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Insights into National Park Governance based on Global Research Trends: A Lesson for Indonesia

Abstract

National park governance is urgent in preserving the broadness of biodiversity, nature conservation, and supporting the lives of local communities, demanding a sustainable approach based on global knowledge. This research uses bibliometric analysis to get an idea of global research trends on national park governance and take lessons that can be used in Indonesia. This study maximizes the bibliometric analysis approach with Scopus data sources. Analysis tools are also maximized, namely Nvivo 12 Plus and Vosviewer. The main findings of this research indicate that, through global research trends, national park governance needs to be studied in future research. The tendency of use of the term in biodiversity, nature conservation, conservation management, environmental management, and community participation proved this. Understanding this issue helps create possible governance means more effectively and sustainably, which can be an idea for Indonesia. Findings from global research also provide lessons for Indonesia: They tend to encourage adopting the principle, such as adaptive and collaborative governance in addressing these complex challenges. It can flow on the resolution of conflicts, the involvement of local communities, conservation goals, protection for the environment, the empowerment of indigenous communities, policy changes for and participatory bureaucracy, and satisfying local needs and conservation.

Keywords:

national park governance; adaptive governance; collaborative governance; nature conservation; public participation

Introduction

The time-sensitive concern for national park governance is evidenced by its need to be preserved in its current form,

both in terms of sustaining the biodiversity and natural beauty of those areas and as a core for the conservation of ecosystems that support human life (C. Zhang

et al., 2019). National park governance has several important aspects that provide significant benefits. Firstly, it can ensure the preservation of biodiversity and the natural habitats of living organisms that serve as intact ecosystems (Young et al., 2023). In the case of well-managed national parks, the quality of natural water and fresh air resources guarantees human health (Geng et al., 2023; Zolfaghari & Choi, 2023). Economically, national parks can become tourist attractions, maintaining local employment. As a critical conservation area, national parks also assume the responsibility of counteracting climate change and preserving a functioning global ecosystem (Landy, 2018; Maia et al., 2019; Nogueira et al., 2022).

At the same time, it is logical to assume that national parks are the most complete expression of the principles of park governance since it is the local level that is focused on the preservation and protection of extensive natural resources. In this regard, the urgency of park governance at the level of the city or the region is an important basis for the understanding and implementation of these same principles to national parks (Brill et al., 2022; Iknayan et al., 2022). National parks are the main bastion that humanity has created to sustain its own viability by maintaining ecosystem balance and sustainability. At the same time, they are a magnificent monument to natural height, the unique plants and animals' openness, and the perfect city for recreation. National parks provide science in the form of Enlightenment scientia and dissemination. Indeed, the parks are a demesne of a famous new field of science – environmental science, covering current challenges from climate change to biodiversity conservation (Hassim & Lekota, 2024; Iknayan et al., 2022; Vukomanovic & Randall, 2021). Proper governance at the local level, as well as other directions, may help to expand these categories to all other humans and turn them into valuable natural heritage for themselves and their heirs.

In addition, educational, and cultural aspects are relevant to the urgency of the protection of national parks. National parks are also a popular type of educational tourism, where people can learn about environmental values, biodiversity, and cultural peculiarities of the region of the park. Properly managed national parks can be a tool to educate and popularize the natural and cultural heritage, form an environmental culture, and spread the cult of nature conservation (Dobriła et al., 2018). Lastly, national parks have a high recreational value. They represent green, open spaces for the population, where people can relax, contemplate the beauty of nature, and engage in active forms of outdoor recreation. It has a positive impact on the physical and mental health of visitors and the relationship of man with nature (Aguilar-Carrasco et al., 2022; Yimprasert et al., 2021). It is important to

realize this urgency, and then national parks will be a valuable asset for many generations.

Furthermore, National Parks in Indonesia also preserve biodiversity and the shape of native ecosystems. The existence of a zonation policy can differentiate its function as a research and science center, a platform for environment-related learning called environmental education, and others. Promote a regulated standard stand cultivation, rejuvenate the ecotourism tourism business, and provide the opportunity for the community to play healthy. There are 54 of them in Indonesia. Thus, Indonesia contributes significantly in terms of nature preservation and natural resources sustainable utilization in the world (Fauziyah et al., 2023; Kuswanda et al., 2023; Pristiandaru, 2023; Suparno et al., 2019).

Preserving and managing the national parks in Indonesia cannot be met without cross-sector collaboration and the active participation of the related parties, including the government at all levels. In fact, the government is supposed to form policies and regulations supporting the sustainable manner of national park management (Kubo et al., 2019). According to Kubo, such legislation also involves public and regional spatial usage and includes a master plan, zoning, and the allocation of sufficient resources. Along with the government, the role of local communities is substantial. By empowering the communities with managing and preserving national parks, they perceive a sense of their own responsibility and ownership in terms of nature conservation. Concerning the above, the community partnership initiatives through benefactor programs and other forms of engagement are sustainable.

National park governance has a high degree of urgency. In addition to ensuring the preservation of biodiversity and natural beauty, it also serves as a cornerstone for the ecosystems' sustainability where they have an ultimate purpose to support human life. As a result of proper governance, national parks ensure the preservation of clean

water and clean air resources, become objects of tourist attraction that influence the economic sphere, and finally help to combat climate change and maintain the global ecosystem functions sustainability. Governance also has a role in educational, cultural, and recreational purposes, providing additional value in maintaining natural and cultural heritage (Maia et al., 2019; Young et al., 2023; C. Zhang et al., 2019).

