



The Effectiveness of Resource Utilization In Supervision At Taka Bonerate Natinal Park

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Abstract: The utilization of resources in national parks is a subject that is deep and complex, depicting diverse dynamics between environmental protection, economic sustainability, and human recreational needs. As areas considered symbols of natural preservation, national parks often become focal points of debate on how to manage natural resources wisely without sacrificing human needs or damaging fragile ecosystems. From water and energy usage to tourism activities and forest management, national parks provide a unique stage where various interests compete and interact with each other. The data collection methods used are field research in the form of interviews and observations. The types of data obtained are primary and secondary data. The results of this research indicate that resource utilization in supervision at Taka Bonerate National Park is a crucial factor in maintaining environmental sustainability in the region. With the appropriate indicator tools, national park managers can monitor and manage the use of natural resources efficiently and sustainably. Efforts made by the park's superintendent and management team, including increasing the number of field officers, utilizing technology, and collaborating with the local community, contribute positively to enhancing human and material resource utilization in supervision. However, obstacles and challenges such as limited human resources, difficult regional accessibility, and conflicts with the local community remain challenges that need to be overcome. With the right strategies, managers can overcome these obstacles and improve the effectiveness of resource utilization in supervision, thus ensuring the sustainable preservation of the Taka Bonerate National Park environment.

Keywords: Effectiveness, Monitoring, Resources, Taka Bonerate National Park

1. Introduction

National Parks not only serve as symbols of captivating natural beauty but also as focal points for global environmental protection efforts. Amidst the increasingly evident threats of climate change and alarming ecosystem degradation, national parks play a crucial role as nature guardians preserving biodiversity and regulating ecological balance. In this modern era, the complexity of challenges faced by national parks is on the rise. Threats such as habitat destruction, poaching, climate change, and other human activities affect the natural preservation that should be upheld. However, amidst these various threats, national parks also serve as important sites for scientific research, providing profound insights into natural dynamics, human-environment interactions, and species adaptation to environmental changes. (Jatna, 2014)

The utilization of resources in national parks is a deep and complex subject, illustrating diverse dynamics between environmental protection, economic sustainability, and human recreational needs. As areas regarded as symbols of natural preservation, national parks often become focal points of debate on how to manage natural resources wisely without sacrificing human needs or damaging fragile ecosystems (Rumaisa & Fathullah, 2019). From water and energy usage to tourism activities and forest management, national parks offer a unique stage where various interests compete and interact. The main challenge is to achieve a balanced equilibrium between preserving the natural integrity of the national park as a habitat for diverse species and ecosystems while meeting the local and global needs for recreation, education, and economic sustainability (Sibirian, 2010). With a profound understanding of these complex interactions, we pre-

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sent a thorough study in this journal, hoping to provide better insights into how to effectively manage resources in national parks to preserve nature and meet the current human needs without compromising the needs of future generations.

The utilization level of resources in marine national parks involves various activities that exploit and affect the ecology of the area. One crucial aspect is the utilization of fisheries resources, which can significantly impact the sustainability of fish populations and other marine species. Additionally, tourism is also a significant factor with the increasing number of tourist visits and activities such as diving and snorkeling. However, the rise in tourism also brings the risk of environmental damage if not managed properly. Furthermore, research and educational activities play a vital role in understanding and raising awareness of the importance of marine environmental conservation. Additionally, monitoring and law enforcement are necessary to prevent illegal activities that could harm the ecosystem. Finally, habitat conservation efforts, such as coral reef restoration and invasive species control, are also essential for maintaining the sustainability of marine national parks. By integrating the principles of conservation and sustainable development and involving collaboration among the government, NGOs, local communities, and the private sector, it is hoped that marine national parks can be effectively managed for ecosystem sustainability and long-term benefits for all stakeholders involved. (Dendi, 2021)

The Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 17 of 2022 Regarding the Organization and Work Procedures of the Technical Implementation Unit of National Parks aims to improve efficiency and effectiveness in the implementation of conservation activities for natural resources and ecosystems in Indonesia. This regulation establishes the organizational structure consisting of various work units with their respective responsibilities and functions. This includes the formation of work units such as the Secretariat, Conservation Management Sub-directorate, Inventory and Monitoring Conservation Sub-directorate, as well as Advocacy and Conservation Awareness Enhancement Sub-directorate. Additionally, this regulation also regulates the procedures for carrying out the tasks and functions of each work unit, including coordination mechanisms among work units and administrative governance in carrying out their tasks. Thus, this regulation serves as an important foundation for the implementation of conservation activities for natural resources and ecosystems in Indonesia, with the hope of making a significant contribution to environmental preservation and biodiversity conservation in this country.

Gibson defines effectiveness as "the degree to which an organization achieves its goals" (Ivancevich & Gibson, 1980). In this context, organizational goals can refer to various aspects, including achieving financial targets, meeting operational targets, the quality of products or services produced, or achieving long-term strategic objectives.

Effectiveness is a measure of an organization's ability to achieve better work processes in completing tasks. Various systematic concepts discussing performance effectiveness show the results achieved in the sense that work effectiveness is an activity measured by the extent of adjustment between goals and expectations desired in work with good results. Clearly, if the targets or goals have been achieved according to the sources planned beforehand, it can be called effective. (Syam, 2020)

The opinion of H. Emerson, as cited by Soewarno Handyaningrat S. (1994: 16) in (Daulay, 2017), stating that "Effectiveness is a measure in the sense of achieving a predetermined goal". This is related to the opinion expressed by Hidayat (1986), which explains that: "Effectiveness is a measure of the extent to which goals (quantity, quality, and time) have been achieved. The higher the percentage of goals achieved, the higher the effectiveness."

According to Gibson, there are 5 indicators of effectiveness: (1) Efficiency, which is the ratio of output to input. This means efficiency is maximizing output with a certain input or using the least input to achieve a specific goal. (2) Flexibility. Flexibility means responding to changes that occur within an organization or to changes that affect an organization. Flexibility is an element that shows how an organization responds to de-

mands for internal and external changes. Flexibility refers to an organization's ability to shift resources from one activity to another to produce new products and services in response to customer demand. (3) Satisfaction measures how well an organization meets the needs of society. Customer satisfaction is the level of human feelings after experiencing performance compared to expectations. (4) Excellence is the competitiveness of the organization and its members in the current changes. Competitive excellence can be achieved by developing specific products that are more advantageous than competitors. (5) Development is a measure of an organization's ability to improve its ability to meet societal demands. Development is a measure that reflects an organization's ability and responsibility to improve its capabilities and competencies for development through resource investment. (Difa et al., 2022)

According to Suryanegara, natural resources are all components of nature, consisting of both biological and physical elements, which can be utilized to fulfill human needs in order to improve human welfare. According to Law No. 4 of 1982 Article (5), natural resources are environmental elements that consist of human resources, biological resources, non-biological resources, and artificial resources. (Amalia et al., 2021)

The research conducted by (Magfiroh et al., 2020) entitled "Strategi Peningkatan Efektivitas Pengelolaan Kawasan Konservasi Taman Nasional Karimunjawa" utilized descriptive qualitative research. The findings of this study indicate that the appropriate guidelines for conservation area management can facilitate managers to identify strengths and weaknesses in various aspects of conservation area management, thus addressing issues for enhancing effectiveness. The assessment of Karimunjawa National Park's conservation area effectiveness is deemed highly effective based on METT guidelines with a score of 78%, effective according to COREMAP II-LIPI guidelines with a score of 71%, and categorized as minimum-managed conservation area according to E-KKP3K guidelines with a green status. ANP can be utilized to prioritize strategies for effective management of Karimunjawa National Park's conservation areas by integrating four cluster elements (ecology, social, economic, and institutional). Strategies for enhancing effectiveness in managing Karimunjawa National Park's conservation areas can be achieved by prioritizing the following strategies: (1) Raising awareness among the community and tourists about the dangers of waste and environmental degradation (0.4256); (2) Improving ecosystem functions (0.3963); (3) Raising awareness among the community about sustainable utilization (0.3920). Achieving strategies to enhance the effectiveness of managing Karimunjawa National Park's conservation areas can be realized through good coordination among all stakeholders to achieve more effective conservation area management and provide sustainable benefits to the community.

