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Evaluation of Limboto Lake Management Policy for Infrastructure Development

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Abstract
Infrastructure development policy is a systematic process to assess the extent of effectiveness, efficiency, and impact of policies implemented in infrastructure development and management. This process involves an in-depth analysis of whether policy objectives have been achieved, whether the resources used have been optimized, and how the policy affects various aspects, such as community welfare, environmental sustainability, and regional economic development. The purpose of the study was to identify the lack of policy synchronization and coordination between related institutions and to identify the involvement of community participation around Limboto Lake. Research design: This qualitative study uses a descriptive research design. The sample of data sources used in qualitative research is still temporary. Informants to be used such as the Regional Government, River Basin Center (BWS), and Local Communities who participated in this study. The results of the study indicate that the development policy in Limboto Lake shows progress, but still faces challenges such as increasing responsiveness and coordination between stakeholders, weak coordination, long bureaucracy, and minimal supervision. Although the adequacy and accuracy of the policy are quite fulfilled, the implementation is not optimal, especially in the distribution of benefits and ecosystem protection. Conclusion: The development policy in Lake Limboto shows progress, but still faces challenges in coordination, implementation, and distribution of benefits, so it is necessary to improve the effectiveness and responsiveness indicators. Suggestions: the government needs to improve the accuracy, distribution, responsiveness, efficiency, and effectiveness of the policy by focusing on critical areas, coordination, and optimal communication.

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1. INTRODUCTION

Lakes are important ecosystems that serve ecological and economic functions for surrounding communities. Besides being a water source, lakes also support fisheries, agriculture, and tourism, and serve as habitats for various types of flora and fauna. However, in recent years, many lakes in Indonesia have faced various environmental problems, such as pollution, sedimentation, and shrinking areas due to changes in land use in river basins (DAS). To address these problems, the central and regional governments have formulated various lake management policies. These policies encompass environmental conservation, pollution control, and infrastructure development, such as

dredging projects, flood control reservoirs, and irrigation system improvements. Infrastructure development is expected to restore lake function, address the impacts of existing lakes, and support sustainable lake use. (Ibrahim, S., & Taufik, M., 2020)

One concrete example of this problem can be seen in Lake Limboto, located in Gorontalo Province. According to the Ministry of Environment, Lake Limboto is categorized as a critical lake. This is due to the continued shrinkage of Lake Limboto, which threatens the sustainability of the lake. Based on data obtained from BALIHRISTI, in 1932, the average depth of Lake Limboto was 30 meters with an area of 7,000 Ha, and in 1961, the average depth of the Lake decreased to 10 meters and an area of 4,250 Ha. Meanwhile, from 1990 to 2018, the average depth of Lake Limboto was only 2.5 meters with an area of 3,000 Ha in the Bolango, Pohu, Ritenga, and Topodu rivers. (Ibrahim, S., & Taufik, M., 2020)

Lake Limboto is one of the natural resources currently owned by Gorontalo Province. The lake area is located in two regions: approximately 30% of Gorontalo City and approximately 70% in Gorontalo Regency, and spans five districts. The water entering Lake Limboto comes from rainwater that falls directly into the lake and water from rivers that flow into the lake. 23 rivers flow and empty into Lake Limboto, including the Aloe, Marisa, Meluopo, Biyonga, Bulota, and Talubongo. Lake Limboto is an important part of the aquatic ecosystem, functioning as a habitat and regulating hydrological functions. Currently, the function of Lake Limboto is no longer functioning as it should due to the problem of shrinking area and shallowing of the lake. (Ibrahim, S., & Taufik, M., 2020)

William N. Dunn, in Sudiro (2018), states that the term policy evaluation can be equated with interpretation, assessment, and scoring. In this case, evaluation concerns the value and benefits of a policy outcome. This means that policy evaluation must provide clear and reliable information about a policy's performance. Dunn further clarifies that evaluation contributes to the values underlying the selection of goals and targets. Generally, a value can be criticized by an in-depth inquiry into the readiness of goals and targets.

