



Socio-Economic Aspects of Community in Limboto Lake Management in Telaga Biru District, Gorontalo Regency

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Abstract

This research aims to determine the impact of Limboto Lake management in terms of the socio-economic aspects of the coastal communities of the Lake, Telaga Biru District, Gorontalo regency. The research method uses a qualitative type. The results showed that Lake management was not optimal, this can be seen from the negative side effects of reduced livelihoods and income of fishing communities as well as the emergence of several diseases such as anthrax and respiratory problems due to decreased water quality and air quality. The positive impact determined by the program objectives is not clear, the ecological impact is not positive so that it can lead to undesirable things. The positive side effect can control the water discharge when Limboto Lake water overflows, then it can be used as a tourist spot so that people can open businesses such as shops, selling accessories and motorbike taxis or parking lots for visitors. However, this is only sporadic when there are big events.

Introduction

Lake is one form of ecosystem that occupies a relatively small area on the earth's surface compared to the sea and land. For humans, the importance of the lake is much more meaningful than the area. A lake is an aquatic ecosystem that contains water reservoirs with more inlets than outlets. Lakes are divided into natural lakes and artificial lakes. Natural lakes are naturally formed lakes, usually bowl-shaped, which are lower than the ground level, which are filled with water for a long time, formed due to major natural disasters such as glaciers, volcanic activity or tectonic earthquakes. While artificial lakes are reservoirs / dams formed through the construction of dams that cut the flow of rivers (Siagian, 2009). The existence of a lake ecosystem is a beneficial function for human life (Connell & Miller 1995). Indonesia has more than 700 lakes with a total area of more than 5000 Km² or about 0.25% of Indonesia's land area (Davies et al. 1995).

At the National Lakes Indonesia Conference I on August 13 to 15 2009 resulted in the 2009 Bali Agreement between 9 Ministers on sustainable lake management in anticipating global climate change. In developing and utilizing the potential of lakes, efforts are needed to maintain, preserve and restore lake functions based on ecosystem balance through 7 (seven) strategies, namely lake ecosystem management; utilization of lake water resources; development of monitoring, evaluation and lake information systems; preparation of climate change adaptation and mitigation measures for lakes; capacity building, institutions and coordination; increasing the role of the community; and sustainable funding (Germadan, 2015)

The 2009 Bali Agreement stipulates 15 priority lakes to be managed together in an integrated, environmentally friendly and sustainable manner in the 2010-2014 period. Determination of priority lakes is based on lake damage, lake utilization, local government and community commitments in lake management, strategic functions for national interests, biodiversity, and the level of disaster risk. The 15 lakes are Lake Toba, Maninjau, Singkarak, Kerinci, Tondano, Limboto, Poso, Tempe, Matano, Mahakam, Sentarum, Sentani, Batur, Rawa Danau, and Rawapening (Germadan, 2015).

One of the 15 priority lakes is Lake Limboto. Lake Limboto is one of the natural resource assets currently owned by Gorontalo. The Limboto Lake system covers an area of 920 km² and about 23 rivers and tributaries enter the lake. Lake Limboto functions as a provider of clean water, habitat for plants and animals, regulator of hydrological functions, prevention of natural disasters, stabilization of natural systems and processes, producer of biological natural resources, means of transportation, recreation and sports, fishery resources (both aquaculture and capture fisheries) a source of income, flood control, and as a means of research and education.

Lake Limboto is an important part of the aquatic ecosystem that functions as a place for living organisms, with several types of aquatic organisms typical of Gorontalo. The lake area which is an open access area with various potentials has undergone a continuous process of exploitation and even tends to be excessive and does not pay attention to its conservation aspects. This condition makes the lake look like a no-man's-land area so that anyone can divide the area of the lake area either to carry out agricultural businesses, activities for personal or group economic interests (making floating nets), tourism businesses and various other businesses including settlements as well as individual control through certification. Land which is basically a lake area. In the last few decades, Lake Limboto has experienced degradation which is marked by the rapid growth of aquatic plant populations and high sedimentation. The area of aquatic plants is estimated to be 25% of the total lake area, which is 3000 ha. (Hasim & Akbar, 2020).

