



Government Policy Contradictions and Their Impact on Lake Tempe Fishermen: A Case Study of Pallawang and Pakkajalalla

Azisan Azisan, Lukman M.Z, Sukri Tamma, Ariana Ariana

Department of Political Science, Faculty of Social and Political Sciences, Universitas Hasanuddin, Makassar, 90245, Indonesia

ARTICLE INFORMATION	A B S T R A C T
<p>Received: June 26, 2023 Revised: December 25, 2023 Available online: January 30, 2024</p>	<p>This research aims to evaluate the government policies implemented by Wajo Regency in resolving the complex challenges encountered by the Lake Tempe fishermen. It is difficult to determine the core cause of the Lake Tempe conflict because there are various local terms and interpretations from many researchers with diverse backgrounds. Therefore, this article seeks to provide a more detailed description of the conflict chronology as well as many of the terms used in Lake Tempe studies. This study gathered academic journals, scholarly literature, and related sources using a narrative review technique. The findings from all the articles are interpreted, summarized, and elaborated in a descriptive manner using implementation and evaluation concepts. Through the analysis of the collected data, the research findings reveal that the Wajo Regency administration issued particular regulations to control fisheries resource management to resolve the discrepancies between Pallawang and Pakkajalalla fishermen. The objective was to promote stability while empowering the community to manage fishing resources. However, the regulation's implementation was ineffective because of the limited availability of specialized human resources in the fisheries department, which hindered the successful execution of the policy. Furthermore, it shows that the enacted regulations contradict each other in terms of policy coherence. While the first issue concerns the fishing method, it has now evolved into a problem for the government to solve between the fisheries and agriculture sectors.</p>
KEYWORDS	
<p>Fishermen Conflict, Local Policy, Narrative Review, Policy Evaluation</p>	
CORRESPONDENCE	
<p>Name: Lukman M.Z E-mail: zuhallukman@gmail.com</p>	

INTRODUCTION

Tempe Lake is a natural lake in Indonesia's South Sulawesi Province. This lake resides in three regency areas: Wajo, Soppeng, and Sidenreng Rappang. The area of Lake Tempe is 13,750 hectares, comprising 11.45 hectares within the Wajo Regency, 1,547 hectares within the Soppeng Regency, and 750 hectares within the Sidrap Regency (Naing, 2019). It is a source of income for the local community, which uses the lake for freshwater fishing as well as agricultural, plantation, and residential functions in the surrounding areas. Furthermore, *Tempe Lake* is rich in biodiversity, with rare indigenous fish and migrating birds. The lake is particularly important for environmental conservation since it provides water for agricultural irrigation, drinking water, water-based tourism, and natural gas mining.

Lake Tempe is classified as an Ancient Tectonic lake. Previously, Pelras, (1996) portrayed Lake Tempe as an important waterway. During that time, the lake functioned as the focal point for two important shipping routes in South Sulawesi: one connecting the Makassar Strait to Bone Bay and another connecting Bone Bay to the Walanae River. The first route led from the Makassar Strait to Pare-Pare, Lake Sidenreng, Lake Tempe, and finally to Bone Bay through the Cenranae River. Meanwhile, the second route included travel from Bone Bay through the Cenranae River upstream to the Walanae River in the mountainous regions of Soppeng, Bone, and Maros. Both routes were strategic at that time due to the absence of land routes connecting these locations. Until 1828, Lake Tempe was navigable by large boats, including Portuguese sailing ships, from the sea to Sidenreng (now Sidrap Regency). Settlements around the lake thrived, and trade flourished. Trade from both domestic and foreign sources utilized large sailing boats, including those from the ports of Gresik, Palembang, Malaka, India, Campa, and Europe. This condition persisted from the 10th century to the late

14th century. As a result, it would not be surprising that in the 1970s, historical antiquities in the form of massive ship anchors were unearthed in Lake Tempe, which are now housed in the Sengkang municipal museum (Naing, 2019).

Since the beginning, Tempe Lake has been known as a water source that causes flooding in Wajo Regency (Tempo.co, 2010). During the rainy season, the water will overflow and reach 30,000–43,000 ha, inundating rice fields, plantations, people's houses, road and bridge infrastructure, as well as other social infrastructure, which caused quite losses. To overcome this problem, one of the initial solutions carried out was the construction of a dam, which was started in 2010 and completed in 2012, this weir functions to maintain the lake's water level at an elevation of +5.

Previously, Lake Tempe experienced shallowing due to massive water hyacinth growth, sedimentation, and land occupation. The most crucial problem faced in Lake Tempe is a very high sedimentation rate. This happens naturally brought by large river empties into the Tempe Lake area, high sedimentation and various causal factors happen because of agricultural and household pollution, overfishing, changes in the structure of aquatic biota, exploitation of fish and restocking not yet optimal, resulting in the decline in fish catches, it was then responded to by the central government by implementing a revitalization program that began in 2016 through the Ministry of Pekerjaan Umum dan Perumahan Rakyat (PUPR) and is targeted to be completed in early 2019 (PUPR, 2023). Furthermore, after years of pushing for the dam's construction, it finally began in 2012 and was only completed in 2013 before being put into operation in October 2014. The completion of the dam was inextricably linked to the fishermen's and Lake Tempe Rescue Forum's insistence.