Nonetheless, while much research regarding national parks governance has been done on a global level, the rarity of existing studies to discern comparisons from various global research results which are then used to formulate a more specific input to the Indonesian case suggests that there is a gap in the knowledge that needs to be bridged. This study will mainly address the international research results that could be implanted in the Indonesian case context. Research results of the international implementation case with a literature study approach will be significant input for future cases (Malik et al., 2023; Y. Zhang et al., 2023). This research contributes towards obtaining data and information relevant to some aspects of the country's geographical, social, and ecological conditions of Indonesia, necessary for policy-making, management of the protected areas, and conservation. Therefore, this forms a critical basis for sustainable decision-making to promote the continued existence and existence of national parks in Indonesia.

The urgent research is an important investment because exploring national park governance through the lens of global research makes way for the necessary improvements in Indonesia. The relevant exploration of the principles that work becomes accessible due to the feasible solutions that many countries have implemented to manage national parks. The literature studies were the priority domain due to their potential to generate the only source of information that helps propose innovative solutions. The resulting benefits are numerous,

including the efficiency of the management, the preservation of biodiversity, and the empowerment of local communities. Additionally, it will be a solid foundation for developing sustainable tourism and sharing knowledge of the benefits of conservation worldwide. Therefore, the research is a legitimate strategy for sustainable decision-making that would help maintain sustainable and diversified national parks in Indonesia.

Methods

The literature study, the bibliometric analysis approach, especially taking primary data sources directly from the Scopus data source, brings benefits in covering a wide range of research on the development of governance in terms of national parks. As the search focus was tackled around the article titles, particularly on the keyword of “national park governance,” this offers a clear direction on the several dimensions that national park governance can cover, which constitutes the fact that this research uses data from various published research. Engaging the article’s title provided the core knowledge and the current focus of research in the sphere. No restrictions are applied to the publication year, author affiliation, subject area, publisher, and document type, making the study maximally inclusive and offering the most relevant views to various research definitions and views.

Thus, the 89 relevant documents discovered provide a solid ground to continue the comprehensive bibliometric analysis. The fact that 98 documents in total were considered is explained by the non-exclusion of the year of publication, author affiliation, subject area, publisher, and document type for this research. It is a significant number that corresponds to the level of research complexity on the subject of national park governance. The bibliometric analysis will also reveal the publication patterns, authorship, and recent changes in focus. The explicit explanation and mapping can serve

as decisions in the development of national park management from the side of relevant stakeholders. The example can be used for further research in the direction discovered by the analysis.

The collected documents are then transferred into the Vosviewer analysis tool; an application developed specifically for visualization and analysis of bibliometric data. For this research, the use of Vosviewer will present in interesting visual mapping a network of themes, relationships of authors, and an overview of how research has developed over time in connection with national park governance. The tool is useful in identifying topic clusters, showcasing the plurality of author contributions, and likewise investigating linkages between concepts. Vosviewer gives a more profound insight into research dynamics in the national park governance context.

The analysis also uses Nvivo 12 Plus which compiles specific and meaningful findings of literature globally relevant to the Indonesia case study. The three stages of imported data are analyzed, and the result is visualized using tools like creating a thematic group. Nvivo operates on code-following emerging trends during the data analysis model process. The tool identifies themes, patterns, and inter-connected conceptual affiliations. After that analysis, the final stage is the visualization of data brought in the table and images that simplify the easier description of findings. Therefore, The use of Vosviewer and Nvivo 12 Plus is crucial in bridging the gap of the local reality with global Intelligence to generate a researcher's way forward to improving or developing national park governance in Indonesia

Results and Discussion

National park governance based on global research trends

Based on the example of data acquisition and the resulting representation of the described concept, one obtains an overview of national

park governance based on global research trends. It is possible to consider the number of relevant documents according to the year of publication, author affiliation, subject area, and citation level. Thus, it is possible to obtain strong empirically obtained evidence of how national park governance technologies are perceived and the receptive horizon they open up to respectful research. Annual trends show the history of research, and author affiliations signal an evolving range of global collaborations in this field. Subject categories and citation counts give a sense of the topics and the impact research has on national park governance ideas.

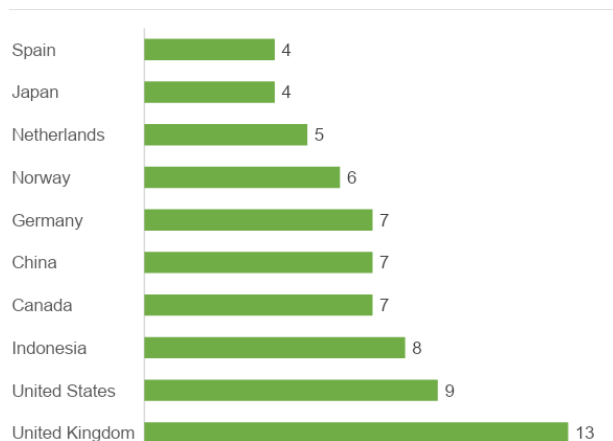


Figure 1. Number of Documents Concerning National Park Governance Based on Publication Year

Source: Database Scopus, 2024

A production of the number of documents about national park governance based on the year of the publication is displayed in Figure 1. This analysis shows interesting patterns regarding the progress of this investigation area over time. I noticed that the production of documents continued increasing from 2005 to peak in 2021 with 13 documents. As a result, the increase could indicate greater awareness of the need for good governance of national parks on a global scale and inspire even more studies. On the contrary, the decrease that reaches 2000 in 2023 is caused by various factors including the change either

in researchers' focus or global incentives that eliminate their dedication to the current topic.

