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TEST Engineering & Management magazine's purpose is to provide a forum for the exchange of state-of-the-art ideas and information among reliability/qualification testing professionals who perform physical and mechanical testing and/or environmental simulation. We specifically seek to inform and educate our subscribers through technically bylined articles written by those who work hands-on in the field, and through material generated by the editorial staff. We seek to deal with areas of the physical and mechanical testing and environmental simulation test industry that are emerging, controversial, not sufficiently understood, and/or little-discussed, some at a tutorial level. In addition, we channel news of the industry and offer discussions of state-of-the-art test equipment and techniques. We direct our publication to test engineers, managers, scientists, executives, consultants, educators, technical marketers, test technicians, and service engineers whose work relates to physical and mechanical testing and environmental simulation itself, or the production of equipment, instruments, and/or components for such testing.

**—Eve Mattingley-Hannigan  
Editor and Publisher**

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# Waste Management by Garut Youth Movement, Indonesia

Ikeu Kania<sup>1\*</sup>, Dini Turipanam Alamanda<sup>2</sup>, Pupung Pundenswari<sup>1</sup>, Abdullah Ramdhani<sup>1</sup>

<sup>1</sup> Faculty of Social and Political Sciences, Garut University, Samarang Street 52 Garut, Indonesia

<sup>2</sup> Faculty of Economics, Garut University, Samarang Street 52 Garut, Indonesia

Corresponding Author: [ikeukania@fisip.uniga.ac.id](mailto:ikeukania@fisip.uniga.ac.id)

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## Abstract:

Environmental problems, especially waste management, attract young people to be part of the solution. The purpose of this study was to find out about the movement of millennial generation in waste management participation in Garut Regency. World Cleanup Day is a program that is the main object of research. Using a qualitative approach, the survey through observation was carried out for two years and interviews were carried out on a number of competent sources, both from internal and external organizations. The results showed that there are still organizational activities that need to be improved so that this youth organization not only organizes annual activities, but routinely and continuously conduct activities related to the solution to the problem of waste in Indonesia. The implication of the study shows that young people, especially millennials, can become government partners in overcoming social problems.

**Keywords:** Waste management, youth movement, Indonesia.

## I. INTRODUCTION

Waste is an inseparable part of human life because it is produced from human activities (Hasan, 2004). Every human activity, individually or in groups both at home, at the market, at the office, at school or wherever people are located will produce organic and inorganic waste. Human activities consciously or unconsciously influence changes of environmental conditions (Dijksterhuis, Smith, Van Baaren, & Wigboldus, 2005). Lack of public awareness of the environment is one that cause damage to the quality of the environment. Waste is one of the problems that is increasing along with the increasing of population (ISWA - International Solid Waste Association, 2012). Waste is a crucial issue and is never completely discussed at the local, national or international level (Thompson, Moore, Saal, & Swan, 2009).

Indonesia produces around 66 - 67 million tons of garbage in 2019 with the type of waste generated dominated by organic waste reaching 60 percent and plastic waste reaching 15 percent. The

problem of waste in Indonesia based on research of Sustainable Waste Indonesia (SWI), revealed that as much as 24% of waste in Indonesia is still unmanaged, this means that of the approximately 65 million tons of waste produced in Indonesia every day around 15 million tons pollute the ecosystem and the environment because it is not handled, while 7% of the waste was recycled and 69% of the waste ended up at the final landfill (TPA) from the report it was also known that the type of waste that was mostly produced was 60% organic waste, 14% plastic followed by paper (9%), metal (4.3%), glass, wood and other materials (12.7%) (CNN Indonesia, 2018).

In Garut Regency, the waste problem is very worrying and in a rubbish emergency. The volume of waste continues to increase about 20% per year. The volume of waste in the urban area currently reaches around 180-200 tons per day. Mostly in the form of household waste, followed by market waste and others. Trash transportation is needed around 2-3 rits per day to the final landfill

As a result of accumulated garbage, it causes a dirty environment and trash pollution that produce a negative impact on human's life including environmental pollution and water pollution. Environmental pollution can occur due to littering so that it can cause germs, while water pollution can occur when trash is thrown into rivers. This often happens in both urban and rural areas. In addition to polluting river water, the disposal of waste or rubbish can also hamper the ground water process and of course this is bad news considering ground water is very important for humans' life.