The Wajo Regency Government has established a local ordinance (*Perda Kabupaten Wajo No. 4 Tahun 2012*) for the

management of Lake Tempe's fishery resources. This legislation provides regulations for dividing fishing zones and prohibiting certain types of fishing gear. Lake Tempe's waters are separated into three ownership types. The first location is the government-owned exclusive area (ex-ornament), which fishermen or private parties administer through an auction process. subsequently, some areas are privately owned (*Ongko*). Following that, there are open access zones. It is clear from the layout of fishing zones that not all fishers are free to capture fish in the Lake Tempe area.

Small fishermen who fish continuously change their fishing location, known as *Pakkajalalla*, and large fishermen who fish in exclusive zones, known as *Pallawang*, are the two types of fishermen in Lake Tempe. This difference then leads to a form of inequality. Income disparities occur between *Pallawang* and *Pakkajalalla* fishermen, where *Pallawang* has large capital and strong social networks (*Muhammad Said, 2021*), so they have the potential to have exclusive territories, making migration easier when supplies are limited. On the other hand, *Pakkajalalla* can only reach the free access zone because the potential area is already inhabited by *Pallawang*.

This competition shows a disparity in access to fishing grounds between *Pallawang* and *Pakkajalalla* fishermen, who compete in utilizing the Lake Tempe area to catch fish. They contend that they have access rights to and control over natural resources in Lake Tempe (*Muhammad Said, 2021*). Big-scale fishermen require a large area, causing the free access zones to be not owned jointly, making small-scale fishermen afraid due to a lack of fish, and restricting the transportation route for *Pakkajalalla* fishing boats.

Governments have to consider various social, economic, and environmental objectives that might not be simultaneously compatible when developing and implementing fisheries policy, which makes good governance a crucial component of ensuring the equitable and sustainable management of fisheries and supporting policy change (*OECD Review of Fisheries 2020*). The term governance of fisheries refers to the entire system of organizations and laws that control the formulation, approval, and execution of fisheries policy. As a result, changing and managing fisheries policy in an equitable and sustainable manner requires effective institutions of governance. There are numerous structures in place for fisheries policy since governance systems must respond to particular local situations. It is essential to establish broad criteria for what makes a robust governance system. However, it might be difficult to develop comparable indicators due to the diversity of country approaches when evaluating the success of governance systems for policy making. Additionally, it is challenging to link specific components of policy to the complexity of governance systems and the mediating effects of the policies themselves. According to the study, transparency, involvement, and coherence are significant factors in efficient fisheries governance systems. The allocation of resources is a major component of many fisheries regulations, and modifications to these policies could have a beneficial or detrimental impact on numerous stakeholders (*Belschner et al., 2019*). Regarding the *Tempe Lake* issue, the study will use a framework of conflict management *Hinterleitner & Sager, (2022)* which then directed to focus on two main processes of descriptive policy analysis which is evaluating the policy design (*Cairney, 2021*) and the effectiveness of policy implementation (*Pradhan et al., 2017*).

As a comparison, there is Rawa Pening Lake, which is one of the national priority lakes together with Tempe Lake (*Kemenkomarves, 2021*). Rawa Pening Lake has multifunctions in the form of fisheries, irrigation, power plants, and tourism. These multifunctional uses can support each other but can also conflict, especially when faced with the interests of local stakeholders. The implications of irregular use of Rawa Pening Lake occur due to the polarization of interests, resulting in environmental degradation. In line with the condition of Tempe Lake management, the management of Rawa Pening Lake is still centralized in the interests of the central government. The government formulated a revitalization program, one of which focuses on the tourism sector, while on the other hand, it is detrimental to the local community (*Serat.ID, 2023*), clearly in this case, there is an incoherence between the policies envisioned by the government regarding the final benefits of the revitalization program and the effects experienced by the local lake community.

Several studies have been conducted regarding Lake Tempe, including the exploration of the strengths and interests of actors who utilize the lake (*Sulaiman et al., 2022*), the examination of dynamics in social network structures and contestation within collaborative management of Lake Tempe, (*Said et al., 2019*), the investigation of consumption and food production (*Ali et al., 2017*), the study of community resilience in facing disasters in Lake Tempe (*Yusran et al., 2019*), and the evaluation of policies for revitalizing Lake Tempe (*Darti et al., 2021*). This research is crucial to understand the effectiveness of government interventions, specifically natural resource management policies. Furthermore, this is especially important given the limited research that focuses on the government's role in this topic. The objective of this paper is to provide clarity on the evaluation of policies addressing conflicts among fishermen and to assess the effectiveness of the local government's role in managing natural resources in Lake Tempe. This imbalance subsequently leads to difficulties in creating equitable conditions in terms of the distribution and allocation of natural resources among specific groups of fishermen in Lake Tempe. Considering the complexity of the issues in Lake Tempe, it is expected that the findings of this research will contribute to a better understanding of the problems faced by the fishing communities in Lake Tempe.

