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Assessing and initiating collaborative governance for sustainable geotourism development: A case study of Maros-Pangkep Geopark in Indonesia

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Abstract: Collaborative governance has emerged as a promising approach for managing complex issues, such as developing geotourism in geoparks. This study examines the application of collaborative governance in the development of Maros-Pangkep Geopark in South Sulawesi, Indonesia, with a focus on the assessment and initiation stages. Through a qualitative descriptive approach, data were collected from in-depth interviews with key stakeholders, including government agencies, academia, the private sector, local communities, and media. The findings reveal that the assessment stage involves evaluating the need for collaboration, identifying key actors, and determining effective collaboration strategies. The Maros-Pangkep Geopark Management Agency plays a central role in coordinating diverse stakeholders and aligning their contributions based on expertise. In the initiation stage, identifying and managing resources, establishing a clear governance structure, and building stakeholder capacity are crucial for successful collaboration. The study highlights the importance of conducting stakeholder analysis, setting shared goals, assessing legal and institutional frameworks, developing sustainable financing mechanisms, and fostering regular communication and coordination among stakeholders. Recommendations include implementing adaptive co-management approaches and strengthening existing collaborative initiatives to support Maros-Pangkep Geopark's nomination as a UNESCO Global Geopark and promote sustainable geopark management that integrates conservation, education, and local economic development through geotourism.

Keywords: *Collaborative governance, Geopark development, Geotourism, Stakeholder engagement, Sustainable management.*

1. Introduction

Collaborative governance has emerged as an important approach in public administration for addressing increasingly complex public issues by engaging multiple stakeholders. Rather than relying solely on government institutions, governance involves connecting various organizations to pursue public goals [1-3]. In the tourism sector, which cuts across economic, environmental, political and socio-cultural dimensions, collaborative governance is particularly relevant. Tourism remains a key economic driver in many countries, including Indonesia, where the government has prioritized its development [4, 5].

Geotourism, focused on geological heritage, is a growing segment where collaborative governance holds promise. Geoparks - unified geographical areas with significant geological features, ecological and cultural value - aim to balance conservation, education and sustainable development, especially through tourism [6, 7]. Indonesia possesses rich geological, biological and cultural diversity, with many potential geopark sites. The national government issued Presidential Regulation No.9 of 2019 on Geopark Development, providing guidelines for collaborative management by central and local governments along with other stakeholders [8, 9].

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South Sulawesi province is currently developing Maros-Pangkep Karst Geopark, one of the largest karst areas worldwide containing prehistoric caves, rare flora and fauna, and unique Bugis Makassar culture. Since its designation as a National Geopark in 2017, stakeholders have been working to have it recognized as a UNESCO Global Geopark [10, 11]. However, complex challenges exist, including access, infrastructure, public awareness, human resource capacity, and need for greater community engagement. Collaborative governance involving government, universities, businesses, communities and media is essential [12, 13].

Geopark development extends beyond environmental conservation to sustainable development involving diverse sectors and stakeholders. Collaborative governance is crucial for addressing the interconnected aspects of geoparks - environmental protection, tourism development, education, and community empowerment [14, 15]. The pentahelix model of collaboration, involving five key stakeholders, is suitable for the complex concept of geoparks [16, 17]. Effective collaboration is needed to optimally develop and manage Maros-Pangkep Geopark.

Although Maros-Pangkep Geopark possesses significant geological heritage and tourism potential that can improve local livelihoods, several issues constrain its development. The geopark managers need enhanced capacity and knowledge, while local communities' awareness and understanding of the geopark remains low [18, 19]. Inadequate accessibility to geosites, underdeveloped infrastructure and public facilities, and lack of education and skills for tourism are barriers. Community participation is essential for geoheritage conservation and sustainable tourism [20, 21]. Improved planning and promotion are required to increase tourist visits.

Maros-Pangkep Geopark's transformation into a UNESCO Global Geopark necessitates preparing it as a competitive tourism destination. This requires addressing the various issues through multi-stakeholder collaboration. Collaborative governance has gained importance for tackling complex public problems through cooperation between government and non-government actors [22, 23]. It involves an inclusive process of stakeholder engagement to leverage diverse interests and resources to achieve shared objectives. Morse and Stephens [3] framework outlines four phases of collaboration: assessment, initiation, deliberation and implementation.

This study examines the application of collaborative governance in developing Maros-Pangkep Geopark, focusing on the assessment and initiation stages which are crucial for establishing the foundation for effective collaboration. In the assessment phase, stakeholders determine the need for and feasibility of collaboration, who should be involved, and their respective roles [24]. The initiation stage involves identifying issues, engaging stakeholders, and determining required resources and structures [25]. Researching these initial phases is essential for providing insights to strengthen the collaborative process to achieve optimal outcomes for Maros-Pangkep Geopark and inform broader geopark management. Existing challenges in stakeholder coordination and geopark management underscore the urgent need for systematically examining the collaborative governance process to support Maros-Pangkep Geopark's ongoing development towards becoming a model UNESCO Global Geopark [26, 27].

