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Protection Strategy of Forestry Ecological Natural Environment

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Abstract: Forestry plays an important role in social, economic and ecological aspects, the fundamental way to improve the ecological environment lies in the development of forestry, forestry is the fundamental solution to ecological and environmental problems, sustainable development is inseparable from the ecological security of forestry and the coordinated development of forestry industry, farmers as the microscopic subject of forestry construction, is the most important participant, so consider the will of farmers for forestry construction has an important role. Therefore, it is important to consider farmers' wishes for forestry construction. Therefore, in this paper, we take the example of the A and B areas of city H to study the forestry ecology and natural environment protection strategy. The paper first analyses the current situation of forest resources and the sustainable development of forestry tourism in city H, then examines the contents related to ecological safety in forestry, and finally, the research and analysis of forestry ecological environmental protection strategies.

1. Introduction

According to the requirements of sustainable development, economic development should not only meet the basic needs of people, but also prevent the waste of resources and environmental damage, while the purpose of sustainable development is to maintain the ecological environment [1, 2]. At present, China's economy is facing problems such as shortage of forest resources and serious environmental damage. To improve forestry development, we must take environmental protection as the basic premise and actively develop pillar industries that do not consume much resources [3, 4]. Insist on forestry as the centre and develop forestry resources extensively, so as to achieve the purpose of protecting the ecological environment and promoting coordinated economic development [5]. Farmers, as micro subjects of forestry construction, are the most important

participants, and considering the will of farmers plays an important role in forestry construction. Studying forestry ecological compensation from the perspective of farmers' willingness to be paid helps to bring into play the subjective initiative of farmers, which is conducive to consolidating the achievements already made in forestry construction[6, 7].

With the development of ecotourism, more and more scholars have begun to research on forestry ecological and natural conservation strategies. For example, Sumaiya Benta Nasir et al. designed an environmental monitoring IoT system and tested the performance of the environmental monitoring IoT system by building an experimental test platform. The test results showed that the wireless sensors could monitor and respond to physical impacts and the basic functions of the IoT system were basically achieved [8]. study, through which it was found that the new environmental protection law plays an important role in green innovation, and in order to improve the impact of the new environmental protection law on green innovation, the government should strengthen the protection of intellectual property rights [9]. Forestry ecological protection promotes the sustainable development of ecological economy.

The protection of forestry ecological environment is very important to the sustainable development of the economy, therefore, this paper conducts an in-depth study on the strategy of forestry ecological and natural environmental protection [10, 11]. The research content of this paper is mainly divided into three parts: the first part is the analysis of the current situation of forestry ecology, the status of forest resources in H city and the current situation of sustainable development of forestry tourism; the second part is the research and analysis of forestry ecological security, including the relationship between forestry industry and forestry ecological security and the analysis of the impact of ecosystem health theory; the third part is the forestry ecological environmental protection strategy The third part is the study of forestry ecological protection strategies, which is divided into two parts: the analysis of the willingness to be paid and forestry demonstration areas.

2. Analysis of the Current Situation

2.1. Analysis of the Status of Woodland Resources

A questionnaire survey was conducted on farmers in Area A and Area B of City H. The degree of woodland fertility refers to the degree of woodland quality that farmers believe they have. The data in Table 1 shows the characteristics of the woodlands of the sample farmers, and the status of their woodland resources is shown in Table 1.

Table 1. Woodland resource status

	Value range	Percentage of Zone A(%)	Percentage of Zone B(%)
Forest land area	0-5	19.8	23.6
	5-10	27.9	31.7
	10-15	35.5	36.9
	Over 15	16.8	7.8
Forest land fertility	poor	11.7	13.2
	commonly	56.9	51.6
	fertile	31.4	35.2

Table 1 shows that 11.7% of farmers in Zone A of City H consider their woodlands to be barren, 56.9% consider them to be of average quality, and 31.4% consider them to be fertile. 13.2% of farmers in Zone B consider their woodlands to be barren, 51.6% consider them to be of average

quality, and 35.2% consider them to be fertile. This shows that farmers in Area B are more confident about the quality of their woodlands than those in Area A. It also shows that the quality of woodlands in Area B is not as good as that of woodlands in Area A. In terms of woodland area, the largest proportion of farmers in Zone B had woodland of 10-15 mu, accounting for 36.9%, followed by 5-10 mu, and the lowest number of farmers with more than 15 mu was only 7.8%. 19.8% of farmers in Zone A had woodland of 0-5 mu, 27.9% had woodland of 5-10 mu, 35.5% had woodland of 9-15 mu, and the lowest number of farmers with more than 15 mu was only 16.8%. The difference in the size of forest land owned has a significant impact on the willingness of farmers to be paid.