METHOD

This study uses a qualitative approach with the Literature Review method or more specifically Narrative Review (*Snyder, 2019*). Qualitative research studies typically seek to answer questions about the 'what', 'how', and 'why' of phenomena. It can be used to identify the range of concerns or ideas people have about any specific topic (*Brondolo, 2021*). It begins by ensuring the majority of relevant studies have been identified by listing numerous reliable databases. Next, to find individual studies on similar topics by determining specific keywords that are related to the *Tempe Lake* topic. Moreover, after the search is complete and all duplicates are thrown out, the abstracts of the remaining articles need to be reviewed to ensure that they address the research question. Finally, all the findings from the articles that have been found are interpreted and summarize, the meaning then elaborate in a descriptive way using implementation and evaluation concept (*Taktak, 2014*).

RESULTS AND DISCUSSION

In Regional Regulation No. 4 of 2012 of Wajo District, provisions regarding the exclusive fishing zone called ex-ornament have been established. This zone is located in the waters of Lake Tempe, owned by the government, and leased for management to the community or private entities. Every two years, the local government, through the fisheries department, conducts an auction for the ex-ornament area. The auction winner is granted control over the zone for six months, specifically when the lake water recedes, and the depth is less than 1.5 meters. During the remaining six months, when the water level rises, the ex-ornament area becomes open access for all fishermen.

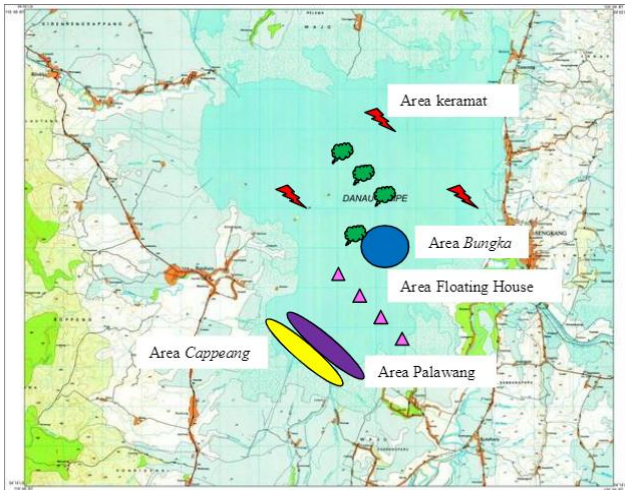


Figure 1. The Illustration shows the distribution of fishing space utilization on Tempe Lake.

Source: (Naing et al., 2017)

Additionally, the local government regulates the use of special conservation areas (reserves) that strictly prohibit any fishing activities within those areas. Consequently, the opportunities for small-scale fishermen to access these areas are diminishing. Conversely, fishermen with significant capital can dominate strategic fishing areas by endeavoring to win the auction for the ex-ornament zone. Large-scale fishermen employing the *Bungka Toddo* fishing method, known as *Pallawang*, require substantial capital to mobilize labor and cover operational costs, making it unfeasible for all fishermen to implement this method (Tubangsa, 2021). Furthermore, *Bungka Toddo* activities are generally carried out in open-access areas, restricting fishing grounds and impeding the movement of small-scale fishermen's boats, known as *Pakkajalalla*. As a result, *pakajalalla* access is limited in reaching fishing areas with higher potential (Priyatna & Sumartono, 2011). It indicates that *Pallawang* fishermen are favored by the local government's policies compared to *Pakkajalalla* fishermen. *Pallawang* fishermen, with their substantial capital, easily acquire territorial control by mobilizing their resources.

Tabel 1. Comparative Summary of Lake Tempe Fishermen's Conditions

<i>Pallawang</i>	1. Have sufficient capital to participate in government auctions
	2. It is situated in an ex-ornament (strategic fishing area).
	3. Classified as a big fisherman
	4. Usually uses the <i>Bungka Toddo</i> method, which tends to expand and go beyond the area.
<i>Pakkajalalla</i>	5. Lack of sufficient capital, hindering them from participating in government auctions.
	6. Generally situated in open access areas where sometimes transportation access is disrupted by <i>Bungka Toddo</i>
	7. Classified as small fishermen who move around
	8. Using traditional fishing methods.

