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Governing a Shared Wetland: Institutional Fragmentation and the Political Ecology of Tourism in Vembanad Lake, Kerala

Rahul Krishnan

Research scholar, Department of Political Science, University of Kerala.

Mail ID. rahulkrishnan2024@keralauniversity.ac.in

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ABSTRACT

Wetland ecosystems are increasingly under competing demands from tourism, urbanisation, agriculture, and livelihood activities. Kerala is an example of the challenges of balancing economic development and ecological conservation through the Vembanad-Kol wetland system. Despite the region's great environmental, economic, and social significance, its governance is marked by a multiplicity of institutions with overlapping responsibilities and competing development priorities. The article examines the institutional and political aspects of wetland governance, particularly the relationship between tourism development and environmental sustainability. The study draws on Political Ecology and Polycentric Governance perspectives. It employs a qualitative analytical approach, drawing on secondary sources such as academic literature, government policies, institutional reports, and environmental management documents. It contends that the issues of Vembanad cannot be resolved by environmental regulations or tourism management measures alone. Good conservation means institutional coordination, transparent accountability, decentralised decision-making, and meaningful participation of communities dependent on the wetland. The article ends with a plea for sustainable tourism governance to regard

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wetlands as common ecological and socio-economic resources rather than as mere places for commercial development.

1. Introduction

In developing countries, wetlands are vital to ecological and socio-economic systems. They support biodiversity, regulate water flows, provide livelihoods, and contribute to agricultural production, fisheries, and tourism. Economic activity has increased, however, and competing demands on natural resources have put considerable pressure on wetland ecosystems. The challenge of wetland conservation is thus not only environmental but also political, institutional, and economic. The backwater ecosystem of Kerala is a good example of this relationship. One of the most important wetland systems in the state is the Vembanad-Kol wetland system, which covers parts of Alappuzha, Ernakulam, and Kottayam districts. It was declared a Ramsar site in 2002. It performs several ecological and economic functions, including fisheries, agriculture, inland navigation, and tourism. Its interconnected waterways and unique landscape have also contributed to Kerala's rise as a prominent backwater tourism destination.

With the growth of tourism, including houseboats and the accompanying commercial establishments, new economic opportunities have arisen. However, the development of tourism in an ecologically sensitive wetland also raises questions of resource use, regulatory effectiveness, and institutional responsibility. The problem is not just whether tourism contributes to environmental degradation, but how different actors, institutions, and economic interests influence the management of the wetland. The governance of Vembanad is distributed among many institutions operating at varying administrative and functional levels. These include environmental authorities, tourism departments, local self-government institutions, pollution control agencies, and departments responsible for inland water transport and fisheries. These institutions perform important functions, but coordination of their activities is important for integrated wetland management. The paper focuses on the institutional aspects of backwater tourism governance through the theoretical lenses of Political Ecology and Polycentric Governance. Thus, institutional fragmentation and unequal participation may impede the effectiveness of environmental policies, even where formal governing structures exist. This article examines how governance structures shape the relationships among tourism development, ecological protection, and community interests in the Vembanad region.

2. Research Objectives and Methodology

The principal objective of this article is to critically examine the institutional and political dimensions of wetland governance in the Vembanad-Kol ecosystem, with particular emphasis on tourism-related development.

The specific objectives are:

- To examine the relevance of Political Ecology in understanding tourism and wetland governance.
- To analyse the institutional arrangements governing the conservation and utilisation of the Vembanad wetland.
- To identify the challenges associated with institutional coordination, regulatory implementation, and stakeholder participation.
- To suggest governance approaches that can strengthen ecological sustainability and socially inclusive tourism development.

The article adopts a qualitative research approach, employing a descriptive and analytical research design based on secondary sources. The materials include published academic research, government policy documents, wetland management reports, environmental regulations, and institutional publications. Particular attention is given to the Vembanad-Kol Integrated Management Planning Framework prepared by Wetlands International South Asia (Wetlands International South Asia, 2017), the Wetlands (Conservation and Management) Rules, 2017, and relevant research on environmental governance in Indian wetlands. The collected materials are examined through thematic analysis, focusing on institutional arrangements, competing resource-use interests, regulatory coordination, and community participation.

3. Theoretical Framework: Political Ecology and Polycentric Governance

3.1 Political Ecology and the Politics of Natural Resources

Political Ecology provides an important theoretical perspective for examining the relationship between environmental change, economic development, and power relations. Rather than understanding environmental degradation as an exclusively ecological problem, Political Ecology investigates how political and economic structures influence the utilisation, distribution, and control of natural resources. Bryant and Bailey (1997) emphasise the significance of political and economic relationships in shaping environmental transformations in developing countries. The approach recognises that environmental

problems are closely connected with the interests of states, private enterprises, local communities, and other social actors.