2.2. Analysis of the Current Situation of Sustainable Development of Forestry Tourism

The development of forestry ecotourism can meet people's intrinsic needs, make it a new growth point for forestry economic development and promote forestry industrialization [12, 13]. Only by truly integrating tourism products with forestry resources can the sustainable and healthy development of forestry ecological environment be achieved [14]. In this paper, six indicators were selected to analyse the sustainable development of forestry tourism in Area A of City H: forest cover, the number of excellent tourism resources, the contribution of forestry tourism to residents' income, tourists' satisfaction, the cultural quality of practitioners and investment funds for environmental protection. Figure 1 shows the weights of each indicator.

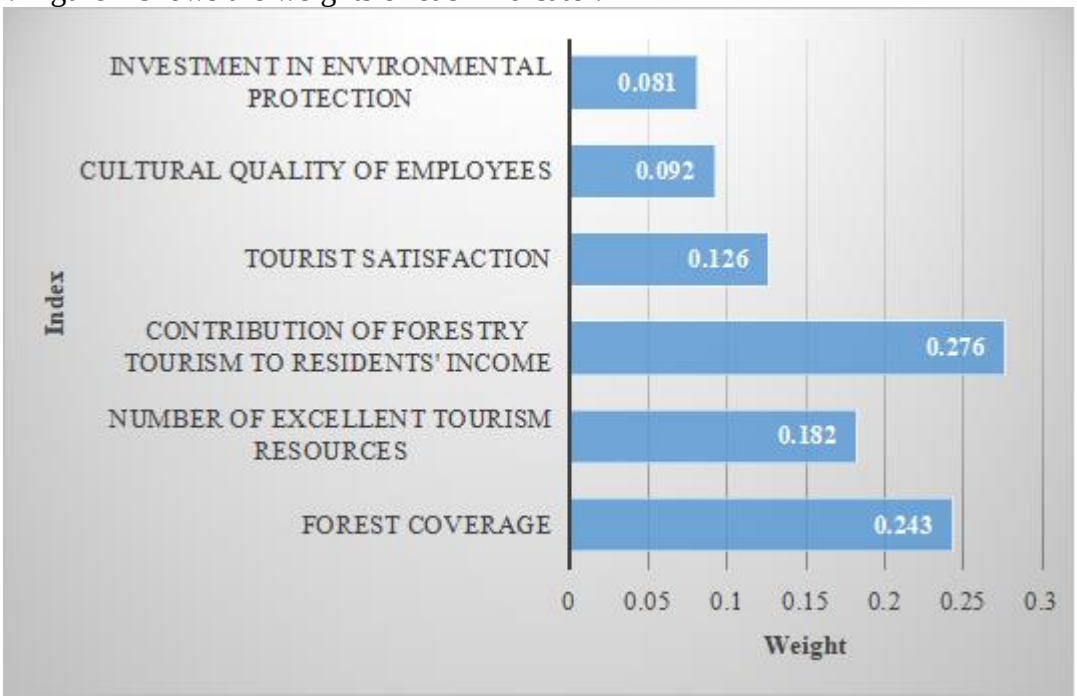

Figure 1. The weight of each indicator

As can be seen from Figure 1, the weights of forest cover and the number of good-grade tourism resources in city H are 0.243 and 0.182 respectively, which indicates that the wide area of forest cover and the relatively abundant number of good-grade tourism resources make it suitable for the development of forestry eco-tourism. The weight of forestry tourism's contribution to residents' income is 0.276, which indicates that the development of forestry ecotourism is one of the important sources of income for residents in Area A. However, the weights of tourists' satisfaction, cultural quality of practitioners and investment funds for environmental protection are low in Area

A. Area A should strengthen the cultural quality education of practitioners, improve investment funds for environmental protection and protect the forestry ecological environment, so as to improve tourists' satisfaction. residents of Area A should develop forestry ecotourism on the basis of protecting the ecological environment, so as to achieve the sustainable and healthy development of forestry ecology.