Source: Processed Data

In the management of Lake Tempe, both in the establishment and enforcement of regulations, there is an imbalance in the relationship between interests and power (Said et al., 2019). This occurs due to the uneven distribution of resources. The local government and large-scale fishermen have strong network connections, and the latter exert a high level of influence in determining the allocation of Lake Tempe's resources due to their substantial capital, which benefits the local government. Meanwhile, small-scale fishermen, who share similar interests but have weak influence, can only obtain resources in open-access areas, further diminished by the control exerted by large-scale fishermen who have already dominated parts of the open-access territory.

Several tributaries do not dry up during the dry season and supply water to Lake Tempe, which can also be used as a fishing area by fishermen, but the branches of these rivers have mostly been plotted through *Ongko* control (exclusive right of use). As a result, small fishermen who dominate the Laelo can only use a few river areas. On the other hand, the owners of the *Bungka Toddo* want the drought to last longer so they can freely harvest the fish trapped in their *Bungka Toddo* (AIFDR, 2015). The demand runs counter to the interests of small fishermen, who want the water level to remain relatively stable during the dry season.

The case of *Bungka Toddo* demonstrates how lax enforcement of rules can harm small fishermen (AIFDR, 2015). The enormous area of *Bungka Toddo* violates the regulation for the size of one unit of *Bungka Toddo*, Local regulation No. 4 of 2012 concerning Fishery Resource Management, Article 18, paragraphs 3 and 5. Aside from that, the presence of *Bungka Toddo* reduces the amount of fish that small fishermen can catch. Every night, the owner of the *Bungka Toddo* can freely catch fish with *Lanra'* in their large area. It is possible because water hyacinths and other floating shrubs provide ideal habitats for many fish.

Small fishermen are frequently prohibited from catching fish outside of the boundaries of the *Bungka Toddo* by its owners, the owner occasionally uses grass poison to get rid of the water hyacinth in the center of the *Bungka Toddo* circle when the ground has cracked, and the lake is completely dry. They make this effort so that when the water level rises, they can easily catch fish in the center of the circle without disturbing the aquatic vegetation.

However, some old fishermen claim that using grass poison killed the fish eggs hiding between the gaps in the soil, lowering the catch potential for fishermen. As a result, small fishermen employ a variety of ways to ensure appropriate catches, including the usage of *Jabba*, which, according to the Fisheries Service it is violates the regulations even though it had not yet been incorporated into Regional Regulation No. 4 of 2012. When the government banned it and wanted to act firmly by confiscating the *Jabba*, the *Bungka Toddo*, which also broke the rules, was not confiscated. According to residents, the Fisheries Service rarely or never goes out into the field to enforce the regulation regarding the *Bungka Toddo* (AIFDR, 2015).



Figure 2. Bungka Toddo Fishing Equipment
Source: (Mongabay, 2016)



Figure 3. Lanra Fishing Equipment
Source: (Rumah Petani, 2017)

On another occasion, fishermen from Lake Tempe gathered to the Regional People's Representative Council office to demonstrate their concerns about the ban on fishing in Lake Tempe, particularly in the Sabbangparu Subdistrict (Sulselexpose, 2021). The prohibition is related to the use of a fishing tool called *renreng*. The community expressed their goals, emphasizing that the existence of this prohibition has had a substantial impact on their livelihood. They maintained that many infractions continue to occur in the area, and that the prohibition is discriminatory, particularly when compared to the use of fishing nets (*Lanra*) recommended by the government through regional regulations. The community also emphasizes the risk of loss for fishermen who utilize *Lanra*, specifically the harm caused by the *sapu-sapu* fish (*Tokke*) to their fishing nets. As therefore, the community expresses concern and seeks resolution regarding this situation. The community's demanded for responses indicates the significance of determining a middle

ground that can strike a balance between rules designed to protect fisheries resources and the economic viability of Lake Tempe fishermen.

According to one of the Wajo Regency Regional People's Representative Council members, there are significant issues in Lake Tempe regarding government regulatory compliance. The usage of fishing gear, such as fishing nets, has a negative influence on fisherman, particularly in terms of damage caused by *sapu-sapu* fish to the nets. Furthermore, there are considerable obstacles due to tensions between fisherman groups, with mutual limitations on fishing activities in the area. To solve these challenges, competent authorities with control over Lake Tempe fishing activities need to be involved and proactive (Sulselexpose, 2021).

Table 2. The context for the adoption of Government Local Regulation No. 4 of 2012.

- Several methods and fishing gears considered detrimental to Lake Tempe were used
- Fishermen flock to certain government agencies in the form of mass actions
- Various reports were made regarding the rise of illegal fishing
- Environmental issues related to Lake Tempe have emerged
- Regional regulation no. 4 of 2012 issued

Source: Processed Data

There are numerous elements that influence and are interconnected, both within and beyond the lake waters, that contribute to the current ecosystem destruction in Lake Tempe (Harahap et al., 2014). This pattern of usage of fisheries and agricultural resources may be one of the causes of conflicts between social environments, in addition to ecosystem environmental concerns. Considering the intricacy of the difficulties in Lake Tempe, efforts to resolve the issue must be directed to the authorities, in this case, the Wajo district local government. One of the vital issues in policymaking by the government is the lack of community participation and involvement of local institutions (Sudirman, 2023). Interests for particular groups must be avoided by incorporating all parts of organizations and carrying out decisions in a transparent manner so that a balance may be established during every decision-making. To comprehend the lake tempe problem in a more chronological and fundamental way, one perspective worth considering is a study of how the local government fulfills its role as a community representative.

