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Chapter

ECONOMIC VALUATION OF FOREST ECOSYSTEM IN JAMMU AND KASHMIR: ASSESSING THE PRICELESS TREASURES

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ABSTRACT

Jammu and Kashmir (J&K), a region known for its breath-taking landscapes and diverse ecosystems, is endowed with lush forests that play a pivotal role in its economy and ecology. This essay delves into the intricate economic dynamics of these forest ecosystems, highlighting their significance in livelihoods, sustainability, and biodiversity conservation. By conducting an economic analysis, we aim to provide insights into the multifaceted contributions of forests in Jammu and Kashmir and underscore the need for sustainable management practices that balance economic growth with environmental preservation.

Keywords: *Economic Valuation, Forest Ecosystem, Jammu and Kashmir, Economy*

5.1 INTRODUCTION

Jammu and Kashmir, often referred to as "Paradise on Earth," is a region of unparalleled natural beauty. Nestled in the Himalayan foothills, it boasts diverse ecosystems, pristine lakes, and verdant forests (Tamhankar, 2021). These forests, which occupy a substantial portion of the region's landscape, are not only aesthetically captivating but also economically invaluable. The economic valuation of forest ecosystems in J&K is a complex endeavour, as it involves assessing their contributions to both the local and global economy, ranging from timber production to carbon sequestration (Pandita, 2014).

This study endeavours to unravel the multifaceted aspects of the economic valuation of J&K's forest ecosystems. It explores the diverse services and products these ecosystems offer, the livelihoods they sustain, and their role in mitigating climate change. Additionally, it delves into the challenges these forests face and the importance of sustainable management practices to ensure their continued contribution to the region's economy and ecological balance.

5.2 FOREST RESOURCES AND BIODIVERSITY

Jammu and Kashmir's forests encompass a wide array of species and ecosystems, reflecting the region's topographic and climatic diversity. Coniferous forests dominate the higher altitudes, while broad-leaved forests thrive in the lower regions. These ecosystems support a rich biodiversity of flora and fauna. Iconic species such as the Hangul deer, Western Tragopan, and the Kashmir Stag find refuge in these forests. The economic value of these resources extends far beyond the realm of timber production.

- **Timber and Non-Timber Forest Products (NTFPs)**

Timber harvesting has historically been a significant economic activity in J&K. High-quality wood from coniferous trees like Deodar and Chinar is sought after in construction and furniture industries. Beyond timber, these forests provide a range of NTFPs, including medicinal herbs, mushrooms, and saffron, which are of considerable economic importance. The collection and trade of these products contribute to local livelihoods and rural economies.

- **Ecotourism**

The scenic beauty and biodiversity of J&K's forests make the region a hotspot for ecotourism. Tourists flock to the state to witness the majestic landscapes, engage in wildlife safaris, and explore the region's lush greenery. The economic implications of ecotourism are profound, encompassing revenue from accommodations, guided tours, adventure sports, and local handicrafts. (Bhat et al., 2014)

5.3 CONTRIBUTION TO LIVELIHOODS

Forests in Jammu and Kashmir are not just providers of raw materials and picturesque views; they are also sources of livelihood for a significant proportion of the population, particularly in rural areas. The livelihoods supported by these forests are diverse, ranging from forest-based industries to traditional practices.

- **Forest-Based Industries**

The timber industry, although regulated to prevent over-exploitation, remains an important source of income and employment. Sawmills and wood-processing units provide jobs and contribute to the state's economy. Furthermore, the production of handicrafts, furniture, and other wood-based products is a thriving cottage industry that draws on the availability of high-quality wood.

- **Collection of NTFPs**

The collection of NTFPs forms an integral part of rural livelihoods. Local communities gather medicinal herbs, wild fruits, nuts, and mushrooms for personal use and trade. (Pandey) The economic value of these products is not limited to the immediate income generated but also includes the role of these resources in traditional medicine and cultural practices. (Adepoju and Salau, 2007)

5.4 ECONOMIC VALUATION AND ECOSYSTEM SERVICES

While the economic contributions of timber, NTFPs, and ecotourism are tangible (Ahenkan and Boon, 2011), the full economic value of J&K's forest ecosystems extends beyond these direct benefits. Economic valuation seeks to quantify the less apparent but equally vital ecosystem services provided by forests. (Seth, 2019).

- **Carbon Sequestration**

Forests are vital carbon sinks, absorbing and storing vast amounts of carbon dioxide from the atmosphere. This carbon sequestration has critical implications for mitigating climate change. Valuing this service involves estimating the cost of carbon emissions that would otherwise occur without these forests. In a world increasingly concerned about climate change, this service takes on significant economic importance and can be monetized through carbon trading mechanisms.

- **Watershed Protection and Regulation**

Forests play a crucial role in watershed protection and regulation. They reduce soil erosion, stabilize riverbanks, and help maintain water quality. These services are particularly vital for agriculture and hydropower generation, mitigating the risks of soil erosion, landslides, and water scarcity.

- **Biodiversity Conservation**

The conservation of biodiversity is intrinsically linked to the economic value of forests. These ecosystems preserve genetic diversity and provide habitats for countless species, many of which may have potential future economic value. Moreover, biodiversity is essential for the stability of ecosystems and resilience against pests and diseases, which can have significant economic implications for agriculture.

5.5 CHALLENGES AND SUSTAINABILITY

Jammu and Kashmir's forests, despite their immense economic and ecological significance, face a plethora of challenges.

- **Unsustainable Logging Practices**

Historically, unsustainable logging practices have led to deforestation and degradation of forest ecosystems. Illegal timber harvesting and encroachments remain persistent challenges, threatening forest health, biodiversity, and the livelihoods of forest-dependent communities.

- **Climate Change**

Climate change poses additional risks to the region's forests. Increased temperatures, altered precipitation patterns, and more frequent forest fires are becoming prevalent. These changes can disrupt ecosystem services, increase the vulnerability of forests to pests and diseases, and impact water availability.

5.6 SUSTAINABLE MANAGEMENT PRACTICES

To make sure the continued contribution of J&K's forests to its economy and ecological balance, sustainable management practices for forests are imperative.

- **Community Involvement**

Involving local communities in decision-making, protecting forests from illegal activities, and benefiting from sustainable resource use for the sustainable management of forest.

- **Conventional Ecological Knowledge**

Conventional Ecological Knowledge can inform sustainable forest management practices. Indigenous practices often emphasize the sustainable practice and the importance of biodiversity conservation.

- **Scientific Research & Monitoring**

Scientific research is critical for understanding the specific ecological and economic dynamics of J & K's forests. Monitoring forest health, biodiversity, and carbon sequestration rates provides valuable data for informed decision-making.

5.7 CONCLUSION

The economic valuation of forest ecosystems in Jammu and Kashmir underscores their pivotal role in the region's economy, from sustaining livelihoods to providing essential ecosystem services. The economic contributions of these forests are multi-faceted, encompassing timber production, NTFPs, ecotourism, carbon sequestration, watershed services, and biodiversity conservation. However, balancing economic aspirations with conservation and sustainability is a delicate task. Strategic policy interventions, community engagement, and scientific research are crucial in ensuring that these forests continue to provide economic and ecological benefits for generations to come. In the context of a changing climate and growing environmental awareness, understanding the economic dimension of Jammu and Kashmir's forests is

fundamental to achieving this delicate equilibrium and preserving these priceless treasures for future generations.

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