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By:

REISYA NOVANY PUTRI LATUIHAMALLO

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Supervisor

Rahmawati Husein, MCP, Ph.D

NIK: 19650827199709 163 055

Acknowledge by:



Dean of Faculty of Social and Political
Science

Dr. Titin Purwaningsih, S.IP., M.Si

NIK: 19690822199603 163 038



Head of Government Affairs and
Administration Department

Dr. H. Muchamad Zaenuri, M.Si

NIK: 19660828199403 163 025

THE PROGRAM EVALUATION OF BEKASI ENVIRONMENTAL AGENCY (DLH) IN MANAGING WATER POLLUTION OF BEKASI RIVER YEAR 2016 -2018

Reisya Novany Putri Latuihamallo*

Reisya.novany.2015@fisipol.umy.ac.id / reisya.novany@yahoo.com

**college student at International Program of Government Affairs and Administration.*

Faculty of Social and Political Sciences of Universitas Muhammadiyah Yogyakarta, Indonesia.

Abstract

With the limited natural resources, human are expected to preserves them such as water. Although, it was not compareable with the growth of existing human resources. From the process of using natural resources, the remaining unused material will become pollution called environmental pollution that occurs rapidly such as water pollution. In Bekasi River, water pollution had occurred a long time ago. It is because of the industrial and domestic waste that comes from Cileungsi and Cikeas River. From those problems the aim of this research is to analyze the program evaluation of Bekasi Environmental Agency in managing water pollution of Bekasi River.

In this research, researcher focuses on the program evaluation of Bekasi Environmental Agency in managing the water pollution of Bekasi River in 2016 – 2018 with the using of a descriptive qualitative method and using CIPP evaluation as the base theory. The variables used are Context, Input, Process and Product. The conclusion was the program evaluation was done well enough, although there were some of the problems arose because the lack of budgeting. The lack of budgeting was the source of the problems started from the lack in human resources in order to implement the program efficiently and effectively.

Keywords: CIPP, Water Pollution, Environmental Agency

1. INTRODUCTION

Earth has limited natural resources. This is not comparable to the growth of existing human resources. It cannot be denied that the rapid growth of human resources must be supported by the maximum utilization of natural resources. The utilization of natural resources that are used massively is not balanced with processing the remnants of production which eventually become waste. The waste will later become a complex problem, especially in industrial areas. This waste will be the source of environmental pollution.

Environmental pollution can cause imbalances in the ecosystem and can also threaten life from time to time. According to Law number 4 Year 1982, environmental pollution is the entry of an energy substance or component that damages the environment, or changes to all

forms of environmental order both the results of human activities and natural processes, so it can threaten the quality of the environment.

There are several types of environmental pollution (Sumampouw, 2015). Firstly, air pollution is caused by exhaust fumes, such as CO₂, CO, CFC, and cigarette smoke. CO₂, known as Carbon Dioxide, is retrieved from factories or machines which use fossil as the fuel. Besides carbon dioxide, there is also CO, known as carbon monoxide. CFC is another example of air pollution, and can be found in air conditioner. The most finding cause is cigarette smoke that causes lung cancer.

Next is soil pollution that comes from domestic waste, industrial waste, agricultural waste even farming waste. There are types of the waste. One of them is organic waste such as leaves, paper, and skins. The organic waste is considered easy to ravel. In the other hand, inorganic waste is not easy to be ravelled such as glass, aluminium, and other synthetic waste (plastic).

Third is water pollution. According to Government Regulation (Peraturan Pemerintah Number 20 Year 1999) water pollution defined as:

“Water pollution is the entry or inclusion of living things, substances, energy and / or other components into the water by human activities that make the quality of water drop to a certain level which causes the water to no longer function according to its designation.”

It cannot be denied that water is the most valuable resources. It is the essence of every living creatures. Almost 90 percent of our body contains water. Water is needed for irrigation or even daily use as a potable water. Everyone has the right to gain the access of clean water. One way to get clean water is to utilize the river. River water flow in every part of the Indonesian hemisphere can be used unless it was polluted by several factors explained before. The pollution affects the water, so it cannot be used.

Polluted rivers are mostly found in large cities that have many industrial factories. The large amount of industrial waste is produced by factories.

