

# The Implementation of Zero Waste Program to Support Environmental Security

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**Abstract** - one of the negative impacts of areas with high mobility is increasing environmental problem that is waste. Handling waste was not only responsibility of officer but also citizens. Community involvement in waste management played an important role in creating healthy, comfortable and clean. One of the innovation is done through zero waste program. The purpose of this research to describe and analyze the implementation of zero waste program; to explain and analyze the implementation of zero waste program to support environmental security; as well as to describe and analyze supporting and inhibiting factors in its implementation. The research method used descriptive research type with qualitative approach. The results showed that zero waste program implementation in Sidoarjo Regency emphasized involvement of young people to mass clean-up actions in their neighborhood through recycling waste. Zero waste program as an innovation of waste management that supports environmental security. The supportive factor in this implementation were commitment of the local government in handling waste and cooperation with stakeholders that involved, while inhibiting factor was lack of awareness of some people to care their environment.

**Keywords--implementation; zero waste; environmental security**

## I. INTRODUCTION

The environment is one of the supporting aspects that have an important role for the welfare and benefit of the lives of many people. However, the importance of the role of the environment is not followed by a way of preserving a human's proper and safe environment. One source of environmental damage is the lack of public awareness in disposing of waste in its place. Bad habits become one of the urgent problems that require good cooperation from government and society in combating garbage problem. Waste is the waste disposal produced both from individuals and the results of the production process. According to Law No. 18 of 2008 on Waste Management, it is explained that waste is a waste of daily human activities and natural processes in the form of solid. The definition of waste specifically mentioned by Azwar[1] is: ".... part of something that is not used, disliked or something to be discarded which generally comes from human activities but not biological because it is not included in it. [2] states that the quantity and quality of waste are strongly

influenced by various activities and levels community life. According to Director General of Human Settlements (2006), waste management is divided into two kinds, namely: local management and centralized management.

Various impacts can occur if the waste is not handled properly, therefore special attention is needed to address the waste problem. There needs to be an active role from all parties, not just the government, and the community must play a role. Community participation can be done by having awareness of the surrounding environment. Until now, garbage seems to be a problem that has not been resolved in Indonesia as evidenced by the increase in the volume of Indonesia's waste reached 187.2 million tons; this makes Indonesia the second largest waste-producing country after China.

Sidoarjo regency as one of the districts that have high mobility also cannot avoid the garbage problem. Statement of Head of Department of Sanitation and Gardening of Sidoarjo Regency, Mr. Amig stated that if the waste is well managed, then the volume of waste disposed to the TPA will decrease. At present, the volume of waste in Sidoarjo 4000 m<sup>3</sup> per day. While that handled 800 m<sup>3</sup> or 20 percent of it [3]. Based on these conditions required a breakthrough in waste management independently. This can be done through community empowerment. Communities serve as the main subject to overcome the problems of garbage that has been interrupting the cleanliness and environmental sustainability together. The community is not only active in disposing of garbage, but must participate in processing waste.

The form of innovation in waste management in Sidoarjo regency is zero waste program. Zero Waste Program in Sidoarjo regency was launched by Saiful Illah Regent in February 2016. Implementation of the program is expected to increase awareness and consciousness from the community to get together in handling the increasing volume of garbage every day. The basic concept in the implementation of zero waste program invites young people to do mass clean-up action in their neighborhood. This program will be followed by 500 teams, each team there are 3-5 people as a representative of each village. The purpose of this zero waste program is to educate the people of Sidoarjo on the

importance of awareness and consciousness of the environment by working together from young people to the parents. So that the handling of the waste problem is not only

The zero waste program is packaged in environmental cleaning events that emphasize the creativity of each competitor's team to create waste recycling products by including documentation during the recycling process. Each team is allowed to create more than one waste recycling product so this will provide a great opportunity to be a winner. The winning compensation in this competition will be awarded to Singapore. The objective of the implementation of this program is to raise awareness and awareness consciousness of the young generation in maintaining and preserving the environment through minimal waste. Zero Waste is from production until the end of a production process can be avoided waste production or minimized the occurrence of waste [4]. The concept of Zero Waste is one of them by applying the principles of the 3Rs (Reduce, Reuse, and Recycle). Zero waste concept is the approach and application of system and technology of urban waste management of individual scale and scale of the region in an integrated manner to reduce the volume of waste as little as possible. The 3R concept is the basis of various efforts to reduce waste and optimize waste production process, [5] The operational pattern of waste treatment with the 3R concept is Waste Management, Waste Separation, and Final Disposal (TPA).

The concept of implementation means to provide the means for carrying out (providing the means to carry something); and to give practical effect to cause or impact on something "[6]. Dye in Subarsono says that public policy is whatever the government's choice to do or not to do[7].concludes the understanding that implementation is a process involving a number of sources including human, funds, and organizational capabilities committed by the government or private (individuals or groups)[8]. Edward III suggests some things that can affect the success of an implementation, namely: communication, resources and disposition.

