ISSN 2616-5910 Vol. 5, Issue 1: 129-134, DOI: 10.25236/AJALS.2024.050117

Research on Industrial Ecological Value-added of Roxburgh Rose Driven by EOD Strategy

Jin Qiu[1,*], Dandan Luo[1]

[1]*Guangdong University of Science and Technology, Dongguan, China*
[*]*Corresponding author: 610192133@qq.com*

Abstract: *With the development of social economy and the prominence of environmental issues, people's attention to the concept of sustainable development is increasing day by day. This article aims to explore the ecological value-added of Roxburgh Rose industry driven by EOD (Ecological Environment Oriented Development Model) strategy. The EOD model, as an innovative project organization and implementation method, is guided by the concept of ecological civilization and aims for sustainable development. By integrating ecological protection, environmental governance, and characteristic industry operations, it achieves the coordinated unity of ecological benefits, economic benefits, and social benefits. Under the framework of EOD strategy, the Roxburgh Rose industry, as a characteristic industry with significant ecological and economic benefits, has become the focus of this study in terms of its ecological value-added path and mechanism.*

Keywords: *EOD, Roxburgh Rose, Roxburgh Rose industry, Ecological value*

1. Introduction to Roxburgh Rose and EOD

1.1 Roxburgh Rose

Roxburgh Rose also known as ci pear, mu li pear, and shan wang fruit, can be seen everywhere in the mountains and forests of Guizhou. This "inconspicuous" Roxburgh Rose is known as the "king of vitamin C" due to its extremely high vitamin C content. Rosa roxburghii, known as the "King of Dimension C", is a unique wild resource in the the Yunnan-Guizhou Plateau and the western Sichuan Plateau, of which Guizhou is the most abundant, and the use of Rosa roxburghii resources has a history of more than 400 years.[2] Nowadays, the unremarkable Roxburgh Rose has become the "pioneer tree" for ecological governance in Guizhou's karst mountainous areas, the "landscape tree" for tourism development, and the "cash cow" for rural revitalization. A golden jar contains hard rice. If you don't eat hard rice, you should eat a golden jar. "This is a riddle that has been passed down in the land of Guizhou and Guizhou, and the answer is Roxburgh Rose. It is widely used in fields such as medicine, food, cosmetics, etc., and has good economic value.

1.2 Eco-environment-oriented

The Eco-environment-oriented Development (EOD) model (hereinafter referred to as the "EOD model") is a project organization and implementation approach guided by ecological civilization principles, rooted in ecological protection and environmental governance, and facilitated through regional comprehensive development.[3]It promotes the effective integration of ecological environment governance projects, which have strong public welfare but poor profitability, with related industries that offer good profitability, and internalizes the economic value derived from ecological environment governance. This article focuses on the ecological value-added research of the Roxburgh Rose industry driven by the EOD strategy, exploring ways to expand the transformation channel between green mountains and rivers and mountains of gold and silver, striving to establish an ecological product value realization mechanism, opening up a "new channel" for development, and realizing the mutual transformation between green mountains and rivers and mountains of gold and silver.[5]

ISSN 2616-5910 Vol. 5, Issue 1: 129-134, DOI: 10.25236/AJALS.2024.050117

2. The integration of EOD and Roxburgh Rose industry—A win-win path for ecological and economic benefits

The overview of EOD model is similar to TOD (Transit Oriented Development), SOD (Service Oriented Development), and AOD (Adaptation Oriented Development) models. EOD is an ecological environment oriented development model, which organically integrates environmental governance with business development during project implementation, and uses industry revenue to support project investment and operation in the early and later stages, thereby alleviating government financial pressure and achieving a win-win situation of ecological and economic benefits. The Ecological Environment Oriented Development (EOD) model focuses on the ecosystem as its core, pursuing the synergistic coexistence of ecological environment and economic development through systematic measures such as resource utilization, environmental governance, and industrial layout. [3]

EOD includes three core points:

One is "integration": combining fat and lean, promoting the effective integration of public welfare ecological environment governance and related industry development projects.

The second is "A subject ": a market entity coordinates and implements ecological environment governance as a whole project, and integrates construction, operation, and maintenance.

The third is "feedback": strive to achieve a balance between overall project benefits and costs within the project boundary, and reduce government funding investment. (see *Figure 1)*

The Ecological Environment Oriented Development (EOD) model represents an important attempt under the contemporary trend of sustainable development. It attempts to break the dilemma of economic and environmental opposition in traditional development models and seek a path that can both protect natural resources and promote economic prosperity. Through numerous successful practical cases both domestically and internationally, it can be seen that the EOD model has demonstrated strong vitality in promoting regional green development, enhancing ecosystem service functions, and improving people's well-being. Looking towards the future, the EOD model will continue to evolve and become a key force in promoting ecological civilization construction and implementing the United Nations Sustainable Development Goals around the world.