It is also acknowledged that a specific research work happened in the period 2005. According to the findings of this research, inter-institutional relations in the governance of national parks in England were analyzed using a Foucault-style governmentality methodology. The findings find that there are two competing imperatives of the governance of the UK's national parks: the relational desire of politics to territory greater competencies to the regional levels for policy differentiation and the territorial imperative of administration to the risk of the administrative management of the public policy process to ensure national policy objectives for the rural areas. These two imperatives deeply inform the institutional culture of the National Park Authorities/NPAs. However, the findings conclude that up until now, the territorial imperatives of the central government have been more influential in the changes of governance in England's national parks (Thompson, 2005). The knowledge of the presented findings is significant as it provides a deep analysis of the power dynamics of national park governance.

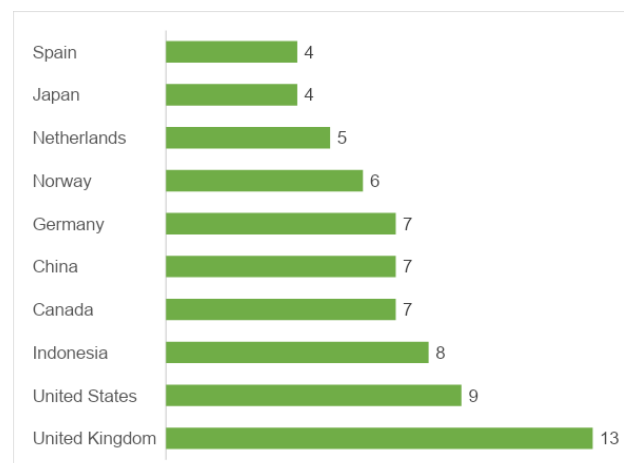


Figure 2. Country Affiliation of Authors about National Park Governance Based on Number of Publications

Source: Database Scopus, 2024

Figure 2 illustrates the distribution of the number of publications regarding national park governance based on the author's country affiliation. These data reveal the significant contributions of different countries to the global literature in this domain. The leader in number of publications is the United Kingdom with 13 documents, followed by the United States (9), Indonesia (8), Canada (7), China (7), and Germany (7). These findings reflect the active involvement of various countries in research and discussions related to national park governance. Indonesia's significant participation indicates a strong interest in the national context on this topic.

The urgency of national park management in Indonesia can also be seen from various detrimental cases, such as the conservation area and the Sumatran elephant's habitat, which was severely damaged due to fire (Redaksi Asiatoday, 2019).

Figure 3 provides an alarming picture of the severe damage experienced by Tesso Nilo

National Park in 2019, where burned land was widespread, and fires occurred not only in one area. The plumes of smoke visible throughout the national park area indicate a severe impact on the ecosystem and environmental sustainability. The urgency of national park governance in Indonesia in the future is increasingly visible, considering the need for proactive steps to prevent and mitigate the risk of forest fires that can harm biodiversity and affect regional air quality and climate. Strengthening governance, including stricter monitoring, effective law enforcement, and collaboration between interested parties, is crucial to protecting national parks as valuable natural assets and supporting the sustainability of Indonesia's ecosystem.

Apart from the number of documents based on the year of publication and author affiliation, there is also the number of documents based on subject area.

Table 1 presents the distribution of documents regarding national park governance



Figure 3. Tesso Nilo National Park was badly damaged in 2019

Source: Redaksi Asiatoday, 2019

Table 1.
Document on National Park Governance
Based on Subject Area

No.	Subject area	Documents
1	Environmental Science	56
2	Social Sciences	55
3	Agricultural and Biological Sciences	24
4	Economics, Econometrics and Finance	11
5	Business, Management and Accounting	9
6	Arts and Humanities	6
7	Earth and Planetary Sciences	6
8	Energy	4
9	Engineering	3
10	Computer Science	2
11	Medicine	2
12	Chemical Engineering	1
13	Decision Sciences	1

Source: Database Scopus, 2024

based on the subject area. These data illustrate the vast diversity of research focused on national park governance. Environmental Science and Social Sciences are the two main subjects, with several documents of 56 and 55, respectively, indicating great interest in understanding the impact and implementation of governance policies on the environment and society. Agricultural and Biological Sciences also stands out with 24 documents, reflecting interest in biological and agricultural aspects in the context of national parks. In addition, Economics, Econometrics, and Finance (11 documents) and Business, Management, and Accounting (9 documents) show the critical role of economics and management in national park governance. Through these various subject areas, research on national park governance can involve various scientific disciplines, enriching the perspectives and solutions needed to achieve sustainability in national park management.

Additionally, Table 1 indicates the dominant trends in national park governance research. As the main subjects, Environmental Science and Social Sciences show that research mainly focuses on environmental and social aspects in the context of national parks. This can reflect an awareness of the critical role of national parks in nature

conservation and resource management and their impact on society. The lower representation in subject areas such as Medicine, Chemical Engineering, and Computer Science indicates that the research focus has yet to fully cover all multidisciplinary aspects that may be relevant to national park governance. Subsequently, to better realize the complexity, future research can introduce collaboration across academic areas and multiple perspectives, maintaining different aspects of national park governance.