The gaps in the research include a lack of in-depth understanding of specific challenges in management, minimal inclusion of perspectives and participation of the local community, and a shortage in presenting concrete solutions to enhance effectiveness in management. Further analysis and a holistic approach are needed to formulate more sustainable strategies in preserving the area.

The research conducted by (Riyadi, Agung, 2011) entitled "Analysis of Efficiency, Effectiveness, and Responsibility of Human Resource Capacity in the Local Government of Sragen." In his paper, the researcher employed descriptive research. The results of this study indicate that the analysis of Efficiency, Effectiveness, and Responsibility of Human Resource Capacity in the Local Government of Sragen explains key aspects in managing human resources (HR) at the local government level. Efficiency relates to the optimal use of resources in achieving set goals. This includes effective management of time, energy, and budget. Effectiveness, on the other hand, evaluates the extent to which organizational goals and objectives are achieved. In this context, the effectiveness of HR in the local government of Sragen reflects how their performance influences the achievement of strategic goals of the local government, such as improving public services or community development. Responsibility in HR capacity highlights the importance of accountability, transparency, and good governance in HR management. This involves developing clear policies and procedures, a strong monitoring system, as well as effective incentive and

sanction mechanisms to encourage responsible behavior. By analyzing these three aspects, the research can provide valuable insights for the local government of Sragen and other local governments in enhancing their HR performance and capacity. It can also provide a basis for better policy development and more effective training programs to improve human resource management at the local government level.

Furthermore, a study conducted by (Indarwansyah et al., 2019) on the Effectiveness of Human Resource Development at the Secretariat of the Regional Representative Council of Gowa Regency. In their research, the researchers employed quantitative descriptive research. The results of this study indicate that human resource development is crucially important to achieve competent and professional employees. Competence, in the sense of the authority of each employee to perform tasks or make decisions according to their role in the organization, is relevant to the skills, knowledge, and abilities possessed.

The issues related to the level of resource utilization in supervision at Taka Bonerate National Park encompass various aspects that demand attention. Firstly, the management of vulnerable marine ecosystems such as coral reefs and other marine biodiversity poses a significant challenge. Activities such as fishing and harvesting of marine biota can threaten the sustainability of fragile marine ecosystems. Additionally, uncontrolled illegal fishing is also a serious problem that can harm fish populations and the overall marine ecosystem.

This research aims to identify, analyze, and evaluate the effectiveness of resource usage levels in monitoring activities within Taka Bonerate National Park. The focus is on the types of resources utilized, their efficiency, assessment of existing monitoring systems, identification of challenges and obstacles, and formulation of recommendations for improvement. It is hoped that the findings of this research will contribute significantly to the conservation of the unique and vital natural environment in Taka Bonerate National Park.

2. Materials and Methods

This research employs a qualitative approach to describe the level of resource utilization at the Taka Bonerate National Park Office. Primary sources utilized include interview results and observations, while secondary sources from literature are used as additional references for data collection. (Sugiyono, 2017)

To analyze relevant data sources on the research topic of The Effectiveness of Resource Utilization In Supervision At Taka Bonerate National Park, researchers employ a series of steps consisting of data source search, authenticity and credibility evaluation of the data sources, data analysis, synthesis and interpretation, and reporting of results. In searching for data sources, researchers utilize related official websites to access articles, reports, and publications on surveillance and management of the national park. Furthermore, researchers evaluate the authenticity and credibility of the data sources found, ensuring they originate from reputable researchers or government agencies competent in conservation. Subsequently, researchers analyze systematically collected data and identify key findings that support the research topic.

