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Literature Review: Policy Strategies for Natural Resource Management and Conservation

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Abstract: Research and identify the relationship between the components under study in conservation and demonstrate a significant correlation between them. In this study, a qualitative literature review methodology was used which involved a systematic process of studying, analyzing and synthesizing relevant literature. Findings from this study indicate that effective collaboration between various stakeholders, preservation of local customs, and implementation of supportive policies are critical factors in efforts to manage natural resource conservation. The research also highlights the importance of involving local communities, non-governmental organizations, government, and the private sector in conservation management. Local customs also play an important role in preserving natural resources. In addition, policies that support natural resource conservation management are needed, including regulation of resource use, habitat protection, management of conflicts between stakeholders, and integration of related policies. A limitation of this study is the subjectivity in the collection and interpretation of data in the selected literature. In addition, the study was based on an analysis of existing literature, so the results depend on the quality and quantity of literature available. Also, since this study used a literature review approach, no primary data collection was conducted. The recommendation for future research is to involve primary data and conduct field research to confirm the findings of this literature review.

Keyword: Management Policy, Conservation, Environment

INTRODUCTION

Increasingly intense competition over access to and utilization of natural resources is a source of complex conflicts, involving contests between diverse and sometimes conflicting interests. These conflicts often involve dynamics between economic interests, which are often prioritized to support economic growth and investment, and environmental interests, which emphasize the protection of vulnerable environmental aspects and the need for sustainable management. In addition, social aspects are also involved in these conflicts, given the impacts on local communities, including traditional rights and social welfare. At the science and policy level, the challenge is to move towards new ways of doing and knowing, overcoming the

limitations of single knowledge systems and better supporting endogenous development (Yanou et al., 2023).

In this context, clear policies and strong regulations are crucial for managing and defusing conflicts that arise. Well-established policies and consistently applied regulations can create a stable foundation for balancing different interests. This includes regulating access rights, revenue sharing and sustainable environmental management. Strong regulations can also provide guarantees for fairness in the utilization of natural resources, thus ensuring that the benefits can be equally enjoyed by all parties involved, including local communities and future generations.

Stakeholder engagement is the process of involving actors affected by natural resources by addressing potential conflicts of interest and incorporating diverse knowledge in the management process, which is important for increasing accountability and reducing uncertainty (Han et al., 2024).

As such, this background highlights the need for a comprehensive and coordinated approach to the challenge of competition over natural resources. This involves not only the establishment of progressive policies and strong regulations, but also requires the active participation of various stakeholders in the decisionmaking process, as well as collaborative efforts to strike an appropriate balance between economic, environmental and social interests.

This research has a high urgency related to the important role of policy makers in natural resource conservation, for example in the context of capital cities in Indonesia. Without effective policy makers, natural resource ecosystems can be threatened due to uncontrolled utilization. Therefore, it is important to take actions that involve policy makers to maintain the sustainability and preservation of natural resources.

One example of the important role of policy makers is in the context of the development of a new capital city in Indonesia. The development process can have a significant impact on natural resources, both in terms of land use, water utilization, biodiversity, and the environment as a whole. Without policy makers paying attention to conservation aspects, the risk of ecosystem degradation and environmental damage will increase.

Through this research, it will be possible to reveal the urgency of policy stakeholders in protecting natural resources around the new capital city. The research findings can provide a deeper understanding of how policy makers can play an effective role in natural resource conservation. This could involve regulating resource use, habitat protection, managing conflicts between stakeholders, and coordinating other related policies.

In conclusion, this research has high urgency as it underscores the importance of the role of policy makers in natural resource conservation. In the context of Indonesia's new capital city development, the presence of effective policy makers is key to maintaining ecosystem sustainability and preventing overexploitation. Through this research, it is hoped that policy makers will pay more attention to conservation aspects in decision-making and involve various stakeholders in efforts to preserve natural resources.

METHOD

Qualitative literature review methodology involves a systematic process of studying, analyzing, and synthesizing relevant literature to gain an in-depth understanding of a particular topic, with the aim of explaining, describing phenomena, and understanding the meaning and interpretation contained in the literature reviewed. This process involves the steps of identifying an appropriate research topic, systematic literature search through various relevant sources, literature selection according to specified criteria, evaluation of the quality of the selected literature, in-depth analysis of the content of the literature with a qualitative approach, synthesis of literature findings. to develop a conceptual framework, interpretation and discussion of literature findings, as well as writing a literature review report that includes research objectives,

methodology used, main findings, as well as relevant conclusions and recommendations. This methodology provides deep insight and rich understanding of the research topic through analysis of existing literature, and can be used as a basis for further research or theory development. Qualitative research is strongly influenced by the researcher's perspective, thoughts and knowledge because the data is collected and interpreted subjectively by the researcher (Raco, 2010) .