3. Forestry Ecological Safety Research Analysis

3.1. The Relationship between Forestry Industry and Forestry Ecological Security

In order to achieve ecologically oriented industrial structure development, the ecological and environmental safety of forestry production should be heralded by benefits, and the growth of forestry industry should be gradually accelerated on the premise of synchronous development of forestry production and forestry environmental protection [15, 16]. From the perspective of environmental protection, the factors affecting ecological safety are measured using econometric models [17]. In practice, the development of forestry production and forestry environmental protection are checked and balanced to achieve a synchronous effect between the two, thus driving the simultaneous development of forestry production and forestry environmental protection and establishing the basis for quantitative evaluation [18]. The general framework of forestry industry development and forestry ecological safety is shown in Figure 2. The specific formulas for the forestry ecological composite index are shown in Equation (1) and Equation (2).

$$\max\left\{In_e = \frac{In_c}{In_n}\right\} \tag{1}$$

$$P_{In(n)} \geq 0 \tag{2}$$

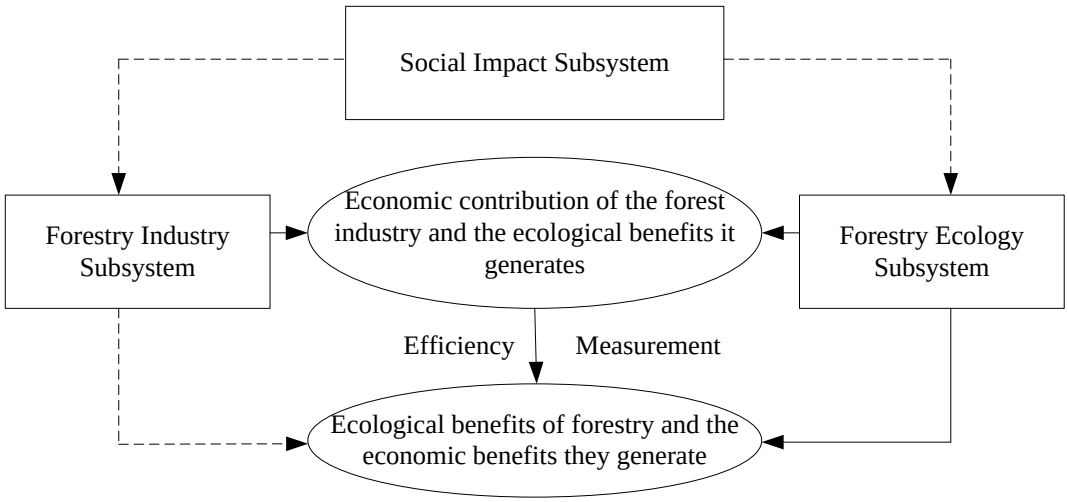

Figure 2. Forestry industry and forestry ecological security framework structure diagram

It is important to reconceptualise the forestry industry in terms of forestry development strategies, to start with the construction of the forestry environment, to drive the construction of forestry environmental protection systems with the growth of forestry production, to improve the level of environmental protection and to bring into play the basic functions of forestry in the construction of environmental protection. On the other hand, a complete forestry ecosystem can in turn generate synergistic effects, resulting in a prosperous forestry production industry. As we can see from the

above, forestry without a forestry environmental protection system cannot meet the conditions for sustainable development, while forestry without other forestry industries cannot achieve industrial growth and development. Forestry production and its environmental system are closely interlinked key structures that are intertwined and inseparable in their physical structure. These two industries go hand in hand and grow together in order to guide the rapid growth of our forest production industry and the rapid increase in the level of ecological safety in the forest industry.

