Policy implementation evaluation about quality management and pollution control of water in Regency of Bekasi

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Abstract. This study aims to determine the implementation of public policy about Water Quality Management and Water Pollution Control in the Regency of Bekasi of Indonesia in order to minimize water pollution. Based on previous research can be synthesized that: Pollution of river water occurs caused by the disposal of waste containing organic or inorganic substances to water sources that cause various diseases and silting the river and have an impact on the environment. The method used in this Policy Research is content analysis. Data of the research results in the analysis by using Merilee S. Grindle model. The results show from of policy content: Objectives of policy that has not adhered. Context of implementation: Inter-institutional coordination in the realization of policy has not gone well. Implementation strategy used: Maximizing policy support from Ministry of Environment, Overcoming the lack of human resources in the field of environment, Maximizing infrastructure and financial facilities.

1. Introduction

Water resources both groundwater and water that are on the surface of the soil should be maintained and kept not polluted so that in turn can cause disasters that affect the lives of living things that are on this earth. It needs to be wise to reduce and improve if water resources are polluted, if effective measures to reduce and improve water pollution and its sources are not found, it is estimated by the UN that 2.7 billion people will face water shortages by 2025 [1]. Similarly, the increased negative effects on food safety due to water and soil pollution make more people at risk of carcinogenic diseases, which contribute to the "cancer village" [2]. Furthermore, the use of chemicals continues to increase in both the number and range of different substances that cause river pollution in Liberia, it warns the need for increased public awareness to protect ecosystems and health from risks associated with chemical pollution problems [3]. This requires a review of river and coastal management policies as well as in Japan that suffered severe water pollution during economic growth in the 1960s. With population and industrial and coastal concentrations producing large amounts of pollutants such as chemicals and so on into the sea and this causes health hazards, also damaging the fisheries and livelihoods environment [4]. Similarly, past pollution incidents in China due to industrial water pollution, in environmental governance are meaningful to ensure prevention and mitigation of future pollution environments [5]. The same is true of the history of water pollution in Switzerland due to
the sediment of Big Lake Perialpine and Lucerne, where the peak of water pollution by toxic metals due to the release of industrial wastewater was achieved in the mid-20th century. Subsequently after the 20th century both lakes showed a decrease in metal pollution after implementation of the wastewater treatment plant [6].

Control of rural non-sourced water pollution in Hubei Province of China which is a farming area shows that water pollution has continued to increase over the last ten years by chemical fertilizers, poultry and livestock, aquaculture, and rural life, these pollutants flow into drinking waterways [7]. Similarly, the quality of Marreco river water, Brazil, based on the analysis of major components and toxicological tests showed strong evidence of increased levels of K and Ca associated with anthropogenic activity installed in watersheds [8]. In line with the above, there is also pollution of river water in the Danube River in Serbia, so it is necessary to clarify the ecological and identification of parameters that affect the water quality variables, which emphasizes the importance in realizing the principles of water management [9]. Similarly, the assessment of the status of water quality for the Selangor River in Malaysia where the condition of water degradation in the river will continue in the coming years because the pollutant load from poultry, municipal wastewater, and industrial waste water is less actively handled causing problems water quality used for some purposes [10]. Similarly, in West Bengal, India, where research results show irrigation water contaminated with arsenic so that rice, wheat, vegetables and other cultivation consumed by humans in Nadi District, India will be exposed to arsenic [11]. Similarly, mercury flows affecting Water Quality in the EU where knowledge of the mainstream of priority substances and production systems and consumption structures in society causes this flow to be a prerequisite for any attempt to predict and understand the fate of their environment and minimize future environmental burden [12]. As well as river condition in the Regency of Bekasi, currently not escape from pollution problem where the quality of river water in nine watersheds in the Regency of Bekasi is seriously polluted [13].

Based on previous research, it can be synthesized that: Pollution of water occurs caused by the disposal of wastes containing organic or inorganic substances to water sources that cause various diseases and silting the river and have an impact on the environment. The results of this research provide in-depth information on the causes, the contents of pollutants, while the last five years research has not found research on public policy in an effort to minimize water pollution, it means increasing the accuracy sequence steps to solve the problem by researching the implementation of public policy on water quality management and water pollution control needs to be done, so in this study, the focus of research on the implementation of policy of Regional Regulation No. 9 year 2005 about Water Quality Management and Water Pollution Control in the Regency of Bekasi using Merilee S. Grindle model. Where according to this model the activity of policy implementation is influenced by Policy Content and context Implementation.

2. Method

The purpose of this study is to know the Implementation of Regional Regulation Policy No. 9 the year 2005 about Water Quality Management and Water Pollution Control in order to minimize pollution of river water in the Regency of Bekasi. The method used in this Policy Research is content analysis. Data of the research results was analyzed by using Merilee S. Grindle model [14].