RESULT AND DISCUSSION

The aim of the literature review research with the theme of conservation in managing natural resources is to: research and identify the relationship between the components studied in conservation and show the existence of a significant correlation between these components; filling knowledge gaps regarding the relationship between stakeholder participation in conservation and understanding it systemically; apply interdisciplinary and theoretical approaches to gain a more comprehensive understanding of stakeholder participation in conservation; analyze and evaluate resource management strategies that involve traditional participation, use of shared infrastructure, and shared experiences in order to conserve natural resources; identifying challenges in conservation management related to citizen involvement and their welfare, as well as formulating the expected results in the form of Tri Hita Karana balance; compare the number of tourists and resource conflicts between two villages and examine the important role of traditional involvement in both situations; analyze existing policies related to wetland protection, identify inconsistencies between policies and laws, and formulate recommendations to strengthen wetland management in South Africa; simulating future scenarios related to the sustainability and conservation of water resources in desert or semi-desert areas, as well as evaluating the sustainability and efficiency of these scenarios; analyze spatial and temporal variations in ecosystem services as well as synergistic relationships between certain components in conservation; and study oxbow lakes in various river systems in Africa, understand the factors that influence their distribution and existence, and formulate sustainable management strategies to preserve oxbow lake ecosystems.

Based on the results of 10 previous research journals, it was found that in managing policy strategies related to natural resource conservation, it is important for stakeholders to implement a policy that comprehensively preserves natural resources, including water, forests and other biodiversity. The importance of stakeholders being involved in such conservation management is highlighted in the research.

Apart from that, research also shows that local customs have an important role in preserving natural resources. The continuity of these traditions and cultural values must be preserved and integrated into conservation policies to achieve optimal results.

Furthermore, the importance of implementing policies that support natural resource conservation management was also revealed in the research. Appropriate and effective policies are needed to protect and manage natural resources sustainably. This includes regulating resource use, protecting habitats, regulating land access and use, and managing conflicts that may arise between different stakeholders.

Overall, the research results highlight the importance of collaboration between stakeholders, preserving local customs, and implementing supportive policies in the management of natural resource conservation. Thus, it can be hoped that conservation efforts will be more effective and sustainable in preserving natural resources that are important for our lives.

Conservation practitioners are risk-averse, as knowing that a measure has proven effective in similar applications can encourage adoption and a shift away from historical conservation approaches that are vulnerable to climate change. Similarly, it can raise awareness of other suitable options expanding the conservation practitioner's toolkit (Hansen et al., 2023).

Conservationists need to be optimally equipped. This recommendation is based on an approach that emphasizes cooperation and integration across disciplines to share knowledge, skills and experience, as many experts do. This is needed to support the development and implementation of the "One Plan" project (Moloney et al., 2023).

Natural resource management as a collective action problem requires inclusive, reflective, and systemic stakeholder engagement processes (Han et al., 2024).

Table 1. Previous Research

No	Writer's name	Research purposes	Research methods	Research result
1.	(Yanou et al., 2023)	. Identify knowledge integration projects related to natural resource conservation and management in South Africa. . Know the type of knowledge that is trying to be integrated in these studies. . Know the methods and procedures used to integrate scientific knowledge and local knowledge in conservation and natural resource management projects. . Grouping these methods based on the inclusiveness of participation of local knowledge holders. . Identify opportunities and challenges of knowledge integration and knowledge co-production in such projects. . Knowing the extent to which the debate regarding the decolonization of knowledge plays a role in efforts to integrate and co-produce knowledge.	. Search for case studies by keywords in scientific databases such as Scopus, Web of Science, and Google Scholar. . Study selection was based on inclusion and exclusion criteria. . Data extraction uses six variables based on review questions. . Narrative data synthesis and analysis.	The results showed that there were 14 case studies that met the criteria. Knowledge integration is carried out using a mixture of qualitative and quantitative methods. The level of collaboration varies. Several challenges were found, such as a lack of documentation of the integration process and commitment to decolonial issues. It is recommended that further research is needed to develop fairer methods for knowledge integration and encourage knowledge transformation through a local community-led approach.
2.	(Han et al., 2024)	. Using a systemic and reflective framework	. Examining 1119 case studies on	. 13% of the 561 pairs of