Table 2.
Document on National Park Governance
Based on Subject Area

No.	Title	Citation
1	Local sustainability initiatives in English National Parks: What role for adaptive governance?	53
2	First Nations Values in Protected Area Governance: Tla-o-qui-aht Tribal Parks and Pacific Rim National Park Reserve	44
3	Conservation, conflict and the governance of fisher wellbeing: Analysis of the establishment of the Gulf of Mannar National Park and Biosphere Reserve	43
4	Global governance from the Amazon: Leaving oil underground in Yasuní National Park, Ecuador	42
5	Governance and management strategies in national parks: Implications for sustainable regional development	36
6	Inter-institutional relations in the governance of England's national parks: A governmentality perspective	35
7	Refocusing conservation through a cultural lens: Improving governance in the Wakatobi National Park, Indonesia	34
8	Does Pastoralists' participation in the management of national parks in northern Norway contribute to adaptive governance?	33
9	From fence-and-fine to participatory conservation: Mechanisms of transformation in conservation governance at the Gunung Halimun-Salak National Park, Indonesia	29
10	A pluralistic approach to protected area governance: Indigenous peoples and Makuira National Park, Colombia	26

Source: Database Scopus, 2024

The number of citations in a document shows how a scientific work is cited in another

researcher's work, which is a measure of the widespread effect and influence of this work in the scientific literature (Baharuddin et al., 2022; Ibrahim et al., 2023a). The experience of referring to the study, the higher its citation index and its relevance in the scientific community. Consequently, the analysis of the number of citations in other documents about the governance of national parks allows for representation of how widespread and how much work contributes to understanding the concept of national park governance worldwide.

The greatest number of citations is the document describing the role of adaptive governance Anderson & solutionism in local sustainability initiatives in England's National Parks and is explored using five 'good practice' case studies. Research results indicate that the characteristics of adaptive governance, focusing on learning and adaptation to the actors on different levels and scales of politics, administration, and geography, are essential for achieving sustainable development (Clark & Clarke, 2011). However, the evaluations of 'good practice' initiatives not only identify features of adaptive governance but also embody the role of national park authorities in mediating these features to more or less stimulate the activities and behavior of individuals and groups on different levels and scales. Therefore, because these findings are more directly associated with national park governance they seem to suggest that applying the framework of adaptive governance provides a new and comprehensive understanding of the initiatives targeting sustainable development in England's National Parks and the actual power of national park authorities to facilitate the collective and individual activities of people.

The second document, the present study, demonstrates increased control by some First Nations over areas previously controlled by the government, allowing First Nations to develop new protected areas and create governance

systems that reflect their cultural beliefs, values, and goals. The examination of group involvement in the governance of protected areas contrasted the two protected areas close to one another and with varying goals. These results illustrate the struggle of national park governance in trying to meet First Nations' collectively specific cultural values and goals and further provide an entryway into incorporating participatory governance approaches in governments that focus on cultural and natural values (Murray & King, 2012).

In the third document, the author explores one Marine Protected Area; the Gulf of Mannar National Park and Biosphere Reserve, and identifies the four types of social conflict in its establishment. With well-being aspirations as the basis for analysis, the researcher concludes two distinct themes; the significance of the interaction of MPAs with larger social systems and the role of natural and social diversity in governance. Thus, the primary findings demonstrate that resolution of conflict is evident where MPA authorities interfere with external deprivation. Additionally, the study identifies the differences in welfare aspiration in populations and recommends the establishment of governance agreements (Bavinck & Vivekanandan, 2011). This finally, will lead to the generation of more balanced decisions, which in turn results in the population's understanding and promotion of "fairness" regarding the coordination of the MPA policies. Therefore, these findings give a wide and broad discussion about the complexity of the marine protection policy governance compared to national parks. It-for this reason, it is evident that there has to be a partnership and active involvement that integrates social, economic, and environmental aspects and welfare to coordinate harmony socially, environmentally, and economically.

Moreover, the fourth document, which is related to campaign material covering the efforts to save the Ishpingo-Tambococha-Tiputini block in Yasuní National Park in Ecuador, introduces more

enigmatic changes triggered by the transformation of transnational networks and global governance instruments in the post-Kyoto era. Precisely, the Yasuní-ITT initiative proposes popular-rooted alternative mechanisms of global environmental governance, ensuring that almost 900 million barrels of oil remain in the Ecuadorian soil as a global contribution to emission reductions. This concept aligns with *buen vivir*, or the good life, envisaged by the Ecuador Constitution from 2008. However, this seemingly poetic transformation has been challenged by many inconsistencies at both the domestic and international levels. The Yasuní-ITT Initiative and the UN Yasuní Trust Fund consider the potentiality to become the initial role model for megadiverse developing nations reliant on fossil fuels. These documents illustrate how fundamental national park governance on a global scale is for sustainable development and biodiversity conservation (Lima & Gupta, 2013).

Thus, the fifth document indicates that the creation of organizational forms of management is largely due to the influence of contextual factors. The conservation policy underlies the park management strategy: “Austrian management model – preserve “high use pressure – wide range”, Norwegian proper conservation model – low pressure and marginal use”. In Austria, a combination of national and regional systems leads to a complicated management model, and in Norway, a national politics sectoral approach is implemented. Thus, it is possible to conclude that the national park system is involved in the possibility of adjusting the management model by environmental conditions and pressure, which is of practical importance for sustainable regional development (Getzner et al., 2014).

