

Research on the Pathways for Realizing the Value of Ecological Products

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Abstract: China have been committed to improving the path of socialism with Chinese characteristics, particularly in the areas of ecological civilization construction and the realization of the value of ecological products. They have proposed an overall layout of “five-in-one” and a strategic layout of “four comprehensives.” Encouraged by the long-term practice of issuing guidelines for various regions to accelerate the exploration of pathways for realizing the value of ecological products based on local conditions, Chinese forestry has, after decades of exploration, found a path for realizing the value of forestry ecological products primarily through the integration of “forestry + tourism,” with multiple pathways running in parallel. This paper, based on the “14th Five-Year Plan,” analyzes the pathways and models for realizing the value of ecological products in China’s forestry sector and studies the formation process of its ecological product industry chain, providing a reference for accelerating the realization of ecological product value nationwide.

Keywords: Value of Ecological Products, China’s Forestry, Ecological product value realization.

1. Pathways and Models for Realizing the Value of Ecological Products

The core of realizing the value of ecological products lies in providing various products, services, or derived products and ecological industries that people need through a healthy ecological environment system. The value of ecological products is realized when people use them. Therefore, it is essential first to identify the property rights of ecological products, clarify the producers of these products, and establish trading markets for various ecological products and derivatives, forming a unified, open, competitive, and orderly trading system. Secondly, different models for realizing the value of ecological products should be adopted based on the degree of development and utilization of the ecosystem and its self-restoration capacity. For ecosystems that have not exceeded their self-restoration capacity, the focus should be on identification and exploration. For ecosystems that are at the critical threshold of self-restoration capacity, the focus should be on protection, maintaining the current supply of ecological products and services. For ecosystems that have exceeded their self-restoration capacity, the emphasis should be on restoration and compensation. By adopting different models based on the specific ecological environment, it is possible to more scientifically and reasonably realize the value of local ecological products while limiting the environmental damage caused by human economic activities, ensuring a sustainable supply of ecological products in the long term.

2. Analysis of the Realization of Value of Ecological Products in China’s Forestry

With the continuous and in-depth promotion of scientific afforestation in our country, incomplete statistics show that the national forest area has reached 231 million hectares, with a forest coverage rate of 24.02%, harboring abundant animal and plant resources. The southern regions, characterized by a warm and humid climate and rich water resources, are conducive to the growth of many tropical and subtropical crops as well as evergreen trees. In contrast, the northern regions, with their arid and low-rainfall characteristics, are

more suitable for the growth of coniferous trees and deciduous broadleaf trees. China’s vast forest resources, along with significant variations in climate and ecological environments, result in a wide variety of animal resources and abundant populations. Rare wildlife, such as the giant panda, is distributed in regions like Sichuan and is under key national protection. These characteristics of China’s vast territory and rich resources also lay the foundation for the diversity of forestry ecological products. Realizing the value of forestry ecological products is one of the important ways for our country to enhance the local economy in the future.

2.1 Theoretical Analysis of the Realization of Value of Ecological Products in China’s Forestry

Ecological products refer to natural elements that maintain ecological safety, ensure ecological regulation functions, and provide a good living environment for humans. These products include three categories: material products, regulatory services, and cultural services. Although the forests in northern and southern China are vastly different in terms of topography—predominantly plains in the north and hills and mountains in the south, with basins in the central region—this diversity contributes significantly to China’s vast territory and rich biodiversity. Moreover, due to the large span of China’s land area and its various climatic conditions, including tropical, subtropical, plateau, and maritime climates, it is suitable for the development of various forest resources. Therefore, the forestry ecosystem is undoubtedly the main battleground for realizing the value of ecological products in China. The forest ecosystem not only provides a large quantity of forestry products and by-products as material products, but various green plants in the forest can also optimize air quality by fixing carbon dioxide and releasing oxygen through photosynthesis. Additionally, they offer regulatory services such as windbreaks, sand fixation, soil and water conservation, and climate regulation. Furthermore, the pleasant landscape resources and academic research value of forests can meet the spiritual and cultural needs of different groups, providing various cultural services.

Under the guidance of the “Two Mountains” theory, a good ecological environment should promote local economic

development. China's forest resources are geographically advantageous and rich in plant and animal species. The landscape of forest ecosystems also has strong aesthetic and recreational value. By fully utilizing forest resources while protecting natural ecology and ensuring sustainable development, the value of ecological products from forest ecosystems can be realized through various means. Reorganizing the entire forest ecosystem allows for the acquisition of various timber resources while also planting other forestry by-products to increase the material products available to people. Additionally, constructing related natural scenic spots and transforming the forest ecosystem into forest parks can help develop tourism and wellness-related industries, truly realizing the transformation of "green mountains and clear waters" into "golden mountains and silver mountains."

