Abstract. The population of Banyumas Regency, Indonesia is around 1,620,918 people in 2018, waste production in Banyumas Regency is large and increases from year to year. Waste production in this district reaches 1,100 m³ per day. The purpose of this study is to evaluate the development model of waste management through improving the local wisdom system in Indonesia. The method used in this study is a qualitative research method to understand the phenomena experienced by research subjects holistically. This model consists of data collection, data reduction, data presentation, and withdrawal. Research instruments used are the researchers as the main instrument (human instrument), interview guidelines, checklist and record tool. Data validity using the source triangulation technique carried out by crossing the answer check between informants. The result of this study is that community empowerment in waste management is very important. The local wisdom model in the community which is identified in this study is the existence of community empowerment and the contribution of women in household waste management.

Introduction

The waste problem is still a concern because it has a negative impact on health (1). Communities must be involved actively in waste management (2,3). The use of media and infrastructure in waste management is important so that it is efficient in its management. There is also rubbish that has a disastrous effect such as medical waste and garbage from sharp objects (4). There are biota that are consumed by humans that accumulates waste, which has an impact on public health (5-7). The problem of waste can cause pollution/pollution of the surrounding environment both water, soil and air contamination. However, there are ways to improve the quality of the environment (8). Social marketing is also important so that environmental management programs can be known to the wider community (9). In addition, what is not less important in environmental management is participation carried out by the community in society, especially from the community. In addition, women can also be carried out through waste management training activities involving the role of the government and the role of the community. Waste management is important to prevent environmental-based diseases, especially diseases originating from waste. Because garbage causes odor in the environment. Bring vector diseases such as flies, mosquitoes, cockroaches and bring rats. Diseases that can be caused due to garbage include ARI (Acute Respiratory Tract Infection), diarrhea and skin diseases (10-13).

The population of Banyumas Regency is around 1,620,918 people in 2018, waste production in Banyumas Regency is large and increases from year to year. Waste production in the district reaches 1,100 m³ per day. The first problem in the management of waste in Banyumas from a managerial perspective at the district level is that the potential of the community, especially women, is generally quite large. Second, there is an assumption in the community that solid waste management is the responsibility of the local government. Third, there is still a lack of public awareness in disposing garbage in its place. Fourth, lack of community participation in waste management. Fifth, the location of landfill (Final Processing Site) and land for technical processing is limited, for example for landfill cover. The six lack of fleets or transportation infrastructure resulted in the garbage being transported too late, causing odor and leachate at the polling station and the depot transfer. The seventh processing is not maximal. Eighth there is no local regulation on waste, especially regarding solid waste management at the household level. The ninth refused the residents around the Kaliori landfill to be landfill because the water sources were polluted. Tenth in a certain period of time Banyumas was designated as an emergency city of rubbish. Eleventh there is a pile of garbage everywhere. Twelve residents are looking for new land for waste disposal. Thirteenth, so far, many waste management activities have been carried out by women. The fourteen management models have not yet been found to suit the culture of the local community. The fifteen models of emergency waste management have not adjusted to the local wisdom culture of the local community. The purpose of this study is to determine the development model of waste management through improving the local wisdom system.
Materials and methods

The method used in this study is a qualitative research method to understand the phenomena experienced by research subjects holistically. The subject of this study is called the informant. The main informants in this study were women, community leaders and supporting informants, namely the Head of the Environmental Service, company leaders and members of the Banyumas Regency community. Determination of the sample unit (informant) is considered adequate when it has reached redundancy (the data is saturated, plus the research subjects no longer provide new or varied information). Data collection techniques are carried out by in-depth interviews and observations. The researcher will observe the potential of women in waste management activities, weaknesses, strengths, opportunities and challenges of the program of reducing, handling, transporting, processing, recycling, disposal, community awareness, inhibiting factors and drivers to participate in both situational factors, behavior, knowledge, understanding, motivation, values and norms, cultural, economic and social factors in the Banyumas Regency. Open data analysis uses inductive thinking processes using interactive analysis models. This model consists of data collection, data reduction, data presentation, and withdrawal. Research instruments used: Researchers as the main instrument (human instrument), interview guidelines, Check list and record tool. Data validity using the source triangulation technique carried out by crossing the answer check between informants.