Applied to backwater tourism, Political Ecology enables an examination of how the commercialisation of natural landscapes influences the distribution of economic benefits and environmental responsibilities. Tourism development may generate employment and investment, but access to resources, ownership patterns, and decision-making authority may remain unequally distributed. In Vembanad, the wetland serves many purposes. It also supports traditional fishing, agriculture, inland navigation, domestic activities, and tourism-related businesses. The activities will not necessarily have the same priorities. Commercial tourism may focus on access, infrastructure, and services for visitors, while traditional resource users rely on the wetland's ecological functions and continued supply. Political ecology thus shifts the debate from environmental protection to power, resource access, and institutional accountability. This helps explain why sustainable wetland management must consider whose interests are being represented in policy decisions, and who bears the brunt of environmental change.

3.2 Polycentric Governance of Common-Pool Resources

A further framework for understanding institutional management of complex ecological systems is Polycentric Governance. It recognises that the responsibilities of governance may be distributed among several decision-making centres rather than concentrated in a single administrative institution. Ostrom (1990), in her work on common-pool resources, shows the importance of institutional arrangements, collective action, and well-established rules in managing shared resources. Natural resources like lakes, forests, and wetlands often have multiple users, and their activities can affect one another. Narayanan and Venot (2009), in their study of governance challenges in Indian wetlands, emphasise the need to understand the interactions between institutional arrangements, competing economic interests, and environmental change. They argue that institutional weaknesses, social marginalisation, and conflicts over resource access can make sustainable wetland governance difficult, as seen in Vembanad, Chilika, and Kolleru. What is important for Vembanad in this approach is the realisation that no single institution can solve all the problems of wetland management alone. Environmental conservation, tourism regulation, waste management, fisheries, and local development need coordination at different administrative levels. However, polycentric governance should not be confused with more institutions. Clear responsibilities, information sharing, accountability mechanisms, and meaningful participation by affected communities are key to effective coordination.

4. Vembanad Lake: Competing Interests in Resource Use and Tourism Development

The Vembanad-Kol wetland constitutes an ecological and socio-economic landscape in which environmental processes and human livelihoods are interconnected. Its importance is more than its worth as a tourism spot. The wetland also supports agricultural production, fisheries, inland transportation, biodiversity, and the livelihoods of communities living along its waterways. The economic character of several settlements has been changed by the growth of backwater tourism, especially in the Alappuzha region. Houseboat tourism, resorts, homestays, and related services have become important constituents of the regional tourism economy. The landscape itself has become a commercial attraction, linking natural resources to the state's tourism development strategy. Nevertheless, turning a shared ecological resource into a commercial tourism destination raises important governance issues. Tourism infrastructure and activities are located in a wetland that is also used by fishers, farmers, transport operators, and residents. Thus, the development of one economic activity may impact the opportunities and interests of other resource users in Vembanad. The key governance challenges associated with the linkage between tourism investment and environmental sustainability are identified by Karlaganis and Narayanan (2014). Their study indicates concerns about the implementation of environmental regulation, infrastructure, and pollution control measures in the houseboat industry. A major problem is the tendency to treat tourism-related environmental problems in isolation from the broader ecological and institutional context. The management of the wetland also addresses agricultural practices, urban waste disposal, infrastructure development, and other human activities, with houseboat operations as an important component of the tourism economy.

The Vembanad-Kol management planning framework, prepared by Wetlands International South Asia (2017), recognises the interconnections among the wetland's ecological features, livelihoods, institutional arrangements, and management needs. This shows that conservation needs to be tackled as an integrated issue, not through isolated interventions focused on individual economic sectors. From a Political Ecology perspective, competing resource interests need to be understood in terms of power and decision-making. The commercial value of tourism may increase the power of tourism-related enterprises in development decisions, while traditional resource users may have fewer opportunities to influence institutional priorities. This renders equitable participation a key component of sustainable tourism governance.

5. Governance Challenges and Institutional Framework

5.1 Institutional Pluralism and Co-ordination

A combination of specialised environmental agencies, local-level administrative bodies, and national and state legislation carries out wetland governance in Kerala. The formation of the State Wetland Authority, Kerala (SWAK), under the Wetlands (Conservation and Management) Rules, 2017 (2017), is a major institutional step toward integrated wetland management. SWAK is the state nodal organisation for wetland-related activities. It is responsible for policy development, regulatory structures, integrated management planning, research, capacity building, and coordination with the relevant departments. The Vembanad-Kol Integrated Management Planning Framework also acknowledges the requirement for institutional arrangements for conservation and sustainable utilisation. It recognises the importance of coordinating the different sectors and reinforcing the institutional mechanisms responsible for implementing management plans. Such developments notwithstanding, institutional multiplicity creates coordination demands. There are different departments and agencies involved in tourism development, pollution control, inland navigation, fisheries, and environmental protection. In practice, their responsibilities may overlap, particularly where tourism infrastructure and commercial activities impact ecological resources. The presence of multiple institutions does not necessarily mean poor governance. Indeed, specialised institutions can improve administrative capacity. The problems arise when responsibilities are poorly coordinated, when information is not shared, and when accountability is spread across agencies. The effectiveness of institutions should thus not be measured by the presence of policies and authorities, but by their capacity to implement coordinated choices.