Besides the industrial waste, the society is also considered to be one of the sources of pollution by contributing in domestic waste. The environmental awareness within the society itself is lacking. There are often found rivers with domestic wastes that accumulate on the banks of the rivers. Domestic wastes come from the houses surrounding the river. The development of settlements also exacerbates the pollution in the river. Polluted rivers are

mostly found in large cities that have many industrial factories. The large amount of industrial waste is produced by factories.

Besides the industrial waste, the society is also considered to be one of the sources of pollution by contributing in domestic waste. The environmental awareness within the society itself is lacking. There are often found rivers with domestic wastes that accumulate on the banks of the rivers. Domestic wastes come from the houses surrounding the river. The development of settlements also exacerbates the pollution in the river. Therefore, in this study is the evaluation of the programs in managing water pollution of Bekasi River in 2016 – 2018.

2. METHOD

The data analysis technique used was qualitative descriptive. Qualitative research is a research procedure that produces descriptive data where the collected data is interpreted with words or sentences according to categories to obtain qualitative conclusions. The focus of data analysis is to simplify data in a form that is easy to be read and understood. Data in the form of written words, oral information from the speakers or the observed behavior can show various facts during the study. Many experts classify the stages of processing, analyzing and interpreting qualitative data at least in five forms of activity (Indrawan & Yaniawati, 2014). The technique that are used is interview. The interviewees are listed in the table below.

Primary Data	Sources	Quantity/ies
Interview	Staff of Pollution Control and Environmental Damage Sector of Bekasi City	5
	Staff of the Environmental Pollution Section of Bekasi City	5
	Members of <i>Tim Katak</i>	5
	Head of <i>Forum Masyarakat Pecinta Kali Bekasi</i>	1
	Society surround Bekasi River	4

3. THEORETICAL FRAMEWORK

a. CIPP EVALUATION

The model used in this study is a decision-making model developed by Stufflebeam known as the CIPP Evaluation Model. CIPP stands for context, input, process and product. In the book of Mulyatiningsih (cited in Puspitasari, 2012) stated

that CIPP evaluation is known as formative evaluation with the aim of making decisions and improving programs. The CIPP model is applied in order to support the development of an organization. Compared to other models, CIPP has a complete model. The CIPP model is chosen because CIPP is considered as the most complete model throughout all models of evaluation. It contains formative and summative models combined in one model. It also concludes the other factor beside the organization. There are four components of CIPP models, namely (cited in Mahmudi, 2011):

a. Context

This component aims to identify the strengths and weaknesses to improve the organization. Besides identifying the strengths and weaknesses, context also inventories the strength that can be utilized to cover its weaknesses and diagnose problems faced by the organization, and to look for solutions. Evaluating the context also aims to assess what goals are and predetermine priorities fulfill needs parties that are the target of the organization.

b. Input

This component is intended to determine the program to make changes. Evaluation of inputs seeks obstacles and potential resources. The main goal is to help clients reviewing alternatives related to the needs organization and organizational goals. On the other words, input evaluation serves to help clients avoiding futile innovations, and is expected to fail or at least squandering resources.

c. Process

The third component checks plan implementation. The goal is to give input for managers and their staff about conformity between the implementation of plans and schedules that have been made previously and the efficient use of existing resources. If the plan needs to be modified or developed, process evaluation provides instructions. Another noteworthy thing is to assess periodically how much far the acceptance of program participants and their success in carrying out their roles are and give notes complete information about the implementation of the plan and its comparison with its original purpose.

Process evaluation aims to identify or to predict obstacles in the implementation of activities or program implementation. Evaluation is carried out by recording or documenting every event in the implementation of activities, monitoring activities that have the potential to hamper and to cause unexpected difficulties, finding

specific information that is outside the plan assessing and explaining the actual process (Muryadi, 2017). During the evaluation process, evaluators are required to interact with the program implementing staff continuously. This component becomes a vital source of information to interpret the result of the program.

d. Program

The main purpose of product evaluation is to measure, interpret and decide on the results achieved by the program, namely whether it has been able to meet the needs that are in accordance with the expected goals. The product aims to assess the success of the program in meeting the target's need program. Assessments of the success of this program or organization are collected from people involved individually or collectively, and then are analyzed. Successes or failures of the program is analyzed from various perspectives. The steps can be initiated by assessing organizational performance based on diagnosed needs. Next, product evaluation also examines the impact program, whether it is not in accordance with the objectives and intentions of the program, positive or negative. Evaluation products are often expanded by assessing impacts long term program. The final function is decisive whether the program or organization needs to be continued, repeated, and / or developed in other places.

b. WATER POLLUTION

Tarigan (2013) stated that water pollution is the substances, energy or other components mixed into the water, so the quality of water drops to a certain level which causes the water to no longer function in accordance with its designation. According to Kristanto (cited in Tarigan, 2013), water pollution is a deviation of water from normal condition.

