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Mapping What People Value: A Review of Societal Demand for Forest Ecosystem Services in Europe

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Abstract: Forest ecosystems provide a diverse selection of ecosystem services (FES), including carbon sequestration, biodiversity conservation, water regulation, and recreational opportunities. However, these services are increasingly threatened by climate change, deforestation, and unsustainable management practices. A clear understanding of societal demand for FES is essential for designing effective policies and management strategies that ensure their sustainable provision.
This study presents a literature-based review of the current state of knowledge on FES in Europe, drawing on empirical research and case studies published from 1980 to the present. The review synthesizes how different FES are valued across bioclimatic regions and stakeholder groups, examining spatial and temporal dynamics. Particular attention is paid to the evolution of the FES concept within environmental governance, and to the integration of demand-side perspectives in forest policy frameworks. By mapping the scale of research findings and identifying existing knowledge gaps, this work lays the groundwork for future empirical studies and contributes to ongoing policy discussions at EU level.

Keywords: *Forest Ecosystem Services; Societal Demand; Choice Experiment*

1. Introduction

Forest ecosystems are increasingly recognized for the diverse ecosystem services they provide, ranging from provisioning services such as timber and non-timber products, to regulating services like carbon sequestration and water purification, and cultural services such as recreation and spiritual enrichment (Forest Europe, 2020). These services contribute to human well-being and are integral to sustainable development goals (EEA, 2019). However, the sustainable provision of FES is under threat due to a variety of pressures, including climate change, land-use conversion, and the intensification of forest management (FAO, 2022). While substantial research has focused on quantifying the biophysical and economic supply of ecosystem services, there is a growing need to understand the demand side, how different societal actors perceive, value, and prioritize these services (García-Nieto et al., 2013; Raymond et al., 2009).

2. Methodology

This review employs a structured literature review methodology aimed at synthesizing peer-reviewed and grey literature that explicitly addresses societal demand for FES in the European context. Studies were collected from databases including Scopus, Web of Science, and Google Scholar, covering the period from 1980 to 2024. Search terms included "forest ecosystem services", "societal demand", "public perception", "valuation", and "policy preferences". Articles were assessed for their geographic scope, methodological approach, and thematic relevance. Particular attention was given to studies that disaggregate demand by stakeholder group (e.g., general public, forest owners, policy-makers) and by service type (e.g., regulating, cultural, provisioning). Both qualitative and quantitative studies were included.

3. Results and Discussion

3.1 Characterizing Demand for FES

Findings from the literature show that demand for FES is spatially heterogeneous and temporally dynamic. In urbanized and peri-urban regions, cultural services such as recreation and aesthetic values are often prioritized (Potschin & Haines-Young, 2011). In rural areas and forest-dependent communities, provisioning services continue to play a crucial role, although regulating services such as flood control and climate mitigation are gaining attention due to increasing climate-related risks (Schomers & Matzdorf, 2013).

Several studies highlight a strong latent demand for regulating and cultural services among European citizens, particularly biodiversity protection and landscape aesthetics (Raymond et al., 2009; De Groot et al., 2010). However, the extent to which these preferences are reflected in forest policy and management remains limited.

3.2 Valuation and Assessment Approaches

Societal demand is often assessed through stated preference methods, including contingent valuation and choice modelling, as well as participatory mapping and deliberative methods (García-Nieto et al., 2013; De Groot et al., 2010). While these methods have advanced our understanding of perceived benefits, they also present challenges, including contextual biases and the difficulty of capturing non-material values.

3.3 Policy and Governance Implications

The revised EU Forestry Strategy (European Commission, 2025) calls for the integration of societal values into forest governance. Nonetheless, practical implementation remains a challenge due to fragmented land ownership, institutional inertia, and limited stakeholder engagement. While market-based mechanisms such as Payments for Ecosystem Services (PES) have been proposed to operationalize demand, their uptake in Europe has been relatively limited and uneven (Schomers & Matzdorf, 2013).

Bridging the gap between public preferences and forest management requires institutional innovation and inclusive governance models that legitimize diverse value systems and trade-offs (Raymond et al., 2009).

4. Conclusion

Understanding the demand side of forest ecosystem services is essential for developing policies that reflect societal values and promote sustainable forest multifunctionality. This literature review reveals both growing academic attention and persistent gaps in how societal demand for FES is assessed and integrated into decision-making. Future work should emphasize participatory, context-sensitive approaches that link valuation to governance and management practices.

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