

EVALUATION OF OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM POLICIES AT THE SUKABUMI CITY ENVIRONMENTAL AGENCY

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Abstract

This study aims to evaluate the SMK3 policy at the Sukabumi City Environmental Agency with a focus on effectiveness, efficiency, adequacy, equity, responsiveness, and accuracy of implementation. This study uses a qualitative approach with a case study method and data analysis of the Miles and Huberman interactive model. Data were collected through observation, interviews, documentation, and triangulation. The research informants include the head of the agency, the head of the field, the waste collection officer, and the manager of the landfill (TPA). The results of the study explained that the effectiveness of the implementation of SMK3 has not been optimal, as seen from the lack of PPE use and lack of training. The efficiency of resource use has not been maximized, with limited budgets and lack of coordination. The adequacy of tools and training is not enough to protect workers. The equitable distribution of PPE has been carried out but the quality still needs to be improved. The responsiveness where the SMK3 policy has not fully responded to the needs of officers. And the accuracy in the implementation of SMK3 in the field is not fully in accordance with existing guidelines. The research contribution is to enrich the literature on the implementation of the Occupational Safety and Health Management System (SMK3) in the government sector, especially the Environment Agency, by identifying factors that affect policy effectiveness, such as management commitment, resource availability, and employee participation. This study provides strategic recommendations to improve the effectiveness of SMK3 policies, including the provision of adequate PPE, the preparation of SOPs, routine training, increased coordination between agencies, and community education. This research can be used as a basis in decision-making for the improvement of SMK3 policies at the local level, by emphasizing the importance of monitoring, periodic evaluation, and adequate resource allocation to ensure the occupational safety and health of waste collection officers.

Keywords: Evaluation, SMK3 Policy, Effectiveness, Efficiency, Responsiveness.

INTRODUCTION

Occupational Safety and Health (OHS) is a very important issue in today's industries and organizations. The Occupational Safety and Health Management System (SMK3) is one of the efforts to create a safe, healthy, free workplace from environmental pollution, so that it can reduce and/or be free from work accidents and occupational diseases which can ultimately increase work efficiency and productivity (Permenaker No. 05/Men/1996). Effective implementation of SMK3 can provide many benefits for organizations, including reducing costs related to work accidents, increasing productivity, improving company reputation, and increasing employee satisfaction and motivation (Sui et al., 2018).

In Indonesia, the implementation of SMK3 is mandatory for companies that have a high risk of danger, employ at least 100 workers, or whose production process uses hazardous materials (Permenaker No. 05/Men/1996). However, there are still many organizations that have not implemented SMK3 optimally. Based on data from the Indonesian Ministry of Manpower, in 2021 there were 29,913 cases of work accidents, with

a work accident rate of 10.2 per 100,000 workers (Ajwad et al., 2022). This shows that efforts to implement K3 in Indonesia still need to be improved.

Waste management is one of the important issues faced by various cities in Indonesia, including Sukabumi City (Rahayu, 2016). With the increasing population growth, the volume of waste produced every year also increases significantly (Hoorweg et al., 2013). Waste that is not managed properly can have a negative impact on the environment, public health, and urban sustainability (Wilson et al., 2017). The Sukabumi City Government has issued various policies to overcome this problem, one of which is the implementation of the Occupational Safety and Health Management System (SMK3) which aims to create a safe, comfortable, and productive workplace (Novalita et al., 2018).

The Sukabumi City Environmental Service is one of the government organizations responsible for environmental management in Sukabumi City (Alhidayatullah, 2022). As an organization engaged in the environmental sector, the Sukabumi City Environmental Agency has the responsibility to implement SMK3 effectively to ensure occupational safety and health for its employees (Alhidayatullah, 2023). However, based on initial observations, several problems were found related to the implementation of SMK3 at the Sukabumi City Environmental Agency, including a lack of management commitment, limited resources, and suboptimal employee participation and awareness, as well as phenomena in the field showing the lack of use of personal protective equipment (PPE) by waste haulers, lack of training related to work safety, and lack of communication and supervision of operational standards existing procedures (SOPs). This condition not only has an impact on the efficiency of waste management, but also increases health and safety risks for waste haulers.