2.2 Analysis of the Realization Model of Ecological Product Value in China's Forestry

The ecological product value in China's forestry is primarily realized through forestry planting, related industries, and eco-tourism. Forestry is an important component of forest ecosystems, and its products are vital production resources for various industries. With abundant forest resources, China has long recognized forestry as a key development industry. The development of forestry can directly provide various timber and other forest products, and its potential extends beyond just the "forest" itself to the surrounding forestry space. Forests serve as reservoirs, wealth stores, grain depots, and carbon sinks. The vast area of deep forests effectively addresses local soil and water loss issues and also plays a crucial role in flood regulation, water storage, carbon sequestration, and oxygen release. After years of development, towering trees dominate the landscape, leading people to often overlook the fertile land beneath them. This undergrowth space can be actively utilized for planting valuable traditional Chinese medicinal herbs such as *Dendrobium officinale* and *Ganoderma lucidum*, as well as various ornamental flowers and plants. Additionally, free-range chickens and eco-friendly pigs can be raised in the undergrowth, producing high economic value. Their manure naturally becomes a source of organic fertilizer for the forest, promoting its growth. Furthermore, trees are also important raw materials for boxes and paper. Local timber can not only be sold directly as products but can also support the establishment of wood processing industries near the forest, thus realizing the value of forestry ecological products through secondary industry. Typically, natural springs form in forests, providing uncontaminated water that is beneficial to human health. With minimal treatment, this water can become an important source of drinking water for residents, creating a local natural water brand. Springs can also be considered a type of forestry ecological product, contributing to the realization of ecological product value. Finally, increasing the diversity of plant and animal species within forest areas can accelerate the development of local eco-tourism. In the noisy and bustling cities, people often feel a strong desire to return to nature. The ecology and environment of many forests in China fully meet contemporary needs, offering tranquility while also enabling the realization of local ecological product value through eco-tourism.

3. The Development Process and Main Practices of Realizing Ecological Product Value in China's Forestry

The realization of ecological product value in China's forestry is inseparable from the long-term exploration and proactive planning of management practices in forestry plantations, as well as the strong support from national and local policies for the forestry and tourism industries.

3.1 Support from National and Local Policies.

In the face of unprecedented changes not seen in a century, the Central Committee of the Communist Party of China, with General Secretary Xi Jinping at its core, has undergone historic changes in both understanding and practice regarding ecological civilization construction. Firstly, in the "14th Five-Year Plan," China has set higher requirements for the development of forestry and tourism. In terms of forestry, it is essential to firmly establish the concept that "lucid waters and lush mountains are invaluable assets." This means not only striving to achieve dual growth targets for forest coverage and timber volume but also ensuring a comprehensive improvement in the quality and stability of forestry ecosystems. We must continue to accelerate domestic forest reforms, transforming the current singular industrial model by integrating the economy of forest land and forest products, while vigorously developing the primary, secondary, and tertiary industries to significantly enhance the supply capacity of high-quality ecological forestry products. The development of national parks, focusing on the integrated development of forestry and grassland, will serve as the main line to establish a natural protected area system centered around national parks. In terms of tourism, the focus is on promoting high-quality development, emphasizing the integration of culture and tourism to achieve a synergy where culture enhances tourism and tourism showcases culture. We must prioritize ecological considerations, adhere to the principle of scientific utilization, and create a model that combines ecology and tourism, thereby promoting the sustainable development of eco-tourism and introducing ecological tourism products and routes. Therefore, the combination of "forestry + tourism" and the parallel realization of multiple value pathways will be one of the main themes for vigorous development in the future.

The country's long-term planning has received a positive response from various localities. The offices of people's governments across the country have issued a series of documents regarding their respective provinces' "14th Five-Year Plan," which include specific requirements for ecological protection, forestry, and tourism based on local characteristics. These documents emphasize the need to leverage unique natural resources in each region to vigorously cultivate and develop green industries such as eco-tourism and ecological forestry; establish and improve mechanisms for realizing the value of ecological products; accelerate the exploration of pathways for realizing the value of ecological products; and encourage the integration of forestry and tourism. In forestry, efforts will be made to enhance the supply capacity of timber and the diversity of tree species,

focusing on cultivating and selecting quality varieties of valuable species such as pine and cedar. In the under-forest economy, there will be a strong push to develop specialty under-forest products such as camellias, Dendrobium, and ganoderma. Additionally, the construction of forest area roads will be expedited, and the management of sanitation in forest areas will be standardized to enhance the scenic and recreational value of these regions. At the same time, there will be a deepening of the integration between forestry and cultural tourism, making reasonable use of the rich forestry resources in various locations to build multifunctional forest parks, develop forestry ecological products and eco-tourism products, thereby realizing the ecological product value of forest ecosystems. In summary, as both forestry and tourism enter a new period of transformation and upgrading in China, closely following national planning, the combination of

“forestry + tourism” and the parallel development model of multiple value realization pathways has essentially been established as the main model for realizing the ecological product value of China’s forest ecosystems in the future.