According to William N. Dunn, there are 6 criteria for policy evaluation, namely effectiveness, efficiency, adequacy, equity, responsiveness, and accuracy. a). a. Effectiveness comes from the word effective, which means achieving success in achieving predetermined goals. William N. Dunn states that effectiveness is concerned with whether an alternative achieves the expected results (consequences), or achieves the objectives of the action. Closely related to technical rationality, it is always measured in units of product or service or its monetary value. (Dunn, 2003). b). Efficiency will occur if the use of resources is optimized optimally so that a goal will be achieved. William N. Dunn argues that efficiency is concerned with the amount of effort required to produce a certain level of effectiveness. Efficiency, which is synonymous with economic rationality, is the relationship between effectiveness and effort, the latter generally measured in monetary costs. Efficiency is usually determined by calculating the cost per unit of product or service. Policies that achieve the highest effectiveness with the lowest costs. c. Adequacy in public policy can be said to be the goal that has been achieved is felt to be sufficient in various ways. William N. Dunn says that adequacy is concerned with how far a level of effectiveness satisfies the needs, values, or opportunities that give rise to problems (Dunn, 2003).

From the above definition, it can be concluded that adequacy is still related to effectiveness by measuring how far choices can satisfy needs, values, or opportunities in solving problems. d). Equity in public policy can be said to have the same meaning as justice given and obtained by public policy targets. William N. Dunn stated that the

criterion of equality is closely related to legal and social rationality and refers to the distribution of consequences and efforts between different groups in society (Dunn, 2003). Policies based on equity are policies whose efforts can be felt fairly. A particular program may be effective, efficient, and sufficient if the costs and benefits are evenly distributed. The key to equity is justice or fairness. e). Responsiveness in public policy means the response of public policy targets to the implementation of a policy.

According to William N. Dunn, responsiveness is concerned with how far a policy can satisfy the needs, preferences, or values of certain community groups (Dunn, 2003). The success of a policy can be seen from the public response to its implementation. The public response after the impact of the policy has begun to be felt can be in the form of positive support or less good form in the form of rejection. Dunn also stated that responsiveness is important because an analysis that can satisfy all other criteria (effectiveness, efficiency, adequacy, equality) still fails if it does not respond to the actual needs of the group that should benefit from a policy (Dunn, 2003). f). Appropriateness refers to the values of a program's objectives and the strength of the assumptions underlying those objectives. William N. Dunn said that feasibility is a criterion used to select a number of alternatives to be recommended by assessing whether the results of the recommended alternatives are a feasible choice of objectives.

Infrastructure is generally defined as the physical network and basic facilities needed to support various internal, economic, and environmental activities in a region (Prasad et al., 2019). Infrastructure encompasses various types of facilities, such as roads, bridges, transportation systems, clean water networks, sanitation, electricity, and education and health facilities (Moser, 2020). Infrastructure plays a vital role in improving people's quality of life and supporting economic growth (Santoso, W., & Nugroho, R., 2019).

According to Flyvbjerg (2022), infrastructure is a large-scale, long-term project, encompassing megastructure projects such as large bridges, airports, or railway networks. Flyvbjerg emphasized that the success of infrastructure lies not only in its physical construction but also in effective project management and cost oversight. He noted that many infrastructure projects fail due to inadequate planning and cost overruns, so it's crucial to consider risks from the outset. (Widodo, S., & Lestari, P., 2023)

Sustainable infrastructure development is an approach that aims to meet the needs of the present without compromising the ability of future generations to meet their needs. This approach prioritizes resource efficiency, waste reduction, and the use of environmentally friendly materials. Sustainable infrastructure involves the use of cost-effective technologies and recycled materials in construction. For example, in road or bridge construction projects, the application of environmentally conscious construction techniques, such as the use of environmentally friendly concrete and drainage systems that effectively manage stormwater, is crucial to minimizing the impact on ecosystems.

Sustainable infrastructure development also emphasizes reducing carbon emissions and protecting the environment. This can be achieved through the use of renewable energy in infrastructure operations, such as solar panels for street lighting and the use of electric vehicles for transportation. By considering both energy and economic aspects, sustainable infrastructure also focuses on increasing access and benefits for all levels of society, thereby creating more equitable prosperity and strengthening community resilience to climate change and other global challenges. (Putra, A., & Dewi, K. 2023)

A preliminary survey conducted by researchers regarding the evaluation of infrastructure development management policies at Lake Limboto revealed a discrepancy between policy plans and implementation in the field. One key finding was the impact of the lake on the ecosystem and water quality due to increasingly severe sedimentation and

pollution caused by infrastructure development around the lake. This is because the community was not involved in the process of activities that would affect the infrastructure development, for example, the creation of boundary zones and others. This study emphasizes the importance of cross-latitude coordination and community involvement to create a more sustainable and alternative policy in managing Lake Limboto.