The problem of waste becomes a social burden that ultimately in handling it needs to be done comprehensively which becomes the task and responsibility of all parties, both the community and the government. Various efforts that have been made by the government have not been able to provide a significant solution to the problem of waste, so there is a movement of young generation who care about waste, one of which is the World Cleanup Day movement.

World Cleanup Day is a garbage collection movement carried out simultaneously by 144 countries in the world (Nikmah, Lestari, Mutmainnah, Hudaya, & Sulistiyono, 2019). This movement was first started in the Estonian State in 2008 when an Estonian carried out a garbage collection and managed to collect 50 thousand volunteers within 5 hours (Gatra.com, 2019).

In Indonesia, the forerunner to WCD began in 2014 through Let's Do It Indonesia, which then embraced many communities concerned about the environment so that the first WCD implementation was carried out simultaneously throughout Indonesia in 2018 by involving 34 provinces. In the first year of WCD implementation in Indonesia, it became a historic momentum for Indonesia because Indonesia managed to gather volunteers with a total of 7.6 million people so that Indonesia becomes the number one country that defeats Pakistan and America, which respectively rank second and

third. In 2019, Indonesia is still the first place in the WCD implementation with 9.1 million volunteers. (worldcleanupdayindonesia, 2019).

This indicates that the implementation of WCD in Indonesia received good reception from the community, with the participation of 34 provinces including West Java. Garut Regency is one of the regencies in West Java that participated in WCD activities in 2018 and 2019. The WCD implementation in Garut Regency was first carried out in 2018 through the selection of Regency Leaders who were netted through social media Instagram, after elected leaders of each region, a Leaders Brief was held at the office of the Environment Office in Bandung to explain about WCD in general and how to implement the WCD. By the WCD reaching the regency level it has a positive impact that can be seen in the activities that have been carried out in 2018 and 2019 by mobilizing volunteers, especially adolescents, thus, youth participation, especially millennial generation, increases. The purpose of this study was to find out about the movement of millennial generation in waste management participation in Garut Regency.

## II. Literature Review

### *Attitude and Behavior toward Waste*

It was found that attitudes towards the importance of recycling have a positive correlation. Attitudes are expected to predict and explain human behavior (Ajzen & Fishbein, 2000). There is a clear difference between attitudes and behavior that is reflected in various attitudes that depend on the context of social targets (Ajzen, 2001). Begum, Siwar, Pereira, & Jaafar (2009) revealed that factors such as education, work experience, steps to reduce resources, reuse materials, influence one's attitudes and behavior in improving waste management, growth and performance, and to reduce environmental degradation. and is a major determinant of recycling behavior among these households. In contrast, environmental concerns, satisfaction with the facilities provided, recycling

trust, community identity and socio-demographic factors do not show a correlation with their recycling behavior.

Demographic and socioeconomic factors play a small role in waste separation and recycling behavior at the household level (Singhirunnusorn, Donlakorn, & Kaewhanin, 2017). Meanwhile, environmental knowledge and attitudes contribute to people's perceptions, their awareness, and their participation in community-based recycling projects. The participation process is usually lacking in project planning procedures and does not contribute enough time and resources to educate participants.

Whereas Miafodzyeva, Brandt, & Andersson (2013) concluded that attitudes towards the importance of recycling have a positive correlation and are the main determinant of recycling behavior among households. In contrast, environmental concerns, satisfaction with the facilities provided, recycling trust, community identity and socio-demographic factors do not show a correlation with their recycling behavior.

### *Management*

Management allows organizations to work well (Proviterra, 2011). Management functions include Planning, Organizing, Actuating and Controlling, commonly abbreviated as POAC (Pomffyova, 2018). The term actuating has been replaced by Leading (Usman, 2012).