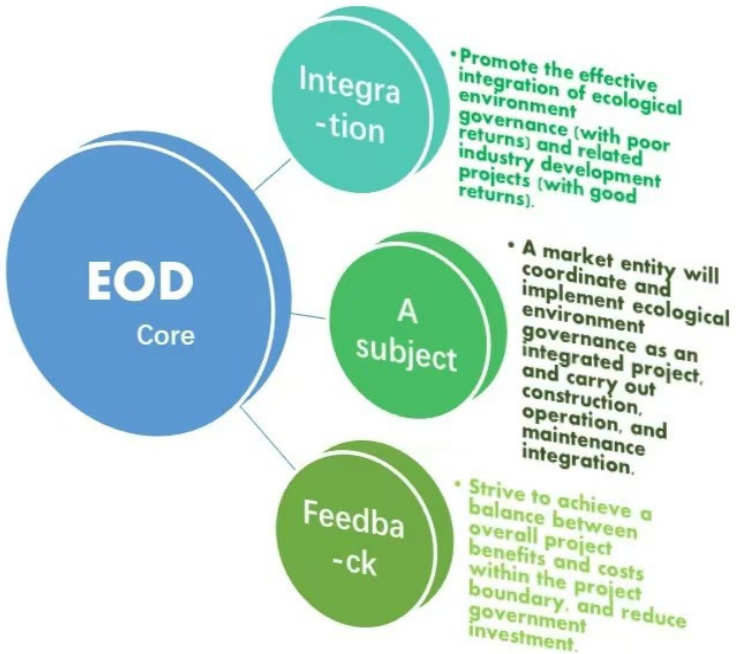

Figure 1: The core three points of EOD

ISSN 2616-5910 Vol. 5, Issue 1: 129-134, DOI: 10.25236/AJALS.2024.050117

3. Embedding EOD mode into the ecological product value realization of Roxburgh Rose

3.1 Green Development - Establishing an Ecological Value Accounting System for Roxburgh Rose

The Gross Ecosystem Product (GEP) is a comprehensive indicator used to measure the total value of all ecological products provided by a region's ecosystem for human well-being and economic and social development. [4]These ecological products include ecological material products (such as wood, medicinal herbs, etc.), regulatory service products (such as water resource regulation, climate regulation, etc.), and cultural service products (such as tourism, education, etc.). Through the accounting and evaluation of GEP, we can gain a more comprehensive understanding of the functional and valuable contributions of the ecosystem involved in the Roxburgh Rose industry to human survival and well-being.

The evaluation of Roxburgh Rose industry through GEP accounting helps to compensate for the structural deficiencies of traditional GDP indicator assessment methods. Traditional GDP indicators can only reflect quantitative indicators of economic growth, and cannot comprehensively evaluate the contribution and value of ecosystems. [1]Through GEP accounting, the true development level of the region can be more scientifically reflected, providing important support for the development of Guizhou Roxburgh Rose industry. GEP accounting can also depict the overall condition of ecosystems, evaluate the effectiveness of ecological protection, and assess the supportive role of ecosystems in human well-being and economic and social development. It can also quantitatively describe the ecological relationships between different regions, providing strong support for the implementation of the concept of "green mountains and clear waters are as valuable as mountains of gold and silver". In the process of establishing a mechanism for realizing the value of ecological products and transforming ecological value into economic benefits, GEP accounting provides important basis and guidance, see figure 2.

