Analysis on Ecological Compensation Mechanism of the Forest Tourism and Its Countermeasures

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Abstract. Based on the systematic analysis of the components of forest tourism ecological compensation, this paper puts forward the specific mechanism of ecological protection and economic development through ecological compensation. The study found that for forest tourism the ecological compensation is mainly composed of four elements: stakeholders, compensation standards, compensation methods and performance evaluation. These four elements are not isolated, but linked closely through the government-led mechanism, the self-compensation mechanism, the mechanism of distinguishing rewards and punishments, and the mechanism of circular feedback to build a solid foundation for the sustainable development of forest tourism.

Introduction

In the report of the 19th National Congress of the Communist Party of China, General Secretary Xi Jinping has pointed out that it is necessary to speed up the reform of the ecological civilization system in order to build a beautiful China, and further construct an environmental governance system with government-led, enterprise-oriented, and the participation of public and social organizations. As one of the important contents of China's ecological civilization construction, forest tourism has received more and more attention. Therefore, how to seek balance in ecological protection, tourism development and safeguarding people's livelihood has become the key to the transformation of China's forest tourism development. In order to solve this problem, State Administration of Forestry has already pointed out that it is necessary to establish an ecological compensation system that reflects the supply and demand of the scarcity of resources, and embody ecological values and intergenerational compensation. Cranford believes that the development of tourism ecological compensation can not only promote the sustainable development of natural ecosystems and the realization of sustainable utilization goals, but also have the significance to the poverty alleviation problems of local communities [1]. Therefore, ecological compensation is an effective means to achieve sustainable development of forest tourism in China. Unfortunately, there is little literature to systematically analyze this by now, so this paper attempts to conduct preliminary research in this field.

Analysis of the Components of Forest Tourism Ecological Compensation

Ecological compensation is a systematic project, which is the dual goal of compensating and protecting the perpetrators and beneficiaries to achieve ecological protection and economic development. In general, ecological compensation is mainly composed of four elements: stakeholders, compensation standards, compensation methods, and performance evaluation. Then we will conduct a detailed analysis of the components of ecological compensation in forest tourism.

The first is the stakeholder. For forest tourism, the beneficiaries are mainly the government and its administrative departments, project developers, scenic operators and tourists. Since the development of scenic spots can increase the government's fiscal revenue, the government and its competent authorities are the first beneficiaries of forest tourism. At the same time, the developers of the project directly develop forest resources and benefit from the development of the project. Therefore, the government and project developers are the most closely related stakeholders. For the
operators in the scenic area, the operators benefit from the project developers, and their behavior will also affect the protection of forest resources to a certain extent, so it is also one of the beneficiaries. As a demander of forest tourism, tourists are also one of the main beneficiaries. In addition, project developers and scenic spot operators are likely to cause certain damage to forest resources during the development and operation process, so both of them are also destroyers. Forest resources in forest tourism are direct damage. How to restore damaged forest resources or minimize damage is the most direct goal of ecological compensation. At the same time, local residents traditionally use forest resources as their livelihood. After forest resources become tourism resources, they must find new livelihoods. Therefore, local residents are one of the losers of forest tourism.

The second is the determination of the compensation standard. Compensation standard is the key to ecological compensation, which is directly related to the distribution of benefits between the compensation subject and the compensated subject, so it is necessary to determine a reasonable standard. At present, the cost compensation method is more scientific. In short, the cost-compensation method needs to reasonably determine the degree of benefit of the party to be compensated and the degree of damage to the party being compensated. In general, the compensation standard should be lower than the benefit level and higher than the degree of damage, otherwise the ecological compensation will not be realized because one party cannot accept the compensation standard. On the one hand, for the beneficiaries the benefits are mainly derived from the tourism service value of forest resources. According to the research of Xie Gaodi, the service value of forest resources are mainly in gas regulation, climate regulation, water conservation, soil protection, waste disposal, Biodiversity, food production, raw materials and entertainment culture [2]. Among them, the value of food production is relatively small, and the value of raw materials is also contrary to the service value of forest tourism. Therefore, the service value of forest tourism should be calculated mainly from two aspects: ecological protection and recreation. On the damaged side, the recovery cost of ecological damage and the maintenance cost of ecological preservation should be calculated first, followed by the direct loss of local residents and the opportunity cost of ecological construction and ecological protection. In summary, the determination of compensation standards needs to consider the benefits and costs of forest tourism at the same time, and the final compensation amount should not exceed the income and should not be lower than the cost.

The third is the way of compensation. How to achieve compensation is another key element of reimbursement. Generally speaking, after the determined compensation standard, the compensation subject only needs to pay the corresponding amount of compensation according to the compensation standard. But in many cases, the uncertainty and asymmetry of the information make it difficult to meet the scientific standard for the determination of the compensation amount. Therefore, the reasonable use of the compensation method can compensate for this defect to some extent relative to the compensation standard. Specifically, among the stakeholders of ecological compensation, the government also plays a special role. On the one hand, the government is the beneficiary of the development of forest tourism resources; on the other hand, the government is also responsible for supervising the development of forest resources and protecting forest ecology. Therefore, the first link of the forest tourism ecological compensation method is pre-compensation, which should realize the unity of entertainment and protection. On this basis, the amount and method of compensation in the event are reasonably determined. In the process of forest tourism project development, although the traditional livelihoods of local residents are limited, employment can be achieved through participation in project development, and the right to development also can be purchased by determining a one-time compensation amount based on the income of traditional livelihoods.