Lake Limboto is now in a very worrying condition because it is experiencing a process of shrinkage and siltation due to sedimentation which threatens its existence in the future. The decreasing area of lake waters causes a decrease in the function of the lake as a water storage area so that there is the potential for flooding around the lake area even outside the Limboto Lake area (Akbar, et al, 2021). In 1932 the average depth of Lake Limboto was 30 meters with an area of 7,000 hectares, and in 1961 the average depth of Lake Limboto was reduced to 10 meters and the area was 4,250 hectares. Meanwhile, in 1990 - 2004, the average depth of Lake Limboto was 2.5 meters with an area of 3,000 hectares. The silting of Lake Limboto is mainly caused by erosion and sedimentation due to agricultural efforts that do not heed soil conservation and forest clearing activities (illegal logging) in upstream areas (water catchments), especially in the Limboto watershed. As a result of the silting of Lake Limboto, most of the areas that used to be lakes have been turned into residential areas or converted into agricultural businesses. Another thing that is a problem around Lake Limboto is the uncontrolled growth of water hyacinth, fishing using poison (Potassium Chloride), fish bombs and large-scale fishing gear have resulted in a decrease in the genetic diversity of fish and other aquatic biota, as well as a decline in lake water quality (Germadan, 2015).

In 2008 the Gorontalo Provincial Government issued Regional Regulation (PERDA) No. 1 of 2008 concerning the management of Limboto Lake, in the regulation in chapter IV the management of the lake has a model or parts of the management process such as the first part namely recovery, the second part utilization and the last part the third part is preservation.

Many programs have been developed and implemented, but they are still sporadic, and often conflict with authorities and responsibilities so that the results are less than optimal. These programs only solve the problem for a moment, but when the program has stopped, the problem will appear again. As a result, the management of the lake becomes conflict-prone and in some places triggers the destruction of biological resources. Therefore, lake management must be carried out in an integrated manner involving all stakeholders. So far, lake management is still carried out on a sectoral and regional basis and there is no clarity regarding the roles and division of responsibilities for each stakeholder. Evaluation of activities is often based on the interests of each sector so that it often creates conflicts among users.

According to Rossi & Freeman, 1985, in Parsons (Public Policy): Assessment of the impact is to estimate whether the intervention produces the expected effect or not. Therefore, in the management of the Limboto lake, it is necessary to evaluate the impact.

The results of previous research from Indra Noferi (2016) related to the title "Socio-economic impact of Lake Maninjau pollution" show that the management of Lake Maninjau so far has not paid attention to the sustainability aspect of natural resources. and make people's lives difficult. The socio-economic impact of pollution felt by the community includes the impact on livelihoods, community income, employment and public health. This has also led to various social changes in society.

In the end, the management of Limboto lake that is not optimal and is sporadic will only have an impact on the community around the lake, especially in Pentadio Barat Village which is the locus of this research. The impact that is most felt by the community around the lake is the decline in the quality of the socio-economic life of the community such as the apathy of the community with the lake ecosystem because there is a government that handles it, the decline in the quality of lake water due to domestic waste that used to be potential for clean water/drinking water, and decreased aquaculture activities. carried out in the lake, making lake borders and drainage systems that are not optimal, resulting in flooding, lake sedimentation due to erosion in the upstream area and loss of jobs and sources of income for the coastal community of Lake Limboto due to reduced fish species.

This study aims to determine the Socio-Economic Aspects of the Community in Limboto Lake Management in Telaga Biru District, Gorontalo Regency.

Methods

In this research, the type of research used by the researcher is descriptive research with a qualitative approach. Descriptive research in question is research that serves to describe or provide an overview of the object under study (Arikunto, 2009). The qualitative approach in this study was taken because the qualitative approach is a research method carried out to explore data based on what is said, felt and done by the informant or data source, and is "emic perspective" meaning that the data obtained is not based on symptoms as they occur in the field, experienced, felt and thought by the informant/participant (Sugiyono, 2013).

