Institution and Legal Aspect Based River Water Quality Management

Idi Namara¹, Djoko M Hartono², Yusuf Latief³, Setyo Sarwanto Moersidik⁴

¹Dept. of Civil Engineering Universitas Indonesia, Depok, Indonesia
²Dept. of Civil Engineering Universitas Indonesia, Depok, Indonesia
³Dept. of Civil Engineering Universitas Indonesia, Depok, Indonesia
⁴Dept. of Civil Engineering Universitas Indonesia, Depok, Indonesia
*Corresponding author E-mail: idi.namara@ui.ac.id

Abstract

About 75% of rivers in Indonesia are experiencing severe pollution. The pollution comes from domestic waste. One of the important rivers in Indonesia that is experiencing pollution is the Cisadane River. The Cisadane River issues in Tangerang are erosion, sedimentation, not yet controlled public space, availability water, and water quality. The background of this research is the existence of water quality problems Cisadane Tangerang City of Banten Province. There are many institutions that manage the Cisadane watershed, but the effectiveness of these institutions in solving environmental problems in the Cisadane watershed is ineffective. Similarly, current regulations have not been effectively implemented. The purpose of this study is to determine the authority and agencies that manage the Cisadane watershed in Tangerang, examining the effectiveness of cooperation among agencies, seeking the most effective alternative institutions in Cisadane water quality management, as well as optimizing the implementation of regulations. This research is a qualitative research, this research also is multi case and explorative, so this research uses three stages of research, previous study phase, focus group discussion and data analysis. The conclusion of this research is to get the best and effective alternative institution in managing Cisadane River and to strengthen regulation or law.

Keywords: Water Quality, Institution Aspect, Legal Aspect.

1. Introduction

Cisadane river is one of 15 rivers in Indonesia whose management is a priority [2]. For the city Tangerang, water Cisadane has a big function, as a major source for raw water sources for drinking water supply for the community. Several ways have been done to manage the quality of river water Cisadane especially segment Tangerang City, including the arrangement with the approach of construction projects. In addition, management is required through legal and institutional aspects. Ahmadi (2012) describes the need for decision making in water quality management by taking into account social, economic, and environmental factors [1]. These three aspects are part of the institutional and legal aspects. Whichever approach is chosen to determine development priorities in the management of the river is actually not a problem, but the important consideration is to set up the institutional aspects or institution that became the coordination center [3]. Institutional and legal aspect problems surrounding the management of river quality is difficult, from the rule of finance, management, policy, prioritization of physical development, and so on. One of the most important aspects to support the implementation of a water action plan is the human resource capacity, especially in government institutions. Institutional and legal parties’ efforts can be dissipated due to the constant changing of human resources [4]. In many countries, every new government changes not only the Ministers, but also other key functionaries and experienced officials. Others leave because they find better employment opportunities elsewhere. The instability of human resources can disrupt the line of work and affect the effective formulation and implementation of the existing policies. Water quality management Cisadane also experienced problems in the legal aspects and institution aspects. The river that crosses the 5 cities and 2 provinces still have fairly high pollution. Although each city and provincial governments there have been institutions that manage the water quality of the river, but the river water pollution is still happening. The synergy between the regions is not yet in the form of role-sharing between the provincial and city. The location of Cisadane River Tangerang is shown below.

Fig 1. Location Cisadane Watershed of Tangerang City (Source : Bakosurtanal)

Currently, there is no single agency management of rivers and river water quality that can integrate all the stakeholders from
different sectors. The absence of the same guidelines used by each sector makes the management of the river increasingly fragmented. As for the legal aspect, currently on management river water quality in Cisadane not available are standard rules and a framework that can be used by all sectors that utilize Cisadane river. Until now, the management of water quality Cisadane still overlapping and segmented [5].

There are three regulations on water quality management from the Local Government of Tangerang, Banten Provincial Government, and the Central Government. These three regulations have similarities in water quality management and water pollution control. While in terms of institution aspects, there are currently more than 20 agencies with an interest in water quality management Cisadane river, but which has a major role in the management of water quality in the Cisadane there are six institutions. The six institutions were the Regional Environmental Agency of Tangerang (BLH Tangerang), Regional Road and Water Resources Offices (Dinas BM-SDA Tangerang), Regional Office Cipta Karya and Spatial Planning (DCKTR Tangerang), Regional Office of Hygiene and Parks (DKP Tangerang), Banten Province Office of Cidurian Cisadane River Management (BPSDA Banten), and Centre Office of Ciliwung Cisadane Watershed (BBWS Ciliwung Cisadane) The Ministry Public Work and Human Settlements. All these institutions have their respective roles in the management of river water quality. Although many institutions which manage, the quality of river water is still below the quality standard. The three existing regulations have also issued rules on authority in water quality management, including prohibiting people from dumping waste into rivers.

