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Ecological EOD: Achieving a win-win model for the prickly pear industry

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Abstract: *The ecological (EOD) model embodies the concept that green mountains and clear waters are as valuable as mountains of gold and silver. It is a powerful measure to develop new forms of ecological and environmental protection industry, guide diversified investment, and promote the coordinated development of ecological environment and economy. This paper aims to explore the application of the Ecological Oriented Development (EOD) model in the Anshun prickly pear industry, and how to promote a win-win situation between ecological protection and economic development through the EOD model. By analyzing the current situation and challenges faced by the Anshun prickly pear industry, as well as the theoretical basis of the EOD model, this study will propose specific strategies aimed at achieving sustainable development of the prickly pear industry and protecting the ecological environment.*

Keywords: *EOD, ecological priority, sustainable development*

1. Introduction

1.1. The economic value and ecological significance of prickly pear industry

Prickly pear has high nutritional and medicinal value, and its fruit is rich in various nutrients such as vitamin C, amino acids, minerals, etc., with strong market demand. With consumers' pursuit of healthy food, prickly pear products have broad development space in domestic and international markets. The prickly pear industry not only covers multiple links such as planting, processing, and sales, but through deep processing, prickly pears can also be made into high value-added products such as beverages, preserved fruits, and health products, providing a way for farmers to increase their income. Prickly pear also has strong adaptability and can grow in harsh environments, which helps prevent soil erosion and improve the ecological environment.

1.2. Research purpose and significance

This study aims to explore how to effectively apply the ecological EOD model to the prickly pear industry. By analyzing the current situation and problems of the prickly pear industry, a win-win model that can protect the ecological environment and promote industrial development is proposed. At the same time, it can also provide theoretical basis and practical guidance for government departments to formulate policies for the development of prickly pear industry, and provide theoretical reference for the ecological development of other similar industries.

2. The concept and connotation of EOD

2.1. The concept and definition of EOD

Ecological Environment Oriented Development (EOD) is a new development model that is guided by the ecological environment and combines ecological governance, protection, construction, and economic development to achieve coordinated development of regional economy, society, and environment.

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2.2. The connotation and characteristics of EOD

2.2.1. Ecological priority, benefiting the industry in return

As shown in the following figure 1,the EOD model adheres to the principle of sustainable development, integrating the concept of green environmental protection throughout the entire process of regional planning, construction, and operation. This means adopting low-carbon, energy-saving, and environmentally friendly technologies and measures in the development process to reduce negative impacts on the natural environment. Ecological construction is not just an additional item, but a foundation and prerequisite for industrial development. Building a healthy, stable, and beautiful ecological environment can attract population and enterprise clusters, thereby driving the development of related industries such as real estate, commerce, education, and healthcare. This encourages the development of environmentally friendly industries such as ecological agriculture, ecotourism, and green manufacturing, and enhances the added value of the regional industrial chain. The essence of the EOD model lies in the principle of "feedback", which means that the environmental benefits brought by ecological improvement attract industries and populations, and then the economic benefits brought by industrial development support the continuous improvement of the ecological environment, achieving sustainable development of ecology and industry. [1]

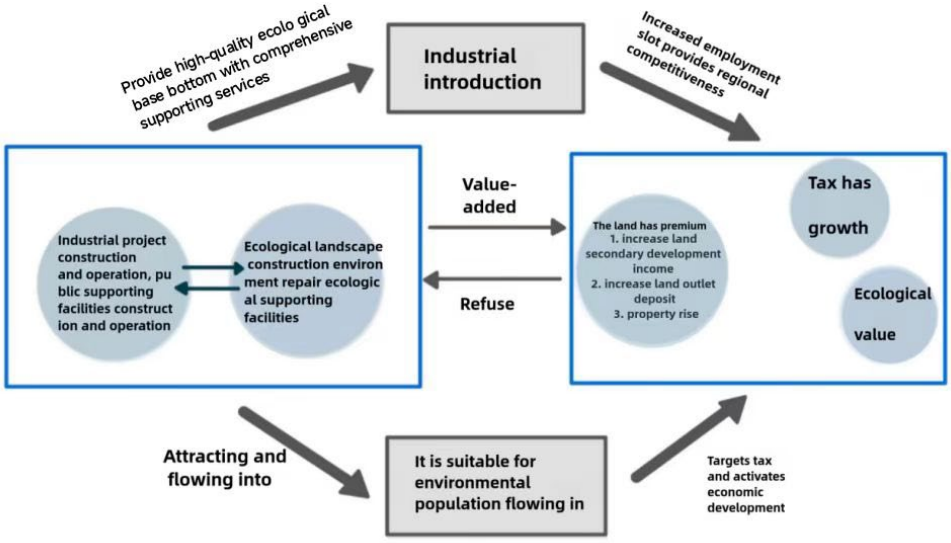

Figure 1: Power mechanism of EOD mode

2.2.2. Unified coordination for circular development

The EOD model emphasizes the need to consider the carrying capacity and restoration capacity of the ecological environment while developing the industrial economy, in order to achieve the coordinated development of ecology and economy. This means that when formulating industrial policies, full consideration should be given to the requirements of ecological protection to ensure that economic growth does not come at the expense of the environment. By reducing, reusing, and recycling resources, we aim to minimize the consumption of natural resources and environmental pollution, and achieve the ecological transformation of economic activities.

