



The Role of Communication and Resources in the Implementation of Search and Rescue (SAR) Operations Policy

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ABSTRACT

Search and Rescue (SAR) operations are a form of public service that is emergency and oriented towards saving human lives. The successful implementation of SAR operation policies is highly determined by the effectiveness of communication and the availability of adequate resources. This study aims to analyze the role of communication and resources in the implementation of SAR operating policies. The research uses a qualitative approach with a descriptive method through interview, observation, and documentation techniques. The results of the study show that non-optimal communication, especially in information transmission, as well as the limitation of human resources who have the competence to plan SAR operations are inhibiting factors in the implementation of policies. This research emphasizes the importance of strengthening communication systems and increasing resource capacity as the main prerequisites for the successful implementation of SAR operation policies.

INTRODUCTION

Public services in emergency situations are a form of the state's fundamental responsibility in protecting the safety and lives of its citizens. In the context of public administration, emergency services are not only understood as technical activities, but also as the implementation of public policies that demand speed, precision, and high coordination (Dwiyanto, 2018). One form of public service that has a high level of urgency is the Search and Rescue (SAR) operation, which is oriented towards saving human lives in risky conditions.

Search and Rescue (SAR) operations are humanitarian activities that involve search, rescue, and rescue efforts for humans who experience accidents, disasters, or other dangerous conditions. In its implementation, SAR operations cannot be separated from public policies that regulate the work mechanisms, authorities, and operational standards that must be adhered to by the implementing organization (Agustino, 2017).

As a public policy, SAR operations require an effective implementation process so that policy objectives can be achieved optimally. Policy implementation is a crucial stage because it is a bridge between policy formulation and real results felt by the community (Winarno, 2012). Failure at the implementation stage has the potential to hinder the achievement of policy objectives, even if the policy has been well designed normatively.

In the practice of public administration, policy implementation often faces various structural and administrative constraints. Pressman and Wildavsky (1973) emphasized that many public policies fail not because of a formulation error, but because of weak implementation at the implementation level. This shows that implementation factors have a very decisive role in the success of public policies.

SAR operations as a form of emergency public service have special characteristics that distinguish it from public services in general. These operations take place in unpredictable, high-risk, and demanding a quick response. Therefore, the success of SAR policy implementation is highly dependent on organizational readiness, quality of resources, and the effectiveness of communication between policy implementers (Sutopo, 2017).

Communication is one of the main elements in the implementation of public policy. Edward III (1980) stated that policies cannot be implemented effectively if the implementers do not understand what to do, when to do it, and how to implement it. Such understanding can only be achieved through clear, consistent, and timely communication.

In the context of SAR operations, communication plays a key role as the main means of delivering initial information on incidents, coordination between agencies, and decision-making in the field. Delays or inaccuracies in information can have a direct impact on delayed evacuation and increased risk of casualties (Widodo, 2017).

In addition to communication, resources are another important factor in policy implementation so that policies can run effectively and efficiently (Suprianto et al., 2025). Resources include human resources, budgets, equipment, and authority owned by policy-implementing organizations. Without adequate

resource support, public policies will be difficult to implement effectively, even if communication has gone well (Subarsono, 2016).

Human resources have a strategic position in SAR operations because they are directly related to the technical capabilities and professionalism of the implementation of operations. SAR apparatus is required to have special competence, field experience, and certification in accordance with SAR operating standards. The limited number of personnel who have these competencies can lead to a high workload and a decrease in service quality (Sedarmayanti, 2018).

Indonesia faces many challenges in managing SAR operations. Its vast geographical conditions, diverse terrain, and catastrophic incidence rate demand a responsive and well-coordinated SAR system.

In practice, the implementation of SAR operations at the regional level often faces limited resources, both in terms of the number of personnel and the availability of facilities and infrastructure. These limitations have an impact on the effectiveness of SAR policy implementation, especially when several emergencies occur at the same time.

Cross-agency communication is also a challenge in SAR operations. This operation involves various actors, such as government agencies, security forces, volunteer organizations, and the community. Without a structured and integrated communication system, coordination between actors becomes not optimal (Handayani, 2015).

Edward III (1980) stated that communication in policy implementation has three main dimensions, namely information transmission, information clarity, and information consistency. These three dimensions are important prerequisites for the successful implementation of policies, including in SAR operation policies.