2. Method

This study employs a descriptive qualitative research approach to comprehensively understand the phenomenon under investigation and answer the research questions. Qualitative descriptive research, according to Sugiyono [28] examines a single variable in its natural context without comparing or relating it to other variables. The aim is to obtain a complete picture of the subject matter from the perspective of the individuals being studied, focusing on their ideas, perceptions, opinions, and beliefs, which cannot be quantified.

The research is conducted in Maros and Pangkep Regencies, specifically at the South Sulawesi Tourism Office and the local governments of Pangkep and Maros. Data is collected through in-depth interviews with five key informants: the General Manager of Maros-Pangkep Geopark Management Agency, Head of South Sulawesi Province Tourism Office, Heads of Maros and Pangkep Regencies, a

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representative from PT. Semen Tonasa, and local site managers or community members. These informants are selected based on their extensive knowledge and direct involvement in the research problem. Additionally, direct observations are made at relevant government agencies and tourist sites to gather objective data. Document study is also conducted, reviewing pertinent literature, scientific papers, government regulations, and laws to obtain comprehensive information related to the research objectives. The collected data is then compiled, categorized, analyzed, and interpreted to draw conclusions that address the research questions.

3. Result and Discussion

3.1. Assessment Stage

The assessment stage in developing Maros-Pangkep Geopark is crucial for determining the necessity and feasibility of collaboration among stakeholders. This phase involves evaluating the existing situation, identifying key stakeholders, and defining effective collaboration strategies. The complex nature of Maros-Pangkep Geopark, spanning two regencies, necessitates a collaborative governance approach involving government, academia, businesses, communities, and media to ensure sustainable management and development. The Maros-Pangkep Geopark Management Agency plays a central role in coordinating stakeholders and aligning their contributions based on their respective expertise.

Stakeholder mapping is an essential component of the assessment stage. In the case of Maros-Pangkep Geopark, the key actors identified include the South Sulawesi Provincial Government, Maros Regency Government, Pangkep Regency Government, Hasanuddin University, PT. Semen Tonasa, and media. Each stakeholder has specific roles and responsibilities in the collaborative effort. The South Sulawesi Culture and Tourism Office has been involved in planning and managing the geopark since 2015, coordinating with the management agency on issues and liaising with the central government on budgets and programs. Academia, particularly the Department of Archeology at Hasanuddin University, conducts research, conservation, education, and cultural heritage management activities, supporting the geopark's nomination as a UNESCO Global Geopark.

PT. Semen Tonasa, as a company operating within the geopark area, supports conservation efforts and contributes through its Corporate Social and Environmental Responsibility programs. The company is also developing a Cultural Heritage Management Plan to guide the management of cultural heritage sites within its mining area. The local governments of Maros and Pangkep play a role in spatial planning regulations, protected area designation, budgeting for infrastructure development, community empowerment training, and promotion. Geosite managers, who are typically local community members, are responsible for monitoring the area, reporting issues to the management agency, and providing information to visitors. Media partners, such as Maros TV, are committed to disseminating information and promoting the geopark to raise public awareness.

Effective coordination among stakeholders is vital for the successful development of Maros-Pangkep Geopark as a UNESCO Global Geopark. Without proper coordination, conflicts of interest and lack of direction may hinder progress. The Maros-Pangkep Geopark Management Agency serves as the coordinator to ensure synergy, integration, and sustainability in all development and management efforts. This role is critical for preserving the geological, cultural, and ecological values of the area while enhancing its tourism appeal and benefiting local communities.

To strengthen the assessment stage, it is recommended to conduct a comprehensive stakeholder analysis to identify the interests, influence, and potential contributions of each actor. As suggested by Reed, et al. [29] stakeholder analysis can inform stakeholder engagement strategies and facilitate effective collaboration. Additionally, establishing a shared vision and common goals among stakeholders is crucial for aligning efforts and fostering commitment. Ansell and Gash [30] emphasize the importance of building trust and mutual understanding in collaborative governance, which can be achieved through open communication and regular stakeholder meetings.

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Furthermore, assessing the existing legal and institutional frameworks related to geopark management is essential to identify gaps and potential barriers to collaboration. Farsani, et al. [31] highlight the need for supportive policies and regulations to enable effective geopark governance. Engaging local communities from the early stages of assessment is also critical for ensuring their buy-in and participation in geopark development. As noted by Halim, et al. [32] community involvement is key to sustainable geopark management and can contribute to local economic development through geotourism activities.