2.2.3. Long-term cycles and cross-border integration

EOD projects have long-term, slow efficiency, and cross-border characteristics. The construction of ecological foundation requires long-term accumulation, and industrial cultivation is not a one-day effort. Environmental protection enterprises are responsible for ecological governance, construction enterprises undertake infrastructure construction, and professional operators intervene in industry introduction and property management. EOD developers need to implement the concept of "investment, financing, construction, management, and operation", possess strong financing, development, and monetization capabilities, and be able to effectively manage long-term capital chains.[2]

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3. Background and current situation of Anshun prickly pear industry

3.1. Geographical location and natural environment

The development of Anshun prickly pear industry in Guizhou Province benefits from its unique geographical location and natural environment. Anshun City is located in the central western part of Guizhou Province, with relatively flat terrain. The altitude of the entire area ranges from 800 to 1400 meters, which is very suitable for the growth of prickly pears. Its geographical features and climatic conditions provide a favorable environment for the growth of prickly pears. The main soil types in Anshun City include yellow soil, calcareous soil, purple soil, mountainous yellow brown soil, and paddy soil. Among them, yellow soil is particularly suitable for the growth of prickly pear because its soil is moist, the soil layer is thick, and it contains abundant humus and elements suitable for prickly pear growth, such as iron and phosphorus. The annual average temperature in Anshun City is between 14-16 ℃, with an average of 1200-1400 hours of sunshine per year. The number of foggy days per year is mostly around 60 days, and the annual average precipitation is 1100-1450 millimeters. This climate condition provides a favorable growth environment for prickly pears, see figure 2.