3. Results and Discussion

3.1. Results

The results of the study are based on three perspectives, namely: (1) The content of the policy influenced by factors such as the interests that effect, the benefits generated, the degree of change, the location of decision-making, implementing policies and available resources have not been able to minimize water pollution. This led to the implementation of the policy have not been realized and can be indicated based on BPLHD document on 2016, that the Cikarang watershed is still polluted.
Based on the parameters of COD and BOD the results of the survey of sampling in water bodies showed the value of COD lowest monitoring point 67.22 mg / L, highest 115.52 mg / L, for the value of BOD lowest monitoring point 24.48 mg / L, highest 62.58 mg / L. This indicates that the Cikarang River is above the normal limit required by Government Regulation No. 82/2001 on Water Quality Management and Water Pollution Control, Class III is COD 50 mg / L, BOD 6 mg / L where the intended Water may be used for the cultivation of freshwater fish, farms, water for irrigating gardens, and/or other designations which require the same water quality as that purpose. Thus, water from the Cikarang River Basin (DAS) cannot be used for the people along the river. (2) The policy environment is the factors affecting the policy implementers such as the interests, powers, and strategies of the actors involved, the Characteristics of the ruling institutions and regimes, the Compliance and the Response of Executives, have not met the expectations of the policy objectives of ensuring water according to water quality standard. The existence of the interests of the actors involved so that the policy cannot be implemented, then the characteristic of the ruling institution that the policy is a political product made by the legislative and executive institution (head of the region) and implemented by the administrative body responsible to the chief executive while the compliance and the responsiveness of the policy implementer in accordance with the main duties and functions set forth in the Regent Regulation No. 38 of 2009 About the Organization and Work Procedures of the Environmental Control Agency of the Regency of Bekasi, although the lack of human resources in the field of environment (3) The performance of the institution is the implementation strategy used in realizing the policy using SWOT analysis.

3.2. Discussion
Factors causing unrealized implementation of the policy are viewed from the perspective of Policy Content, as follows:
First, the interests that affect the policy. The result of the research indicates that the interest will influence the policy target, where the society and industry residing in a region or industrial zone are prohibited to dispose waste into river body unless they have permission from the local government, but the community does not all understand about the local regulation. 9 of 2005 except for large industries in the region and industrial zones that must comply with the regulation. In fact, the river in Bekasi Regency is still polluted and this condition is not in line with the expectations of Article 14, Article 15 About the Liquid Waste Disposal Permits and Article 24 About disposal of liquid waste. Local Regulation is a form of public policy aimed at regulating both community and institutional policy objectives, as follows: Public policy is a set of inter related decisions regarding the selection of targets and the benefits to achieve them, where the goals are community and institutions [15]. The other opinion that public policy is the study of what the government is doing, why the government took the action, and what the consequences of that action [16]. The substantive elements of public policy and procedural steps taken by the decision-making authority during the policy cycle affect the perceptions of policy and legitimacy held by stake holders and the public. In the case of substantive, the content of the policy should align with the dominant attitude of the affected policy community and ideally the wider society [17]. Thus, it can be stated that the regulation on water quality management and water pollution control in Articles 14, 15 and 24 has not affected the policy objectives, especially the community, the general public has not yet learned that disposing of domestic waste into the river body violates local regulations.
Second, Benefits resulting from the policy. The results of research show that the benefits generated from the policy cannot be felt directly by the community that is clean water, and the industry to obtain the ease of licensing services and transparent in terms of financing, but the reality is still far from their desire, so this is not in line with expectations. Article 4 About Goals and Objectives Policies and Article 25 About Waste Water Disposal. According to the above Articles it is implied that local legislation implies that the policy should have benefits for the policy objective, especially the community, as it follows that the design of public policy and management must be closely connected, so that public policy is implemented to achieve the desired outcomes [18], and the Conformity
between public will and public policy is of particular importance in representative democracy, and whether the public gets the desired policy [19]. Thus, it can be stated that the regulation on water quality management and water pollution control in Article 4 and Article 25 has not been beneficial to the policy targets, especially the people who have not been able to utilize clean water from the river since the river water has been contaminated.