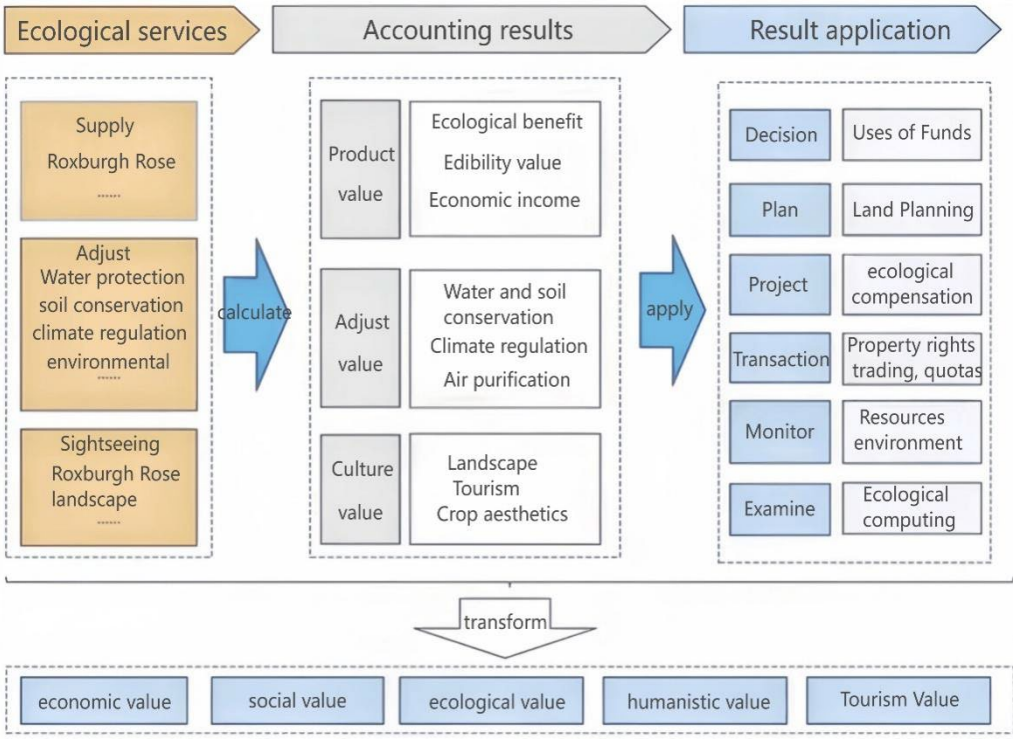

Figure 2: Ecological value-added operation mode under EOD

3.2 Ecological Transformation - Exploring the Path of Ecological Value Transformation of Roxburgh Rose

The ecological value of Roxburgh Rose itself is significant and multidimensional. The Roxburgh Rose, an agricultural product, not only enriches China's biodiversity, but also plays an important role in ecological restoration and management. Its well-developed root system can effectively prevent soil erosion, improve soil structure, and provide strong support for vegetation restoration in karst landforms in Guizhou and other regions [6]. In exploring the ecological value transformation path of Roxburgh Rose, the ecological value-added of Roxburgh Rose industry driven by EOD strategy is mainly reflected

ISSN 2616-5910 Vol. 5, Issue 1: 129-134, DOI: 10.25236/AJALS.2024.050117

in the following aspects:

3.2.1 Ecological value appreciation

The EOD strategy emphasizes the deep integration of ecological environment governance and industrial development, effectively improving the ecological environment quality of Roxburgh Rose planting areas through the implementation of a series of ecological governance projects. This not only provides superior natural conditions for the growth of Roxburgh Rose, but also enhances the ecological value of the region. Ecological base optimization and a good ecological environment have become the foundation for the high-quality development of the Roxburgh Rose industry, enhancing the market competitiveness of Roxburgh Roses in agricultural products. The development of Roxburgh Rose industry driven by EOD strategy provides financial and technical support for ecological environment governance. The profits obtained through industrial development can be used for investment and maintenance of ecological environment governance projects, achieving ecological feedback. This mechanism helps to form a virtuous cycle between ecological environment and industrial development [7].

3.2.2 Economic value appreciation

Extension of industrial chain and diversified operation: EOD strategy encourages the Roxburgh Rose industry to extend its industrial chain upstream and downstream, forming a complete industrial chain. [2]With high-quality green Roxburgh Rose products, the Roxburgh Rose industry has achieved diversified operations by developing various products such as Roxburgh Rose beverages, Roxburgh Rose wine, Roxburgh Rose health products, and combining local culture and tourism resources to develop agricultural tourism and ecological experience projects. This not only broadens the sources of income, but also increases the added value of the industry. With the increasing variety and quality improvement of Roxburgh Rose products, their market coverage is gradually expanding. The popularity and reputation of Roxburgh Rose products have been enhanced, further promoting the appreciation of economic value [8].

3.2.3 Social value appreciation

The EOD model emphasizes the organic integration of ecological governance and economic development. By implementing ecological restoration measures like Roxburgh Rose planting, we can restore damaged ecological environments and enhance land use efficiency and ecological carrying capacity. Additionally, the growth of the ecological Roxburgh Rose industry offers more employment opportunities and avenues for income increase for local farmers. Through the development of this industry, it can spur improvements in rural infrastructure and public service levels, thereby promoting comprehensive economic and social development in the region.