The study in this paper using the implementation approach presented by Edward III is communication, resources, disposition, and bureaucratic structure[9]. Implementation of zero waste program in Sidoarjo Regency will be studied using some of the above variables that can determine the success or failure of program implementation in the field. The involvement of the various stakeholders involved in the implementation of the program is also a key determinant in the successful implementation of the program. In addition, the implementation of this program will also be reviewed in relation to supporting environmental resilience, especially in Sidoarjo regency. Environmental resistance is a public safety proportionally from environmental hazards caused by natural or man-made processes resulting from negligence, accidents, mismanagement, or deliberate actions. Therefore with the zero waste program in Sidoarjo regency is expected to support environmental resilience for the benefit and security of people's lives from environmental damage. Based on the above background explanation, the purpose of

the responsibility of yellow forces, military, police, and other cleaners, but also the responsibility of the entire community of the children, adolescents, adults, to the elderly.

this paper is to describe and analyze the implementation of zero waste program in Sidoarjo regency; to explain and analyze the implementation of zero waste program to support environmental resilience in Sidoarjo Regency; as well as to describe and analyze the supporting factors and obstacles in the implementation of the zero waste program to support environmental sustainability in Sidoarjo Regency.

## II. METHOD

Research conducted in the implementation of zero waste program in support of environmental resilience in Sidoarjo Regency is descriptive qualitative. The research focus will be studied by researchers such as the implementation of zero waste program in support of environmental security in Sidoarjo regency, as well as supporting factors and inhibiting factors. This research is located in Sidoarjo Regency. Some of the informants of this research are Department of Sanitation and Gardening of Sidoarjo Regency, Siwalanpanji Village, Buduran Sub-District, Keboananom Village, Gedangan Sub-district, SMAN 2 Sidoarjo, Krembung Sub-district, Jawa Pos Sidoarjo and Sidoarjo Regency. Data collection techniques used were interviews, observation, documentation, and triangulation. Data analysis will be conducted by the researcher using Miles hubberman interactive model. Qualitative data analysis is done interactively and continuously until finished through data reduction, data presentation, and conclusion.

## III. DISCUSSION

### A. *Implementation of Zero Waste Program to Support Environmental Security in Sidoarjo Regency*

Implementation based on Edward III is influenced by several variables, namely communication, resources, disposition, and bureaucratic structure. Some of the above variables will be used in assessing the success or failure of the implementation of Zero Waste Program to support environmental security in Sidoarjo regency. The discussions are presented as follows:

#### 1. Communication

In early 2016 the Department of Sanitation and Gardening of Sidoarjo Regency made a zero-waste program in partnership with Jawa Pos Sidoarjo as a conception as a publication facility to the Sidoarjo community in 18 districts, zero waste concept involves the whole community in handling waste to create a healthy, comfortable and clean environment .

The zero waste program is packed with an environmental clean-up competition for young generation of high school students, youth 19-30 years to carry out mass clean-up actions in their respective schools and villages that emphasize team creativity, the competition is participated by 500 teams, each team there are 3-5 people race representative of each village

by applying the principles of the 3Rs (Reduce, Reuse, Recycle).

The implementation of zero waste is expected to increase awareness and consciousness of the community to jointly handle the increasing volume of garbage every day by 3R so that the environment around us becomes clean and zero waste. As the narrative of Lianatul student SMAN 2 Sidoarjo and Edwin from "Kampung Sinau" about zero waste implementation following competition:

*"The benefits of the zero waste program is that the environment becomes cleaner and utilizes waste, thus reducing the amount of waste"*

*"Implementation of zero waste program along the road or alley in Siwalanpanji is cleaner and has not flooded during the rainy season with the way of mass planting along the road and every week there is work devotion to clean the environment"*

In any policy or program implementation. Two things that need to be emphasized in communication, according to Edwards III is consistency in the delivery of information and clarity of information submitted. The first activity conducted in the implementation of Zero Waste program is the socialization done door to door in every village in 18 District and SMA in Sidoarjo. Intense publication of zero waste program is also done with social media (FB, Instagram, and Twitter) and installing roadside billboards to invite the whole community and the younger generation to participate in zero waste program implementation to support environmental security. The zero waste program that is packaged in the competition of Sidoarjo district government gives reward rewards for winning team to get the prize to Singapore.