The objectives of this research are: 1) To identify the lack of policy synchronization and coordination between related institutions, resulting in a discrepancy between border development planning and utilization regulations for infrastructure development, even though there are formal regulations in Gorontalo Regional Regulation No. 1 of 2008. 2) To identify the involvement of community participation around Limboto Lake, due to the lack of community involvement in planning or decision-making in infrastructure development.

Lake Limboto is a vital economic resource in Gorontalo Province, providing ecological and economic benefits to the surrounding community. However, various environmental problems, such as sedimentation, land degradation, and pollution, have threatened its sustainability. According to data from the Environmental Agency, the lake's area and depth have significantly decreased, from 7,000 hectares in 1932 to just 2,500 hectares in recent years. This problem is exacerbated by poorly planned infrastructure development activities, which have caused sedimentation to increase by up to 30% in the past five years. Furthermore, existing management policies are often ineffective due to a lack of coordination between relevant agencies and low community participation in the planning process. This results in policies not being aligned with local needs, making it difficult to achieve the goals of lake rehabilitation and preservation.

2. RESEARCH METHODS

This study uses descriptive qualitative research to obtain an overview of the Evaluation of the Limboto Lake Management Policy, a Case Study of Infrastructure Development.

The data sources of this research consist of primary data and secondary data. The primary data sources selected in this research are the Head of the Public Works and Public Housing Agency (PUPR), 1 person, the Regional Development Planning Agency (Bappeda), 1 person, the River Basin Office (BWS), 1 person, and the Community around Lake Limboto, 3 people. While the secondary data sources that are the researchers' references are all documents that can complement the results of this research. The data collection method used is an interview with the Head of the Public Works and Public Housing Agency (PUPR), 1 person, the Regional Development Planning Agency (Bappeda), 1 person, the River Basin Office (BWS), 1 person, and the Community around Lake Limboto, 3 people.

The research was conducted at Lake Limboto, Gorontalo Regency, over one month. Data analysis in qualitative research is ongoing and developed throughout the study. Data validity analysis was conducted throughout the data collection, data reduction, data presentation, and conclusion drawing stages.

3. RESEARCH RESULTS AND DISCUSSION

3.1. Research result

a. Effectiveness

The effectiveness of infrastructure development policies at Lake Limboto is greatly influenced by coordination between agencies involved in the lake's revitalization and conservation efforts. The primary objectives of these policies are to

address siltation, reduce flood risk, and restore ecosystems damaged by sedimentation and human activity. However, these policies have not yet been fully effective. One major obstacle is the lack of synergy between agencies such as the Ministry of Public Works and Public Housing (PUPR), the Gorontalo provincial government, and the Regional Development Planning Agency (Bappeda), which often operate in silos without adequate integration.

For example, the development of a boundary around Lake Limboto is a crucial part of the lake's revitalization efforts, which aim to reduce siltation, protect the ecosystem, and prevent destructive human activities around the lake. The effectiveness of this policy depends heavily on the coordination between institutions such as the Ministry of Public Works and Public Housing (PUPR), the Gorontalo provincial government, and local environmental agencies. So far, the boundary development has been implemented through the construction of embankments, reforestation of the boundary area, and efforts to regulate residential activities in prohibited areas. However, the effectiveness of this policy faces various challenges. One of these is resistance from communities living around the lake, especially those who depend on activities in the boundary zone for their livelihoods. This demonstrates the need for a participatory approach to ensure community support for the policy.

In terms of coordination, overlapping authority between institutions also poses a challenge. For example, local governments often struggle to align regulatory policies with regulations issued by the central government. This lack of synergy has the potential to slow down the development process. Furthermore, periodic monitoring and evaluation have not been optimally implemented, making it difficult to assess the long-term impact of this border development.