3.3 Ecological Protection - Establishing ecological compensation and guarantee mechanism for Roxburgh Rose

In the development of the Roxburgh Rose ecological industry, the GEP accounting results in application should serve as the basis for raising ecological value-added compensation funds, and all these funds should be allocated to the specially established "Ecological Protection Compensation Special Fund". [1]The basic principle of ecological compensation is to clarify that "whoever develops, who protects, and whoever benefits, who compensates". This further clarifies the responsibilities and obligations of relevant parties in various links such as Roxburgh Rose planting, processing, and sales, ensuring the fairness and effectiveness of ecological compensation. EOD Promote the expansion of ecological protection compensation from the previous relatively single protection compensation to balanced development comprehensive compensation, ecological resource protection classification compensation, ecological environment governance incentive compensation, and innovative diversified ecological rights market transactions [9].

3.4 Sharing Achievements - Building a Shared Pattern of Pear Ecological Dividend

The ecological dividend sharing framework is a comprehensive framework encompassing ecological protection, green development, economic transformation and upgrading, as well as comprehensive enhancement of social welfare. [1]As ecological civilization construction continues to advance, it is imperative to achieve a positive development that maintains the "red line" and transforms the "dividend" during the process of ecological protection and development, thereby promoting ecological civilization construction. The ecological red line represents the bottom line and lifeline of national ecological security.

ISSN 2616-5910 Vol. 5, Issue 1: 129-134, DOI: 10.25236/AJALS.2024.050117

We must not breach this line. In the development of the Roxburgh Rose ecological industry, we must uphold the "red line" and persistently maintain effective ecological protection of Roxburgh Roses, in order to materialize the "dividend", conduct rational ecological development of Roxburgh Roses, and establish a positive ecological dividend sharing pattern for Roxburgh Roses. The ecological resources of Roxburgh Roses benefit the people. In the future, it is essential to continuously strengthen the solid ecological foundation, facilitate the integration of ecological protection and regional development, establish a two-way transformation channel between green mountains and rivers and mountains of gold and silver, and further expand the path of sharing the "dividends" of Roxburgh Rose ecology [10].

4. Inspiration of ecological value-added of Roxburgh Rose driven by EOD strategy

The research on ecological value-added of Roxburgh Rose driven by EOD strategy deeply reveals the harmonious coexistence between ecological environment governance and industrial development. [1]Through the application of EOD mode, the Roxburgh Rose industry can not only achieve sustainable development on the basis of protecting the ecological environment, but also significantly enhance the added value and market competitiveness of Roxburgh Rose products through the deep integration of ecological governance and industrial innovation. Specifically, the EOD strategy has promoted the improvement of the ecological environment in Roxburgh Rose planting areas, providing superior natural conditions for Roxburgh Rose growth; At the same time, through the extension of the industrial chain and the integration of business formats, the Roxburgh Rose industry has achieved a transformation from single planting to diversified operation, increasing the variety of products and market coverage. In addition, the EOD model emphasizes the synergistic effect of market mechanisms and policy support, providing strong guarantees for the development of the Roxburgh Rose industry. In the end, these efforts collectively promoted the ecological value-added of the Roxburgh Rose industry, achieving a win-win situation of economic and ecological benefits [11][12].

In addition, the ecological value-added of Roxburgh Rose industry needs to accelerate ecological industrialization and industrial ecologicalization, deeply cultivate Roxburgh Rose ecological agriculture, ecological cultural tourism, and ecological resource rights, promote the construction of Roxburgh Rose ecological product trading market, standardize the management of ecological product and ecological factor markets, strengthen the collection and storage of Roxburgh Rose ecological resources, carbon sink project development, and ecological resource rights trading coordination, and explore the ecological product consumption market on a larger scale. We need to provide solid guarantees and support, strengthen work coordination, and promptly develop a quantifiable, operable, and assessable indicator system. Under the guarantee of the EOD ecological compensation mechanism, we will strengthen the connection between policy research and work reporting, focus on key ecological functional areas, strive for transfer payment funds, and standardize the allocation and use management. In recent years, the application of agricultural technology has played an increasingly important role in modern agriculture. To do a good job in ecological value-added of Roxburgh Roses, it is necessary to highlight technological support, focus on key core technological bottlenecks, and promote enterprises and institutions to deepen cooperation with domestic scientific research institutions and universities. Finally, we will strengthen local financial support, encourage banking institutions to innovate mortgage loans around ecological rights products, and increase green loan investment to ensure the value-added of the Roxburgh Rose industry.