Third, the resulting degree of policy. The result of the research shows that the absence of degree of change resulting from the policy with river indication until now is still polluted and has not seen any efforts to recover, so the community considers that the polluted river is assumed to be allowed to dispose garbage or household waste and this has an impact on pollution of river water. This condition is certainly not in accordance with the expectations of Article 21 About the obligation of persons or institutions. Regional Regulation is a form of public policy aimed at regulating the policy objectives of both society and institution and how its effect on society, such as the following understanding that policy evaluation is objective, systematic, and empirical examination of the effect of the policy on the target in terms of goals to be achieved, after policy implemented [20]. In another sense, policy implementation reflects a complex process of change in which government decisions are converted into programs, procedures, regulations or practices aimed at social improvement [21], and potential influences that have implications for designing and implementing public policy whereby private institutions can encourage effective, voluntary environmental management. In this sense, should involve the potential of private institutions to encourage the expected environmental change [22]. Thus, it can be stated that the law on water quality management and water pollution control in Article 21 has not been able to change the behavior of policy targets, where up to now the river's water condition is still contaminated.

Fourth, the position of the policy maker. The result of the research shows that the position of the policy maker is the regent based on the approval of the Regional Representative Council of Bekasi Regency. The Regent is the head of the region directly elected by the people of Bekasi Regency, with the direct election of the people should also support the implementation of policies that have been issued by the local government, but in terms of policies on water quality management and water pollution control is still far from expectations, where pollution on the river is still on going, this means not in accordance with the hope of Article 17 About Handling of Water Pollution.

Regional Regulations are a form of public policy aimed at regulating and complying with both public and institutional policy objectives, as follows: Public policy is an action, aims and a government statement, and an explanation they provide for what happened (or did not happen). That sense means that if the government chooses to do something or not do something, it has its purpose and purpose [23]. In another sense that to implement policies and achieve policy objectives effectively, adequate public support is an important prerequisite; most will fail, and the government may also experience setbacks in other policy areas in the absence of public support [24]. Thus, it can be stated that the regulation on water quality management and water pollution control especially in Article 17 has not received support from the policy objectives.

Fifth, implementing the policy. The result of the research shows that the right regional apparatus unit as the implementer of the policy is the BPLH of the Regency of Bekasi, which should be able to implement the policy of Regional Regulation no. 9 Year 2005 on Water Quality Management and Water Pollution Control, although it has implemented according to the mandate of the local regulation, but see the reality until now the results are not optimal, this is due to the limitations possessed by the Regency of Bekasi BPLHD such as human resources who understand the limited field of environment and the lack financial problems in supporting the preparation of planning, implementation, monitoring and evaluation, so that this condition is not in accordance with the expectations in Article 5 About authority in water quality management, Article 12 About authority in water pollution control and Article 27 About Supervision.

Regional Regulation is a form of public policy aimed at regulating the policy objectives of both society and institution and implemented by the implementing agency policy. In this sense, the Public Policy is a series of instructions from decision makers to policy implementers explaining the
objectives and ways of achieving that goal [25] and another understanding that the Public Policy addresses the question of how issues and the issues are constructed and defined, and how they are placed in the policy agenda and other political agenda [26] that in the public policy process, joint learning between policy actors is important in shaping how the process is rolling and the type possible policy outcomes [27], as the task of implementation is to establish a linkage that makes it easy for policy purposes to be realized as a result of a government activity (Grindle, S Merilee 1980). Thus, it can be stated that the regulation on water quality management and water pollution control in Article 5, Article 12, and Article 27 result has not been optimal to overcome the pollution of river water.

Sixth, sources available in policy support. The results showed that the resources available in support of policies, especially related to finance are still minimal. The budget managed in the BPLHD of the Regency of Bekasi is limited to about 3 percent of the Regency of Bekasi’s Budgets [28] so that the planned program has not been fully realized. The wide range of supervision and limited supervisory officers is one of the weaknesses of supervision that lead to violations of local regulations so that if pollution occurs, it is the environmental polluters that must be responsible, but in reality, the river is always in polluted condition while the polluters are difficult to ask accountability. This is certainly not in line with expectations. Article 16 About the Emergency Countermeasures, and Article 26 About coaching.

Local Regulation is a form of public policy aimed at regulating the policy objectives of both public and institutions, of course, the need for resource support, as one of the opinion that, the implementation of policy is the stage where the policy has been taken by administrative units that mobilize financial and human resources [29]. Another opinion is that the state budget is one of the most important public policy instruments because it sets the priorities of government policy and has the potential to determine win and lose, which can be interpreted to succeed or fail [30]. Thus, it can be stated that the regulation on water quality management and water pollution control in Article 16 and Article 26 has not been realized to minimize the contamination of river water in Bekasi Regency due to the lack of support of resources, especially financial resources.