Based on the research results, in terms of effectiveness, the border development policy at Lake Limboto still faces several obstacles, particularly in budget allocation, implementation timelines, and the distribution of responsibilities between institutions. To improve the effectiveness of infrastructure development, more integrated planning, the use of modern technology, and bureaucratic simplification in decision-making are needed. With these steps, border development can be carried out more quickly and efficiently.

b.Efficiency

The efficiency of this policy needs to be evaluated from several aspects, including budget utilization, implementation time, coordination between relevant agencies, and the use of technology in policy implementation. In terms of budgeting, despite substantial funding allocations, delays in budget disbursement often hamper project implementation. Similarly, implementation times often fall short of targets due to suboptimal inter-agency coordination and lengthy bureaucratic processes. Furthermore, although border development involves various agencies, such as the Ministry of Public Works and Housing (PUPR), the Regional Development Planning Agency (Bappeda), and the River Basin Office (BWS), coordination between these agencies remains weak and inefficient in terms of resource utilization and decision-making. Furthermore, the use of technology, such as GIS for project monitoring, has not been fully utilized to improve efficiency.

Based on the research results, the efficiency of the Limboto Lake boundary development policy still faces various challenges, such as delays in fund disbursement, inter-agency coordination issues, and inadequate use of technology. To improve efficiency, there is a need for improved inter-agency communication,

simplified bureaucracy, and better use of technology in project planning and evaluation. With these steps, boundary development can be more efficient and deliver optimal results in protecting the Limboto Lake ecosystem.

c. Sufficiency

Adequacy, according to William N. Dunn's theory, refers to the extent to which public policy is able to meet the needs or solve the problems that are the primary objectives of the policy. In the context of the development of the Limboto Lake boundary, the adequacy of the policy can be assessed by its effectiveness in addressing key issues such as sedimentation, ecosystem damage, and controlling human activities around the lake. Currently, the boundary development policy is not fully sufficient to address these issues. One of the main causes is budget and resource limitations, which make the boundary development uneven across priority areas. Furthermore, the persistently high sedimentation rate indicates that technical measures, such as the construction of erosion-retaining embankments and the planting of vegetation, have not been able to significantly reduce negative impacts.

Based on research conducted with the Public Works and Housing Agency (PUPR), the Regional Development Planning Agency (Bappeda), and the Natural Resources Conservation Agency (BWS), it can be concluded that the policy of developing the Limboto Lake boundary is an important step in protecting the lake's ecosystem. However, its implementation has not been fully sufficient to address key issues, such as sedimentation and ecosystem damage. Key obstacles include budget constraints, lack of coordination between agencies, and community resistance to several policy programs, such as relocation and restrictions on activities around the lake.

d. Equality

William N. Dunn's theory of equity emphasizes that public policy must ensure the fair distribution of benefits and burdens across all affected communities. In the context of the development of the Limboto Lake boundary, this policy equity evaluation involves analyzing how the benefits of the boundary development, such as environmental protection, sedimentation prevention, and water resource management, can be felt by all communities surrounding the lake, including vulnerable groups.

Based on research findings from the three institutions—the Public Works and Housing Agency (PUPR), the Regional Development Planning Agency (Bappeda), and the Water Resources Conservation Agency (BWS), they agreed that equitable distribution of benefits from development along the Limboto Lake border remains a major challenge. Despite efforts to achieve equitable distribution, budget constraints, community resistance, and gradual implementation remain key obstacles. They emphasized the importance of improved coordination, a participatory approach, and more equitable budget allocation to ensure the benefits of this policy reach all communities surrounding Limboto Lake.

e. Responsifits

Responsiveness, according to William N. Dunn's theory, refers to the extent to which an external policy is able to respond to the needs, aspirations, and problems faced by the target community. In the context of developing the infrastructure along the Limboto Lake boundary, responsiveness can be evaluated by the policy's ability to accommodate the need to protect the lake's ecosystem while addressing impacts on the communities living around the boundary area.

Currently, the development of the Limboto Lake boundary demonstrates a limited level of responsiveness. Although this policy is designed to address sedimentation, erosion, and environmental degradation, its implementation often fails to take into account the socio-economic conditions of the local community. For example, the relocation of residents living in the boundary area is often carried out without adequate dialogue, leading to resistance and dissatisfaction. Furthermore, this policy has not fully addressed the community's need for alternative livelihoods, given that the majority of residents around the lake depend on economic activities carried out in the boundary area.