3. Results and Discussion

3.1. The Level of Resource Utilization in Supervision at Taka Bonerate National Park

The indicator of resource utilization to monitor and manage the use of natural resources in Taka Bonerate National Park is an essential tool in maintaining environmental sustainability. With the diverse biodiversity and unique ecosystems in this national park, effective supervision becomes crucial (Simata-taka, 2018). Resource utilization involves assessing the efficiency and sustainability in the use of natural resources within supervision activities. Efficient utilization helps maintain ecological balance and reduces negative impacts on the environment. Supervision also encompasses the role of human resources, where the level of efficiency and productivity of field officers becomes a critical part of this evaluation. By monitoring and measuring resource usage, national park

managers can ensure that supervision is conducted in an environmentally friendly and sustainable manner, while still meeting the goals of environmental protection and preservation. (Siburian, 2006)

The Head of Taka Bonerate National Park Office, AY, explained that concrete steps have been taken to enhance resource utilization, particularly in the context of supervision. By increasing the number of field officers, known as community ranger partners, the national park management expands their supervision capacity to maintain environmental sustainability. Through training in surveillance techniques and law enforcement, field officers are equipped with the necessary skills and knowledge to carry out their duties effectively and efficiently. These measures not only increase the quantity of human resources available for supervision but also enhance the quality of supervision itself. This helps improve the efficiency of human resource utilization by ensuring that field officers have the appropriate abilities to perform their tasks well. With these steps, national park managers can enhance the utilization of human resources in supervision, which in turn supports the goals of conservation and environmental protection in Taka Bonerate National Park.

The office is also committed to enhancing resource utilization efficiently in supervision. By improving reporting and monitoring systems, national park managers can ensure that surveillance activities are monitored more effectively, enabling them to identify patterns and trends that require further attention. Coordination among departments in managing data and information ensures that available resources are utilized optimally and not wasted. By enhancing efficiency in resource utilization, including data and information, national park managers can allocate resources more accurately and take necessary actions more quickly and effectively. This not only supports environmental conservation goals but also helps ensure that supervision is conducted sustainably and efficiently. (Dunggio & Gunawan, 2009)

Efforts made by R, MN, and FS from Taka Bonerate National Park Office focus on strengthening patrols and monitoring, both directly and through the smart patrol application (Utarki et al., 2020). This demonstrates efforts to utilize technology in optimizing the use of human and material resources. By using this application, managers can efficiently monitor several strategic points, enhance coordination with the local community, and gather useful information for supervision. Furthermore, increased resource utilization also involves cooperation with the community through outreach activities and socialization regarding the importance of maintaining the sustainability of the national park. These efforts aim to raise awareness among the community about their role in environmental supervision, thereby minimizing inefficient or harmful resource utilization.

Lastly, the national park managers chose to empower the community by forming community monitoring groups called "community ranger partner" or "masyarakat mitra polhut." Through collaboration with the local community, managers can expand the reach of patrols, enhance supervision effectiveness, and utilize available human resources more efficiently. Through these steps, Taka Bonerate National Park managers strive to optimize resource utilization in the supervision process, while also rallying support and active participation from the community in maintaining environmental sustainability.

3.2. Challenges and Obstacles Faced by Taka Bonerate National Park Office in Resource Utilization in Supervision at Taka Bonerate National Park.