Thus, It can be concluded that water pollution is the entering of living things, substances, energy and / or other components into the water by human activities that make the quality of water drop to a certain level which causes the water to no longer function based on its designation. There are two types of waste namely, domestic and industrial waste.

A. Domestic Waste

Domestic waste usually comes in a form of liquid. Waste can be found in organic materials from food scraps, such as vegetables, fish, rice, oil, etc. In addition to organic materials, these wastes can also be obtained from inorganic materials such as aluminum, plastic or bottles which also drift away and accumulate into the garbage. This pollution

causes flooding. The drift organic material will experience decay and produce bacteria and fungi that accumulate in the river. These fungi and bacteria will cause the biota in the river to die because of the lack of oxygen in the water.

This phenomenon is often found in big cities. One example that can be an indicator or a clue is that there are a large number of reddish *tubifex* worms. Domestic waste in Indonesia itself has reached 60% of all types of waste available.

B. Industrial Waste

Industrial waste comes from industrial factories that are intentionally dumped into rivers. There are many types of pollutants produced. Pollutants depend on the type of industry. Some of them are in the form of organic, inorganic pollutants; and sulfuric acid. For example, it is often seen that is pollution that occurring in the sea and rivers. There are often oil mine leaks in the sea which result in the sea becoming polluted with oil. Many coral reefs, fish, seabirds and other marine animals die because of the effects of the oil spill.

4. FINDINGS AND DISCUSSION

a. Context

Based on the theory that was used, context evaluation includes an analysis of the problems underlying the formation of the program. Context evaluation also contains an analysis of the strengths and weaknesses of certain objects. According to Stufflebeam cited in (Muryadi, 2017), context evaluation becomes an institutional focus that identifies opportunities and assesses needs. A need is drawn from disparity view, reality and ideality. Context evaluation provides information for decision makers in planning a program to be carried out. In this variable, the researcher used Goals and Background as the indicators of the research. This indicator describes the vision and mission of a government work unit. Vision and mission can be a measure of employee motivation. With the same vision and mission, it can be a measure of the success of a program (Muryadi, 2017). In this study, the researcher used the vision and mission of the Bekasi Environmental Agency and compared to the vision and mission of the RPJMD of Bekasi City. In the evaluation theory that is used, Context is used to describe the goals of the subject and also the background of the problem. One of the parameters chosen is the vision and mission of the Bekasi City Environmental Agency. The vision of the Department of Environment is "*Bekasi Kota yang nyaman, hijau, bersih, dan berbudaya lingkungan*" translated as "Bekasi City is a comfortable, green, clean and cultured city". This vision is in line with the vision of the Bekasi City which contains

of "Bekasi Maju, Sejahtera and Ihsan" and describes the conditions of Bekasi City, namely, *Bekasi Maju, Bekasi Sejahtera, and Bekasi Ihsan*. In the Bekasi Forward point, it describes the development of the Bekasi City and the lives of dynamic, innovative and creative citizens who are supported by the provision of infrastructure and facilities as the embodiment of an advanced City. One of the infrastructures and facilities mentioned is ease of access to get clean water for daily needs. Bekasi River is one of the water sources used by residents who live in the surrounding the river.

This vision also coincides with the mission written in the RPJMD of Bekasi City in 2013 - 2018. There is a second mission that says to build the infrastructure and facilities that are in harmony with the dynamics and growth of the city. This mission means that infrastructure development aimed at fulfilling the complete physical basis of the city environment for a decent, healthy, safe and comfortable life; fulfilment of urban facilities to support the implementation and development of social, cultural, and economic life as well as the fulfilment of utilities for the service of city residents.