Research conducted with the Public Works and Housing Agency (PUPR), the Regional Development Planning Agency (Bappeda), and the Water Resources Conservation Agency (BWS) concluded that the responsiveness of the Limboto Lake boundary development policy still needs improvement. All three agencies agreed that community involvement in policy planning and implementation is crucial to ensure their needs are met. They also highlighted the need for a participatory approach, regular monitoring, and more concrete economic solutions to improve the policy's responsiveness to the social, economic, and environmental dynamics surrounding Limboto Lake.

f. Accuracy

Appropriateness, in William N. Dunn's theory, refers to the extent to which a policy addresses key issues facing the community or environment in a specific and relevant manner. In the context of developing infrastructure along the Limboto Lake boundary, the appropriateness of this policy can be assessed by how it addresses crucial issues such as ecosystem degradation, sedimentation, and lake narrowing.

The Limboto Lake boundary development policy is fundamentally on target because it aims to address the main issues threatening the sustainability of the lake's ecosystem. Measures such as strengthening the boundary, preventing illegal activities in the boundary area, and controlling sedimentation demonstrate the policy's relevance to environmental needs. However, in its implementation, this policy faces challenges that can undermine its intended purpose. For example, development priorities, which sometimes focus more on economically strategic areas than on the most ecologically damaged, reduce the policy's effectiveness.

Based on the research findings, the three institutions agreed that the Limboto Lake boundary development policy is, in principle, appropriate in addressing the need to protect the lake's ecosystem. However, its implementation still requires refinement to be more relevant to conditions on the ground. The main challenges lie in mapping priority areas, impacts on communities, and cross-agency coordination. Proposed solutions include improved coordination, the use of mapping technology, and active community involvement in policy planning.

3.2.Discussion

a. Effectiveness

Effectiveness comes from the word effective, which means achieving success in achieving predetermined goals. William N. Dunn states that effectiveness is concerned with whether an alternative achieves the expected results (consequences), or achieves the objectives of the action. Closely related to technical rationality, it is always measured in units of product or service or its monetary value. (Dunn, 2003).

Effectiveness is a word derived from the word effective. According to the Big Indonesian Dictionary (KBBI), effective means efficacious, effective, efficient, capable of bringing success, and beneficial (Kusumaningtyas, v 2023). Furthermore, according to Beni (2016), effectiveness is the relationship between output and objectives, or it can also be said to be a measure of the extent to which an organization's output, policies, and procedures are implemented. Effectiveness relates to whether an alternative achieves the expected results (consequences) or achieves the objectives of the action taken.

The effectiveness of infrastructure development policies in Lake Limboto shows that, despite some positive achievements, their implementation is still far from optimal. This policy aims to address siltation, reduce flood risk, and restore the ecosystem, with concrete steps such as building embankments, reforesting the riverbanks, and regulating activities in the riparian zone. In accordance with Article 7 of Gorontalo Regional Regulation No. 1 of 2008, these programs have been implemented, but challenges on the ground hinder the achievement of the overall objectives. One of the main obstacles is weak coordination between institutions, such as the Ministry of Public Works and Public Housing (PUPR), the Gorontalo Provincial Government, the Regional Development Planning Agency (Bappeda), and the River Basin Office (BWS). Unintegrated coordination results in overlapping authorities and unsynchronized sectoral programs.

The research, conducted by the researchers, is entitled Evaluation of Limboto Lake Management Policy: A Case Study of Infrastructure Development. The results indicate that the effectiveness of infrastructure development policies in Limboto Lake has shown progress, but is still far from optimal. Key obstacles, such as weak coordination, low community participation, and minimal oversight, must be immediately addressed through a collaborative approach between institutions and the community. The results of this study indicate that the success of the policy requires stronger cross-sectoral synergy as well as consistent budget support and oversight.

b. Efficiency

Efficiency is the ability to perform a task or achieve a goal using minimal resources (time, energy, money, and materials) while still producing maximum output. In other words, efficiency is about how something can be accomplished most economically and effectively.