Citizen participation in the formulation and implementation of public policy defines a domain distinct from the usual processes of democratic representation and direct democracy through public petitions, referendums, and general information exchange initiatives. Participatory methods are being used in a wide range of policy areas worldwide. Participatory approaches are increasingly used in the early stages of policy creation and implementation (Falanga & Ferrão, 2021). Moreover, in the case of Lake Tempe, participation arose as a response to the problems experienced by the local community. The first thing it deals with is the drought that has affected locals' income, particularly that of small fishermen because it has restricted their fishing area. In the dry season, the government's sale of *Ongko*, such as the *Ongko* utilized for *Bungka Toddo*, also contributes to the reduction of the fishing area for small fishermen in Lake Tempe, causing siltation of the lake water.

Fishermen's organizations protested the government and demanded specific legislation governing fisheries resource management should be issued to address the differences between *Pallawang* fishermen who tend to use the *Bungka Toddo* technique and *Pakkajalalla* fishermen who use simple techniques that lead to the government-developed fisheries resource management regulations. The goal is to accomplish joint interests, such as Lake Tempe stability and community control over fishery resource management for mutual benefit. As a result, small fishermen who are residents of the Laelo area successfully prevented the lake from drying out entirely through advocacy by residents and other parties. Aside from that, the presence of this dam has reduced *Bungka Toddo's* activities, which have affected the income of thousands of small fishermen (AIFDR, 2015).

Transparency enables accountability by empowering citizens, the media, monitoring bodies, and other stakeholders to find, process, and reuse government data to generate meaningful information and knowledge. For this reason, timely information on political representatives, decision-making processes, and outcomes should be made available to citizens. Yet, transparency levels are often substandard in public or governmental bodies. Depending on the particular contexts and jurisdictions, sharing information about the decision-making processes and the decision-makers themselves may be a longstanding tradition or a brand-new concern. At the local level, transparency practices vary substantially from one municipality to another (Tavares & da Cruz, 2020)

In the Wajo Regency government, access or availability of data related to information needs has not been evenly distributed digitally, such as fishermen's data and other activity reports. So, to obtain information is necessary to go directly to the institution concerned. In this case, the government of Wajo Regency showed openness related to the issue of fisherman conflict in Lake Tempe (Hartoni, 2022). It was found that the implementation of this policy has shown to be insufficient in effectively resolving the current issues. An Integrated Team for Monitoring, Enforcement, and Development of Water Resource Management, which reports to the Fisheries Department, is being formed in conjunction with the implementation of the policy. The group's goal is to meticulously monitor fisheries resource management. In practice, the team does not perform as planned. The explanation given is a paucity of individuals with experience in the fishing industry.

Coherence is one of the concepts used in this study. In all policy sectors, policy coherence is characterized as an overall state of mutual consistency among different policies and its relationship to higher policy stability, a decreased risk of poorly targeted or inefficient policies, and substantive policy failure. In contrast, policy incoherence can result in fragmentation, issues with coordination and implementation, wasteful use of resources, and a loss of trust or legitimacy for the government. Coordination between policies and networks is also necessary to prevent conflicts and establish policy coherence so the decision-makers in one program can be more aware (Voyer et al., 2020) The various issues described previously indicate that the implementation of regional regulations issued by the local government is ineffective because the central government also issued policies relating to agriculture that contradict the previous policies. For further explanation, the central government's construction of a dam makes supervision processes challenging to execute. The dam was built to address agricultural issues, but

it has had a negative impact on Lake Tempe fishermen because the water depth has become stable caused of the existence of the dam. Consequently, policies related to fishermen are neglected as the responsible authorities shift their focus to agricultural issues.

The existence of Tempe's dam, apart from providing benefits in the fields of agriculture and fisheries, is also a provider of raw water supply of 377 liters/second for PDAM water needs in the surrounding city/district of 230 liters/second and PLTGU of 147 liters/second as well as a tourism facility and Water transportation from the Cenranae River to Lake Tempe via navigation gate facilities (PUPR, 2021).