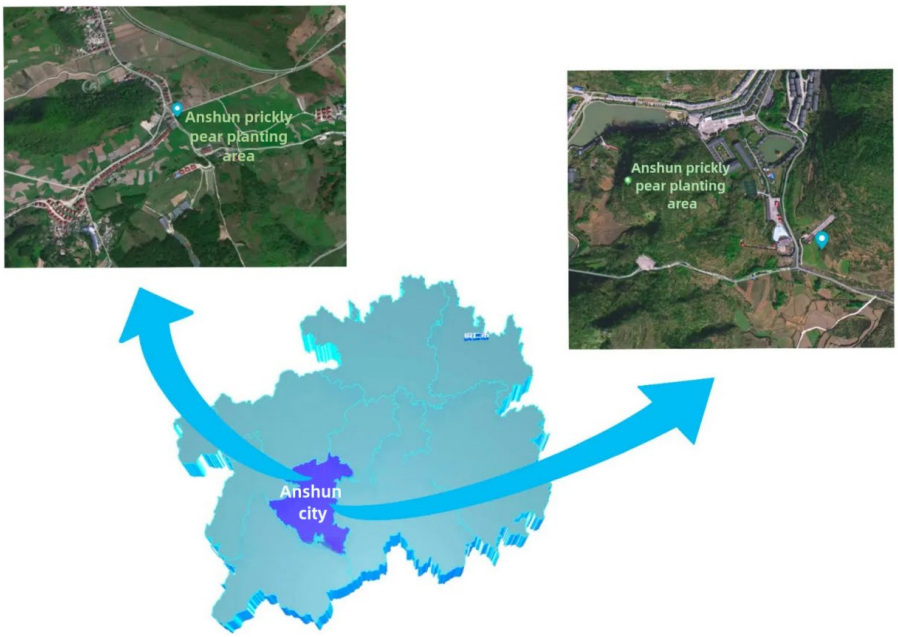

Figure 2: Distribution area of prickly pear industry in Anshun City

3.2. The historical development of prickly pear industry

The development history of the Anshun prickly pear industry can be traced back to the 1990s. At that time, the Anshun Forestry Science Research Institute began to study tissue culture techniques for wild seedless prickly pears, and eventually cultivated the Guangzhi seedless prickly pear, also known as the "Anshun Golden prickly pear". The successful cultivation of this new variety has laid the foundation for the development of the Anshun prickly pear industry. In 2008, Chen Daxing, the village head of Daba Village in Shuangbao Town, Anshun City, began to try planting prickly pears, which was one of the earliest large-scale attempts to plant prickly pears in Anshun City. Subsequently, in 2011, the People's Government of Anshun City promoted and developed the golden prickly pear as a rare and precious local variety, further promoting the large-scale development of the golden prickly pear industry. However, with the large-scale cultivation of prickly pears, the oversupply in the market has led to a sharp drop in prices, posing huge challenges to growers. In order to address this dilemma, Anshun City introduced a deep processing enterprise for prickly pear in 2014. Through the development of deep processed products, it successfully solved the problem of fresh fruit sales and promoted the development of the industry. In 2015, Anshun golden prickly pear successfully obtained the plant new variety protection authorization granted by the State Forestry Administration, and in 2016, it was closely followed by the protection of national agricultural geographical indication. As of 2023, the planting area of Jinshi pear in Anshun City has reached over 300000 acres. Nowadays, the golden prickly pear has become a pillar industry in the local area, not only contributing to rural revitalization, but also driving farmers' income growth and

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prosperity, resulting in rapid economic growth in Anshun City.

3.3. Industrial scale and economic contribution

3.3.1. Industrial scale

The planting area of Jinshi pear in Anshun City has reached 300000 mu, with a yield of 14000 tons and an output value of 874 million yuan. The Anshun prickly pear industry covers 345 villages in 55 townships throughout the city, benefiting 168 impoverished villages. It involves 75 planting cooperatives, 523 large households, and nearly 27500 individual households, benefiting 95200 people. There are a total of 12 deep processing enterprises using prickly pears as raw materials, including provincial and municipal leading enterprises, see figure 3. (Data as of 2023).