Efficiency occurs when resources are utilized optimally to achieve a goal. William N. Dunn argues that efficiency refers to the amount of effort required to achieve a given level of effectiveness. Efficiency, synonymous with economic rationality, is the relationship between effectiveness and effort, the latter generally measured in monetary terms. Efficiency is typically determined by calculating the cost per unit of a product or service. A policy achieves the highest effectiveness at the lowest cost (Dunn, 2003).

According to Mukhtisar (2021), efficiency is the determination of methods (efforts, work) and carrying out something without wasting time, energy, and costs. Efficiency also means the ratio between input and output or costs and profits. Furthermore, according to Winarno (2008), efficiency is related to the amount of effort required to achieve a certain level of effectiveness. Efficiency, which is synonymous with economic rationality, is the relationship between effectiveness and effort, where effort is usually measured in terms of monetary costs. Efficiency

is usually determined by calculating the cost per unit of product or service. Policies that achieve the highest effectiveness with the lowest costs are considered efficient.

The research, conducted by the researchers, is entitled Evaluation of Limboto Lake Management Policy: A Case Study of Infrastructure Development. The efficiency of the Limboto Lake border development policy still faces significant challenges. The main obstacles include delays in fund disbursement, suboptimal inter-agency coordination, lengthy bureaucratic processes, and suboptimal technology utilization. Although budget allocations have been provided, delays in administrative processes slow down project implementation, impacting physical work such as dredging and reforestation of the border.

c. Adequacy

According to William N. Dunn's theory, adequacy refers to the extent to which public policy is able to meet the needs or resolve the problems that are the primary objectives of the policy. In the context of the development of the Limboto Lake boundary, the adequacy of the policy can be assessed by its effectiveness in addressing key issues such as sedimentation, ecosystem damage, and controlling human activities around the lake. Currently, the boundary development policy is not fully sufficient to address these issues. One of the main causes is budget and resource limitations, which make the boundary development uneven across priority areas. Furthermore, the persistently high sedimentation rate indicates that technical measures, such as the construction of erosion-retaining embankments and planting vegetation, have not been able to significantly reduce negative impacts.

According to Zakrin (2022), adequacy refers to the extent to which a level of effectiveness satisfies the needs, values, or opportunities that give rise to a problem. Adequacy is also related to effectiveness, which measures the extent to which existing alternatives can satisfy the needs, values, or opportunities to resolve the problem.

One of the main obstacles is budget constraints that are disproportionate to the size of the area to be addressed. As stated by officials from the Public Works and Housing Agency, this limitation has resulted in uneven development of the riverbanks across priority areas. Development projects, such as erosion-retaining embankments and vegetation planting, although implemented, have not significantly reduced ongoing sedimentation. Furthermore, the relocation of communities near the riverbanks requires a more intensive approach to encourage acceptance of these policies.

The research, conducted by the researcher, is entitled Evaluation of Lake Limboto Management Policy: A Case Study of Infrastructure Development. Overall, the Lake Limboto boundary development policy is an important step in protecting the lake's ecosystem. However, its adequacy in addressing key issues remains limited due to budget constraints, suboptimal coordination, and community resistance. To improve the adequacy of this policy, a holistic approach is needed, encompassing upstream area management, increased budget allocation, enhanced cross-sectoral coordination, and active community involvement.

d. Equality

William N. Dunn's theory of equity emphasizes that public policy must ensure the fair distribution of benefits and burdens across all affected communities. In the context of the development of the Limboto Lake boundary, this policy equity evaluation involves analyzing how the benefits of the boundary development, such as environmental protection, sedimentation prevention, and water resource

management, can be felt by all communities surrounding the lake, including vulnerable groups.

According to Zakirin (2022), equity-oriented policies are policies whose efforts are distributed fairly. A particular program may be effective and sufficient if the costs and benefits are evenly distributed.

Equity in the context of Lake Limboto's border development policy, as explained by William N. Dunn, requires a fair distribution of benefits and burdens to all affected community groups. Research shows that the main challenges in ensuring this equity include budget constraints, gradual implementation, and community resistance to programs such as relocation.