3.2 Main Practices for Realizing the Value of China’s Forestry Ecological Products

China began its strategic layout for realizing the value of forestry ecological products as early as 2010. Forest farms have vigorously developed secondary and tertiary products while ensuring an increase in forestry product output, fully exploring eco-tourism products and forestry ecological products through the combination of “forestry + tourism.” The specific development pathways are shown in Table 1.

Table 1: Development Path of Forestry Ecological Product Value in China

Product Type	Value Realization Path	Value Representation	Implementation Method	Typical Case
Material Ecological Products	Market-driven	Green product certification, free market trading, etc.	Meet the demand for green and environmentally friendly products, such as timber, medicinal materials, and forest foods.	Ecological bank in Nanping City, Fujian Province, and carbon ticket trading in Guizhou Province, etc.
Regulating Ecological Products	Government-led	Ecological compensation tax, ecological transfer payments, transfer of use rights, etc.	Meet the demand for a better environment, such as clean air and clean water resources.	Forest ecological value project in Ezhou City, Hubei Province; upstream and downstream horizontal ecological compensation cases in Guangxi; and the grain-to-forest conversion project in Yunnan.
Cultural Ecological Products	Government + Market	Construction of forest parks, construction of wellness centers, etc.	Meet the needs of human spiritual life, such as leisure and entertainment, relaxation of body and mind, and scientific research work, etc.	Chongyi Forest Park in Jiangxi Province and Guanyin Mountain National Forest Park in Guangdong, etc.

Currently, in China, material forestry ecological products can be autonomously realized through mature market trading mechanisms, similar to ordinary products, by balancing price and quantity. Enterprises can enhance their competitiveness by observing market demand and improving aspects such as policy, funding, and technology, thereby increasing the output of wooden ecological products, developing non-wood ecological product varieties, and enhancing forestry ecological products. On this basis, relevant authoritative institutions, including the government, should gradually formulate policies for the certification of green products or ecological products that distinguish them from ordinary products. This approach aims to meet consumers’ demands for green, ecological, and safe products while also granting consumers the freedom to choose their goods. Furthermore, for regulating ecological products that have not yet established a complete market trading mechanism—such as climate regulation, water conservation, and carbon fixation and oxygen release, which fulfill human needs for a better environment—there is a need for a management mechanism for forest regulating ecological products, primarily led by the government. One approach could be to implement ecological compensation for regions producing high-quality regulating ecological products through measures such as ecological taxes and horizontal or vertical transfer payments, thus promoting local economic growth while providing ecological products. Additionally, it is essential to accelerate the establishment of rights confirmation for various forestry ecological products, laying the groundwork for mechanisms such as the transfer and leasing of rights to regulating ecological products. Finally, besides the aforementioned material and regulating ecological products, forests can also provide cultural ecological products that offer recreational opportunities, relieve stress, and have

research value. The value of such ecological products requires a collaborative effort between the government and the market. The government should enact relevant policies to actively promote the construction of various forest parks and wellness centers, while market capital is responsible for their development, operation, and maintenance. This approach encourages public participation, allowing society to enjoy the numerous benefits that nature provides while simultaneously protecting the forest ecological environment and resources, thereby driving local economic development and achieving a win-win situation.

4. Summary and Outlook on the Realization of Ecological Product Value in China

Currently, many regions across the country have fully utilized their abundant forest resources to realize the value of local ecological products through the protection of forest environments and the development of ecological products and industries. There are three main approaches: First, ensuring a stable supply of timber and other forestry products to support the primary industry; second, developing the secondary industry focused on timber processing and spring water; and third, increasing the biodiversity of forest ecosystems by creating scenic and recreational forest parks, thereby vigorously developing the tertiary industry. These three approaches not only achieve the value of ecological products but also make significant contributions to the local economy, realizing a win-win situation for local ecology, economy, and society.

Through years of exploration, China’s forestry resources have

developed rapidly, shifting from quantity expansion to quality enhancement. From the “Twelfth Five-Year Plan” period to the present, forest area has increased from 207 million hectares to 220 million hectares, and forest coverage has risen from 21.66% to 24.1%, providing ample space for sustainable development. Additionally, various regions across the country boast unique ecological tourism resources, with distinctive landforms, climates, and cultural customs serving as important foundations for attracting tourists. Leveraging favorable local policies, efforts are being made to ensure the continuous growth of the primary forestry industry while developing various ecological tourism projects and actively applying for national and world-class ecological tourism sites, thereby realizing the value-added benefits of forestry ecological products through the secondary and tertiary industries.

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Author Profile

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