialist internal medicine, surgical specialists, and gynecology, are very important for improving health services on Bunyu Island. The large number of residents working in the oil and gas and coal mining sectors with a high risk of workplace accidents and the impact of pollution, is a rational reason for the establishment of special hospitals or health centers with specialist medical services to be important. Because, to bring patients to Tarakan General Hospital faces many obstacles for the community, such as the problem of transportation by sea, which is only available until late afternoon. As a small island whose boundaries are surrounded by the sea, if you want to go Tarakan as the closest city which is about 60 Km from Bunyu Island. Today there is no other way to reach Tarakan

City than to use sea transportation. This trip by sea transportation is often hampered by the high sea waves around the waters of Bunyu Island and Tarakan. Therefore, the departure of motorboats that serve crossings to and from Bunyu Island, must take into account the weather and ocean waves.

Fourth, infrastructure problems. Infrastructure development, particularly roads, bridges and public piers, is highly expected by residents of Bunyu Island. The problem was raised by residents of Bunyu Island in the FGD held at the Bunyu East Village Hall and West Bunyu. According to Bunyu District Monograph data, the length of the road that can be traversed by four-wheeled vehicles on Bunyu Island is 46 Km long, status as a village road built by PT Pertamina EP Field Bunyu. Asphaltting the highway on Bunyu Island was carried out by Pertamina between 1985-1987, to facilitate transportation access for companies and the public.

From the length of the road, only 16 km are in good condition, and 18 kilometers are land roads with 8 kilometers of heavily damaged conditions. The regional government of Bulungan Regency budgeted Rp. 3 billion for upgrading road infrastructure on Bunyu Island. However, according to residents, the condition of the asphalt road repaired by the local government has begun to break into holes.

The ferry crossing used by the people of Bunyu Island is a special dock owned by Pertamina. This Pertamina dock is allowed to be used by ships other than Pertamina's, because the local government of Bulungan Regency has not yet built its own pier. The new local government has built a landing dock for fishing vessels (PPI) which have not yet been utilized.

Fifth, environmental sustainability issues. From the results of the FGD conducted, it was revealed that community concerns about the potential for damage arising from oil and gas mining activities and coal mining. In the context of oil and gas mining carried out by Pertamina EP Bunyu, technical mining errors that occur due to leaking of drilling well pipes can have serious environmental impacts on the community.

On the other hand, coal mining activities have had environmental impacts that have been felt by the people of Bunyu Island, such as air and water pollution by mine particles. In

addition, coal mining with an open mining system by exfoliating the surface of the land and dredging coal from the bowels of the earth will cause excavation holes in a large area. Environmental damage in coal mining will occur if post-mining reclamation in the form of backfilling excavated holes and planting trees is not carried out and properly monitored according to the AMDAL document.

2. Vulnerable Groups in Bunyu Island

Vulnerable groups are groups that are usually characterized by social conditions including access to the fulfillment of low social needs (both education and health), and weak economic power compared to the average of other communities in the same region. As a result, this group will first and will be impacted if there are policy changes or social dynamics. In the context of the company, identification of vulnerable groups is not limited to these two things, but is also directed at groups of people who are affected by company activities (can be based on EIA documents or other documents).

Meanwhile, the results of the study related to the PNPM Mandiri program (the National Program for Community Empowerment), vulnerable groups or more narrowed down as marginal groups were the groups that were least involved in village / organizational decision making related to their existence, and lacked / lacked knowledge to get involved. Their voices may be heard only if they have personal closeness with activist groups and village governments. Identification of vulnerable groups here refers to social groups that are economically weak and marginal. The vulnerable groups should ideally be the target of the company's community development program.

First, fishermen. People who work as fishermen on Bunyu Island are traditionally filled by Tidung ethnic groups, although there are also other ethnic groups such as Bugis, Makassar and Javanese who are fishermen. Seen from the socio-economic strata, fishermen groups include weak economies from day to day. the income day they receive tends to decrease. The ecological environment in which they earn income as described above, especially in the northern part of Bunyu Island, whose territory is adjacent to the coal exploitation area, began to be disrupted. Coal spills as said by fishermen have caused waters

in the northern region of Bunyu, which was previously rich in fish, to have made it move to another place.

Not to mention competition with other fishermen from outside Bunyu, sometimes even from Malaysia, many of whom use pukat hela (tiger trawlers), said Bunyu fishermen who have damaged the coral reef ecosystem around the waters of Bunyu Island. This helicopter trawl as the name suggests is an extraordinary trawl, the range is very hot and the level of depth that can be reached by the sea trawl is also extraordinary, sometimes it can reach 30 meters to the sea floor. Because of its characteristics, when pulled hela trawlers often damage existing coral reefs. Even though these coral reefs are actually the habitat of places where many fish are found. Because of that fishermen on Bunyu Island are threatened from two sides. First, from the ecological environment which according to them began to be polluted due to coal mining. Second, from competition with big fishermen who use helicopters which also damage the coral reef ecosystems in the waters of Bunyu. These two things, according to them, have a large influence on the decline in their fish catch, and because of that, Bunyu's fishermen are economically threatened to become a socially vulnerable group of people.