The Public Works and Housing Agency explained that the development of the boundary is focused on areas experiencing severe erosion and the greatest environmental impact. However, the remote areas around Lake Limboto have not been prioritized, so the benefits of this policy have not been felt equally. Similar challenges arise in the community relocation process, where offers of replacement land or compensation are often not fully accepted by the community.

The research, titled Evaluation of Limboto Lake Management Policy: A Case Study of Infrastructure Development, identified several challenges in achieving this equality. Budget limitations and gradual program implementation are the main obstacles, in addition to community resistance to the relocation program. Development is focused more on areas experiencing severe erosion and the greatest environmental impacts, leaving remote areas around Limboto unprioritized and unable to fully benefit. The relocation process is also hampered by the often-unacceptable compensation or replacement land offered by the community.

e. *Responsivity*

According to William N. Dunn's theory, responsiveness refers to the extent to which public policy is able to respond to the needs, aspirations, and problems faced by the target community. In the context of developing infrastructure along the Limboto Lake boundary, responsiveness can be evaluated by the policy's ability to accommodate the need to protect the lake's ecosystem while addressing impacts on the communities living around the boundary area.

According to Zakirin (2022), responsiveness: the success of a policy can be measured through public response to its implementation, after first predicting the potential impacts of the policy. Public response, once the impact of the policy has begun to be felt, can be positive in the form of support or negative in the form of rejection. The responsiveness criterion is important because the analysis can satisfy other criteria.

Currently, the development of the Limboto Lake boundary demonstrates a limited level of responsiveness. Although this policy is designed to address sedimentation, erosion, and environmental degradation, its implementation often fails to consider the socio-economic conditions of the local community. For example, the relocation of residents living in the boundary area is often carried out without adequate dialogue, leading to resistance and dissatisfaction. Furthermore, this policy has not fully addressed the community's need for alternative livelihoods, given that the majority of residents around the lake depend on economic activities within the boundary area.

The research conducted by the researcher is entitled Evaluation of Limboto Lake Management Policy: A Case Study of Infrastructure Development. The responsiveness of public policy is measured by its ability to respond to the needs,

aspirations, and problems of the community targeted by the policy. In the case of the development of the Limboto Lake boundary, this policy was designed to address pressing environmental issues, such as sedimentation, erosion, and ecosystem degradation. From this perspective, the policy has demonstrated a good level of responsiveness to the ecological challenges surrounding the lake. However, the socio-economic aspects of the communities affected by this policy often do not receive adequate attention, resulting in resistance and dissatisfaction in the field.

f. Accuracy

Appropriateness, in William N. Dunn's theory, refers to the extent to which a policy addresses key issues facing the community or environment in a specific and relevant manner. In the context of developing infrastructure along the Limboto Lake boundary, the appropriateness of this policy can be assessed by how it addresses crucial issues such as ecosystem degradation, sedimentation, and lake narrowing.

According to Zakirin (2022), accuracy is a criterion used to select a number of alternatives to be recommended by assessing whether the results of the recommended alternatives are a viable objective choice.

The Limboto Lake boundary development policy is fundamentally on target because it aims to address the main issues threatening the sustainability of the lake's ecosystem. Measures such as strengthening the boundary, preventing illegal activities in the boundary area, and controlling sedimentation demonstrate the policy's relevance to environmental needs. However, in its implementation, this policy faces challenges that can undermine its intended purpose. For example, development priorities, which sometimes focus more on economically strategic areas than on the most ecologically damaged, reduce the policy's effectiveness.

4. CONCLUSION

Give Based on the research results, the objectives of Gorontalo Regional Regulation No. 1 of 2008 have not been achieved because policy evaluation and coordination between related institutions are still ineffective, resulting in a mismatch between border development planning and regulations for its utilization. The implementation of the Regional Regulation is also not optimal due to weak coordination and supervision between the parties involved. Policy evaluation using the Dunn (2003) approach also shows that infrastructure development in Lake Limboto has not achieved the expected goals, with low effectiveness, efficiency, adequacy, equity, responsiveness, and policy accuracy due to obstacles such as weak coordination, long bureaucracy, and uneven implementation, so that comprehensive improvements are needed in these aspects. In addition, community participation around Lake Limboto in planning and decision-making is still relatively low, which reflects that community involvement efforts have not been optimally implemented.

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