Shinde (2018) explains each element as follows:

- a. Planning is a process that includes setting goals, setting strategies and developing plans to coordinate activities;
- b. Organizing determines what tasks must be done, who should do it, how the tasks will be grouped, who reports to whom and where decisions must be made;
- c. Leading functions that include motivating, employees, directing others, choosing the most effective communication channels and resolving conflicts;

- d. Controlling is a monitoring activity to ensure that it is carried out as planned and correct significant deviations

### *Youth on Social Movement*

Community participation greatly influences the structural conditions of social organizations (Small, 2002). Social movements manifest themselves through various organizations (McCarthy & Zald, 2017). Social movement organizations (SMOs) play a role in mobilizing social movement activities (McCarthy, 2013). Social movements are defined as a network of informal interactions between a number of individuals, groups and / or organizations, involved in political or cultural conflicts, based on collective collective identity (Diani, 1992). In its development, the definition of social movements became organized networks whose members worked within the structure of political opportunities when sharing discourse, ideology, and strategy (Woodhouse & Breyman, 2005).

This movement changes public attitudes not only by making factual statements, but through manipulating the salience and presentation of information Youth organization can benefit from the rising trend of community movements, fan activities, and increasing use of social media and the internet for the social movements it creates (Earl, Maher, & Elliott, 2017). Organization and communication seem to be the main requirements for the formation of social movements found in social networks and media (Lopes, 2014).

Whatever it is, collective identification, especially at the level of certain social organization movements, must contribute positively to society (Simon et al., 1998). The concept of youth-led involvement - which can be understood as young people who take responsibility for creating benefits for society and the world - includes the attitudes, behaviors, knowledge, and skills of individuals and organizations by involving young people in a series of specific directed actions, which can occur in various types or topics (Ho,



Clarke, & Dougherty, 2015). Connecting youth, developing organizations, and society can produce generative and independent processes that function to address major social problems and revitalize communities and organizations and individuals within them (London, Zimmerman, & Erbstein, 2003).

#### *Youth-Led on Green Movement*

Green movement is defined as a social movement that gives effect to the "green" of the wider environmental movement (Doherty, 2005). Namely movements, and similar forms of collective action, in creating and providing protection for urban green areas by civil society (Ernstson, Sörlin, & Elmqvist, 2008). The environmental movement crosses national boundaries and the main differences that exist within the environmental movement within the state (Doherty, 2005). Involving young people in organized efforts to promote environmental sustainability has important implications for young people and for the communities around them (Browne, Garst, & Bialeschki, 2011). When environmental problems increase throughout the world, young people to take action like never before (International Youth Organization, 2008). To be successful, youth groups who care about the environment need support from the wider community.

#### III. Methodology

Based on the type and analysis of the data, this research is a type of qualitative research with a descriptive explanation level. The survey method uses online and offline observations carried out during the 2018-2019 WCD activity period in Garut Regency, Indonesia.

In addition, interviews were conducted with the Chairperson of WCD activities, supporting communities, local government and several free volunteers. The selection of speakers is done by non-probability sampling method with purposive sampling method. Data were then analyzed using

a reduction technique and the data was validated using triangulation.

#### IV. Result and Discussion

##### *Planning*

The WCD was initiated by planning activities carried out by the Indonesian Leader and the environmental community that had been incorporated in the Let's Do It Indonesia network. Before 2018, waste collection was only carried out in a few regions in Indonesia and was not carried out simultaneously, but then in 2018 the implementation of WCD was carried out simultaneously by 34 provinces in Indonesia and 143 other countries in the world.

WCD implementation planning itself is mostly done on social media and the internet, starting with the selection of local leaders and volunteers carried out actively on social media, especially Instagram because WCD aims to mobilize young people (youth movement) and utilize the enthusiasm of young people, especially for activities which is useful in this case the green campaign on waste issues. Planning for the Garut regency WCD implementation began in April 2018, while the 2018 WCD implementation was September 15, 2018. In April, planning began to form a district team, donor search, and volunteer search both communities and communities individually. The introduction of WCD was also carried out to the public through social media Instagram and socialization on regional radio.