Research related to the evaluation of the implementation of SMK3 in government organizations, especially the Environmental Service, is still limited (Juhra et al., 2018). Most previous research has focused on the application of SMK3 in the private sector, such as manufacturing, construction, and mining (Hadamuan et al., 2022). This creates a research gap, where a more in-depth study of the implementation of SMK3 in government organizations, especially the Environment Agency, is needed to understand the factors that affect the success and the obstacles faced. Research by Suryani et al. (2019) which evaluates the implementation of SMK3 at the Surabaya City Transportation Office. The results of the study show that the commitment of management, resources, and employee participation still needs to be improved to increase the effectiveness of SMK3 implementation. Furthermore, research by Riani et al. (2020) which analyzed the implementation of SMK3 at the Regional Disaster Management Agency of West Java Province. The results of the study show that a strong K3 culture and top management support are key factors for the successful implementation of SMK3. Likewise, a study by Putri et al. (2021) evaluated the implementation of SMK3 at the Bandung City Environment and Hygiene Agency. The results of the study show that the commitment of management, resources, and awareness of employees still needs to be improved to support a more effective implementation of SMK3.

Based on this background and phenomenon, this study aims to evaluate the implementation policy of SMK3 in waste management in Sukabumi City, focusing on the effectiveness, efficiency, adequacy, equity, responsiveness, and accuracy of the policies that

have been implemented. The results of this research are expected to make theoretical and practical contributions. Theoretically, this research will enrich the literature on the implementation of SMK3 in government organizations, especially the Environment Agency. The findings of this study can be a reference for similar research in the future. Practically, the results of this research can be used by the Sukabumi City Environmental Agency in increasing the effectiveness of the implementation of SMK3, so that it can improve occupational safety and health for employees. The recommendations resulting from this study can also be an input for other local governments in implementing SMK3 in government organizations.

LITERATURE REVIEW

Systems Theory

The Occupational Safety and Health Management System (SMK3) is part of the overall organizational management system. According to systems theory, an organization can be seen as an open system consisting of various subsystems that are interrelated and dependent on each other (Kast & Rosenzweig, 1972). In the context of SMK3, an organization can be seen as a system consisting of several subsystems, such as management commitment, resources, employee participation, and OSH culture, which influence each other and determine the success of the overall implementation of SMK3.

Occupational Safety and Health Management System (SMK3)

The Occupational Safety and Health Management System (SMK3) is part of the overall management system which includes the organizational structure, planning, responsibilities, implementation, procedures, processes, and resources needed for the development, implementation, achievement, review, and maintenance of occupational safety and health policies in the context of controlling risks related to work activities in order to create a safe workplace, efficient, and productive (Permenaker No. 05/Men/1996). According to the Occupational Safety and Health Administration (Arbury et al., 2016), there are several important elements in the effective implementation of SMK3, namely 1) Management commitment and leadership, 2) Hazard identification and risk assessment, 3) Hazard and risk control, 4) Training and communication, 5) Monitoring and evaluation of OSH performance. Effective implementation of SMK3 can provide many benefits for organizations, including reducing costs related to work accidents, increasing productivity, improving company reputation, and increasing employee satisfaction and motivation (Occupational Safety and Health Administration, 2016).

Factors Affecting the Success of SMK3 Implementation

Some of the factors that affect the success of SMK3 implementation according to previous research include:

1. Management commitment: Support and commitment from top management is essential in the effective implementation of SMK3 (Vinodkumar & Bhasi, 2010; Fernández-Muñiz et al., 2012).