Meanwhile, background explains the reason why the program should be implemented. Background identifies the situations that become the problems (Muryadi, 2017). According to Mr. Khaniefudin, as one of the staff in Environmental Agency, the main problem experienced by Kali Bekasi is originating from the upstream of the river where most pollution comes from Bogor Regency. Mr. Khaniefudin also explained that in 2018, there were three companies that were sealed and prohibited from operating or carrying out production activities. One reason is the large number of factories or industries that were built along the Cileungsi River. With the large amount of industrial waste produced from the upstream of Bekasi River, it impacted on the quality of Bekasi River water. The majority of the waste produced at the Cileungsi River was industrial waste. On the other hand, along Cikeas River was filled with residential area. Domestic waste dominated the water quality of Cikeas River. In addition to the waste problem which is the main factor, Bekasi River also had another problem in the form of shipment of solid waste from upstream. This plastic waste problem had an impact on the quality of Bekasi River water. During the rainy season, there were many shipments of river waste from upstream that clog the river at the Koja Dam.



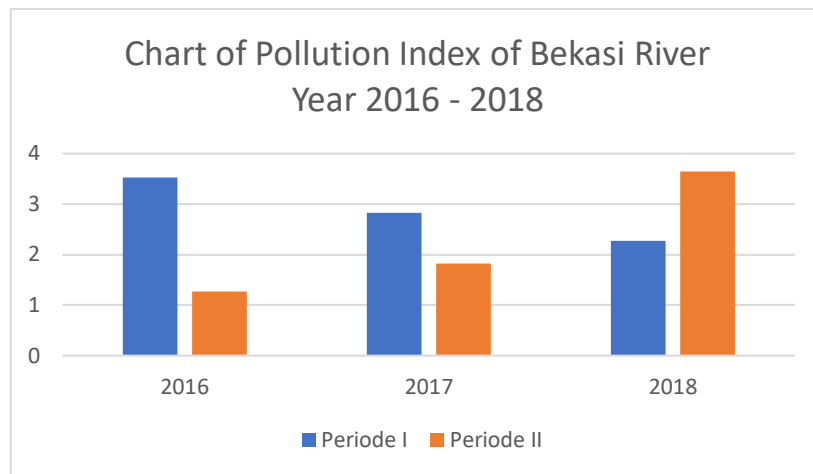
Source: downloaded from <https://news.detik.com/berita/d-4350188/bendungan-koja-bekasi-dipenuhi-sampah>, accessed on 19 July 2019

Besides the types of the waste that inhibit Bekasi River, the other is the quality of the water in Bekasi River in 2016 -2018. In order to know the quality of the water in Bekasi River, there are a laboratory test that was done twice in a year. There are eight sample test points of Bekasi River water quality, namely:

- Kali Bekasi Cipendawa,
- PT. Howsanindo,
- Kp. Bojong Menteng Street,
- Kemang Pramata Bridge,
- Lotte Mart Bridge
- PDAM Poncol Irrigation Bridge,
- Pasar Proyek Bridge,
- Pucung Bay Bridge.

However, based on the RPJMD of Bekasi City in 2013 - 2018, the Cipendawa Bridge was chosen as the testing ground or point for samples of Bekasi River water quality. The taking of this point is based on the meeting point from Cileungsi River and Cikeas River, so the Cipendawa Bridge is the sampling point for laboratory tests. The data from laboratory tests on river water samples are analyzed using the calculation of the Pollution Index according to the Decree of the Minister of Environment Number 115 of 2003 concerning Guidelines for Determining the Status of Water Quality. PI was used to test the quality of the water. Pollution index or PI (aforementioned PI) is

determined for an allocation, and then it can be developed for several purposes for all parts of the body of water or part of a river.



Source: Final Report on River Water Quality Monitoring in Bekasi City of 2016 – 2018

In 2016, testing was carried out in April - May. Based on graphic 3.1 in 2016 in the first and second periods, the testing of Bekasi River water each showed the Pollution Index rate of 3,52 and 1,27. In accordance with the Decree of the Minister of Environment No. 115 In 2003, the chart of 3,52 showed a mild pollution. Whereas, a significant increase occurred in the first period in 2017 which showed a figure of 2,82 where moderate pollutants showed. However, the decline in numbers occurred in period II of 2017. The chart in period II showed a value of 1,82, a decrease in numbers and a change in the category of Bekasi River water quality. This could be influenced by the weather seasons in Bekasi City. In the rainy season the volume of water tend to have an influential increase and plays an important role in the dissolution of wasted waste. The situation is seen from 2018. The difference is thin and there is no significant decline in the quality of Bekasi River water.

b. Input

Input evaluation includes the personal analysis that connected with the uses of the available sources such as human resource, the facilities, and also the budget allocation of the programs. This variable aims to guide the strategy of the program in specifying the procedural design (Muryadi, 2017). Indicators that are used in this

variable are the human resources, adequate technologies, and also the budget allocation of the programs.