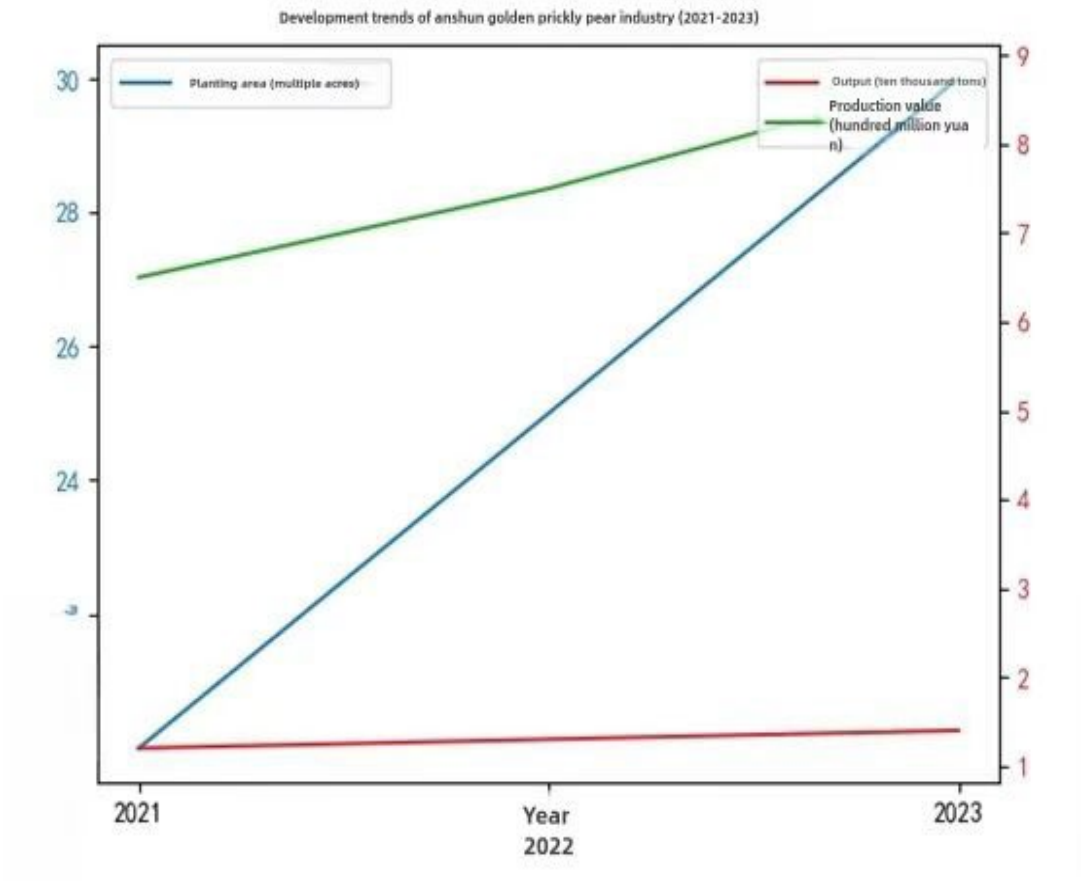

Figure 3: Data of Anshun prickly pear industry from 2021 to 2023

3.3.2. Industrial contribution

The Anshun prickly pear industry has made significant contributions to the local economy and farmers' income. In 2023, the primary production value of Anshun prickly pear will reach 126 million yuan, and the total output value of the entire industry chain is expected to exceed 430 million yuan. Through the cultivation of the entire industry chain, the Anshun prickly pear industry has become an important agricultural characteristic pillar industry in the local area. Based on the rural revitalization strategy and the characteristics of the alloy prickly pear planting base, we have developed a unique tourism that integrates flower and fruit appreciation, understory planting, rural viewing, leisure and health preservation, and sales of agricultural and sideline products, in order to increase the tourism output value and economic contribution rate of the golden prickly pear.

3.4. Environmental Issues and Challenges

Large scale cultivation of prickly pears may lead to soil nutrient depletion and structural damage, especially in mountainous and sloping areas, where excessive cultivation may exacerbate soil erosion. In order to ensure yield and fruit quality, a large amount of pesticides and fertilizers may be used, which

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may cause soil and water pollution, affect ecological balance, and lead to a decline in biodiversity. With the expansion of the prickly pear industry, market competition may intensify. How to maintain product competitiveness and market share, how to establish a complete industrial chain from planting to processing to sales, how to improve the innovation ability of prickly pear planting and processing technology, and how to achieve harmonious coexistence between industrial development and environmental protection are challenges that all prickly pear industries must face.

4. Practice and Application of EOD Mode

4.1. Analysis of Successful Cases of EOD Models at Home and Abroad

As shown in Table 1,the Chinese government attaches great importance to the construction of ecological civilization, actively promotes the practical exploration of EOD mode, and has launched pilot work nationwide, in accordance with the concept of "green mountains and clear waters are as valuable as mountains of gold and silver". These pilot projects have shown potential not only in alleviating the financial pressure on local governments, but also in promoting innovation in ecological industrialization models.

Table 1: Successful Cases of EOD Mode in China

Project name	Project background	Project summary	Projects highlights	Project results
Anhui bengbu yuxi district tianhe lake shengzhi environmental governance rural revitalizing fusion project	The tianhe lake is located in the bengbu, the city yuhui district, the tianhe city, the city, bengbu, the western suburbs are the important carrier of bengbu city, the general planning and construction of the modern "mountain garden city"	The total investment of the project is 32 million yuan, forming a conscientious cycle of ecological environment and industrial association through "water supply + cultural tourism + ecological agriculture + ecological industry, etc	Through the eco-ring environmental protection and cultural tourism, green agriculture and other industrial cooperation to achieve ecological environmental resourceization, industry economy greening	The project was successfully selected. the second batch of b-mode test items have been successfully selected and obtained the first batch of national development banks. the number of people in anwei province is 9.100 million yuan
Jilin songwan discarded old work base reuse the project	Jiangyuan district has once an important source of energy and raw material production and supply base. there are problems such as ground surface sinks, waste residue stacking, exposure to land, loss of water and soil, damage to ecological environment and daily life	The total investment of the project is about 26 billion yuan, using songwan discarded mine, the comprehensive mountain governance as comfy basics, integrating green resources, creating an economical demonstration area, and introducing the "two mountains" concept test area construction	Explore the integrated development mode of "elvininal repair high slot pulling, industrial and mining film and television core driving, rural village zhenxing demonstration driving, health vacation construction promotion, scenic area tourist development linkage"	The project successfully entered the second batch of evo mode test points
Binyang county rural environment treatment and industry integration development project	Binyang county rural environment treatment theory and industry integration development project is the first eod mode project in nanning city to insert national trial points	The total investment is 19.98 million yuan. the project construction content involves farmland sewage treatment, agricultural waste, resource utilization, dampened engineering, and 3 ecological environmental governance projects in urban and rural water supply all-in-one water supply net and water network supporting projects (first issue), first, second and third industries integrated development demonstration sector, ancient dao huaxiangli tourist area improvement project (secondary project) 3 ecological industries	The project uses village and ecological protection and environmental governance as comfy basics and a comprehensive regional development as the carrier. it adopts industrial chain extension, joint operation, combination development and other methods. it uses related production industry development project income and reverse feeding. ecological environmental governance project investment to realize project income and mutual balance	One of the second batch of the national eda model test points items

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Environmental issues are cross-border challenges, and the EOD model advocates international cooperation to jointly address environmental issues and promote the construction of a global environmental governance system. As shown in Table 2, with the increasing awareness of environmental protection and sustainable development worldwide, the EOD model encourages technological innovation and supports the development of green industries, which is in line with the strategies of many countries to promote high-quality economic development.