		to analyze the relationship between components of stakeholder participation in natural resource management cases reported in scientific publications. . Identify knowledge foci and knowledge gaps regarding stakeholder participation in previous literature.	stakeholder participation in natural resource management reported in scientific publications indexed on the Web of Science. . Analyze and categorize the components of a systemic framework consisting of 5P (problem, goal, participants, process, results). . Perform a Chi-square statistical test to analyze the relationship between each pair of framework components.	relationships between components studied had a significant correlation. . Knowledge gaps still exist regarding the relationship between components of stakeholder participation. . Interdisciplinary and theoretical research is needed to understand stakeholder participation systemically.
3 .	(Moloney et al., 2023)	Reviews current literature using Boolean methods and critical appraisal of conservation research to determine the techniques and strategies used, with a focus on restoration ecology. From this review, a lack of centralized guidance was identified. This review aims to provide a conceptual framework in the form of a brief guide that can be adopted by conservationists and restoration ecologists. The purpose of the guide is to provide a reference guide to concentrations to consider through examination of the	Initial searches were conducted using general terms such as “Conservation” or “Herd.” The result was more than 400,000 articles, so additional filters were used such as type of article (research and review), year of publication, journal. The initial 170,000 results were uploaded to R Studio and filtered using the litsearchr package. Key terms were extracted, grouped and matched back to WOS to search for specific articles. 100 random articles were reviewed to determine the appropriateness of	The majority of articles (92%) were primary research. The number of articles has increased since 1994 with a peak in 2020. Mammals have the largest proportion (49%). The conceptual framework ("Conservationist's Toolkit") was developed with 3 pillars: knowledge, tools, collaboration. Contains 18 key questions to prepare for a restoration project. In conclusion, various variables must be considered wisely in planning restoration ecology projects. By

		restorative literature.	the search results. Taxonomic type, year of publication, journal were searched.	continuing to adapt, successful results can be achieved through conservation projects to either preserve the species in the herd or increase the wild population.
4.	(Hansen et al., 2023)	The aim of this study was to determine to what extent there are assessments of the effectiveness of adaptation recommendations for conservation reported in the published literature, and if so, what types of assessments are used.	Researchers conducted a literature survey of references to previous revised papers that focused on climate change adaptation recommendations, and complemented this with a targeted literature search to identify studies that assessed the effectiveness of recommended adaptation measures. The studies were categorized by study type according to the hierarchy of adaptation effectiveness testing.	Of the 130 papers identified in a 2022 review by McLaughlin et al. associated with one or more of the "top 10" recommendation categories, more than half (58%) did not assess the effectiveness of the adaptation. Only 36 papers were categorized as Level 2 and above. Five papers were categorized as Level 4 as testing effectiveness through hypothesis tests or comparisons. Only one publication was identified as Level 3. Additional publications showed a similar pattern of effectiveness ratings, with the majority being at Level 2. Only one Level 3 example was found.
5.	(Rosalina et al., 2023)	. Identify tourism resource management strategies implemented in two tourist villages in Bali. . Know the challenges,	. Qualitative case study using interview, direct observation and document data collection techniques conducted in Taro Village and	. Resource management strategies include indigenous involvement, use of shared infrastructure, and shared experiences

		objectives and expected results in managing resources in the two tourist villages. . Comparing resource management strategies, challenges and similarities between the two tourist villages.	Munduk Village, Bali. . Data analysis uses thematic analysis.	to conserve resources. . Management challenges are citizen involvement and citizen welfare. The expected result is Tri Hita Karana balance. . There are differences in tourist numbers and resource conflicts between the two villages, but traditional involvement is considered important in both.
6.	(Sinthumule, 2024)	The aim of this research is to analyze the strengths and limitations of the environmental policy and legal framework in South Africa that supports the protection and management of wetlands.	This research uses a qualitative approach by conducting a comprehensive document study of policy documents published by the South African government. The selected documents include the South African Constitution and nine national environmental policies that contain provisions on wetland conservation and management. Documents were then analyzed qualitatively to identify strengths and limitations in supporting wetland protection.	The research found that there are no specific policies that protect wetlands, but several sectoral policies integrate wetland conservation objectives. This results in the absence of an integrated management objective. Apart from that, there is a lack of harmony between policies and laws, there is a lack of coordination between institutions, and there is no integrated monitoring. This fragmented and incoherent approach undermines the effectiveness of the legal framework in protecting these sensitive

				ecosystems. This research concludes that there is a need to strengthen wetland management in South Africa.
7.	(Mohamed et al., 2020)	. Conduct a detailed evaluation of the highly stressed water system conditions in Abu Dhabi (with minimal surface water resources and artificial water systems). . Consider several water-related government policies in developing possible future Abu Dhabi water scenarios. . Demonstrate scenario development for data-deficient systems.	. Develop a conceptual and dynamic framework of Abu Dhabi's water system. . Design and develop future scenarios using control and supporting parameters to project future situations. . Modeling the developed scenarios using the Abu Dhabi Dynamic Water Budget Model to evaluate the future balance of water supply and demand.	. Four sets of future scenarios were simulated, namely Business as Usual, Policy First, Sustainability through Conservation, and Sustainability Strengthened by Rain. . The simulation shows that the Sustainability through Conservation and Rain-Enhanced Sustainability scenarios achieve water budget balance without shortages until 2050. . The Rain Boosted Sustainability Scenario is recommended because it requires reasonable and achievable consumption reductions in different demand sectors . . The research results are useful for developing future water resource management strategies in desert or semi-desert areas.