Factors causing unrealized implementation of the policy are seen from the perspective of the Implementation Context. In addition to policy content, the context or environment of a policy implementation is an important factor that determines the success of policy implementation. There are 3 indicators according to Grindle that are the context in the implementation of the policy, as follows:

First, he powers, interests, and strategies of actors involved in the policy. The results showed that the power, interests, and strategies of actors involved in policy are very influential in the successful implementation of a policy. The closure of the waste management plant ever conducted by BPLHD in an industrial area in Jababeka has an impact on the laying off industrial workers, the economics of the community in disturbed areas, the pressure of trade unions and employers and politicians who overshadow the employment field, so that the implementation of policies relating to the application of sanctions the result is not optimal. This is certainly not in accordance with the expectations of Article 30 about Criminal provisions. Regional Regulation is a form of public policy aimed at regulating both individual and group policy goals. Policies should be understood as processes involving various elements that do not necessarily move in an integrated way but can thrive in various steps or even opposite directions [31]. In regions, contested policies such as migrant integration, organizational setting patterns often have the high-level character, leading to different policy frameworks and thus complicating government in multi-level arrangements, so coordination is required between levels to enable policies to be implemented [32]. By constructing a conceptual map that takes into account the constellation of ideas, institutional arrangements, and interests involved in dealing with policy issues, so that there should be no tug of interest in the field in order to have no barriers to implementation [33]. Thus, it can be stated that the regulation on water quality management and water pollution control in Article 30 regarding criminal sanction to violators of Regional Regulation No, 9 of 2005, due to the pressure and tug of interest of actors involved in the implementation phase of the policy cause not yet can be implemented maximally.
Second, characteristics of institutions and authorities in policy. The result of the research shows that the Regency of Bekasi Environmental Management Agency (BPLH) as the Regional Vice Work Unit (SKPD) is the implementer of regional regulation no. 9 of 2005 on Water Quality Management and Water Pollution Control in the Regency of Bekasi. Regional regulation is a political product created by the executive body with the approval of the legislature, but in its implementation by the administrative body is responsible to the regent as the executive body. Communities reporting pollution, if slowly responded by policy implementers, then they channel the report to the legislature or DPRD and then legislatively coordinate with the executive or regent to be followed up by the implementer of the policy. So this process takes a long time to solve environmental problems quickly and this is not in line with the expectations of Article 17 About Handling of water pollution. Regional Regulation is a form of public policy aimed at regulating both community and institutional policy objectives and implemented by policy implementers, as it understands that the Policy cannot work without implementation, all or one of which includes implementation. There must be a starting point. If no action is started, implementation cannot be performed. There should be an ending point. Implementation cannot succeed or fail without purpose that decides [34]. in another sense that policymakers may encourage or initiate some cumulative, small-scale experiments that are translated into additional policy changes so that problems can be resolved quickly [35]. Thus, it can be stated that the regulation on water quality management and water pollution control in article 17, although the policy implementers are working, the results are not yet optimal.

Third, compliance and responsiveness of policy implementers. The results show that the level of compliance and responsiveness of policy implementers is still not optimal results, this is due to the policy objectives that are not yet compliant with local regulations, where still the disposal of liquid waste into the river body and the absence of real action against the violation, this is certainly not in accordance with the expectation of Article 28 About Supervision and Article 2 About General Provisions. Regional Regulation is a form of public policy aimed at regulating both public and institutional policy goals. The following opinion is that one way to analyze implementation problems is to begin by thinking about what 'perfect administration' is like in the way economists apply the perfect competition model. A perfect administration can be defined as the condition in which the 'external' element of resource availability and political acceptance is combined with 'administration' to produce the perfect policy implementation [36], as well as that the Science of socialization and implementation is an important help build field skills. Meaning that policy implementers should be able to disseminate policies to policy goals for successful implementation [37]. Thus, it can be stated that the regulation on water quality management and water pollution control in Article 2 and Article 28 even though the implementer of the policy has worked, but the result is not yet optimal.

4. Conclusión
Based on the results of research and discussion can be concluded as follows:
1. Factors that have not realized the implementation of policy of Regulation No. 9 of 2005 on Water Quality Management and Water Pollution Control in Bekasi Regency in order to minimize River Water Pollution viewed from the perspective of policy content, namely: (1) Objectives of policy that has not been complied, (2) Human and financial resources are still limited.
2. Factors that have not realized the implementation of policy of Regulation No. 9 of 2005 on Water Quality Management and Water Pollution Control in Bekasi Regency in order to minimize River Water Pollution from the perspective of implementation context, namely: (1) Coordination between institutions in realizing the policy not going well. (2) Control of industry and environment is still weak.
3. Implementation strategies used in the realization of policies are: (1) Maximizing policy support from the Ministry of the Environment; (2) Overcoming the lack of human resources in the field of environment; (3) Maximizing infrastructure and financial facilities; (4) Addressing non-compliance of policy objectives.
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