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Table 2: Successful Cases of EOD Mode in Foreign Countries

Project name	Project background	Project summary	Projects highlights	Project results
Singapore "garden city"	The area of singapore soil is limited. there are more than 600,000 people in the place where the foaming pills have a high population density. it is difficult to plant green plants	Singapore's own slot has an equatorial path, a tropical rainforest climate, sufficient rain volume, suitable for plant growth. in the garden planning, not only green trees on the ground, but also climbs up vegetable quilts on high buildings	Singapore adopts the concept of verti cal greening to inte grate plants and buildings into all-in-one	Improves urban ecological environme nts, reduces hot island effects, reduces noise and harmful gases, saves energy, stores rain and water, relieves urban water pressure, etc
Seattle "sponge city"	The auspicious illustr of "rainy city" is name d. due to the fact that the mesh rain treatme nt system is not condu cive to urban flood debris, and is also not beneficial to the purification and absor ption of rainwater, which hinders the sustainable developm ent of urban nature ecological systems	By creating a set of m olds that imitates the nature ecological system, nature's open drainage and water system replaces the wireless network drainage system and changes the drainage structure of the roof to increase the purification and suction of rainwater	A continuous draina ge system. drainage with slope ditches. the soil and plants in the groove absorb rainwater and filter pollutants, thereby achieving indirect purifying the water body to provide a good living environ ment for salmon	The problem of urban flood prevention is solved, which enhances the purification and absorption of rainwate r, which is beneficial to urban nature ecological systems and can continue to develop

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4.2. The Application of EOD Model in Agriculture and Ecological Industry

The application of EOD mode in agriculture or ecological industries is mainly reflected in the effective integration of ecological environment governance and agriculture or ecological industries, achieving the improvement of ecological environment and sustainable development of industrial economy. This model emphasizes the fundamental role of ecological protection and environmental governance, and through the operation of characteristic industries and regional comprehensive development, promotes the integrated implementation of ecological environment governance projects and related industries, thereby achieving the transformation of ecological value into economic value. In addition, it can effectively solve the funding problem of ecological environment governance, and achieve mutual promotion between ecological environment and industrial benefits through market-oriented operation and integrated implementation. This model helps to build a modern agricultural industry, achieve internal virtuous cycles, improve regional environmental quality, and activate regional economy through industry introduction and talent introduction, increasing residents' income and government taxation.

4.3. The potential application of EOD mode in Anshun prickly pear industry

4.3.1. Ecological value assessment

The karst landform and geological structure in Guizhou Province are complex, with frequent natural disasters such as flash floods, landslides, and mudslides, leading to intensified soil erosion, reduced nutrient content in the soil, damage to the ecological environment, decreased biodiversity, and even a profound impact on the development of the prickly pear industry. The EOD model can combine ecological environment protection with the development of the prickly pear industry, effectively enhancing the ecological benefits of the prickly pear industry. The well-developed root system of prickly pear can reduce soil erosion caused by natural disasters such as landslides and mudslides by planting prickly pear forests, thereby improving soil quality, promoting ecological balance, and producing green and organic prickly pear products, enhancing the competitiveness of the prickly pear industry in the market, driving its development, and achieving a win-win situation for ecological environment protection and prickly pear industry.

4.3.2. Economic analysis

Under the EOD mode, the implementation of ecological environment governance projects such as soil and water conservation and ecological restoration can improve the ecological environment of prickly

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pear planting areas, provide better growth conditions for the prickly pear industry, enhance product quality and market competitiveness, thereby improving the brand image of prickly pear products, attracting more consumers, expanding market share, and increasing the economic benefits of the industry. At the same time, the improvement of the ecological environment in the prickly pear planting park can also promote the development of ecotourism. Through the income from tourism activities, it can contribute to the protection of the ecological environment, promote the recycling of resources, reduce waste, improve resource utilization efficiency, and thus form a sustainable economic development model.

4.3.3. Social benefits

The development of prickly pear industry under EOD mode can not only absorb local labor and provide employment opportunities, but also benefit local residents with the necessary supporting facilities and accompanying education and training projects, helping them improve their education level, increase income, and thus improve their living standards and social welfare. The EOD model emphasizes the combination of ecological environment protection and industrial development. Through sustainable agricultural practices, the local ecological environment can be protected and improved, biodiversity can be maintained, and natural resources can be preserved for future generations. The development of prickly pear industry can also be combined with local culture and tourism resources, promoting the protection of cultural heritage and the development of tourism industry, increasing non-agricultural income sources for the community, and adding a guarantee to the lives of local residents.