2. Resources: The availability of adequate resources, such as budget, facilities, and HR expertise, is an important factor in the implementation of SMK3 (Vinodkumar & Bhasi, 2010; Masi & Cagno, 2015).
3. Employee participation: Employee involvement and active participation in the K3 program can increase the effectiveness of SMK3 implementation (Vinodkumar & Bhasi, 2010; Fernández-Muñiz et al., 2012).
4. OSH culture: A strong OSH culture in an organization, reflected in safety-related employee values, norms, and behaviors, can drive the successful implementation of SMK3 (Fernández-Muñiz et al., 2012; Masi & Cagno, 2015).

METHOD

Research Approach

This study uses a qualitative approach with a case study method to deeply understand the implementation of the Occupational Safety and Health Management System (SMK3) policy at the Sukabumi City Environmental Agency. The qualitative approach was chosen because it allows researchers to explore the phenomenon holistically in a real context, which aims to deeply understand the Sukabumi City government's policies in waste management and community participation in a real context. This approach allows researchers to obtain rich and in-depth data on the observed phenomena (Creswell, 2016). Qualitative research methods are methods to explore and understand the meanings associated by certain individuals or groups with social or humanitarian problems (Moleong, 2017). This qualitative research process involves important efforts, such as asking questions and procedures, collecting specific data from participants, analyzing data inductively starting from specific theme themes to general themes and interpreting the meaning of the data. Anyone involved in qualitative research should adopt an inductive research perspective, focus on the indicative meaning, and translate the complexity of a problem. It is hoped that this research can produce a deep understanding of the occupational safety and health system policies for waste officers in Sukabumi City and provide better and sustainable policy recommendations in an effort to improve waste management.

Research Informant

The informants in this study will be selected purposively based on their involvement in the implementation of the Occupational Safety and Health Management System (SMK3) policy at the Sukabumi City Environmental Agency. The informants in this study were 6 people, with the informants selected as follows:

1. Head of the Sukabumi City Living Environment Office

As the highest leader in the Environmental Service, the head of the service is responsible for the formulation, implementation, and evaluation of SMK3 policies.,

2. Head of Cleaning Services

The head of this field plays an important role in the implementation of SMK3 policies, especially in waste management in the field. As the policy implementer, the

head of this field provides an operational perspective on the challenges and obstacles faced in implementing the SMK3 policy.

3. Waste Collection Officer (3 Informants)

Waste collection officers are the main target of the implementation of SMK3. Their participation in this study is important to understand the extent to which these policies impact their occupational safety and health. In this study, several officers were selected as informants based on their work experience and direct involvement in waste management.

4. Landfill Manager

As the party responsible for the final management of waste, the landfill manager provides a perspective on the implementation of SMK3 policies in the final stage of the waste management cycle, including the implementation of work safety procedures.

Data Collection Techniques

This study uses a qualitative approach with data collection techniques designed to obtain in-depth information about the implementation of the Occupational Safety and Health Management System (SMK3) policy at the Sukabumi City Environmental Agency. The techniques used include observation, in-depth interviews, documentation studies and data triangulation (Ezzy, 2013).

Data Analysis

The data analysis in this study was carried out with a qualitative approach using an interactive model from Miles and Huberman (Miles & Huberman, 2014). This model was chosen because it was able to comprehensively capture the dynamics of the implementation of the Occupational Safety and Health Management System (SMK3) policy at the Sukabumi City Environmental Agency. The stages of data analysis include:

1. Data Reduction

Data reduction is the first step to simplify and organize raw data obtained from observations, interviews, and documentation. Data that is irrelevant or less significant are set aside, while important data are classified according to categories, such as policy effectiveness, the use of personal protective equipment (PPE), and obstacles in the implementation of SMK3.

2. Data Presentation

Reduced data is presented in the form of narratives, tables, and diagrams to facilitate further analysis. The presentation of data helps researchers in identifying patterns, relationships, and trends that arise in the implementation of SMK3 policies. For example, the level of compliance of officers in using PPE compared to the rate of work accidents that occur.

3. Data Validity

The validity of the data is guaranteed by using triangulation of sources, techniques, and time to ensure the accuracy of the data obtained. The collected data was then analyzed using qualitative procedures to find patterns and related conclusions.