Failures in the transmission of information, such as delays in incident reports or incomplete information, can hinder the decision-making process and the execution of operations in the field. This shows that communication is not only administrative, but also strategic in emergency services. On the other hand, resource constraints often force SAR apparatus to work in conditions of high pressure and long time. This situation not only impacts individual performance, but also has the potential to decrease the effectiveness of the organization as a whole (Denhardt & Denhardt, 2015).

Bureaucratic structure and standard operating procedures (SOPs) also play a role in supporting the implementation of SAR policies. Clear SOPs that are understood by all implementers will strengthen the consistency of actions in emergency situations. However, a good SOP still requires adequate communication support and resources so that it can be carried out optimally (Mazmanian & Sabatier, 1983).

From the perspective of public administration, the effectiveness of emergency services reflects the state's capacity to carry out the function of protecting the community. Therefore, the analysis of the implementation of SAR policies is important to assess the extent to which the state is able to respond to the needs of the community in crisis situations.

Previous studies have shown that communication and resources are the dominant factors influencing the successful implementation of public policies in various sectors (Ripley & Franklin, 1986). However, studies that specifically explain the role of these two factors in SAR operation policies are still relatively limited.

This study positions SAR operations as part of a public policy system that needs to be analyzed administratively and managerially. The focus on communication and resources is expected to provide a more comprehensive understanding of the dynamics of SAR policy implementation at the implementing organization level. Thus, this research is not only relevant for SAR practitioners but also for policymakers and public administration academics interested in the issue of policy implementation and emergency public services.

Based on this description, this study aims to analyze the role of communication and resources in the implementation of Search and Rescue (SAR) operational policies, as well as identify factors that affect the effectiveness of its implementation.

THEORETICAL REVIEW

Public Policy Implementation

The implementation of public policies is an important stage in the policy cycle that bridges the gap between policy formulation and the real impact felt by the community. Winarno (2012) stated that policy implementation is the process of implementing policy decisions involving various actors, organizations, and administrative procedures. The success of public policies is not only determined by the quality of their formulation, but is greatly influenced by how the policy is implemented in the field.

Pressman and Wildavsky (1973) emphasize that policy implementation often faces various administrative, coordinated, and structural obstacles. These barriers can lead to distortions between policy objectives and the results achieved. Therefore, policy implementation analysis is important to understand the factors that affect the success or failure of a policy.

George C. Edward III Policy Implementation Model

George C. Edward III (1980) proposed a policy implementation model that emphasizes four main variables, namely communication, resources, disposition, and bureaucratic structure. The four variables are interrelated and determine the effectiveness of public policy implementation. This model is widely used in public administration research because it is able to explain the practical factors that influence policy implementation.

In this study, the focus of the analysis is directed at two main variables, namely communication and resources. The selection of these two variables is based on the characteristics of SAR operations that demand response speed, cross-agency coordination, and adequate resource availability.

Communication in Policy Implementation

Communication is an important variable in policy implementation because it functions as a medium for conveying information from policymakers

to policy implementers. Edward III (1980) explained that communication in policy implementation includes three main dimensions, namely information transmission, clarity of information, and consistency of information.

Information transmission is related to how policies are conveyed to implementers in the field. Information clarity concerns the extent to which policy messages can be understood well, while information consistency is related to the suitability of messages received by various policy implementers. In the context of SAR operations, ineffective communication can lead to response delays and errors in decision-making.

Resources in Policy Implementation

Resources are the main supporting factor in the implementation of public policies. Edward III (1980) stated that resources include human resources, budgets, equipment, and authority owned by policy implementers. Without adequate resource support, public policies cannot be implemented optimally.

Subarsono (2016) emphasized that the quality of human resources is a determining factor in policy implementation, especially in technical and high-risk policies such as SAR operations. Apparatus that has the appropriate competence, experience, and certification will increase the effectiveness of policy implementation.

Search and Rescue (SAR) Operations as Public Services

Search and Rescue (SAR) operations are part of emergency and humanitarian public services. This operation aims to conduct search, rescue, and rescue of humans who are in dangerous conditions. From the perspective of public administration, SAR operations are a form of policy implementation oriented towards protecting public safety.

The characteristics of SAR operations that take place in unpredictable and high-risk situations demand an effective communication system and adequate resources. Therefore, Edward III's policy implementation theory becomes relevant to analyze the implementation of SAR operating policies.