2. Result and Discussion

Cisadane river management is a shared responsibility between the central government, provincial government and municipal government [8]. There are many institutions that handle the water quality of the Cisadane river, but have not yet had a positive impact on the quality of river water, so it is necessary for the most appropriate and effective way in the best institutional aspects. Analyzing the role of government and institutional managers associated with the technical implementation of an authority is necessary to understand the basic structure of the state administration, especially when the field and its management institution has been established before 2002. Why 2002 is the benchmark? It should be understood that if the constitutional structure of the Republic of Indonesia has seen so many fundamental changes that have occurred since 2002. Based on Constitution no. 22 of 1999, the most fundamental change is in the context of regional authority by autonomy [9]. For that which needs to be explained is how the central and local authority agencies related to the management of river water quality. There could then be determined amendments that need to be done moreover, describe all regulations related settings including institutional arrangements relevant authorities both at national and regional levels. Identification is done in the form of a matrix, so that the picture can be seen later whether an ordinance, an existing authority of institutions that intersect or just missed something not regulated or managed by any agency. The following Table 1 for a summary of the authority of each institution.

<table>
<thead>
<tr>
<th>Institution</th>
<th>Related Tasks</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DKP Tangerang</td>
<td>Environmental hygiene in watershed area and build the park on the river bank</td>
<td>Reduce solid waste near the river</td>
</tr>
<tr>
<td>DCKTR Tangerang</td>
<td>Manage domestic waste water in the watershed area</td>
<td>should coordinate with relevant technical offices</td>
</tr>
</tbody>
</table>

From the summary table, we can see which institutions that could have a big role. The issue is generally seen is, the institution does not have enough authority or institution has the authority overlaps. Furthermore, the institution did not have enough financial budget to be implemented. Problem solving is often done is by forming a coordinating body that sometimes does not solve the problem. Although even the Central Government and Local Government has issued rules and policies related to the management of rivers and river water quality control, the level of effectiveness in the implementation of the policy is still considered low. Regulations related to the quality of river water that will be studied is the Government Regulation No. 82/2001 on the Management of Water Quality and Water Pollution Control [6], Banten Provincial Regulation No. 10/2012 on the Protection and Environmental Management [7], and Tangerang Regional Regulation No. 2/2013 on the management of Water Quality and Water Pollution Control [10]. The purpose of this study is to determine the hierarchical relationship of the regulations, effectiveness of implementation, and sustainability of these regulations.

SWOT Analysis

SWOT analysis is a process where the office management identifies the internal and external factors that will affect the institutional future performance. The institutional strengths and weaknesses are the internal factors. Opportunities and threats deal with factors external to the institutional aspect. SWOT Analysis is done by all stakeholders. The results are as follows, for institutional aspects of negative and negative performance. From the calculation of scores, the internal factor is (S – W) = -0,06 (negative) and external factor is (O - T) = -0,40 (negative). Based on the SWOT analysis, institutional aspects in the management of water quality Cisadane still have a negative performance.

For that internal factors should be strengthened, as well as external factors that threat should be reduced in order to maximize opportunities. An existing agency is now working well, but is still lacking in coordination. There are still a lot of overlap of responsibility among agencies.

For the results of legal aspect analysis [5], the calculation of scores, the internal factor is (S – W) = -0,61 (negative) and external factor is (O - T) = 0,13 (positive). The results of the SWOT analysis study were in quadrant 2 (High Weakness - High Opportunity). Evaluation needs to be done thoroughly to all stakeholders so that the policy can be implemented, especially considering the province of Banten has no regulation on water quality management, and considering the government regulation no. 82/2001 it is
time to review it. However, the high value of external factors (opportunities) gives hope that the policy can be implemented well in the future.

3. Conclusion

The research aimed to describe and explore issues and problems related to the management of water quality based institutional aspect, especially for Cisadane River, it can be concluded that:

1. The application of legal aspects needs to be maximized. There is an opportunity to get a positive score, given the positive value analysis opportunity.
2. Institutions are also often weak coordination in the settlement because coordinative authority only, and does not have sufficient funds.
3. Implementation river water quality management, preferably with one river one management system, but in accordance with the mandate - regional autonomy law will require cooperation with local governments to participate in managing the river basin or watershed.
4. Need to be considered if the resistance will be to revamped the authority related to an institution. Just to accommodate and incorporate the new institution will not necessarily solve the problem.
5. The existence BBWS Ciliwung Cisadane in Cisadane river water quality management needs to be improved, especially in monitoring and evaluation, the increase in the budget, human resource capacity building.

Acknowledgement

The authors wish to acknowledge the funding support of the Directorate Research and Community Service - Ministry of Research, Technology, and Higher Education of the Republic of Indonesia of Fiscal Year 2018 in this study, as well as the support of the University of Ibn Khaldun Bogor.

References

[7] Government Regulation No. 82/2001 on Management of Water Quality and Water Pollution Control
[10] Tangerang City Regional Regulation No. 2/2013 on Water Quality Management and Water Pollution Control