4. Drawing Conclusions and Verification

At this stage, the researcher draws conclusions based on the data that has been presented. This conclusion is continuously verified throughout the research process by comparing data from various sources and collection techniques. Verification is carried out to ensure the validity and reliability of the findings, as well as to identify gaps between the planned policy and its implementation in the field.

RESULTS AND DISCUSSION

This study evaluates the implementation of the Occupational Safety and Health Management System (SMK3) at the Sukabumi City Environmental Agency by focusing on the effectiveness of the policy, implementation constraints, and its impact on waste collection officers. The results of the study show the following findings:

1. Effectiveness of SMK3 Policy

The implementation of the SMK3 policy in Sukabumi City has not reached an optimal level. Based on the observation results, most garbage haulers do not use complete personal protective equipment (PPE). The PPE provided by the Agency is only in the form of boots and raincoats, while essential necessities such as masks and gloves are often overlooked. This results in officers remaining exposed to the risk of hazards such as scratches, respiratory distress, and exposure to hazardous materials from garbage.

2. Obstacles to the Implementation of SMK3 Policy

There are several main obstacles that affect the effectiveness of SMK3 implementation, including:

- a. Lack of Socialization and Training: Officers have not received intensive training on the importance of occupational safety and procedures for using PPE.
- b. Absence of Standard Operating Procedures (SOPs): SOPs governing occupational safety procedures are still not available in detail.
- c. Resource Constraints: The agency faces budget and human resource constraints to support the overall implementation of the policy.
- d. Inter-Agency Coordination: Communication between the Environment Agency and other agencies, such as the Health Office, has not been optimal in monitoring the health of officers.

3. Impact on Waste Collection Officers

Shortcomings in the implementation of SMK3 have a direct impact on the health and safety of waste collection officers. Data shows that officers often suffer from physical injuries, such as injuries caused by sharp garbage, respiratory problems due to exposure to garbage odors, and indigestion. In addition, the lack of briefing or *safety morning* before work also reduces the motivation of officers to prioritize work safety.

4. The Role of the Community in Supporting Policies

The low awareness of the community in sorting waste is also a big challenge for the implementation of SMK3. Hazardous waste such as broken glass often mixes with other waste, which increases the risk of work accidents for officers.

5. Repair Recommendations

To improve the effectiveness of SMK3 policies, the following measures can be implemented:

- a. Provision of complete and quality PPE.
- b. Conducting regular training on occupational safety for officers.
- c. Preparation of clear SOPs related to work safety.
- d. Increased coordination between agencies to ensure health supervision of officers.
- e. Education and campaigns to the community to increase awareness of waste sorting.

To find out the results of the evaluation of the implementation of the Occupational Safety and Health Management System (SMK3) at the Sukabumi City Environmental Agency, a comparison was carried out with the policy evaluation theory from Dunn (2013), as follows:

Effectiveness

In this instrument, the researcher asked about the extent to which the implemented occupational safety and health management system (SMK3) program or policy has achieved its goals.

From these questions, it can be seen that the implementation of the Occupational Safety and Health Management System (SMK3) program in an agency aims to create a safe and healthy work environment, protect workers from potential hazards, and reduce accidents and diseases due to work. However, in practice, there are times when the implementation of the SMK3 program in several agencies is not optimal. Some of the factors that cause sub-optimal include:

1. Less supportive work culture

The work culture in agencies that do not support occupational safety and health is also the main obstacle in the implementation of SMK3. In some work cultures, there may be a tendency to neglect safety in favor of pursuing targets or efficiency. For example, employees may feel pressured to work faster, even if it means ignoring safety procedures, or there is a work culture that normalizes safety breaches such as not wearing personal protective equipment (PPE) or not adhering to established procedures.

2. Lack of understanding and awareness of employees

The implementation of the SMK3 program can also be hampered by the lack of understanding and awareness of workers about the importance of occupational safety and health. Without adequate training, workers may not be aware of potential hazards in the workplace, or may not know how to identify and address existing safety risks. In addition, workers who are not involved in the process of drafting or developing the SMK3 program are less likely to feel responsible for the safety of themselves and their colleagues.