METHODOLOGY

This study uses a qualitative approach with a descriptive method (Bambang Suprianto & Jiwa Riwayanti, 2024). This approach was chosen to gain a deep understanding of the implementation of SAR operating policies, particularly related to the role of communication and resources. The research was conducted on the organization implementing the Search and Rescue (SAR) operation.

Data collection techniques were carried out through in-depth interviews with key informants, field observations, and documentation studies (Suprianto & Riwayanti, 2024). The research informants were selected purposively based on their involvement in the implementation of SAR operations. The data obtained was analyzed using qualitative data analysis techniques which included data reduction, data presentation, and conclusion drawn.

RESEARCH RESULTS

The results of the study show that the implementation of the Search and Rescue (SAR) operation policy is greatly influenced by the effectiveness of communication and the availability of resources owned by the implementing organization. From the communication aspect, it was found that the process of conveying initial information about the incident to the SAR operation implementation unit had not run optimally. Information about the location of the incident, the time of the incident, and the condition of the victim are often received late, thus affecting the speed of the initial response of the SAR team in carrying out search and rescue operations.

The delay in the transmission of information is mainly due to the reporting mechanism that still relies on a tiered bureaucratic flow and has not been fully supported by an integrated communication system. Initial information on incidents is generally received from the public or other agencies, but the process of verifying and distributing information to operational units takes a relatively long time. This condition had an impact on the delay in the mobilization of SAR personnel and equipment to the scene of the incident.

In addition, the results of the study also show that the clarity of information received by SAR operations implementers is still inconsistent. The information conveyed is often partial and changes over time. The change in information includes the location of the incident, the number of victims, and the conditions of the operating field. This lack of clarity of information causes the executor of the operation to make repeated adjustments in the field, which ultimately affects the effectiveness of the implementation of SAR operations.

The dimension of communication consistency is also a problem in the implementation of SAR operation policies. The information received by the implementing units is not always uniform, especially when it involves coordination with other agencies. Differences in information between agencies cause insynchronization in decision-making and division of tasks in the field. This condition shows that the communication mechanism across agencies has not been fully integrated and standardized.

From the aspect of resources, the results of the study found that the limitation of human resources is one of the main factors that hinder the implementation of SAR operation policies. The number of personnel with special competencies and certifications, especially in SAR operation planning, is still very limited. This limitation means that only a small percentage of personnel are able to carry out the functions of planning and controlling operations optimally. As a result of these limitations, personnel with SAR operational planning competencies often have to handle more than one task at the same time. This high workload not only impacts the effectiveness of operations planning, but also has the potential to lower the quality of decision-making in emergency situations. This condition is even more pronounced when several emergency events occur in close proximity.

In addition to the limitations of human resources, the study also found limitations in the aspects of facilities and infrastructure supporting SAR operations. The availability of operational equipment is not fully proportional to

the needs in the field, especially in the face of difficult terrain conditions and uncertain weather. The limitations of these facilities affect the range and duration of the implementation of SAR operations.

In terms of budget, the results of the study show that operational budget support is still limited and must be adjusted to the priorities of other activities. This budget limitation has an impact on equipment maintenance, increasing human resource capacity, and developing more modern communication systems. These conditions indirectly affect the sustainability and quality of the implementation of SAR operating policies.

The results of the study also revealed that the formal authority possessed by the SAR implementing organization has basically been clearly regulated in the applicable regulations. However, in practice, the implementation of this authority still faces coordination obstacles with other agencies that have interests and authority at the scene of the incident. This shows that the resources of authority have not been fully supported by effective coordination mechanisms.

Overall, the results of the study show that the implementation of the SAR operation policy has not run optimally due to communication problems and limited resources. The two factors are interrelated and reinforce each other. Weaknesses in communication compound the burden of limited resources, while limited resources exacerbate the impact of ineffective communication. These findings confirm that communication and resources are key factors that determine the successful implementation of Search and Rescue (SAR) operational policies.

DISCUSSION

The findings of the study show that communication and resources are determinants in the implementation of Search and Rescue (SAR) operational policies. This result corroborates the view of Edward III (1980) who placed communication and resources as key variables in the successful implementation of public policies. In the context of emergency and high-risk SAR operations, communication effectiveness and resource adequacy are the main prerequisites for policies to be translated into concrete actions on the ground quickly and precisely.