8.	(Wang et al., 2024)	. Develop a framework for identifying priority conservation areas (PCA) based on ecosystem trade-offs across multiple scenarios. . Quantifying and analyzing the spatial and temporal variability of Soil Conservation (SC), Water Yield (WY), Carbon Storage (CS), and Habitat Quality (HQ) in the Northeastern Chinese Peninsula. . Tracing trade among four ecosystem services in the Northeastern Chinese Peninsula. . Identify PCAs for ecosystem services in the Northeast China Peninsula and make ecological management recommendations to provide scientific references for further implementation of the scope plan of the Natural Forest Protection Project.	. Using the RUSLE model to estimate SC and the InVEST model to calculate CS, WY, and HQ . Conduct correlation analysis between ecosystem services to determine the relationship between ecosystem services . Uses the ordered weighted average (OWA) operator to identify 11 PCA scenarios based on risks and trade-offs between ecosystem services . Comparing the conservation efficiency of PCA under different scenarios to identify PCA	. There is significant spatial and temporal variation between the four ecosystem services . There is a synergistic relationship between CS-HQ and WY-SC, while the relationship between SC and CS, HQ is opposite . Scenario 2 had the highest conservation efficiency among the 11 scenarios and was used as a PCA . The priority conservation area covers an area of 2.24×105 km2, most of which is forest
9.	(Abebe & Madda Gatisso, 2023)	The aim of this research is to assess the current conditions and threats to the cultural heritage of the Kawo Amado Kella Defense Wall in Wolaita, Ethiopia, and determine future steps for its preservation. Researchers want to analyze the current challenges of conservation and preservation of the	. The researcher used a qualitative ethnographic approach in his research. The sampling technique used was purposive sampling and snowball sampling to select informants and research locations. Primary and secondary data sources were used to collect data, including field surveys, in-depth	Research found that the Kawo Amado Kella Defense Wall is currently threatened due to natural factors such as erosion and human factors such as government development projects, modernization, and ignorance of local communities. Several parts of the wall have been

		Kawo Amado Kella Defense Wall due to development projects, modernity, religion and globalization.	interviews, focus group discussions, and non-participant observation. . A total of 171 people were selected as interview subjects based on their status, work, and life experiences. 64 of them are women. Interviews were conducted between June 2019-September 2020. Apart from that, researchers also took metric measurements and GPS coordinates to study the specifications of the defense wall.	damaged due to the Gibe III Dam Project. This research aims to fill the gaps in previous research and suggest community-based conservation measures for the preservation of this cultural heritage.
10.	(Chukwuka & Adeogun, 2023)	This research aims to review the status and environment of oxbow lakes in Africa, identify the anthropogenic threats facing these ecosystems, and explore management strategies for their conservation and sustainable use. This review will focus on the ecological function and socio-economic implications for local communities around oxbow lakes in Africa, the threats faced from human activities, and the effectiveness of current management strategies.	This review includes a comprehensive analysis of the existing literature on oxbow lakes in Africa, including scheduled research articles, technical reports, and policy documents. This review also involves case studies from different regions of Africa to provide a more nuanced understanding of the diversity of oxbow lakes management systems and challenges. Data sources consist of scientific articles, technical reports and related policy documents. The analysis was carried out by identifying main themes from	Research has found that oxbow lakes are distributed in various river systems in Africa, especially in the Niger, Senegal, Gambia and Okavango basins. Climatic, hydrological, and geological factors influence the distribution and existence of oxbow lakes. Oxbow lakes have important ecological functions such as flood regulation, animal habitat, and fishery resources. Threats faced include dam construction, land use change, urbanization, pollution, eutrophication,

	the literature related to the status, threats and management strategies of oxbow lakes in Africa.	overfishing, and invasive species. Sustainable management strategies are needed to preserve this ecosystem.

CONCLUSION

Based on the results of research contained in 10 previous journals, it can be concluded that effective collaboration between various stakeholders, preserving local customs related to natural resources, and implementing supportive policies are critical factors in efforts to manage natural resource conservation with the aim of achieve sustainable sustainability. These studies show that only by involving various related parties, including local communities, non-governmental organizations, government, and the private sector, and accommodating the cultural values and traditions inherent in customs, can a holistic framework be created and sustainable management of natural resources. Apart from that, the success of conservation also depends heavily on supporting policies, such as regulating resource use, protecting habitat, managing conflicts between stakeholders, and integrating related policies that can strengthen conservation efforts. Thus, strong collaboration, preserving customs, and implementing adequate policies are key elements in maintaining the sustainability of natural resources which are important for the sustainability of ecosystems and human welfare.

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