The garbage problems were described in the first variable was completed by the *Tim Katak*. *Tim Katak* is formed is under the auspices of the Environmental Agency. *Tim Katak* is included in the field of environmental pollution. *Tim Katak* consists of 32 members. *Tim Katak* serves to clean up physical waste such as plastic waste, trash mattresses, wood waste, and bamboo waste. In addition, the *Tim Katak* can also be a facilitator for the laboratory of Bekasi environmental agency located in Kayuringin to take samples when Bekasi River water starts showing symptoms of pollution. The PROKASIH implementation was also carried out by *Tim Katak*. Every six months, the program programs included in PROKASIH are carried out. This is due to the garbage that inhibits the Koja Dam area which is a garbage subscriber. Besides the handling of the garbage, there were six other programs that *Tim Katak* should took a part in managing the pollution of Bekasi River. Mr. Mansyur estimated that if the members of *Tim Katak* are added, the programs in Bekasi Environmental Agency could be handled at the maximum capacity, especially the handling of garbage in the Koja Dam. the addition of members of the *Tim Katak* was not yet granted because of the limited funds provided.

Besides having human resources, other factor could be significant in the variable was the availability of the tools or the facilities that were provided in order to implement the program (Muryadi, 2017). The weaknesses in environmental laboratories were not opening quality and quantity reports that were available in environmental laboratories. This uncompleteness is a question in accordance with the findings of researcher. The researcher found that the problem impaded the implementation of the program from the Bekasi Environmental Agency was transparency in terms of written reports that should be accessed easily. Despite the shortcomings in the case of a written report, UPTD environmental laboratory was one of the accredited and registered environmental laboratory of the Environment and Forestry Standardization Center. The accreditation obtained before is valid until 26 of February 2023. According to the registration letter that was issued by the Environment and Forestry Standardization Center of Indonesia, the Environmental Laboratory of Bekasi Environmental Agency was registered and approved by the ministry to conduct the tests.

Budget plan or budget allocation is a plan prepared systematically, which includes all organizational activities, which are expressed in financial units, and are valid for a future period. The budgeting stage is very important because the budget that is not oriented on organizational performance can ruin the plans that have been prepared. The addition of the *Tim Katak* has not been approved due to lack of adequate funds. Funding and the sources of funds become one of the indicators in this variable. The sources of funds to implement the programs are retrieved from the *Anggaran Pendapatan dan Belanja Daerah* (Aforementioned APBD) or translated as the Regional Revenue and Expenditure Budget. In the programs of managing the pollution of Bekasi River, the funds came purely from APBD. One of the weakness in terms of the fund. With the length of Bekasi River, it had connected between two cities/regency in which the provincial government should take responsibility in managing the pollution especially in the terms of budget allocations. By supporting in the budget allocation, the program could be implemented maximally.

No	Years	Budget Allocation (IDR)	Budget Expenditure (IDR)	%
1	2016	1.500.000.000	-	-
2	2017	1.535.000.000	1.395.525.914	90,91%
3	2018	1.157.510.000	381.111.155	32,92%

Source: Local Regulation of Bekasi City

In 2016 to 2017, there was an increase in the budget received by the Bekasi Environmental Agency. The budget that was increased was in the several programs, except in the program of laboratory activities. The decreasing of budget was around 220.000.000 IDR. This decreasing of budget usually motivated by the urgency of the program and also it reflected by the report in the last year (2015). According to the APBD, in 2016 there was a laboratory reaccreditation in the environmental laboratory of Bekasi Environmental Agency. The urgency was considered priority, this was also claimed by Mrs. Ridha Farida Ghazali as one of the staffs in the environmental laboratory of Bekasi Environmental Agency. Mrs. Ridha explained that there was an agenda in reaccrediting the environmental laboratory in 2016 and that explained the

difference budget in 2016 and 2017. The major and significant difference came from the year 2017 up to 2018, where the differences were around 400.000.000 IDR in total. The differences that occurs in the year of 2017 up to 2018 is motivated by the maximizing of the budget allocation in the previous year. It could also be motivated by the priority of the program in a year. According to RPJMD of Bekasi City, in the year of 2018, the priority of Bekasi government was to conduct the education services, health services, and other social services. Therefore, in the year of 2017 and 2018, the infrastructure development and environmental improvement were not classified as a priority.

c. Process

The process variable is divided into several indicators such as Planning, Implementation, monitoring and evaluation. Planning begins with the decision of targets and objectives and also interprets errors that may occur in the process of implementing the program. one of the measurements that were used by the researcher is the conformity and the budget achievements of the programs. This indicator is seen through the annual budget plan of Bekasi environmental agency throughout 2016 – 2018. The data in the following tables are shown from *Laporan Keterangan Pertanggungjawaban* of Bekasi City.