5.2 Implementing Regulation and Accountability

India has established several legal and institutional mechanisms for environmental protection. Important regulations include the Environment (Protection) Act, 1986; the Water (Prevention and Control of Pollution) Act, 1974; the Kerala Conservation of Paddy Land and Wetland Act, 2008; and the Wetlands (Conservation and Management) Rules, 2017. These frameworks provide mechanisms for environmental protection, pollution control, and regulation of activities that impact ecologically sensitive areas. However, the effectiveness of environmental governance depends on its implementation, monitoring, and enforcement. The Vembanad wetland management framework identifies threats to ecological character and stresses the need for monitoring, institutional strengthening, and coordinated management. These concerns highlight the distinction between regulatory availability and regulatory effectiveness. In tourism governance, regulatory implementation should be sensitive to vessel operations, waste disposal, sewage management, infrastructure, and environmental consequences of commercial activities. Isolated departmental interventions cannot fulfil these responsibilities. Political Ecology explains the link between economic and political interests and regulatory effectiveness. Environmental regulations can be caught between competing

administrative and commercial pressures when development priorities focus on investment and tourism expansion. Accountability, therefore, has to be more than just the making of environmental rules. It should comprise regular monitoring, transparent disclosure of compliance information, clearly assigned institutional responsibilities, and appropriate corrective action.

5.3 Environmental Justice and Community Engagement

The local communities are central to the ecological and economic functioning of the Vembanad wetland. Traditionally, local livelihoods were linked with the wetland through fishing, agriculture, clam collecting, inland transportation, and tourism-related employment. However, resource governance is more than simply seeing communities as the beneficiaries of development programs. It requires their meaningful participation in decisions about resource use and the priorities for conservation and tourism development. Narayanan and Venot (2009) note the connection between environmental governance, competing resource interests, and social marginalisation in Indian wetlands. They show how institutional arrangements can reproduce inequalities when decision-making processes are insufficiently accommodating of different social groups. Thus, in the context of Vembanad, community participation should be considered a fundamental principle of governance. Traditional resource users have practical knowledge of seasonal changes, waterways, fisheries, and ecological conditions. Their knowledge can contribute to scientific assessments and administrative expertise. Environmental justice also requires attention to the distribution of benefits and environmental costs. Tourism can provide economic opportunities, but ecological degradation can affect communities whose livelihoods depend directly on the wetland. Thus, a sustainable governance framework must avoid reducing local communities to passive recipients of policy interventions. They must have opportunities to participate in planning, monitoring, and decision-making processes.

6. Toward an Integrated Governance System

The analysis indicates that a shift from sectoral administration to integrated wetland governance is needed to sustain backwater tourism. Several institutional measures are of particular importance.

- First is to strengthen institutional coordination. The State Wetland Authority, Kerala, can serve as an important platform for coordination among institutions across the environment, tourism, fisheries, transport, and local government. Reducing administrative fragmentation requires clear institutional responsibilities and regular coordination mechanisms.

- Second, tourism development should occur within ecological limits. Tourism planning must consider the wetland's ecological sensitivity. Tourism decisions should be based on scientific assessments of carrying capacity, better waste-management infrastructure, and regular environmental monitoring.
- Third, we should strengthen regulatory accountability. Environmental standards should be accompanied by transparent monitoring, consistent enforcement, and publicly available compliance information. The implementation of regulations should cover relevant economic sectors, not just visible tourism activities.
- Fourth, community participation should be institutionalised. Wetland management processes should include meaningful representation of local self-government institutions, traditional resource users, community-based organisations, and tourism workers. Participatory monitoring can enhance institutional accountability and local ownership of conservation initiatives.
- Fifth, sustainable tourism should balance economic and ecological priorities. Tourism development should promote responsible environmental practices, the involvement of local enterprise, and an equitable sharing of benefits. The long-term economic value of tourism hinges on maintaining the destination's ecological quality.

Such measures are in accord with the integrated management approach reflected in the Vembanad-Kol planning framework. They also reinforce the basic argument of Political Ecology: that environmental sustainability cannot be divorced from issues of power, institutional responsibility and social justice.

7. Conclusion

Vembanad Lake management serves as an example of the complex relationship between tourism development, environmental conservation and competing interests over resources. The wetland is of high ecological and economic importance but is managed by several institutions and stakeholders across a shared ecological space. This article has addressed these challenges through the lenses of Political Ecology and Polycentric Governance. The analysis shows that establishing regulations or expanding administrative institutions will not lead to environmental sustainability. Good governance also hinges on institutional coordination, regulatory accountability, and meaningful community engagement. The existence of wetland management frameworks and specialised environmental authorities is an important basis for conservation. However, their effectiveness depends on the integration of policies across different sectors and levels of government. Institutional fragmentation, competing development priorities, and unequal participation can undermine the implementation of otherwise significant environmental policies. The article argues that Vembanad should be viewed as a shared ecological and socio-economic resource rather than just a

commercial tourism destination. To make backwater tourism sustainable, a governance structure is required that integrates economic development, ecological protection, and social inclusion. Finally, the future of tourism in the backwaters of Kerala will depend on the ability of institutions to reconcile competing interests and establish mechanisms that are accountable for managing common natural resources. Political ecology can be incorporated into wetland governance to help achieve a more democratic, equitable, and environmentally sustainable approach to tourism development.

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