3.2. Initiation Stage

The initiation stage follows the agreement to collaborate and aims to establish a strong foundation for sustainable geopark management. Identifying resources, both human and financial, is a critical component of this phase. The Maros-Pangkep Geopark Management Agency relies primarily on funding from the national and regional budgets (APBN and APBD) and Corporate Social Responsibility (CSR) contributions. However, the reliance on government funding can lead to delays in program implementation due to lengthy proposal and approval processes. Seeking additional CSR funds, such as from PT. Semen Tonasa, helps support infrastructure improvement and facility development

The organizational structure of the Maros-Pangkep Geopark Management Agency poses challenges related to staff compensation, as most members are volunteers rather than civil servants. This can affect the motivation and commitment of team members. To address this issue, it is essential to establish regulations that govern the income and benefits of the management agency staff.

Human resource availability is a key requirement for accelerating geopark development. The criteria for human resources should be tailored to the specific needs and characteristics of each function within the geopark management. Planning functions that involve coordinating and integrating geopark activities require individuals with broad vision and understanding to ensure synergy and optimal impact of programs and action plans. On the other hand, functions related to specific geosite management necessitate staff with experience, skills, and knowledge of the site's characteristics to ensure targeted implementation and needs identification.

The Maros-Pangkep Geopark Management Agency, established by the Governor of South Sulawesi, comprises representatives from various stakeholders involved in the geopark area, including government, academia, practitioners, professionals, and volunteers. This diverse composition enables effective operational management of the geopark. However, the agency faces challenges in program development due to personnel changes and multiple positions held by some members, particularly those delegated by partner organizations. This affects the quality of coordination among agency staff. To overcome this, flexible coordination methods are applied, and special commissions are formed when necessary to expedite decision-making processes.

To enhance the initiation stage, it is recommended to develop a clear and transparent financial management system that ensures efficient allocation and utilization of resources. As highlighted by Farsani, et al. [6] sustainable financing mechanisms are crucial for long-term geopark management. Diversifying funding sources, such as through partnerships with the private sector and international organizations, can help reduce dependence on government budgets. Moreover, capacity building and training programs for geopark staff and local communities should be implemented to enhance their skills and knowledge in geopark management and geotourism development. Azman, et al. [33] emphasize the importance of human capital development in geopark management to ensure effective conservation, education, and sustainable development practices.

Establishing a clear governance structure and defining roles and responsibilities of stakeholders is essential for effective collaboration. McKeever, et al. [34] suggest that a well-defined management structure, supported by legal instruments, can facilitate decision-making and implementation processes in geopark governance. Regular communication and coordination among stakeholders should be maintained to foster trust, resolve conflicts, and adapt to changing circumstances. As noted by Jamal

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and Stronza [35] adaptive co-management approaches that involve continuous learning and adjustment can enhance the resilience of collaborative governance in the face of challenges and uncertainties.

In conclusion, the assessment and initiation stages are critical for laying the groundwork for successful collaborative governance in the development of Maros-Pangkep Geopark. By conducting thorough stakeholder analysis, establishing shared goals, identifying resources, building capacity, and defining clear governance structures, the geopark management can effectively engage diverse stakeholders and work towards sustainable geopark development. Continuous monitoring, evaluation, and adaptation will be necessary to ensure the collaborative efforts remain on track and responsive to emerging needs and challenges.

4. Conclusion

In conclusion, the assessment and initiation stages are crucial for establishing a strong foundation for collaborative governance in the development of Maros-Pangkep Geopark. The assessment stage involves a thorough evaluation of the current situation, identification of key stakeholders, and formulation of effective collaboration strategies. By conducting a comprehensive stakeholder analysis, establishing shared goals, and assessing the legal and institutional frameworks, the geopark management can ensure the engagement of diverse stakeholders and align their efforts towards sustainable geopark development. The initiation stage focuses on identifying and allocating resources, both human and financial, to support the collaborative efforts. Developing a transparent financial management system, diversifying funding sources, and building the capacity of geopark staff and local communities are essential for long-term success.

To further strengthen the collaborative governance process, it is recommended to establish a clear governance structure, define roles and responsibilities of stakeholders, and maintain regular communication and coordination. Adaptive co-management approaches that involve continuous learning and adjustment can enhance the resilience of the collaborative efforts in the face of challenges and uncertainties. By implementing these recommendations and building upon the existing collaborative initiatives, Maros-Pangkep Geopark can progress towards becoming a UNESCO Global Geopark and serve as a model for sustainable geopark management that promotes conservation, education, and local economic development through geotourism activities.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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