Findings from the sixth document are highly applicable in forming policy and governance for UK national parks. Firstly, policymakers can learn that the political and administrative rationales constitute two diverging but complementary imperatives prompting policy dynamics. This fact

can help to find a balance between the political and administrative decentralization of the regional level and central-level managerial efforts. Secondly, captured through this consideration of the regional uniqueness and national policy goals in rural areas allows formulation of more flexible and accountable governance strategies. Lastly, the balance between regional parties and national park authorities needs to be adjusted to help both sides fulfill conservation and sustainability goals (Thompson, 2005).

The seventh document mentions that the Wakatobi National Park, situated in eastern Indonesia, might become a case study to demonstrate the role of governance incentives. Although within the Wakatobi national framework, the initiative serves the strategic economic partnership between public and private factions, which focus on improving fishery regulation and supplicating their interest in the tourist industry. However, Indonesia’s policy lacks cohesion regarding tourist policy on the national and local levels. Moreover, hazardous tension exists between the various groups of stakeholders; publicly funded institutions assume they have more rights and the capability to parent the Bajau people. Meanwhile, both state and NGO-funded institutions constantly undermine the Bajau people’s rights (Clifton, 2013).

The eighth document inquires about the relationship between breeder participation and adaptive governance approaches to managing Northern Norway’s national parks. Since governance reform in 2010, local politicians have been awarded the right to manage protected areas and Sámi spheres gained seats in the recently established National Park Board. This study analyzes whether the governance reform has enhanced adaptive capacity within the reindeer herding community, which now has adequate say in pasture access as a result of the participation in the decision-making about the protected area. The attributed text suggests that the National

Park Board offers a new model of adaptive governance that may help generate sustainability for a variety of stakeholders reliant on protected areas. However, the associated anticipated goals of co-produced knowledge, learning, and increased adaptive capacity in reindeer husbandry have not been met. The limiting factors are the lack of power given to the National Park Board and the lack of incentive for the reindeer breeders, who because of the latter tend to ignore the work of the National Park Board (Risvoll et al., 2014).

The ninth document I consider is the transformation of forest bureaucracy in Mount Halimun-Salak National Park, Indonesia. Here, the national policy changed from “fence-and-fine” to “participatory” conservation for conserving. I understand that the implementation of “fences and fines” requires new ways of communication, interaction, and learning processes; also, perception and behavior changes based on the conservation governance framework can be positive or negative depending on the goals. Therefore, Although the development of local economic needs is crucial to forest regions in this referential study, the success of stopping forest degradation in favor of capacity restoration implies the importance of trust and learning between the field staff and local resource users (Kubo & Supriyanto, 2010).

The tenth-published document also follows the pluralistic approach but studies the position of the national park and Wayúu tribal government towards co-ownership protected area governance. Protected area and national park authorities negotiate indigenous rights and conservation interests through the concept of *Gobierno*, or co-government, where there are overlaps between national parks and collective territories of the Wayúu tribe. This study demonstrates that common interests can exist that permit negotiation between conflict-of-interest entities to realize protected area co-governance. Through the

negotiated agreement, indigenous governance and park-oriented conservation were selected as compatible reciprocal objectives, which allowed conflict-managed area use planning and protected areas. However, such cooperation requires compromises; for example, the Wayúu government had to abandon some of its rights to self-determination, and the national park gave up the selection of conservation ideals based on biological criteria. As they both recognized the legitimacy of the Wayúu traditional government, the roles of the national park in protecting Wayúu territory, and their distinct compatible strengths, the alliance was two-actor and successful. Most evidently, these findings underscore the importance of agreed-upon processes of identifying shared interests and guaranteeing compromise in the design of protected area governance (Premauer & Berkes, 2015).

The above documents reveal that national park governance is a critical factor in uniting diverse interests and dreams such as local sustainability, social rift, people’s desires, and policy shifts. The results indicate that adaptive governance, inclusive governance, and participatory governance are essential to address the multiple dimensions affecting the parks. Regional sustainability, indigenous community involvement, and dispute change are key influencing features to offer vital concerns in implementing crucial governance policies and practices. Consequently, integrating multiple interests and achieving harmony between national and local interests can promote sustainable and prosperous national parks.

The citations from these documents add value to the literature on national park governance. High citations show that the provided results and mean have a significant impact and benefit on the relevant theory recognized by scholars in national park governance. Therefore, these documents make significant contributions to the global theory and practices of national park governance

expressions, Policy Briefs, and Summits on this Subject.

In this way, an analysis of governance in national parks from the perspective of the global research trend provides a substantial contribution to the literature gap, expanding knowledge on the phenomenon and related issues and offering new insights. By gaining a deep understanding of the number of documents by year of publication, author affiliation, subject area, and level of citation, we can develop more responsive, participatory, and inclusive governance strategies to deal with complex dynamics in national parks. The discovery of factors from local sustainability initiatives to conflict resolution combined to a comprehensive knowledge overview suggests that a collaborative and inclusive approach is a way to achieve sustainability and prosperity in national parks. By reviewing various aspects, including regional sustainability, indigenous community involvement, and conflict resolution, we can develop powerful governance policies for the future of national parks worldwide.