Public interest in the implementation of WCD is quite large, especially from communities, both environmental communities and other communities. In 2018, the WCD carried out in Garut Regency succeeded in netting 30 communities and several secondary schools that could collect 250 kg of waste. Waste collection is carried out by a total of 789 volunteers (Instagram, 2018). While the implementation of Garut Regency WCD in 2019 through the interviews succeeded in netting 52 communities

and 12 Dinas with a total number of 876 volunteers.

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#### *Organizing*

The WCD movement is carried out by young people in Indonesia, starting with concerns about the condition of waste in Indonesia. Indonesia itself is the second largest contributor of waste in the world after China (Adharsyah, 2019). Therefore the implementation of WCD is targeted to be able to cover various groups, especially the participation of adolescents or millennial generations, so in the selection of volunteers more done through social media, this can be said to be quite effective when seen from the WCD leader both the central leader and regional leaders are young people (youth movement). In Garut Regency itself WCD implementation is mostly done by activists from various communities

In terms of organizational structure, Garut Regency has a district leader who has the task of coordinating from the start of planning to the implementation process, in addition to that there is also a special team in the implementation which includes the vice leader, a promotion team that actively invites volunteers to take action to collect garbage through social media and talk shows on radios, and equipment teams. But in coordination there are still many shortcomings when viewed in terms of communication patterns, communication patterns ranging from central leaders, provincial leaders and regional leaders only take place through Whatsapp Group. Central leaders and

provincial leaders also gave up the implementation of regional WCD to district leaders without clear instructions or periodic special meetings to discuss the progress of the implementation of activities.

#### *Leading*

The implementation of work in the WCD is fully supported by the Department of the Environment in Garut Regency, the Department of the Environment is assisted by the Deputy Regent to call on the offices to be able to take part in the WCD action so that the WCD can be carried out properly because of the assistance of many parties. Each WCD activity is reported exclusively on social media and reported to the provincial leader, which will then be accumulated by the National Leader Team WCD implementation is inseparable from the spirit of the young generation to do good things that can be shared on social media. Many organizations consider the use of social media as the most effective media in informing their goals (Lee & Suzanne Horsley, 2017). Social media offers the potential to promote opportunities, communicate and ultimately facilitate the positive development of youth organization

This is good to inspire more people so that volunteer WCD activities are increasing, in Garut Regency itself WCD implementation is carried out in the Garut City area considering this location is located lots of rubbish littered. There were 789 volunteers in 2018 and increased to 867 in 2019. However, because the implementation of WCD is done once a year, the agenda of waste activities usually only takes place when WCD activities are carried out and there is no continuity other than for the subsequent WCD implementation. Even if there is, it is only done by a few communities that already have an agenda to carry out routine and periodic activities.

### Controlling

In terms of supervision, the WCD activities themselves only rely on the creativity and initiative of the district leaders or each region because the central leader only directs a few things that become standard in the implementation of the WCD. Supervision is not a dominant thing in the implementation of WCD. However, at the end of the activity, each regional leader must report the number of volunteers, documentation of the implementation and the amount of waste obtained from these activities, further urged that the garbage collected can be processed so that it does not then remain as garbage thrown to the landfill, but that is still optional and there is no follow up in the area that does not carry out further processing of waste. Evaluation for the implementation of the next year's WCD is not an important topic after the completion of the WCD, even though the evaluation is also important to control the planning of the next year's WCD implementation.

### V. Conclusion

Millennial movement in waste management activities in Garut Regency has increased since the presence of WCD. The core activity of the WCD is to collect rubbish activities simultaneously throughout the world once a year. Although these activities received positive response from various elements of society, such as local governments, communities and the media, but the WCD has not carried out meaningful activities that are normally carried out by an organization. The role of social media is recognized to be very supportive of propaganda towards young people, especially netizens, but has not influenced the interest of young people to be active as part of the organization. The Design for Sustainability (DFS) concept created by Ceschin & Gaziulusoy (2016) can be taken into consideration by the WCD, thus, from initial concept that focused on technical and products such as annual garbage collection activity, change and take social-technical

challenges, namely the level of large-scale systems where organizational activities are more sustainable.

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