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Bridging the Gap Between Environmental Justice and Ecosystem Management: A Comprehensive Framework for Equitable Sustainability



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1 Introduction

Environmental justice and ecosystem management are two critical aspects of sustainable development that have often been addressed separately despite their inherent interconnectedness. Bridging the gap between these domains is essential to achieving equitable sustainability and addressing complex socio-ecological challenges. While these frameworks evolved independently, they were deeply interconnected and were necessary for achieving equitable sustainability. Environmental justice focuses on the fair distribution of environmental goods and services, and ensures that no population bears a disproportionate share of negative environmental impacts. On the other hand, ecosystem management emphasizes sustaining the health, diversity, and productivity of ecosystems to meet current and future human needs. The ecosystem approach, which emerged in the international environmental realm, provides a set of mechanisms that align with environmental justice principles, including equitable benefit-sharing, conservation and sustainable use, adaptive management, and participatory practices [2].

This approach shares synergies with notions of environmental justice, such as distributional justice, procedural justice, and justice-as-recognition, as well as with intergenerational equity and the precautionary principle. Despite their mutual goals, a significant gap persists in the practical integration of the EJ principles into EM frameworks. Disparities in access to natural resources and exposure to environmental risks are widespread and often affect marginalized communities, both humans and nonhumans. However, current environmental justice analyses often fail to provide a comprehensive framework that covers the full spectrum of fracking impacts on

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the environment, communities, and sustainability [24]. A more holistic approach is needed to address the complex interactions among environmental, social, economic, and ecological factors that shape spatial justice and equity in resource management. To bridge this gap effectively, it is crucial to integrate environmental justice concepts into sustainable resource management practices. This integration can be achieved through the development of analytical frameworks that incorporate the dimensions of procedural and distributive justice, as proposed in the context of sustainable tourism and ecotourism [20]. Such frameworks can provide important directions and guidance for addressing injustices related to human-environmental relationships, particularly with respect to disadvantaged, low-income, and minority communities. In conclusion, bridging the gap between environmental justice and ecosystem management requires a comprehensive framework that combines the strengths of both approaches. This integrated approach should consider the spatiotemporal characteristics of justice, emphasize all stakeholder groups, and employ a range of analytical methods to address the complex challenges of equitable sustainability in natural resource management [2, 20, 24].

The integration of the EJ and EM principles is crucial for addressing complex environmental challenges and promoting sustainable development. By combining these approaches, policymakers and environmental managers can create holistic strategies that consider ecological and social equity. This integration would involve recognizing the interconnectedness of human well-being and ecosystem health as well as addressing the root causes of environmental injustices. For instance, incorporating EJ considerations into EM practices could lead to more inclusive decision-making processes, equitable distribution of ecosystem services, and targeted restoration efforts in areas disproportionately affected by environmental degradation. Moreover, this integrated approach could help to identify and mitigate potential conflicts between conservation goals and community needs, fostering more sustainable and socially acceptable environmental management practices. This chapter explores the intersections between EJ and EM, analyzes the theoretical and practical challenges of aligning the two, and proposes a comprehensive framework to bridge this gap.

2 The Foundations of Environmental Justice

Environmental justice emerged as a movement in the United States during the 1980s, catalyzed by the unequal distribution of environmental hazards, particularly in low-income and minority communities. According to the U.S. Environmental Protection Agency (EPA), environmental justice ensures that “everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work” [8]. Over time, this concept has expanded to encompass global dimensions, recognizing systemic inequities in environmental risk exposure between developed and developing nations [35].