However, given the context of lake water elevation, which controlled by the dam's presence, the public's perception of their interest in Lake Tempe's condition is polarized. Some groups want Lake Tempe's water level to remain high. This group employs *lanra*, *tongkang*, *jabba kawat*, and *jala*. At the same time, some fishermen prefer that Lake Tempe's water level remain low. The fisherman groups that used *Bungka Toddo*, *Belle*, and Electric fishing, whose activities can only be carried out optimally when the surface elevation level of Lake Tempe decreases. Aside from these polarized fishing groups, several segments of the farming community around Lake Tempe want the lake water to be low. This is related to the method they use, which is to farm along the lake's edge when the water level is low. Thus, if the lake is revitalized through dredging, its cultivated land is likely to become deeper and continually flooded (Darti et al., 2022). As a result of the presence of a dam on Lake Tempe, the conflict has shifted from the distribution of fishing areas between large and small-scale fishermen to becoming polarized based on their fishing interests in terms of the fishing gear they own, as well as demands from the agricultural sector upstream of the lake and fishermen around the lake.

There are several limitations to this research. First, this research only focuses on Wajo Regency and does not cover other districts that are connected via the upstream of the Lake Tempe River. Furthermore, it is difficult to obtain new and relevant data regarding the condition of local communities due to the dependency on secondary sources. Apart from that, the narrative review method used is part of a preliminary research effort that provides a general description of the condition of a subject but is less in-depth.

Future research should include in-depth interviews with fishermen, local government officials, non-governmental organizations (NGOs), and other relevant stakeholders to gain direct insights and experiences about the policies governing the management of fisheries resources in Lake Tempe. It is supposed to provide an improved understanding of the policy's implications and improve the analysis.

Another thing that needs to be done is a sociodemographic survey to obtain the latest data regarding community conditions in terms of age, gender, education, employment, and household income and expenditure, or conducting research that focuses on community understanding of ecology literacy in Lake Tempe, which can help design further collaborative strategies (Sanjoto & Werdhiningsih, 2021).

In the end, to address the complex issues in Lake Tempe, it is critical to take actions that are truly collaborative and well-planned; therefore, the political will of the Wajo district government as an actor and key stakeholder in absorbing fishermen's aspirations is essential. In several studies, collaborative management strategies in other regions have

reached an impasse (Nadjib, 2016; Raharjo et al., 2019), as well as difficulty in creating participatory conditions due to the asymmetry of power among Lake Tempe fishermen (Muhammad Said, 2021), however, implementing a collaborative model is still a priority recommendation because it provides opportunities and more comprehensive input from various parties (Astuti et al., n.d.), at the same time, reinforcing stakeholder analysis, especially from academic circles and NGO movements is expected to be even more massive.

CONCLUSION

The Wajo Regency government's access to or availability of data relating to information demands, such as fishermen's data and other activity reports, has not been dispersed digitally equally. Therefore, it is required to go directly to the institution to collect information. The Wajo Regency authorities have shown transparency regarding the issue between fishermen in Lake Tempe. Fishermen's organizations protested the government and demanded specific legislation governing fisheries resource management to address disparities between *Pallawang* and *Pakkajalalla* fishermen. The *Bungka Toddo* method reduces the fishing area for small fishermen in Lake Tempe, when the dry season, resulting in sedimentation of the lake water and decreasing small fishermen's income. As a result of this situation, the government enacted fisheries resource management regulations. The goal is to achieve common objectives such as lake stability and community control over fisheries resource management. It was discovered that the implementation of this strategy had failed adequately to address the problems at hand. Along with the execution of the policy, an established integrated team for Monitoring, Enforcement, and Development of Water Resource Management, which reports to the Fisheries Department. The Team, however, does not perform as expected. Another issue is related to the central government's response to dealing with floods and other public needs like irrigation, water consumption, and power plants through the construction of the dam, which has reduced the activity of *Bungka Toddo*. However, if the focus is on how the government handled the Tempe Lake issue, it could be argued that the policies of the local government are incoherent and ineffective. It happened when the government released agricultural plans that contradicted previous local regulations. The central government built a dam to address agricultural issues, but the presence of a dam negatively impacts some Lake Tempe fishermen because the water depth has remained constant. As a result, issues that were previously within the fishing area have now become issues between sectors.