Mapping important topics: National park governance

Mapping of crucial topics to discuss National Park Governance is paramount to the identification of key issues that impact the possible success of national park governance. The topics mapped in a nutshell that are vital to this discussion are as follows:

There is a relationship between the following areas of research and possible discussions with National Park governance. The other topics could be more extensive and currently being discussed including biodiversity conservation, nature conservation, conservation management, environmental management, and community participation. The good governance of a national park supports biodiversity conservation and becomes the foundation for conservation. Over and above, with the help of effective strategies and policies, good governance protects unique and diverse ecosystems. It preserves the areas that provide the natural habitat for a variety of species. Moreover, initiatives by governments on

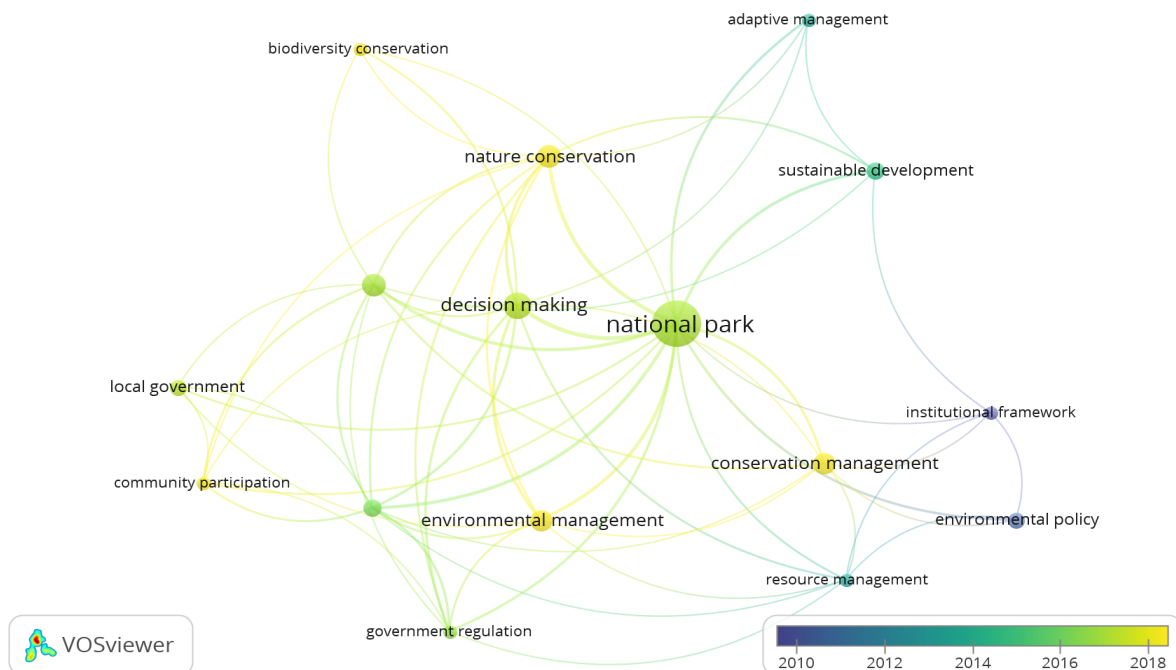


Figure 4. Mapping Important Topics Related to National Park Governance

Source: Processed by researchers using Vosviewer, 2024

national park governance inspire the people to promote biodiversity conservation. Furthermore, maintains the ecological balance and bequeathing natural heritage to generational generations (Feng et al., 2022).

National park governance is one of the most important instruments for nature conservation. By regulating the use of natural resources and addressing the ecosystems that contain them, it intends to promote environmental sustainability and to minimize any harmful outcomes of human activities on nature. This report explores this instrument through the examination of various sub-instruments, such as policies, supervision, and collaboration of multiple stakeholders, in order to reveal that national park governance aims to promote the protection of biodiversity and the care of ecosystems in their natural beauty and ecological functionality for the future generations. Therefore, the primary objective of NP governance is the conservation of nature conservation and the maintenance of the ecological values embodied by each single area (Ma et al., 2023).

One of the most crucial aspects where the national park governance bribes conservation management. This comprises the strategies and policies employed to maintain the natural environment's stability. The target environment for this governance is the management of areas with natural habitats, endemic species, and essential ecosystems for the survival of biodiversity. Some of the conservation management approaches within the conservation management concept include a conservation management framework and management approaches like the creation of protected areas, ecosystem monitoring, and environmental education. In short, national park governance has to ensure that human needs are met while nature is preserved; hence, it ensures that the ecosystem and the affiliated communities enjoy long-term benefits (Forje & Tchamba, 2022).

One of the key aspects of environmental management involves national park governance,

which is charged with conserving and managing natural resources. National park governance adopts an environmental management approach where it ensures that human activities have minimal impacts on the ecosystem existing within its jurisdiction. This involves the formulation and enactment of various policies of environmental protection, regulating water and air quality, and ensuring that biodiversity is conserved. Through maintaining an equilibrium between the use of natural resources and environmental conservation, national park governance becomes key to ensuring a sustainable preserved environment for the continuity of natural ecosystems (Heslinga & Hartman, 2021).

National park governance and operation must incorporate community participation (Ma et al., 2023). It is a more integrated and collaborative conservation and management approach that includes the more distinct and powerful national park governance and operation. Getting the community involved in decision-making is a starting point considering that the national park incorporates traditional expertise and knowledge, a comprehensive understanding of full biodiversity integration, and ensures that the society takes responsibility for its operation in the park. Each partner invests more effort into securing the park's natural resources while creating a permanent solution that will see the park independent of support over time. Additionally, it forces other related activities to fall in place, such as creating ecotourism activities whose existence is meticulously dependent on biodiversity preservation and livelihood. Therefore, national park participation satisfies environmental conservation and protection measures and public welfare and economic improvement.