5. Conclusions and outlook

This study deeply explores the impact of EOD (Ecological Environment Oriented Development) strategy on the ecological value added of Roxburgh Rose industry. It can be seen that under the EOD strategy, Roxburgh Rose are significantly enhanced in terms of ecological value, economic value, social value, and other aspects. Exploring the ecological value transformation path of Roxburgh Rose can help form a virtuous cycle between ecological environment and industrial development. At the same time, it has set an example for the development of other ecological agricultural products. In the future, the EOD model of green development will also become an important trend in the development of ecological industries. In this process, enterprises need to deeply understand the core values of EOD strategy, optimize industrial layout, enhance industrial value, promote ecological environment governance and industrial integration, innovate investment and financing models, and strengthen policy research and utilization to promote the ecological value-added of Roxburgh Rose industry driven by EOD strategy. Through the implementation of these measures, enterprises can promote the sustainable development and

ISSN 2616-5910 Vol. 5, Issue 1: 129-134, DOI: 10.25236/AJALS.2024.050117

ecological value-added of the Roxburgh Rose industry while achieving ecological environment governance.

Acknowledgement

Fundings: 2024 National College Student Innovation and Entrepreneurship Training Program

Project.

Project Name: Ecological EOD "benefits" the people, intelligent 5G "smart" agriculture - dual methods are implemented together to innovate the Anshun Roxburgh Rose industry model and create a model of the "Hundred Million Project"

Project number: 202413719009X

References

[1] Yang Yangyang, Liu Xiaodong. Research on Deeply rooted in the concept of "ecological value" Anji County explores the mechanism for realizing the value of ecological products in the field of land transfer [D]. Zhejiang Land AND Resources, 2023. DOI:10.16724/j.cnki.cn33-1290/p. 2023.11.017.

[2] Yang Shengye. Investigation and Countermeasure Study on the Development Status of Roxburgh Rose Industry in Guizhou Province [D]. Shanxi Agricultural Economy, 2023.

[3] Shi Minjun, Chen Lingnan, Zhao Yunhao, Lu Yingying, Jia Yingna, Wang Jinnan. Research on Theory of Ecological Environment Oriented Development (EOD) Model. [D]. Chinese Journal of Environmental Management, DOI:10.16868/j.cnki. 1674-6252. 2024.02.005.

[4] Zhao Yunhao. Research on Actively exploring EOD mode innovation to promote the realization of ecological product value. [D]. China Environmental Protection Industry.2023.

[5] Sun Jiali. Research on Exploration of EOD Model Application in the Field of Ecological Product Value realization. [D]. Shanxi Agricultural Economy, 2024. DOI:10.16675/j.cnki.cn14-1065/f.2024.09.033

[6] Sun Zhiwei, Xiong Yu, Wang Xinliang, Zhou Ji. Research on Expanding the Marketization Path of Ecological Product Value Based on EOD Model Practice. [J]. China's National Conditions and Strength, Issue 11, 2023. DOI:10.13561/j.cnki.zggqgl.2023.11.004.

[7] Sun, Y., & Ortiz, J. An AI-Based System Utilizing IoT-Enabled Ambient Sensors and LLMs for Complex Activity Tracking[J]. Academic Journal of Science and Technology, 11(3), 277-281. DOI: https://doi.org/10.54097/dj2pt496, 2024.

[8] Zhong, Z., and Li, X., Re-Visiting the Green Puzzle: The Effect of Eco-Positioning on Inertial Consumers [J]. Available at SSRN: http://dx.doi.org/10.2139/ssrn.4138686, 2024.

[9] Zhong, K., Jiang, Z., Ma, K., & Angel, S. A file system for safely interacting with untrusted {USB} flash drives[C]. In 12th USENIX Workshop on Hot Topics in Storage and File Systems (HotStorage 20), 2020.

[10] X Chen, K Li, T Song, J Guo. Few-shot name entity recognition on stackoverflow, arXiv preprint arXiv:2404.09405, 2024.

[11] X Chen, K Li, T Song, J Guo, Mix of Experts Language Model for Named Entity Recognition, arXiv preprint arXiv:2404.19192, 2024.

[12] Luo M, Du B, Zhang W, et al. Fleet Rebalancing for Expanding Shared e-Mobility Systems: A Multi-Agent Deep Reinforcement Learning Approach[J]. IEEE Transactions on Intelligent Transportation Systems,2023, 24(4):3868-3881. doi:10.1109/TITS.2022.3233422