Qualitative research is carried out because there is something unique and interesting to be studied by researchers. For this reason, the explanation of the research location is not only limited to physical conditions (such as location addresses and geographical locations), but it is also necessary to state the atmosphere of daily life (activity of research subjects) at the research location (Afifuddin, 2009). Data collection techniques are obtained by interviewing informants, documentation and observations on the object of research, where the researcher conducts research. The informants selected in this study were six people, namely researchers or observers of Lake Limboto, State Civil Apparatus (ASN) at the Public Works Office (PU)

of Gorontalo Province as well as Lake Limboto researchers, Head of the Gorontalo Regency Social Service, Head of West Pentadio Village, Community , Businessmen.

Results and Discussion

This study looks at the policy in terms of evaluating the management policy of Lake Limboto. Policy evaluation is an attempt to determine the impact of policies on real-life conditions. The phrase “effort to determine” is used in this discussion because evaluation is understood as an attempt to determine the actual impact or consequences of a policy, a task which is actually very complex and difficult. At a minimum, the purpose of policy evaluation is for us to know what we want to achieve from a particular policy (policy objectives), how we are doing it (programs), and if so, whether we have achieved the objectives (impact or consequences and policy relationship) that have been previously established (Akbar & Mohi, 2018). This study uses the objective-free evaluation model indicators according to Michael Scriven (1973) including; negative side effects, positive effects defined by program objectives, and positive side effects.

Negative Side Effects

Husein (2005) Negative side effects are effects or impacts that are not expected by the program. This means that when program activities are carried out to realize the goals, negative impacts, consequences or results that are outside the goals or that exceed the stated program objectives can occur. For example, programs for the poor besides helping the poor can also make program service recipients lazy to work.

Based on the previous opinion, the researcher saw that the conditions in the field according to the findings that the management of Lake Limboto did have negative side effects that were not expected by a program, currently there are still some of the impacts felt by the community around the lake. This can be seen from the reduced livelihoods and incomes of the community as well as the emergence of several diseases such as anthrax and respiratory problems as well as causing conflict between the government and the community around the lake due to land tenure and even makes the community apathetic or less participating in the management of the lake because people think that the government has the responsibility for the management of this lake.

The Positive Influence is Defined by the Program Objectives

The positive influence determined by the program objectives is that a program has the objectives set by the program plan. This means that the program is an activity or activity designed to carry out a vision and mission in order to realize or produce the expected changes, or designed and implemented as a service or social intervention to solve problems, problems, situations, conditions faced by the community (Wirawan, 2012).

As the results of interviews that have been obtained by researchers from informants:

“Of course it has a very good impact, because with this management it is arranged so that how to avoid the process of silting up and then the process of losing this lake and of course it will open the mindset of the community that the lake is their future and for their children and grandchildren.”. (EYG, 6 November 2018).

Not much different from what the next informant said:

"Yes, of course it is good, so with the aim of this program it can increase the income of the fishing community and not only that it can even increase popularity ". (YE, November 8, 2018).

It can be seen that Lake Limboto is shrinking and silting every year, decreasing lake water quality, developing water hyacinth, the government has established a very important program for the people of Gorontalo Province, especially the people on the coast of Lake Limboto, the program is in accordance with Regional Regulation No. 1 year 2008 regarding the restoration, utilization and preservation of Lake Limboto. Because Lake Limboto is a natural resource that is closely related to people's livelihoods, ecologically the lake is a habitat for various aquatic biota, and also functions as a flood controller.

Economically, Lake Limboto is a source of livelihood for farmers and fishermen in the vicinity, also functions as a means of transportation and a tourist attraction, so that with the efforts of this program, it is hoped that Lake Limboto can provide sustainable benefits, both socio-economic benefits and ecological benefits.