REFERENCES

- Ali, M. S. S., Majika, A., & Salman, D. (2017). Food Consumption and Production in Tempe Lake, South Sulawesi, Indonesia. *Journal of Asian Rural Studies*, 1(1), 43–52. <https://doi.org/10.20956/JARS.V1I1.723>
- Belschner, T., Ferretti, J., Strehlow, H. v., Kraak, S. B. M., Döring, R., Kraus, G., Kempf, A., & Zimmermann, C. (2019). Evaluating fisheries systems: A comprehensive analytical framework and its application to the EU's Common Fisheries Policy. *Fish and Fisheries*, 20(1), 97–109. <https://doi.org/10.1111/FAF.12325>
- Brondolo, E. (2021). Public health significance: Finding the evidence. *Psychology Research Methods*, 63–81. <https://doi.org/10.1016/B978-0-12-815680-3.00004-9>
- Cairney, P. (2021). The politics of policy design. *EURO Journal on Decision Processes*, 9, 100002. <https://doi.org/10.1016/J.EJDP.2021.100002>
- Darti, B. S., Bariroh, laili, & Herman, S. R. W. (2022). Dilema Kebijakan Revitalisasi Pemanfaatan Danau Tempe Kabupaten Wajo. *Politics and Humanism*, 1(1), 1–9. <https://doi.org/10.31947/jph.v1i1.21179>
- Darti, B. S., Muhammad, & Ariana. (2021). Tempe Lake Management Policy in Wajo Regency. *Awang Long Law Review*, 4(1), 58–64. <https://doi.org/10.56301/AWL.V4I1.246>
- Falanga, R., & Ferrão, J. (2021). The evaluation of citizen participation in policymaking: Insights from Portugal. *Evaluation and Program Planning*, 84, 101895. <https://doi.org/10.1016/J.EVALPROGPLAN.2020.101895>
- Harahap, I., Retnowati, S., Rachmiati, W. C., & Rustadi, A. (2014). *Perpustakaan Kementerian Lingkungan Hidup. Gerakan Penyelamatan Danau (GERMADAN) Singkarak. Kementerian. Lingkungan Hidup, Jakarta.* <http://perpustakaan.menlhk.go.id/pustaka/home/index.php?page=ebook&code=plh&view=yes&tid=503>
- Hartoni, H. (2022). *Klaim Wilayah Bungka Toddo Di Kalangan Masyarakat Nelayan Danau Tempe = Bungka Toddo Territory Claims Among the Lake Tempe Fishing Community.*
- Hinterleitner, M., & Sager, F. (2022). Policy's role in democratic conflict management. *Policy Sciences*, 55(2), 239–254. <https://doi.org/10.1007/S11077-022-09461-7/FIGURES/1>
- Kemenkomarves. (2021). *15 Danau Prioritas Nasional.* <https://jdih.maritim.go.id/15-danau-prioritas-nasional>
- Mongabay. (2016). *Danau Tempe, Danau Purba yang Mengalami Banyak Masalah. Apa Saja? - Mongabay.co.id: Mongabay.co.id.* <https://www.mongabay.co.id/2016/03/26/danau-tempe-danau-purba-yang-mengalami-banyak-masalah-apa-saja-masalahnya/>
- Muhammad Said. (2021). Asimetri Kekuasaan: Paradoks Manajemen Kolaborasi Pengelolaan Danau Tempe Sulawesi Selatan. *Jurnal Pengelolaan Sumberdaya Alam Dan Lingkungan (Journal of Natural Resources and Environmental Management)*, 11(2), 241–249. <https://doi.org/10.29244/jpsl.11.2.241-249>
- Nadjib, M. (2016). Problematika Prinsip Manajemen Kolaboratif dalam Kerangka Penyelamatan Danau Rawapening. *Jurnal Masyarakat Dan Budaya*, 18(3), 487–502. <https://doi.org/10.14203/JMB.V18I3.576>
- Naing, N. (2019). *Rumah Mengapung Suku Bugis* (I. Kurniawan (Ed.); Cetakan I). Penerbit Nuansa Cendekia.
- Naing, N., Santosa, H. R., Soemarno (2017). Kearifan Lokal Tradisional Masyarakat Nelayan Pada Permukiman Mengapung di Danau Tempe Sulawesi Selatan. *Local Wisdom: Jurnal Ilmiah Kajian Kearifan Lokal*, 1(1), 19–26. <https://doi.org/10.26905/lw.v1i1.1362>
- OECD Review of Fisheries 2020 | OECD Review of Fisheries | OECD iLibrary. (n.d.). Retrieved June 25, 2023, from https://www.oecd-ilibrary.org/agriculture-and-food/oecd-review-of-fisheries-2020_7946bc8a-en
- Pelras, C. (1996). *The Bugis*. Blackwell Publisher.
- Perda Kabupaten Wajo No. 4 Tahun 2012.* (n.d.).
- Petani, R. (2017). *Berapa Modal untuk membuat Jaring Gillnet - Rumah Petani.* <https://petaniberas.blogspot.com/2017/04/berapa-modal-untuk-membuat-jaring.html>