4.3.4. Environmental protection strategy

In the EOD mode, by organically integrating ecological restoration projects with prickly pear industry development projects, the improvement of the ecological environment and the preservation and appreciation of ecological resources can be achieved. This model emphasizes the high correlation between ecological restoration projects and prickly pear industry development projects, ensuring that ecological restoration achievements can support the development of prickly pear industry, while the development of prickly pear industry can provide feedback for ecological restoration. The industrial development projects in the EOD model should be industries with ecological resources as the core element, in order to ensure the effective utilization of ecological resources and the continuous provision of ecosystem services. We can adopt methods such as extending the industrial chain, joint operation, and combined development to promote the effective integration of ecological environment governance projects with the prickly pear industry, and achieve overall improvement and sustainable development of the regional ecological environment. At the same time, authorities must strengthen the supervision of the project implementation process to ensure that ecological environment governance projects can effectively promote ecological restoration and biodiversity protection, achieving the dual goals of environmental and economic benefits.

5. Case Study (Figure 4): Application of EOD Model in Jinshi Pear Industry in Anshun Economic Development Zone

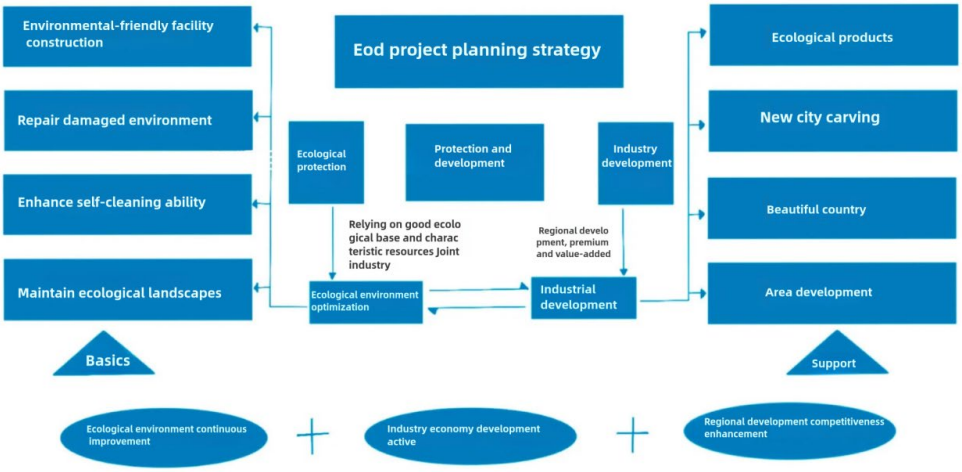

Figure 4: Operation diagram of Anshun prickly pear economic development zone combined with EOD mode

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5.1. Combining ecological restoration with the cultivation of prickly pear

The ecological restoration project improves soil quality, enhances soil and water conservation capacity, and increases biodiversity, making the soil deeper and looser, facilitating the infiltration of water and nutrients into the roots, providing superior natural conditions for the cultivation of prickly pear. For example, planting prickly pears on ecologically restored land can utilize plant remediation techniques by selecting plants suitable for growing in water and planting them in polluted water bodies. The plant's biological adsorption, biodegradation, and biotransformation can be used to remove harmful substances from the water, thereby improving water quality and soil environment, and providing clean water sources and soil for the cultivation of prickly pears. Not only that, the environment after ecological restoration is also conducive to the accumulation of nutrients and the improvement of quality of golden prickly pear. Golden prickly pear can absorb more nutrients and water, grow more vigorously, and the fruit is fuller and has a better taste. At the same time, due to the improvement of the ecological environment, the stress resistance of prickly pear has been enhanced, and the incidence of pests and diseases has been reduced. Large scale planting of prickly pear can achieve efficient land use, thereby increasing yield.

5.2. Integration of deep processing industry and prickly pear industry

The golden prickly pear industry is no longer limited to the planting process, but extends to the field of deep processing, forming a complete industrial chain. By introducing and cultivating deep processing enterprises, the fresh fruit of prickly pear can be processed into diversified products such as beverages, snacks, health products, skincare products, etc., to increase product added value. In recent years, Anshun Economic and Technological Development Zone has seized the opportunity to reasonably layout the planting blueprint of "three belts and ten valleys" for prickly pear. It has introduced enterprises such as Debao Agriculture, 7 Days C, Golden Rose, and Fu'an Qianqiu to cooperate with the district platform company. The "leading enterprise+management and operation company+Huinong company" invested more than 20 million yuan according to the "226" investment ratio to establish an SPV company to extend the prickly pear industry chain. The company is responsible for connecting the planting end, production end, and sales end. The district mainly adopts a development model of "leading enterprises+state-owned enterprises+SPV companies+village collective cooperatives+growers", establishing a benefit linkage mechanism of "guaranteed acquisition+equity income+employment income+operating income", allowing enterprises, cooperatives and villagers to link stocks, share responsibilities, share hearts, and share benefits, and creating a "one town, three belts, and ten valleys" 10000 mu golden prickly pear industry integration demonstration zone that integrates planting, processing, sales, tourism and other dimensions. [3]