The decrease in the budget of 2018 was 400,000,000 million rupiah. However, the 2018 budget was not maximally used with the uses budget of 32.92%. The achievements in 2018, was inversely proportional to 2017. In 2017, the budget used was 90.91% out of 100% was used for pollution and environmental damage control programs. Apart from the declining achievements listed in table 2018, there was one program that had no realization. This happened because the time was not right to run. In addition, the problem faced when implementing the program is the problem of lack of human resources and not only practical workers but staff in the office itself. This was also explained by Mr. Suhendra as the head of Field of Environmental Pollution and Damage Control. The running of the program was determined by these two main factors, human resources and the budget plan. These two factors were linked to each other. In this case, the budget plan could not be used optimally due to the lack of existing human resources while the existing human resources demand to add more personnel. The most optimal expenditure was done in 2017 with the uses of 90,91% of the budget allocation that were given.

The program implementation is the process when the program is run with the using and managing the input maximally to implement the program well. The process in implementing the programs, it can be worked or failed, and it depends on the factor that can support or detain the program. Due to the lacking in human resources, the implementation of the programs also had participation from several communities or organizations such as *Komunitas Peduli Cileungsi – Cikeas* (aforementioned as KP2C). First, the cooperation itself was not officially partnered. *Tim Katak* was the one that had an unofficial cooperation with KP2C. In this matter, Bekasi River is a meeting point between Cileungsi River and Cikeas River. KP2C was centered in Cileungsi River. The task of the KP2C was to notify that there was an increase in the flow of water sent from Cileungsi River. This increase in water debit affected the quality and quantity of Bekasi River water. Then, Bekasi environmental agency was agreed to be partnered with KP2C. This partnership was developed by the two sides brought its own benefits for the *Tim Kata* due to operational and technical assistance.

In addition to the local community, Bekasi environmental agency also received visits and assistance from international organizations, namely One Earth One Ocean (OEOO) and GreenCycle. This organization determine the development and application of the concept, because water throughout the world should be free from plastic, oil and pollutant waste. In addition, this association is involved in the fields of oil purification, microplastics, research, education, and documentation about marine waste, both nationally and internationally, to achieve changes in human behavior related to waste (plastic) in the long run.

Monitoring is an activity that is intended to provide information about the factors that inhibit and also support the running of a program (Mahmudi, 2011). The lack of public participation brought the government attempt to change the perspective of the public regarding the function of a river, especially Bekasi River. The resident tends to see a river as a garbage dump. This was supported by the number of the distribution of household waste management in Bekasi City year 2016 – 2018. The data showed that the public participation was deficient as the people tend to see a river as a garbage dump. This habit affected in the quality of the water and became the scourge of the citizen who live surrounding the river. According to Mrs. Bio Inten as one of the staff of Environmental capacity building, the perceptions of the citizen were formed due to the position of Bekasi River that was behind the housing. Indirectly, the position of the house or the settlement changed the perceptions and people tend not to see the

main function of Bekasi River. In addition to implement OTT, the government was trying to change the perception of the people by building *Hutan Bamboe*.

The plan to change people perspective was done in two stages. The initial stage is to build and add several *Bank Sampah* throughout Bekasi City. *Bank Sampah* is a place to sort out and recycle the household waste such as plastics. *Bank Sampah* also teaches the citizens in composting the waste. With the addition of new *Bank Sampah*, this aims to add some knowledge for the citizen in sorting out their wastes such as in organic waste or non-organic waste. In addition, this also aims to increase public awareness of the generated household waste. With the active role of the community, the community is expected to reduce solid waste. As of 2018, there are 1,030 *Bank Sampah* spread throughout Bekasi City (Al-Fajri, 2018).

Although with 1.030 units of *Bank Sampah*, there were only 211 units that were actively produce compost and sorting out household wastes. While the other 819 units of *Bank Sampah* were not worked maximally. Although the work was not done maximally, the existence of *Bank Sampah* in Bekasi City had increased by 39 units.