3. Lack of oversight and enforcement

In many agencies, despite having good safety policies, weak supervision and enforcement of rules are an obstacle to the implementation of SMK3. For example, if there is no regular safety evaluation or audit mechanism, then potential accidents or

violations of safety standards can go unnoticed. Employees also tend to ignore safety procedures if there is no strict supervision or if violations of safety rules are not given strict sanctions.

Efficient

In this instrument, the research question asked is about the use of resources (time, labor, cost) in the implementation of the SMK3 policy, Has the existing resources been used optimally?

From these questions, it can be seen that the implementation of the Occupational Safety and Health Management System (SMK3) in an agency has the goal of creating a safe, healthy, and free from potential hazards. However, even though many agencies have implemented the SMK3 program, not all of these programs can run efficiently. Efficiency in this context means that the implementation of SMK3 must be able to produce maximum results (such as reducing work accidents and improving worker welfare) by using resources (time, cost, energy, facilities) optimally. If the SMK3 program is not efficient, then there are several factors that can be the cause:

1. Lack of adequate resource allocation

Efficiency in the implementation of the SMK3 program is highly dependent on the right allocation of resources, if the agency does not allocate adequate resources both in terms of budget, time, labor, and facilities, then the SMK3 program will be difficult to implement efficiently. Such as limited budgets, causing limitations in the procurement of personal protective equipment (PPE), safety training, or safe facility maintenance. Furthermore, the limited workforce trained to handle occupational safety and health issues can also affect the effectiveness of the program, because K3 tasks often have to be carried out by people who do not have special expertise in the field.

2. Lack of coordination and integration within the organization

An efficient SMK3 program requires good coordination between various departments and units within the organization. When the SMK3 program is not integrated with the company's operational activities or other managerial policies, the program tends to run independently without sufficient support. There is no effective monitoring and evaluation.

3. Lack of ongoing training

The lack of continuous training can be the cause of inefficiencies in the implementation of the SMK3 program. Safety programs that are only implemented once, or are less relevant to field conditions, will not result in significant changes in worker safety behavior. Without continuous and on-demand training, the implementation of the SMK3 program becomes inefficient because workers will not be prepared or skilled in identifying and overcoming existing hazards.

Adequacy

In this instrument, the research question asked is about whether the resources allocated (tools, training, manpower) for the implementation of the SMK3 policy are adequate?

It can be seen that the allocated resources are not fully adequate, here is the explanation:

1. Tools and facilities

The availability of personal protective equipment (PPE) and supporting facilities is often insufficient, both in terms of quantity and quality. This causes some workers to not be optimally protected when working in high-risk environments. In addition, the maintenance of safety equipment is also not optimal, so some equipment does not function properly when needed.

2. Training

Training programs for occupational safety have generally not been carried out regularly and comprehensively. Some workers, especially in the field, do not receive adequate training to understand occupational risks and how to deal with them. Training materials are sometimes irrelevant to the specific challenges faced by the Environment Agency, so the impact of the training is not optimal.

3. Workforce

Training programs for occupational safety have generally not been carried out regularly and comprehensively. Some workers, especially in the field, do not receive adequate training to understand occupational risks and how to deal with them. Training materials are sometimes irrelevant to the specific challenges faced by the Environment Agency, so the impact of the training is not optimal.

4. Budget

Budget allocation for SMK3 is often considered a secondary priority, so other resources, such as tools and training, are also affected. This shows that the sustainability of the SMK3 program is still highly dependent on a more strategic budget policy.

Leveling

In this instrument, the research question is about whether the Personal Protective Equipment (PPE) provided is adequate and effective to protect, from risks in the workplace?

It can be seen that the distribution of PPE to several sub-districts has been carried out by the Environmental Service evenly. This step is a positive thing in protecting waste haulers from work risks. However, the success of this step depends on the consistency of distribution, the quality of PPE, training in its use, and a continuous maintenance system. With good implementation, this will improve the occupational safety, health, and welfare of workers, as well as support more efficient and responsible waste management.