5.3. The development of prickly pear agricultural culture and tourism industry

Anshun Jinzhi Pear Economic Development Zone integrates resources for demonstration planting, incorporates unique cultural and tourism elements along the demonstration belt, and adopts a "culture+planting+tourism+health care+" approach to expand and enhance the "non-agricultural" value of Jinzhi Pear. Mopu Town is built into a "Chinese Jinzhi Pear Town" that integrates tourism sightseeing, leisure vacation, warm spring health care, creative orchard, and agricultural experience. Relying on the prickly pear planting base and industrial park, tourists can observe the growing environment of prickly pears up close, learn about the planting techniques and historical culture of prickly pears, and experience the joy of picking, and develop the "golden prickly pear agroforestry" according to local conditions [4].

5.4. The alliance between technological innovation and talent in the prickly pear industry

Technological innovation is a turning point for the golden prickly pear industry. By collaborating with scientific research institutions and adopting modern cultivation techniques and management systems, not only can the yield and quality of prickly pears be improved, but it can also help enterprises develop diversified prickly pear products, meet market demand, and enhance the overall competitiveness of the industry. And by gathering professional talents from scientific research, education, and industry, it provides strong intellectual support for the prickly pear industry. For example, the cooperation between Guizhou prickly pear industry research institute and economic development zone can help transform scientific research achievements into productivity and promote the sustainable development of the industry. The introduction and cultivation of talents have also promoted the technological innovation and management level improvement of the prickly pear industry. In addition, the Economic Development Zone is actively preparing for a provincial-level prickly pear key laboratory to further promote

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technological innovation and industrial upgrading [5].

5.5. Promote the integration of government guidance and market operation

The smooth progress of Anshun Economic Development Zone cannot be achieved without the guidance and support of the government. The government encourages the large-scale and standardized production of prickly pear industry, as well as the deep processing and market expansion of products, by formulating relevant policies and providing financial support. For example, Anshun City has issued the "Work Plan for Accelerating the High Quality Development of the Golden Prickly Pear Industry in Anshun City in 2022", which clarifies the development measures of integrating resources, increasing investment, and strengthening base construction. With the market as the leading factor, it promotes the standardized, normalized, and intensive development of the prickly pear industry [6]. And market operation is another driving force for the development of the prickly pear industry. Enterprises and farmers adjust their production structure according to market demand, and improve product quality and service levels through market competition. For example, the prickly pear industry establishes a supply chain finance platform to connect core enterprises, commercial banks, etc., forming an ecosystem of supply chain finance. This market operation model helps to solve the problem of financing difficulties in the prickly pear industry and promote its healthy development. The combination of government leadership and market operation has shown positive effects in the prickly pear industry. The government has created a favorable external environment for the development of the prickly pear industry by formulating a coordination mechanism suitable for its development. Market operation stimulates the endogenous motivation of enterprises and farmers, promoting the efficiency improvement and competitiveness enhancement of the prickly pear industry [7].

6. Experience and Insights from Implementing EOD Model

6.1. Experience

The EOD model emphasizes government guidance, participation of enterprises and various sectors of society, and market-oriented operation. Therefore, when implementing EOD projects, local governments should strictly comply with relevant laws, regulations, and policy provisions, strictly prevent debt risks, and ensure the sustainable development of the project and the steady improvement of ecological environment quality. Ecological environment governance belongs to public welfare undertakings, mainly relying on government financial funds, which leads to overall insufficient investment, poor investment and financing channels, insufficient self generation function, and the need to improve sustainable development capabilities. During the implementation process, there may also be technical difficulties, blind expansion of project content and investment, inaccurate policy grasp, low project quality, and difficulties in project implementation. In addition, the EOD model is still in the exploratory stage in terms of application areas and implementation paths, and further improvement of institutional mechanisms, optimization of industrial implementation paths, and enhancement of feedback capabilities are needed. Although the EOD model, as a new combination of ecological environment governance and industrial development, has achieved certain results, it is still in the exploratory stage and faces various challenges. Firstly, the application field of EOD mode is relatively single, and there is generalization phenomenon in the implementation process. This has led to insufficient understanding and recognition of the EOD model in society, affecting public participation and support. Secondly, the EOD model needs to better integrate ecological environment governance with industrial development in practice, achieving the transformation of ecological advantages into economic advantages. This requires effective communication and cooperation mechanisms between policy makers, businesses, and the public to jointly promote the development of the EOD model. At the same time, the government also needs to provide more support in policy guidance, financial support, technical support, and other aspects to enhance society's confidence and enthusiasm for the EOD model [8].