3.2. Analysis of the Impact of Ecosystem Health Theory

The content of forest ecological health theory mainly includes three aspects: first, forestry ecological construction, strengthening management and production, cultivating forests, wetlands and other important forestry resources, and guiding the whole society to establish the concept of ecological civilization; second, strengthening forestry management, forming a scientific forestry industry system, a rational forestry industry and a scientific forestry management model, and realizing forestry economic benefits; third, coordinating the relationship between people and the environment, healthy The cultivation and promotion of a civilised forestry culture can promote the harmonious development of society and forestry systems. The framework for the application of ecosystem health theory is shown in Figure 3.

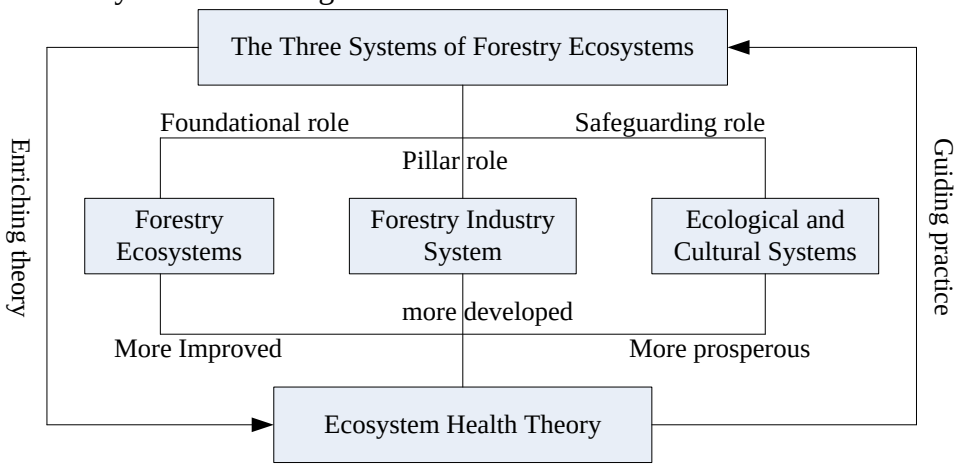

Figure 3. Framework for the application of ecosystem health theory

From Figure 3, it is clear that while developing the forestry industry, attention should be paid to protecting the natural environment of the forestry ecology. The following measures can be taken to protect the forestry ecological environment: Firstly, the improvement of the health level of the forestry ecosystem is the basis of forestry ecological security. By improving the level of forestry production and enhancing forest resource protection measures, the stability and health of the forestry ecosystem is enhanced, which plays a fundamental role in ensuring forestry ecological security. In particular, healthy forest resources themselves are an indispensable resource guarantee in ensuring sustainable forestry development. Secondly, the improvement of the health level of the forestry industry system provides a pillar role for the construction of forestry ecological security. The living standards of the general public in forest areas cannot be raised without the development of the forestry industry, social and economic progress cannot be achieved without the rich and diverse forest products provided by the forestry industry, and the transformation of the economic structure cannot be achieved without the adjustment and upgrading of the forestry industry. The development of the forestry industry and the scientific forestry business model provide the power guarantee and source of vitality for the improvement of the health level of the forestry system, and the healthy development of the forestry industry system is the pillar of the healthy development of

forestry ecological safety. Thirdly, the healthy level of the forestry ecological culture system provides cultural and institutional guarantee for the construction of forestry ecological safety. Through the construction of forestry ecological culture to promote and publicize green civilization and forest ecological culture, so that green civilization and ecological culture connotation into the whole process of healthy development of forestry ecosystem. By creating fine products and building a forestry ecological culture system with strong local characteristics of forest areas, it provides a guarantee role for the construction of forestry ecological security and the health of forest resources.

4. Research on Forestry Ecological Protection Strategies

4.1. Analysis of the Willingness to be Paid

In the process of protecting the forestry ecological environment, the income of the farmers will be affected to a certain extent, so some economic compensation is needed for the farmers. Table 2 shows the influence of age, education level, annual household income, forest land area, policy awareness and market confidence on willingness to be compensated.