Responsiveness

In this instrument, the researcher asked questions about how the SMK3 policy responds to incidents or work accidents? Are there any immediate and appropriate actions taken?

The forms of response that have been carried out by the Sukabumi City Environmental Agency include:

1. Provision of adequate personal protective equipment (PPE)

Field workers, such as garbage haulers and street sweepers, are equipped with standard-compliant PPE, including masks, gloves, boots, helmets, and protective clothing.

2. Effective emergency response system

Emergency response procedures are in place in the event of a work accident, such as physical injury or exposure to hazardous materials.

3. Safety training for field workers

The Environment Agency provides regular training to field workers on how to work safely, the use of PPE, and emergency response.

4. Increased awareness of occupational hazards

The Environment Agency is improving workers' understanding of risks in the field, including biological hazards from domestic waste and mechanical hazards from heavy equipment.

5. Fast and efficient communication

The Environmental Service provides an effective communication channel for workers to report incidents or potential hazards in the field.

Accuracy

In this instrument, the research question is asked about whether the implementation of SMK3 policies in the field is in accordance with the guidelines and procedures that have been set?

The implementation of the implementation of the occupational safety and health system is enforced a rule in the form of work guidelines that are used as a reference or guideline in carrying out their duties so that they are carried out in accordance with the set standards, which can boost the performance of the bureaucratic structure/bureaucrats in a better direction, one of which is by carrying out work guidelines, which is a routine activity that allows employees to carry out their activities every day in accordance with the with the set standards. From this explanation, it can be understood that the implementation of the Occupational Safety and Health Management System (SMK3) has been designed in accordance with the specific needs of workers and the risks that exist in the work environment. The alignment between the designed procedures and their implementation in the field ensures that workers understand and comply with the applicable safety measures. In addition, an efficient reporting system supports preventive and corrective actions in a timely manner, so that potential hazards can be minimized. The proper implementation of these procedures not only protects workers from occupational risks but also increases

productivity, job satisfaction, and compliance with occupational safety and health regulations. Thus, SMK3 that runs according to procedures makes a significant contribution to creating a safe, healthy, and sustainable work environment.

CONCLUSION

Based on the results of the research that has been discussed above, it can be explained that the implementation of the occupational safety and health management system (SMK3) applied to the Sukabumi City Environmental Service has not run optimally. This can be seen from the lack of personal protective equipment (PPE) provided and the lack of training and supervision of waste collection officers. Some of the obstacles identified include a lack of human resources, the absence of Standard Operating Procedures (SOPs) governing SMK3, and a lack of communication and coordination between related agencies. In addition, waste collection officers experience various risks, such as physical injuries, respiratory problems, and exposure to hazardous materials due to the lack of protection and awareness of the implementation of SMK3. The implementation of SMK3 has not been efficient and responsive to the needs of officers in the field, as reflected in the management of garbage trucks that often exceed capacity and do not use safety nets. It is recommended for researchers who will conduct research in the same context, namely the evaluation of the implementation of the Occupational Safety and Health Management System (SMK3) in waste transport officers, adding other variables of public policy in the hope of expanding scientific studies from public policy.

Managerial Implications:

1. Increased Provision of PPE: The Sukabumi City Environmental Agency needs to provide complete PPE, such as masks, gloves, and body armor, to reduce the work risk of waste collection officers.
2. Preparation of SOPs and Training: It is recommended to prepare SOPs related to SMK3 and hold regular training for officers. This training should include measures to prevent work accidents and the correct use of PPE.
3. Improved Coordination: Strengthen communication and cooperation with other agencies, such as the Health Office, to ensure regular health checks for waste officers.
4. Increased Public Awareness: Conducted campaigns to raise public awareness about proper waste management, such as sorting waste before disposing, to reduce the risk of injury to officers.
5. Continuous Supervision and Evaluation: Forming a special team to supervise the implementation of SMK3 and evaluate the effectiveness of policies periodically.

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