6.2. Inspiration

In order to address these challenges, it is recommended to innovate project management models, strengthen risk control on the basis of improving project financing, and increase the enthusiasm of all parties to participate. For example, by integrating ecological environment governance projects with related industries with good returns, the value of ecological resources and the greening of industries can be realized, thereby helping the government improve the ecological environment while solving project

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funding problems. In order to enhance social awareness and participation, it is necessary to further improve institutional mechanisms, optimize industrial implementation paths, improve feedback capabilities, innovate project management models, strengthen risk control, and increase the enthusiasm of all parties to participate [9].

7. Conclusion

Anshun City follows the development concept of specialization, scale, standardization, industrialization, and commercialization, and vigorously develops the prickly pear industry. At present, the planting area of prickly pear in the city has reached a new peak. At the same time, through the development of deep processing enterprises, Anshun City has processed golden prickly pear into various products, such as prickly pear juice, prickly pear beverage, prickly pear fruit wine, etc., achieving a high demand for products in the market. The development of the prickly pear industry has not only changed the use of land, but also driven the development of surrounding industries, achieving the integrated development of agriculture, industry and services, and forming a virtuous cycle of primary industry promoting secondary industry and tertiary industry [10]. Anshun Economic Development Zone, driven by large-scale growers and with extensive participation from the public, adheres to the principles of ecological priority and green development, and expands the planting area of prickly pear according to local conditions. The development of the prickly pear industry has also provided more employment opportunities for local farmers and improved their income levels. Anshun City has utilized the geographical location conditions suitable for the growth of prickly pear and cultivated and strengthened the prickly pear industry through the entire industry chain, adding another boost to the country's rural revitalization. Given that the EOD model is still in the exploratory stage, it is recommended to further improve the institutional mechanism, optimize the industrial implementation path, and enhance the ability to provide feedback. At the same time , governments and industry stakeholders should innovate project management models, ensuring stronger risk control while enhancing the feasibility of project financing. This enhancement will invigorate the participation of all parties involved in the prickly pear industry. Continued efforts should focus on propelling the growth of the prickly pear industry, developing a diversified range of prickly pear products to cater to market demands. Increased policy support and capital investment in the prickly pear industry are crucial to facilitate its high-quality development.It is imperative to adhere to the principles of ecological priority and green development. By leveraging the influence of large-scale growers and encouraging the broad participation of the community, expanding the prickly pear planting area can be achieved. This approach will result in a mutually beneficial outcome, benefiting both the ecological environment and the economy.

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Project.

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

Project number: 202413719009X

References

[1] Cao Yizhi, Lei Guodong, Zheng Bo. (2023) Thoughts on Policy based Financial Support for Ecological Oriented Development (EOD) Model. Agricultural Development and Finance, (05): 77-81

[2] Zhong Chenglin, Zhou Zichen. (2022) Research on the Ecological and Green Integrated Regional Economic Development Model (EOD) in the Yangtze River Delta Guided by Ecological Environment. Shangzi Qinsi: Compilation of Achievements from Shangzi Think Tank (2022) Social Governance Research Center of Shangzi Economic Development Research Institute; DOI:10.26914/c.cnkihy. 2022 .038902.

[3] Jin Xiaofei. (2023) Anshun Economic Development Zone builds a demonstration zone for the integration of the golden prickly pear industry through the "four links and four modernizations". Guizhou Ethnic Daily. DOI:10.28302/n.cnki.ngzmz.2023.000057.

[4] Luo M, Du B, Zhang W, et al. (2023) Fleet Rebalancing for Expanding Shared e-Mobility Systems:

ISSN 2616-5902 Vol. 6, Issue 10: 181-191, DOI: 10.25236/AJBM.2024.061027

A Multi-Agent Deep Reinforcement Learning Approach. IEEE Transactions on Intelligent Transportation Systems, 24(4):3868-3881. doi:10.1109/TITS.2022.3233422

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

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

[7] Zhang, H., Guo, J., Li, K., Zhang, Y., & Zhao, Y. (2024), Offline Signature Verification Based on Feature Disentangling Aided Variational Autoencoder. arXiv E-Prints, arXiv:2409.19754. doi:10.48550/arXiv.2409.19754

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

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

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