Furthermore, the Government tries to change people's perception by building tourist attractions that can be enjoyed by various groups, namely the *Hutan Bamboe*. This tourist attraction was established in early 2018, and it is located right on the edge of Bekasi River. Although it was established in February 2018, the *Hutan Bamboe* was inaugurated in November 2018. The establishment of the *Hutan Bamboe* originated from the innovations of the surrounding community, so visitors or the surrounding community could increase their empathy for caring for cleanliness and getting used to dispose of trash in its place.

Evaluation acts as a process for examining a program based on certain standards of value with the aim of making the right decision. Evaluation is also defined as an activity to determine the level of success or achievement of objectives based on planning (Mahmudi, 2011). One indicator used in this variable is the availability of the accountability report. Transparency is one of the outcomes of democratizing process driven not only by committed leadership, but also by the participation of and contention among groups and interests in society. As a government official, Bekasi Environmental Agency should be able to make the information available. A transparent government makes it clear what is being done, how and why the actions take place, who is involved and by what standards decisions are made. In this case, the researcher found that lack of transparency, especially in terms of the budget was crucial for all governments.

Transparency is an indicator of the seriousness of the government in implementing a program. The disadvantage of the Bekasi Environmental Agency was transparency in terms of written reports. There were several reports which are not published directly by the Bekasi Environmental Agency, such as the Final Report on Water Quality Testing and also the results of tests from the Environmental Laboratory.

d. Product

Product evaluation is a set of judgement outcomes in relation with context, input, and process which interpreted into the services or the goods that are provided. Product evaluation measures the target achievements and consturing the result that was achieved. This variable explains the impact of the implementation of the Bekasi Environmental Agency programs. There are several indicators such as changes in the Bekasi River water quality after the program is applied. In addition, the Bekasi River has also become one of the water sources for the Regional Water Company (aforementioned as PDAM) or translated as local water company.

One of the main indicators used in this research is the quality of water that showed whether or it was not polluted. The parameter that were used in the previous variable is the pollution index. The pollution index was also used by the Bekasi Environmental Agency to measure water quality in the Bekasi River, based on Government Regulation Number 82 year 2001. The impact of the implementation of the Bekasi Environmental Agency program was the decrease in the pollution index number in 2019.

One of the uses of Bekasi River is being a source of water from PDAM Tirta Patriot. With the occurrence of water pollution in the Bekasi River, of course the quality and quantity of production from the PDAM would be affected, especially in the quantity of clean water production. the reduction that occurred in October 2018 was 50% of the total normally produced by the PDAM. The pollution that occurred in Bekasi River affects the quality and quantity of PDAM Tirta Patriot production. However, this did not cause the membership of the PDAM to decrease. Even though the quality and quantity were lacking, PDAM customers continued to grow, and continued to use clean water services. This was also revealed by Muhammad Faisal, a resident of the Jakasampurna Village, West Bekasi Subdistrict who used the PDAM Tirta Patriot clean water service. Faisal uses that there are benefits to being a PDAM member. Faisal also felt a number of complaints such as the quality of water obtained and also the quantity that was very limited at a certain time.

In the year of 2016, the membership of PDAM was 28,044. This figure continues to surge from year to year. An increase in 1,299 membership occurred in 2017. Membership in 2018 showed the number 30,824 who actively used PDAM services. These figures continued to surge in line with the demand for clean water services at the Bekasi City level.

5. CONCLUSION

Based on the four variables above, it can be concluded that the environmental service programs in Bekasi City has run well. Bekasi Environmental Agency has implemented programs such as PROKASIH in accordance with standard operating procedures. Bekasi Environmental Agency also works with local and international communities. The collaboration formed was the cooperation of personnel to expedite the implementation of the program that had been prepared by the Bekasi City Environmental Agency. Other assistance in the form of advanced technology was also provided by the One World One Ocean Organization and also *Komunitas Peduli Cileungsi – Cikeas*.

However, the lack of a major factor in this regard is the budget. The problems that arise within the agency was caused by the budget, either the maximization of the budget or the transparency which have an impact on the relation between the society and the government. Transparency that should be done can build community participation. In addition, the shortage of field workers (*Tim Katak*) could not cover and cover all existing areas. Moreover, when the use of funds that is not optimal, it is felt to greatly affect the effectiveness of the programs implemented.

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