The communication problems found in this study, especially the delay in the transmission of information at the beginning of the incident, show that the transmission dimension as stated by Edward III has not been running optimally. Information delays have a direct impact on delays in the mobilization of SAR personnel and equipment, ultimately affecting the effectiveness of emergency responses. These findings are in line with the opinion of Pressman and Wildavsky (1973) who stated that failure of policy implementation often occurs at the operational stage due to weak administrative and coordination mechanisms.

In addition to the transmission aspect, the issue of clarity and consistency of information is also an obstacle in the implementation of SAR operation policies. Incomplete and frequently changed information causes the executor of operations to have to make repeated adjustments in the field. This condition reflects the weak clarity of the policy message, so that the implementer does not have a complete understanding of the situation and the steps that must be taken. This strengthens

Edward III's (1980) argument that unclear communication will reduce the level of compliance and effectiveness of policy implementers.

Findings regarding information missynchronization between agencies show that cross sector communication is still not optimally integrated. In SAR operations involving many actors and organizations, poor coordination can lead to overlapping tasks and inefficient use of resources. This condition is in line with the views of Ripley and Franklin (1986) who emphasize the importance of coordination between organizations in the implementation of complex and cross-sectoral policies.

From the aspect of resources, the limitation of human resources who have special competencies and certifications, especially in SAR operation planning, shows that resource variables in policy implementation have not been adequately met. Edward III (1980) emphasized that competent human resources are the main requirement for successful policy implementation. The limited number of trained personnel leads to a high workload and has the potential to reduce the quality of decision making in emergency situations.

The limitations of facilities and infrastructure found in this study also strengthen the finding that physical resources are still an obstacle in the implementation of SAR operating policies. Difficult terrain conditions and unpredictable weather demand adequate and well-maintained operational equipment. Without adequate support of facilities, the effectiveness of SAR operations is limited, despite the efforts of personnel to the maximum.

In terms of budget, limited financial support has an impact on equipment maintenance, human resource capacity building, and the development of more modern communication systems. This finding is in line with the view of Subarsono (2016) who stated that budget limitations are often a structural obstacle in the implementation of public policies, especially in policies that require high operational readiness.

The results of the study also show that although the formal authority of SAR implementing organizations has been clearly regulated in regulations, its implementation in the field still faces coordination obstacles with other agencies. This shows that authority as part of resources has not been fully supported by effective cooperation mechanisms. These findings indicate the need to strengthen governance and cross agency coordination in the implementation of SAR operation policies.

Overall, the results of this study show a close relationship between communication and resources in the implementation of SAR operating policies. Weakness in one variable will magnify the impact of weakness on the other variable. Ineffective communication places a burden on limited resources, while limited resources exacerbate the impact of suboptimal communication. These findings confirm that the implementation of SAR operations policies requires an integrated and systemic approach.

In the perspective of public administration, the findings of this study show that the effectiveness of emergency public services is determined not only by technical aspects, but also by administrative and managerial factors. Therefore, the improvement of the implementation of SAR operation policies must be directed at

strengthening the integrated communication system and increasing resource capacity in a sustainable manner. Thus, the SAR operation policy can be implemented more effectively and is able to provide maximum protection for public safety.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the research and discussion, it can be concluded that the implementation of the Search and Rescue (SAR) operation policy is greatly influenced by the effectiveness of communication and the availability of resources owned by the implementing organization. Communication that has not been running optimally, especially in terms of transmission, clarity, and consistency of information, leads to delay in response and insynchronization of the implementation of operations in the field. On the other hand, limited resources, especially human resources who have competence and certification in SAR operation planning, as well as limited facilities, infrastructure, and operational budgets, also hinder the effectiveness of policy implementation. These findings confirm that communication and resources are key interrelated factors and determine the successful implementation of SAR operating policies.

Based on these conclusions, this study recommends the need to strengthen integrated communication systems in SAR operations, both through simplifying reporting mechanisms, using more effective communication technology, and improving cross-agency coordination. In addition, increasing the capacity of human resources needs to be a priority through continuous training and certification programs, especially in the field of planning and controlling SAR operations. Budget support and the provision of adequate infrastructure facilities also need to be improved so that the implementation of SAR operations can run optimally. With the implementation of these recommendations, it is hoped that the SAR operation policy can be implemented more effectively, responsively, and able to provide maximum protection for public safety.

FURTHER STUDY

The next research is suggested to examine other variables in the implementation of SAR policies, such as the disposition of implementers and bureaucratic structures, as well as to take a quantitative approach to measure the level of effectiveness of policy implementation more comprehensively.

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