National parks often face various obstacles in managing and utilizing their natural resources. One of the main obstacles is the pressure from excessive human activities, such as illegal logging, poaching, and overfishing. This can lead to a decline in protected flora and fauna populations and disrupt ecosystem balance. Additionally, the lack of awareness and understanding among the public about the importance of preserving natural resources also poses a challenge, which can result in environmentally damaging behaviors. Other factors include insufficient funding and human resources for monitoring and law enforcement in national parks. All of these obstacles require joint efforts from the government, communities, and conservation organizations to address and protect these

valuable natural resources to ensure their sustainability for future generations. (Ekayani et al., 2017)

The obstacles or challenges in national parks typically arise due to conflicts. Conflict, in Indonesian dictionary, means disagreement, contention, or dispute. Conflicts emerge due to interactions between two or more parties, where one party does something, but the other party refuses, objects, disagrees, or due to misunderstandings. (Budi, 2018). From another perspective, conflict is understood as a means to enhance output through a series of activities such as competition, tension, or disagreement. (Fauzi & Anna, 2005). Generally, conflicts can be triggered by several factors, including lack of clear boundaries, poor and ineffective communication, subjective judgments, situational or hierarchical pressures, financial deficits, limited working time, and so forth (Andri, 2006).

The way to avoid conflicts in national parks is by reducing dependency, where one party holds a disproportionately high role over the functions of another party, preventing the other party from fulfilling its role optimally (Marsono, 2004).

Taka Bonerate National Park Office faces several obstacles and challenges affecting resource utilization in the supervision process in the area. One of the main challenges is the limited quantity and quality of human resources available for supervision, which can hinder the coverage and effectiveness of surveillance. Additionally, the vast area consisting of many small islands poses significant accessibility constraints, especially in reaching remote or isolated areas. Limited technological infrastructure also poses a barrier to using technology to enhance surveillance. Conflicts between conservation interests and the needs of the local community, lack of community awareness about the importance of environmental conservation, and budget constraints also pose challenges in supervision efforts. By overcoming these obstacles through appropriate strategies, Taka Bonerate National Park Office can enhance resource utilization in surveillance to preserve the environment more effectively.

4. Conclusions

The utilization of resources in supervision at Taka Bonerate National Park is a crucial factor in maintaining environmental sustainability in the area. With the right indicator tools, national park managers can monitor and manage the use of natural resources efficiently and sustainably. Efforts made by the park's head and management team, including increasing the number of field officers, utilizing technology, and collaborating with the local community, contribute positively to enhancing the utilization of human and material resources in supervision. However, obstacles and challenges such as limited human resources, difficult accessibility to the area, and conflicts with the local community remain challenges that need to be addressed. With the right strategies, managers can overcome these barriers and enhance the effectiveness of resource utilization in supervision, thus ensuring the environmental sustainability of Taka Bonerate National Park.

This research has significant implications in both the theory and practice of environmental conservation. Theoretically, the findings of this study can enrich our understanding of how available natural resources can be optimized for surveillance and preservation of ecosystems within them. Its theoretical implications also extend to contributing to the development of surveillance theories and models within the context of national parks and environmental conservation. On the practical side, this research can provide valuable guidance for national park managers and stakeholders in enhancing surveillance effectiveness. With a better understanding of the factors influencing surveillance effectiveness, decision-makers can design policies and management strategies that are more efficient and effective. Furthermore, its practical implications also include the development of more focused and adaptive surveillance practices according to the needs of sustainable conservation in Taka Bonerate National Park and potentially in other national parks as well. Thus, this research has the potential to contribute valuable knowledge and have a positive impact on environmental preservation efforts and national park management in the future.

The researchers' contribution in the study of the effectiveness of resource usage levels in surveillance at Taka Bonerate National Park is providing a deeper understanding of how available resources are utilized to monitor and preserve the ecosystem within it, as well as identifying factors influencing the effectiveness of surveillance.

Researchers have limitations in this study such as limited available data, restricted access to certain areas within the national park, and constraints in accounting for environmental variability and natural conditions that may affect research outcomes.

Researchers have suggestions for further research on the effectiveness of resource usage levels in surveillance at Taka Bonerate National Park, which may include expanding the scope of the study to consider various aspects of surveillance such as monitoring specific species or managing conflicts between conservation interests and local community interests. Additionally, further research could deepen the analysis of the impact of specific policies or management practices on the effectiveness of surveillance at Taka Bonerate National Park.

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