The subjects under consideration namely biodiversity conservation, sustainable environmental management, and community participation have varying impacts on national park governance. Governance's place in the

environmental sustainability and biodiversity conservation world is growing rapidly in the present day world. The only way national park governance can protect natural habitats, efficiently manage natural resources, and effectively enhance community participation at the local level is through the correct frameworks and policies. Additionally, the contribution of local communities in creating awareness as well as the potential impacts in terms of responsibility and participation outline the innovations that underlay successful national park governance. These factors create the fine line between environmental sustainability, community well-being, and preserving ecological values.

Overall, the discussions about biodiversity conservation, environmental management, and community involvement in national park management presented in this study have complex implications for Indonesia. The paper lacks deeper insights into the importance of nature conservation and governance in safeguarding one of Indonesia's most valuable ecological heritages. The development and implementation of effective governance policies and frameworks in national parks in Indonesia would contribute to enriched knowledge and understanding of existing complex and local-specific challenges and opportunities for biodiversity and ecosystem conservation in Indonesia. This wise approach and relevant plans and strategies, including community participation, can promote environmental sustainability by enhancing human-nature relationships and harnessing nature to enhance human welfare.

Insights based on global research: A lesson for Indonesia in national park governance

In the context of future National Park Governance, presenting critical issues and recommendations for the Indonesian government is important, as this study identified some of the most critical issues that could be solved by Indonesia considering the mapping of global research.

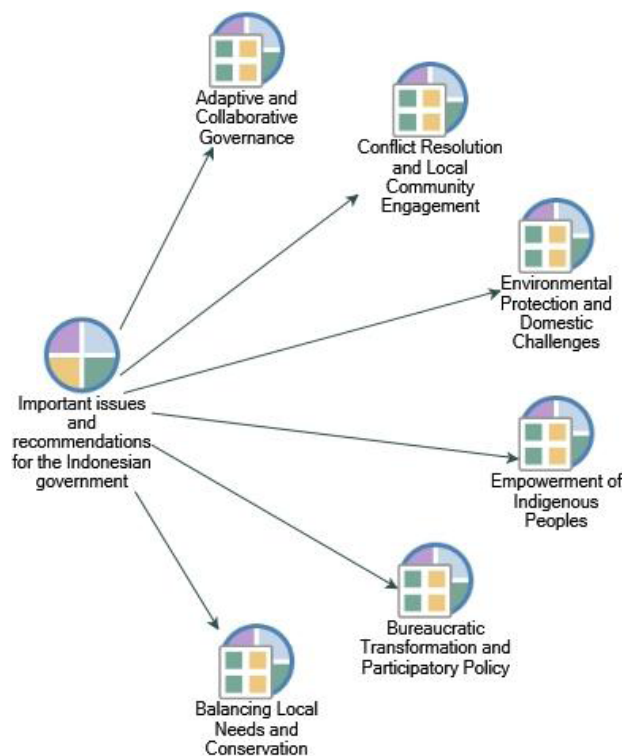


Figure 5. Important Issues and Recommendations for the Indonesian Government in National Park Governance

Source: Processed by researchers using Nvivo 12 Plus, 2024

The principles of adaptive governance and collaborative governance can address the most challenging problems in the governance of Indonesian national parks. Adaptive governance is needed due to an increasing rate of environmental development challenges and complexity (Novellie et al., 2016). The Indonesian government must operate a governance model that is labile in terms of ecology and social factors. It means that responsive decision-making solutions should be built, adaptive capacity should be high, and continuous learning should be propelled. Additionally, the principles can eliminate conflicts aroused by dynamic environmental and community needs.

At the same time, alternative systems based on collaborative governance will also assist in addressing the mentioned weaknesses (Kwiatkowski et al., 2020). In this context, the cooperation of governmental bodies, local

communities, and businesses will promote the efficacy and efficiency of national parks' governance in Indonesia. More to the point, the cooperation of the government itself may be built and propagandized using the main elements of collaborative governance to make more parties have an equal impact, including indigenous communities with their unique knowledge and experience. Nonetheless, the main terms related to this theory, such as transparency, accountability, and separation of powers must also be main while incorporating it identically. Meanwhile, the combination of adaptive governance and collaborative governance principles will help to solve identified issues and form a basis for responsible, equal, sustainable interaction of natural systems under the current conditions.

In an Indonesian national park, the prospective conflict issue in governance is a conflict with the government and local communities and among the stakeholders. According to Risvoll, the roots of those conflicts are diverse perceptions, interests, and rights in natural resources management (Risvoll et al., 2014). Hence, an effective conflict resolution mechanism will require the; government an open communication platform with all the stakeholders. Additionally, the participation of all stakeholders and a deep understanding of the local community's aspects and needs are critical to having an effective resolution. The mechanism should be a conference forum, mediation, or other participatory mechanism that all the stakeholders will perceive as valuable and inclusive.

The final recommendation for the Indonesian government should be a highly recommended suggestion. Indonesia should base its national park governance approach on involvement with the local communities. Local communities have better and more localized knowledge of ecosystems and means of actually implementing sustainable management due to ancestral and spiritual connections with the region. Local

involvement leads to ownership and better compliance with the law and also enhances its long-term viability outlook. The government can also create education and training programs focused on educating local communities to improve their capacities for managing natural resources and sign an MoU in respect to that. Therefore, by integrating conflict resolution techniques and involving the local populace, Indonesia may create a more resilient foundation for sustainable national park management which can also be termed inclusivity (Ma et al., 2023).