Table 2. Factors influencing willingness to be compensated

	Standardization factor	T	Significance
Age	0.078	2.436	0.004
Education level	-0.114	-1.956	0.007
Annual household income	-0.389	-2.765	0.015
Woodland area	0.075	1.057	0.005
Policy perception	-0.336	-2.863	0.038
Market confidence	0.046	0.519	0.021

Table 2 shows that age, education level, annual household income, forest land area, policy awareness and market confidence are significantly related to willingness to pay, with age, education level and forest land area passing the 1% significance level test and annual household income, policy awareness and market confidence passing the 5% significance level test. Age, forest area and confidence in the market were positively correlated with the amount of compensation received by farmers, indicating that farmers' willingness to receive compensation increases with age, mainly because as age increases, farmers have fewer sources of income and are more dependent on government funds for ecological compensation. At the same time, the willingness to be compensated increases as the area of forest land increases, mainly because farmers with more forest land have a higher demand for ecological compensation. The more confident they are in the ecological management of the market, the higher their demand for the amount of ecological compensation. Education level, annual household income and policy awareness were negatively correlated with farmers' willingness to be compensated, indicating that the negative positive effect of education level on the willingness of residents of the area to be compensated for ecological compensation was significant. As the education level of the residents increases, their personal environmental values will be stronger, and they will be able to clearly understand the importance of the forestry ecological compensation environment for achieving the long-term development of forestry, protecting the forestry ecological environment and promoting an environmentally friendly economic benefit model, thus expressing a lower willingness to be compensated. The more aware farmers are of ecological protection and the more aware they are of ecological pollution, the more

they are able to support ecological compensation policies and require less government compensation funds. The reason why the willingness to be compensated becomes less as the annual household income increases is that the more the annual household income is, the less the respondent's income is dependent on the income from the forest land, and the lower the demand for government compensation. At the same time the better the farmer's knowledge of the policy, the less the amount of compensation received.

4.2. Forestry Demonstration Areas

The construction of forestry demonstration areas is conducive to the protection of the forestry ecological environment. The main project content of forestry demonstration areas is forest vegetation construction and related infrastructure construction. The project design area is large and the project types are diverse, and its environmental impact is more complex and uncertain than that of general projects. As the main project is a forest construction project, the project generally belongs to the category of ecological environment construction and protection. The impact of the project construction on the environment is mainly manifested in the impact of seedling cultivation, forestry industry and ecological culture construction. The construction of the forestry demonstration zone should follow the following principles: (1) Planning concept: the core concept of the forestry demonstration zone planning is mainly "ecological forestry + technological forestry", promoting forestry modernisation by changing the traditional forestry development mode, taking sustainable forestry industry management as the basic direction, special infrastructure planning as the hardware guarantee, incorporating ecological tourism Include ecological tourism in the construction of the forestry demonstration area, and create a comprehensive modern forestry demonstration area integrating forestry and tourism. (2) General layout and functional zoning: the functional zoning plan of the forestry demonstration area is generally divided according to its own development objectives and construction conditions. (3) Construction conditions: Different regions put forward planning schemes with regional characteristics for forestry demonstration zones in their own regions according to their own conditions, reflecting the differences in forestry demonstration zone planning. (4) Construction subjects: Large-scale forestry demonstration zones are still government-led, and the construction of forestry demonstration zones has yet to be integrated into social organizations and groups to promote construction.

5. Conclusion

Ecological safety is the stepping stone to sustainable development, and ecological safety is the goal of sustainable development, while the study of ecological safety is also to achieve sustainable development, the two complement each other and promote each other. In this paper, an analysis of the status of forest land resources reveals that the size of forest land affects the willingness of farmers to be paid. The analysis of the current situation of sustainable development of forestry tourism finds that the development of forestry ecotourism has to be done on the basis of protecting the ecological environment. Only if forestry production and forestry ecological protection go hand in hand and grow together can forestry ecological security be rapidly improved. The analysis of this paper finds that in order to achieve the protection of the forestry ecological environment, it is important to focus on the development of the forestry industry and to play the role of a forestry demonstration area. There is much to be improved in this paper, but forestry ecological protection strategies are of great research importance to economic development.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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