- Pradhan, N. S., Su, Y., Fu, Y., Zhang, L., & Yang, Y. (2017). Analyzing the Effectiveness of Policy Implementation at the Local Level: A Case Study of Management of the 2009–2010 Drought in Yunnan Province, China. *International Journal of Disaster Risk Science*, 8(1), 64–77. <https://doi.org/10.1007/S13753-017-0118-9/TABLES/4>
- Priyatna, F. N., & Sumartono, S. (2011). Pola Pemanfaatan Sumber Daya, Subsistensi dan Pola Hubungan Patron-Klien Masyarakat Nelayan Danau Tempe, Sulawesi Selatan. *Jurnal Matematika Sains Dan Teknologi*, 12(1), 37–45. <https://www.jurnal.ut.ac.id/index.php/jmst/article/view/506>
- PUPR. (2021). Tinjau Bendung Gerak Tempe, Menteri Basuki Minta Jaga Fungsi Tampungan Air Danau Tempe di Kabupaten Wajo. <https://pu.go.id/berita/tinjau-bendung-gerak-tempe-menteri-basuki-minta-jaga-fungsi-tampungan-air-danau-tempe-di-kabupaten-wajo>
- PUPR. (2023). *Uraian Singkat Pekerjaan Konstruksi RDT IIWajo 2023 format MDPFINAL*.
- Raharjo, S. A. S., Falah, F., & Cahyono, S. A. (2019). *Germadan Rawa Pening: Tindakan Bersama dalam Pengelolaan Common Pool Resources (Germadan Rawa Pening: Collective action in managing common pool resources) | Raharjo | Jurnal Penelitian Pengelolaan Daerah Aliran Sungai (Journal of Watershed Management Rese.* <http://ejournal.forda-mof.org/ejournal-litbang/index.php/JPPDAS/article/view/5210#>
- Said, M., Kusumasari, B., Baiquni, M., & Margono, S. A. (2019). The Dynamics of Social Network Structures and Contestation in the Collaborative Management of Lake Tempe in South Sulawesi. *Policy & Governance Review*, 2(3), 217. <https://doi.org/10.30589/PGR.V2I3.106>
- Sanjoto, T. B., & Werdhiningsih, C. (2021). Ecological Litteration of Rawapening Communities in Asinan Village, Semarang District. *Proceedings of the 2nd International Conference on Social Sciences Education (ICSSE 2020)*, 525, 146–152. <https://doi.org/10.2991/ASSEHR.K.210222.021>
- Serat.ID. (2023). *Konflik Agraria di Rawa Pening, Patgulipat Patok Negara-Tentara di Tanah Rakyat - Serat.ID | Bertutur dengan Data.* <https://serat.id/2023/12/18/konflik-agraria-di-rawa-pening-patgulipat-patok-negara-tentara-di-tanah-rakyat/>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/10.1016/J.JBUSRES.2019.07.039>
- Sudirman, A. A. (2023). *Studi Revitalisasi Danau Tempe Terhadap Pemanfaatan Sumberdaya Perikanan Air Tawar di Kabupaten Wajo = Tempe Lake Revitalization Study on the Utilization of Freshwater Fisheries Resources in Wajo Regency.*
- Sulaiman, A., Ali, M. S., Saud, Y. M., & Rahmadanih. (2022). Power and Interest of Actors in Using Tempe Lake in South Sulawesi, Indonesia. *Hong Kong Journal of Social Sciences*, 59. <http://hkjoss.com/index.php/journal/article/view/573>
- Sulselexpose. (2021). *Nelayan Ikan di Danau Tempe Datangi Kantor DPRD Kabupaten Wajo.* <https://www.sulselexpose.id/2021/10/nelayan-ikan-di-danau-tempe-datangi.html>
- Taktak, A. (2014). Research Methodology. *Clinical Engineering: A Handbook for Clinical and Biomedical Engineers*, 21–32. <https://doi.org/10.1016/B978-0-12-396961-3.00002-0>
- Tavares, A. F., & da Cruz, N. F. (2020). Explaining the transparency of local government websites through a political market framework. *Government Information Quarterly*, 37(3), 101249. <https://doi.org/10.1016/J.GIQ.2017.08.005>
- Tempo.co, K. (2010). *Akibat Banjir, Jalan Soppeng-Wajo Terputus - Makassar - koran.tempo.co.* <https://koran.tempo.co/read/makassar/203741/akibat-banjir-jalan-soppeng-wajo-terputus>
- The Australia-Indonesia Facility for Disaster Reduction (AIFDR). (2015). *Hidup dalam Pasang Surut Danau.*
- Tubangsa, I. (2021). Dampak Eksklusif Nelayan Terhadap Pengelolaan Sumber Daya Perikanan Danau Tempe Sulawesi Selatan. *Jurnal Penelitian Pendidikan Geografi*, 6(2), 76–85. <https://doi.org/10.36709/JPPG.V6I2.17184>
- Voyer, M., Farmery, A. K., Kajlich, L., Vachette, A., & Quirk, G. (2020). Assessing policy coherence and coordination in the sustainable development of a Blue Economy. A case study from Timor Leste. *Ocean & Coastal Management*, 192, 105187. <https://doi.org/10.1016/J.OCECOAMAN.2020.105187>
- Yusran, Ali, M. S. S., Dahliana, B., Salman, D., Rahmadanih, Dirpan, A., & Viantika, I. M. (2019). Community resilience in dealing with Tempe lake disaster. *IOP Conference Series: Earth and Environmental Science*, 235(1), 012108. <https://doi.org/10.1088/1755-1315/235/1/012108>