## 2. Resources

Zero waste program implementation resource in Sidoarjo Regency consists of human resources consisting of: First; officials of the Department of Sanitation and Gardening of Sidoarjo regency, idea maker, location, schedule maker, funding and infrastructure providers, Jawa Pos is a drafter and print publication, and the community as participation and support the success of the zero waste program. One of the efforts of the community and the young generation is to make innovations from waste so that waste to good use, such as the activities of SMAN 2 Sidoarjo students making the aisle of plastic waste used as garden plants, the community in Siwalan Panji village also transformed the waste into compost and the community also helped to clean up the garbage rivers so that the river water flows back to normal, as a result that the surrounding environment becomes beautiful again.

Here are the motivations of Edwin and Ahmad in the guidance of learning "Kampung Sinau" Siwalan Panji village who participated on human resources to realize the program

*"Our motivation both in participating is to increase the experience, and from that experience can be shared his knowledge with the students in "Kampung Sinau" and the surrounding community."*

Second; budget seen from the aspect of the fund in the implementation of zero waste program of the entire budget comes from APBD Sidoarjo District. The budget amounting to Rp 1.8 billion covers the facilities and infrastructure used in zero waste program activities. In addition to relying on the APBD, contributions also come from each village, Village funds dedicated to young people who follow the competition, school funds for students who follow the competition, and contributors. All allocated budget aims to succeed the implementation of zero waste program in Sidoarjo regency.

Third; facilities and infrastructure resources that support the implementation of a zero-waste program that has been provided by the Government of Sidoarjo Regency which comes from the Sanitation and Gardening Agency of Sidoarjo Regency, the infrastructure is very minimal, namely only wagon carts and garbage trucks to support the success.

Based on the authority resources (4) Zero Waste program is implemented in every village from 18 sub-districts in Sidoarjo to compete, and for the winning team receives a reward appreciation to Singapore in order to get the best innovation prize. The human resources, budget resources, and resources of the supporting equipment, facilities and infrastructure used and the authority resources in the implementation of the zero waste program to support environmental security are sufficient for the implementation of the program. Zero waste program in Sidoarjo regency aims to increase awareness of environmental cleanliness and minimize waste in Sidoarjo so that the surrounding environment looks beautiful, minimize the flood, and become a healthy environment, zero waste program.

## 3. Disposition

Disposition is a tendency of attitude, desire and commitment cannot be separated from the important role of each policy stakeholders involved i.e. Government of Sidoarjo Regency in this case the Office of Sanitation and Gardening of Sidoarjo Regency is to maintain, maintain and organize zero waste activities to support environmental resilience, especially the problem of waste in order to realize Sidoarjo regency is clean, comfortable, and zero trash set. The disposition disclosed by Edwards III as a driver of successful implementation of the policy of the cooperation between the Department of Sanitation and Gardening of Sidoarjo Regency;

Department of Environment and Cleanliness of Sidoarjo Regency; and Jawa Pos. The role of Java Post is to create concepts and publications in the print media in every progress made by the community that is maximizing the innovations made in the competition. Through the zero waste program, the community participates in the team on the implementation of zero waste program is expected. People are expected to be aware of the importance of environmental management, especially in maintaining the surrounding environment.

#### 4. Bureaucratic Structure

Department of Sanitation and Gardening of Sidoarjo Regency has duties and responsibilities as the initiator of event idea, provider of fund budget, facility provider of infrastructure, and voter location of zero waste activity, while Jawa Pos as drafter and publication facility. Based on the results of interviews with resource persons as participants in the implementation of zero waste program in Sidoarjo regency are motivation, innovation, and community responsibility to participate and commit to run the program. The responsibilities of the implementers are also reflected in their participation in every activity, participation not only from employees but also from the Head of Sanitation and Gardening Agency of Sidoarjo Regency.

#### B. Supporting and inhibiting factors in the implementation of zero waste program to support environmental security in Sidoarjo regency

The supporting factor in the implementation of zero waste program to support environmental resilience in Sidoarjo Regency is the commitment of related local governments that support the implementation of the zero waste program in order to support the clean and healthy environment. In addition, the cooperation of various stakeholders involved is well established to achieve environmental security in Sidoarjo regency. Meanwhile, the inhibiting factor is the low awareness of the surrounding community in maintaining hygiene, especially waste and limited budget in waste management.

### IV. CONCLUSION

Based on the results of research and discussion on the implementation of zero waste program to support environmental resilience in Sidoarjo regency seen from four elements in Edward III theory that is communication, resources, disposition, and bureaucratic structure. The result of the implementation of zero waste program implementation program to support food security in Sidoarjo Regency is able to provide education, experience and new skills to the community and young generation of Sidoarjo Regency in managing waste into useful items with 3Rsconcepts (Reduce, Reuse, and Recycle). The government and the partners as a

drafter are conducted through the publication of publications, budgets, and the provision of infrastructure facilities zero waste program. However, the reality of zero waste program has not been able to support environmental security in Sidoarjo regency, due to various obstacles. These constraints include the limited budget in waste management, lack of awareness of the community in environmental care.

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