Positive Side Effects

The positive side effect is the positive influence of the program beyond the positive influence determined by the program objectives. This means that in a program, the government has set goals that have been planned, but on the other hand, with the program, the community can take advantage of the program that has been planned or outside of the program that has been set (Soekanto, 2005).

The following are excerpts from interviews with informants:

"After the management of Lake Limboto, I see many benefits that can be developed, especially if there are local and foreign tourists who may come to research or even just have a vacation, this is where the local community can see opportunities to make handicrafts sourced from Lake Limboto". (H, 07 November 2018).

It is the same with the following informants:

"Indeed there was an impact that I felt but it didn't last long, it was only when there were big events such as when there was the Lake Limboto festival, there were birthday events for the Regency and Gorontalo Province which were held on the shores of the lake." (AK, November 8, 2018).

This can be seen when there are big events carried out by the government, so the people around the lake can take advantage of these opportunities by opening stalls, parking lots or selling accessories and motorcycle taxis. In addition, other positive side effects can reduce the water discharge when it will overflow.

Conclusion

Based on the results of research and discussion, it can be concluded that the management of Lake Limboto in terms of the socio-economic aspects of the coastal community of the lake, Pentadio Barat Village, Telaga Biru District, Gorontalo Regency is not optimal, because this can be seen from (a). negative side effects of reduced livelihoods and income of the community as well as the emergence of several diseases such as anthrax and respiratory problems due to decreased water and air quality. (b). the positive impact determined by the objectives of the institutional program is not yet clear, the ecological impact does not have a positive impact so that it can lead to undesirable things. (c). a positive side effect other than a place to catch or raise fish can also control water discharge when the water of Lake Limboto overflows, then it can be used as a tourist spot so that people can open businesses such as stalls, selling accessories and motorbike taxis or parking spaces for visitors. However, this is only sporadic when there is a big event.

Suggestion

To the Government in the management of Lake Limboto, immediately establish an authority body managing Lake Limboto so that lake management is more optimal, directed, budgeted is measurable, clear regulations and law enforcement and socialize it. In order to produce good output and boost the socio-economic life of the community. The community should be able to participate and be responsible for the management of Lake Limboto so that the lake can provide benefits instead of giving harm.

References

- Afifuddi & Beni A. (2009). *Metodologi Penelitian Kualitatif*. Bandung: Pustaka Setia.
- Akbar, M. F., & Mohi, W. K. (2018). Studi evaluasi kebijakan (Evaluasi beberapa kebijakan di Indonesia). *Gorontalo: Ideas Publishing*.
- Akbar, M. F., Alwi, A., Indar, N. I. N., & Abdullah, M. T. (2021). Adaptive Governance Features from Stakeholder Issues in Lake Limboto Management. *Journal of Asian Multicultural Research for Social Sciences Study*, 2(4), 19-29.
- Arikunto, S. (2009). *Metode Penelitian Kualitatif*. Jakarta: Bumi Aksara.
- Connell & Miller. (199). *Kimia dan Etoksikologi Pencemaran*. Jakarta: Indonesia University Press. pp. 222-223
- Hasim, M., & Akbar, M. F. (2020). Ecosystem-Based on Bibilo Fishery Management as a Sustainability Strategy at Limboto Lake. books.google.com.
- Husein, U. (2005). *Riset Sumber Daya Manusia Dalam Organisasi*. Edisi Revisi. Jakarta: PT. Gramedia Pustaka Utama.
- Rossi, P. H. & Freeman, (1985). *Evaluation a systematic approach*. California: Sage Publication.
- Scriven, M. (1973). *Goalfree Evaluation*. In A House (Ed). *School Evaluation : The Politics And Process*. Barkeley: Mc Cutchan.
- Siagian, C. (2009). *Keanekaragaman dan Kelimpahan Ikan serta Keterkaitannya dengan Kualitas Perairan di Danau Toba Balige Sumatera Utara*. repository.usu.ac.id
- Sugiyono. (2013). *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.
- Wirawan, (2012). *Evaluasi Kinerja Sumber Daya Manusia*. Jakarta: Salemba Empat.