Second, farmers. Agriculture on Bunyu Island is dominated by Toraja ethnic groups who work on vegetable farming and ethnic Bugis who work on the plantation sector in the Daeng Mountain area. Agriculture on this island, partly because of the characteristics of Bunyu Island which is a mining island is not a place where the land is fertile, and even tends to be normal. Because of that, not much is produced from Bunyu farming, which of course also affects their income. These two vulnerable groups are expected to be the most targeted by the community development program of the company, so that they become more empowered and independent. Vulnerable groups are groups that are usually characterized by social conditions including access to the fulfillment of low social needs (both education and health), and weak economic power compared to the average of other communities in the same region. As a result, this group will first and will be impacted if there are policy changes or social dynamics. In the context of the company, identification of vulnerable groups is not

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Identification of vulnerable groups here refers to social groups in two categories, namely assets and access. For assets, namely groups / individuals who are economically and have low welfare. While related to access, namely groups or individuals who have low access to policies or public services. The condition of vulnerable groups in the West Bunyu region is a form of inhibiting conditions because of the problems of social conditions that do not allow vulnerable groups to fulfill their potential.

There are three categories of vulnerable groups in the study. First; A person who is vulnerable because of his situation, like illness. Health is expensive and requires a low level of health services in the region. Second; Individual conditions in the category of vulnerable groups due to social structure conditions. The dependence of life on men (husbands) is very high. If something happens that hinders activities to get the economy such as sickness, layoffs, small incomes, this results in the impact of women's conditions. Structural conditions occur for women's lives in the West Bunyu region. Third; There are groups of people who receive no social recognition or trust, namely youth. Fourth; the impact of the company that has no concern for the environment surrounding the company. This is experienced by fishermen in Bunyu Barat. Whereas the problem faced by small fishermen among them is the loading and unloading of coal barges which dump anchors in any place which is very damaging to coral reefs that affect fish populations and the closure of coral reefs by coal due to coal loading and unloading activities.

CONCLUSIONS

The potential of Natural Resources (SDA) of Bunyu Subdistrict is quite rich, namely storing petroleum reserves, natural gas and then finding enough coal reserves. The island's natural wealth certainly provides a large income for Bulungan Regency, but at the same time, generally the Bunyu District community complains about the existing development. According to them, with what Bunyu has given to the inclusion of the Government of the Bulungan Regency from the central and regional financial balance funds from the oil and gas and mining sectors, the development in Bunyu Sub-district should be more significant.

Generally the social problems that arise and are complained by the community, in part come from the natural and geographical factors of Bunyu Island itself, such as the difficulty of getting clean water. Clean water on this island is indeed rare and therefore practically the majority of the population relies on rain water for their daily needs. But besides that, other infrastructure issues are road facilities and public health services that are not yet sufficient.

There are three main issues of social problems felt by the community, namely; 1) High cost of living; 2) Issues of clean water; 3) Security vulnerability. This raises the need for economic empowerment programs including facilitation of capital and facilitation of facilities for fishing activities and the provision of clean water.

In general, social capital (social capital) of the community has been built. This is shown by the quite high level of community integration, so that potential conflicts can be muted and social activities that require community participation are seen to work. Likewise with the institutions that grow from the community or NGOs, such as the Bunyu Youth Communication Forum, the Environmental Care, the Putra Bunyu Bersatu and traditional institutions. For institutions whose formation is sponsored by local government officials there are also such as youth organizations, PKK, BPD and LKMD.

There are two (2) vulnerable groups, namely groups of fishermen and farmers. Fishermen, because their income decreases along with the ecological impact of coal mining that threatens fishing area locations and competition with large-scale fishermen

who use more modern tools to catch fish. While for farmers, land conditions that are considered not too fertile are a challenge in increasing agricultural productivity. Thus, in accordance with the essence of community development that aims to empower the community so that the independence of the community can grow, the empowerment program should be prioritized. This also needs to be accompanied by education to the community that the potential of the mine will someday run out and not sustainable. This empowerment program should be targeted at vulnerable groups. Nevertheless the involvement of key stakeholders also needs to be considered in further guaranteeing the effectiveness and sustainability of the program's impact.

In addition, so that the various problems and needs are not confined to the company, efforts need to be made to encourage the role of the government to also allocate development programs according to the problems and needs so that there are program synergies and actors in the field. In this case coordination with the local government through the relevant agencies becomes important, for example concerning the need for agricultural, education, health, as well as village facilities and infrastructure. In the long term, a multi-stakeholders forum needs to be established to create synergies between the government, companies and the community

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