Results and discussion

Based on the research results and data analysis, we identified several themes related to the research topics included in Table I.

The introduction of the environment naturally can be started early. Training and upgrading skills can also be done to improve the knowledge, attitudes and practices of the community. Environmental problems and behavior can affect environmental sanitation in general. Technology applications are considered effective in efforts to improve the environment. In addition, garbage problems occur because of the behavior of people who have the habit of disposing of garbage without doing processing. The existing waste management model in the community is considered effective in reducing waste (14–18).

It is necessary to arrange the space to improve the quality of the region 18. Waste is a common problem (19). In order for waste management activities to be carried out optimally, participation from parties is needed (20). High population rates will have an impact on waste production. Three models of waste management and for the best models are sorting of organic, inorganic, B3 (Hazardous Toxic Materials). Knowledge about the environment does not affect the behavior of domestic waste management (20). For the government itself, the waste bank is a good first step to empower the community in treating waste as something that has useful value and benefits (21,22).

Government policies in waste management have so far paid little attention to environmental aspects and local potential (local wisdom). The policy strategy that needs to be done is involving green community, revitalizing local wisdom, pattern of kergians, increasing management, city parks, tree banks, revitalizing management, socializing movements ‘garbage collection’, revitalizing management, depositing rubbish, garbage insurance by promoting ecoliteration and ecodesain and mental revolution (23). Banyumas Regency Environmental Agency has organized waste management activities with the community through various methods ranging from the provision of facilities and infrastructure, the implementation of the levy system up to socialization of environmental controls and management. To carry out waste management activities, Banyumas district empowers various parties ranging from schools in the Purwokerto region, from the subdistricts and sub-districts supporting the city of Purwokerto, environmental cadres, KSM (Swadaya Masyarakat/(Nongovernmental) and managers of waste banks, private parties and companies. The strategy for handling waste and handling management on a community scale is very important (24). Other results mention communication, attitude, resources, bureaucratic structure and commitment to the commitment will also affect waste management (25).

Information dissemination is carried out by providing information to the community about community-based waste management efforts. But the short duration of implementation

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and the lack of involvement of women are obstacles. However, from this activity it is hoped that citizens will grow awareness to manage waste in their environment in a participatory manner, especially for women (26). Increased Knowledge and Attitudes of the Head of the Family on Waste Management shows there are significant differences in knowledge and attitudes between before and after family empowerment interventions (27,28).

Increasing the volume of waste has a direct impact on the capacity of available temporary waste management sites (29). Disposal facilities are being developed, built and operated meeting effective security requirements (30). The role of partnership and spirituality contributes to the protection of toxic waste disposal in an area (31). The application of the model developed to assess leachate production of TPA shows a very good agreement in the implementation of the field (32).

The involvement of individuals in the behavior of waste management is influenced by their perceived threat caused by environmental contamination (33). After the adoption of a new waste management system, where recycling is the most dominant process, garbage disposal still appears to be the most popular method of waste management (34). There is a weak relationship between knowledge and attitudes and practices in open burning. Intervention programs can encourage higher practice than just focusing on raising awareness. Waste management is becoming increasingly important (35). Waste production is very closely related to environmental and financial assessment (36). Solid waste is a social burden that requires the introduction of reliable public policies, including the principles of recycling and technological facilities (37). The application can be used as an example of sustainable solutions to regional environmental problems (38-44). Environmental conditions and clean health behavior can prevent disease (45). Information and Education Communication (IEC) plays an important role in improving health programs (46). Counseling will be able to improve Knowledge and attitude. Extension of incentives can be done to increase community knowledge and information (47,48). The prevalence of multimorbidity in Indonesia's elderly is quite high, especially those with poor health behavior and low socio-economic conditions. Strategies to improve healthy behavior and improve socio-economic conditions can reduce the prevalence of multimorbidity in the elderly (49). Increased country commitment to multi-hazard and multisectoral efforts, deliberate investment in subnational risk communication systems, and investment in capacity building for risk communication activities (50).

Conclusions

The local wisdom model in the community which is identified in this study is the existence of community empowerment and the contribution of women in household waste management.

Availability of data and material

Data and materials are available by the authors.

Informed consent

The manuscript does not contain any individual person's data in any form.

Conflict of interest

The authors declare no potential conflict of interest.

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References