Furthermore, two more dimensions need to be mentioned that are relevant to the national park governance in Indonesia – environmental protection and fighting some of the domestic challenges. Indonesia's anticipated exponentially fast economic development appears to overwhelm its natural ecosystem with unparalleled pressure due to various threats and urgent problems, such as deforestation, habitat deterioration, and the loss of biodiversity (Thoha et al., 2022). Therefore, robust policies and proper governance plans should be developed to preserve the invaluable and ecologically diverse ecosystems that can be found in national parks all over the country.

Second, some challenges are domestic and require immediate attention such as illegal logging, unsustainable land use practices, and inadequate waste management (Guild et al., 2022). The necessary measurements here should include toughening the law enforcement response, developing policies focused on sustainability, and raising the people's awareness of the importance of environmental conservation (Ibrahim et al., 2023b). To achieve that, the government has to cooperate with quite a few stakeholders to develop an effective policy and implement it. Given the community's central role in environmental conservation, the active involvement of the people could also be the answer to this domestic challenge. Therefore, combining environmental protection and a holistic approach to domestic

issues will empower the Indonesian government to have sustainable national park governance and preserve its natural richness for the nation's future generations.

One of the key issues concerning national park governance that needs to be addressed by the Indonesian government is the issue of empowering indigenous tribes. Empowering indigenous or native tribes is essential to sustainable management of the environment and to expanding the level of biodiversity. Recognizing indigenous rights and allowing indigenous demonstrate meaningful participation in the decision-making process for national parks, as well as the creation of equal cooperation between governments and indigenous tribes can provide the existing benefits. First of all, this solution expands a more comprehensive perspective of ecosystems from the local point. This helps to maintain sustainable natural resources and indicates other support for the preservation of the long-term objective of these parks. Additionally, the Indonesian Government can leverage the idea of empowering indigenous tribes to create more inclusive, sustainable, and human rights-oriented national park governance.

In national park governance for the Indonesian Government, bureaucratic transformation is one of the most important issues to consider. For this to happen, the change in the national policy's orientation must come together with a change in the bureaucratic culture, allowing the community and concerned parties to have a say in the decision-making. First of all, as stated earlier, such a recommendation entails capacity building and training of the park's staff on the participatory governance approach. Secondly, it involves the development of communication and conflict management programs that would enable productive discourse between the government, society, and other stakeholders. This bureaucratic change through the above-mentioned recommendations will create a system

that is better prepared to turn national parks into more inclusive, sustainable, and responsive policy instruments on the matter of community needs and environmental sustainability.

For the Indonesian Government, the question of the urgency of balancing local needs with the conservation of the natural environment is determined in connection with the issue of national park governance. The proposed recommendations are based on the need to strengthen the involvement of local communities in the decision-making process, taking into account the objectives of nature conservation throughout the national park. Given the problem, Indonesia needs recommendations that represent a collaborative approach through which to create and implement conservation policy with the active participation of rules from the community. In this case, understanding the needs and values of the local population and the development of the local economy are distinct mechanisms to ensure the needs of local communities' interests are more significant than nature conservation. As a result, the subsequent focus on the needs of the local population to increase their support for the national park will lead to a more robust and more effective implementation of policy wildlife conservation at the local level.

To conclude, the Indonesian government can tackle critical issues in national park governance by fusing adaptive and collaborative governance principles. It would be adaptive due to the complexity of the environmental issues, efficiently provided that the governments and local communities work together. Resolution of conflicts, local communities' empowerment, conservation issues mitigation, and bureaucratic reformation are vital areas of focus. The optimal relation between the local citizens' needs and conservation is also needed. The implication here is adaptive, all-encompassing, and sustainable governance, making Indonesia's natural ecosystem sustainable and conserving its populations.

Conclusion

This study has demonstrated that national park governance is one of the areas in which the existent global research trends suggest further probing primarily in the context of biodiversity, nature conservation, conservation management, environmental management, and community participation. The issues involved in these structures are requisite for more effective and sustainable governance systems. Thus, it is imperative to map the main essential issues of biodiversity conservation, nature conservation, conservation management, environmental management, and community participation as principal issues for the research and future policy in Indonesia.

Global research not only indicates valuable insights but also presents lessons that Indonesia can learn and apply to manage its national parks. More so, principles such as adaptive governance and collaborative governance can provide suitable strategies and avenues that can inform and dictate Indonesia's optimal approaches to managing national parks in the country. Furthermore, issues such as conflict resolution and local community engagement, environmental protection and domestic challenges, empowerment of indigenous peoples, bureaucratic transformation and participatory policy, and balancing local needs and conservation also provide more explicit directions. Indonesia's governance of its national parks can be sustainable and favor the protection of its rich ecosystems and, consequently, the country's overall well-being

It is important to note that the major limitation of this research is restricted data coverage based on the Scopus database indexation of the documents. Although Scopus is a primary and vast source of scientific information, the limited focus may predetermine a lack of information from other databases that could be of crucial importance in explaining national park governance on a global scale as well as in the Indonesian context. Therefore, further research

based on alternative databases and scientific sources is required to be conducted to enhance the coverage of the information relevant to a more comprehensive reflection on national park governance.

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