The last is performance evaluation. Through the determination of compensation standards and compensation methods, the ultimate goal of ecological compensation is to organically integrate ecological protection and economic development. Therefore, as an important content of ex-post compensation, performance evaluation constitutes the last important factor of ecological
compensation. Since the project development of forest resources is usually irreversible, after and event compensation in the project of forest tourism has been developed. At this time, it is necessary to evaluate the performance of ex-ante and event compensation, and finally determine the standard of ex-post compensation. There are two purposes for performance evaluation. One is to evaluate whether the forest tourism development has reached the criteria determined beforehand, and determine the amount of reward and punishment for the results of the assessment; the second is to determine the compensation method and compensation standard after development.

**Analysis of the Mechanism of Forest Tourism Ecological Compensation**

Ecological compensation is an important measure that takes into account economic development and ecological protection. It achieves ecological equity and economic justice through the distribution of benefits between the compensation and compensated subject. Based on the analysis of the above components, we can find that the goal of forest tourism ecological compensation is mainly achieved through the following mechanisms.

The first is the government-led mechanism. Among the stakeholders, project developers, scenic operators and tourists belong to the compensation subject, while forest resources, local residents and volunteers belong to the compensated subject [3]. Any one of these subjects will play a leading role and will lead to the distribution of benefits. Any main body playing a leading role will lead to bias in the distribution of interests, which will make the effectiveness of ecological compensation unable to fully play. Only the government can benefit from the development of forest resources and the protection of forest ecology, so the government is the best subject to dominate the ecological protection of forest tourism. Specifically, the government will play a major role in the formulation of ecological compensation standards and the implementation of ecological compensation methods. On the one hand, the government can finance the restoration of ecological resources and the maintenance of the ecological environment through taxes and fees. Furthermore, the government can formulate corresponding rules and standards for the development of forest resources and the protection of the ecological environment through ex-ante compensation, so as to maximize the economic development and protection of the ecological environment.

The second is the self-compensation mechanism. In the traditional ecological compensation mechanism, it is mainly based on the principle of cost compensation to give forest resources and local residents a certain external compensation. Although this external compensation can solve the restoration of ecological damage and the livelihood of local residents within a certain period of time, it is not sustainable. Therefore, the key to ecological compensation is the establishment of self-compensation mechanism. On the one hand, under the government's leadership, the rules for ex-ante compensation are established, and the development of forest resources is based on the premise of not destroying the self-recovery ability of forest ecology, which can minimize the cost of ex-post compensation; on the other hand, for local residents. In addition to providing external compensation such as necessary living compensation, it is more important to change the source of income of residents and help them to obtain independent income sources based on new forest tourism resources. More importantly, the combination of the protection of forest ecology and the income improvement of local residents will make ecological protection a conscious action of local residents. In this way, the traditional external compensation will be transformed into sustainable internal compensation, and the compulsory ecological protection will be transformed into conscious individual behavior, thus making the interests of the compensator and the compensated, as well as the relationship between ecological and economy development to be consistent, so as to maximize the effectiveness of ecological compensation.

The third is the difference reward and punishment mechanism. In the process of analyzing the stakeholders of ecological compensation, we divide the compensation subject into beneficiaries and destroyers, and divide the compensated subjects into the losers and protectors. Although beneficiaries and saboteurs are both compensation subjects, their nature is essentially different. The beneficiaries are passive perpetrators in the project implementation process. Therefore, their
compensation for forest ecological environment is limited to cost compensation and not punitive. It only needs to pay for the cost of restoring the ecological environment. For the saboteurs, its damage to the ecological environment is subjective and deliberate. It is a party that actively invades, so its compensation needs to be punitive, not only paying for the recovery cost of the damaged environment but also needing to be a warning to other potential perpetrators. Therefore, different beneficiaries should be applied to the beneficiaries and destroyers. Similarly, for the damaged and protected forest ecosystems, the degree of compensation should be different. For the injured, it is only necessary to compensate the cost of ecological restoration in the forest ecological environment. Volunteers and local residents who take the initiative to protect the ecological environment should make the necessary rewards to compensate for the opportunity cost and demonstrate the role of other potential protectors.

The last is the cycle of feeding back. In the traditional ecological compensation process, each ecological compensation is short of the necessary correlation, and the interest relationship between the compensator and the compensated is opposite. This one-way ecological compensation method cannot effectively utilize the past achievements. The result of ecological compensation, resulting in increased waste of resources. In the new ecological compensation model, due to the implementation of self-compensation mechanism and the differential reward and punishment mechanism, on the one hand, the protection of the forest's ecological environment has become a self-issuance of local residents and volunteers. Therefore, from a recycling perspective, the state of forest ecology is improving year by year. On the other hand, from the perspective of a single ecological compensation process, the distinction between the compensator and compensated person is clear, and the compensated person will not become the compensator, but may become a new compensator in the new cycle, thus further realizing the repaying of the compensated person by the compensated person. Therefore, the cyclical feeding mechanism is also an important mechanism for the ultimate realization of ecological protection and sustainable economic development.

In summary, the four components of forest tourism: stakeholders, compensation standard, compensation method and performance evaluation are closely combined under the influence of the government-led mechanism, self-compensation mechanism, differential reward and punishment mechanism and cyclical feedback mechanism, and jointly provide a firm basis of forest tourism ecology and sustainable economic development. We could propose relevant feasible policy recommendations based on the components and mechanism of forest tourism ecological compensation.

Suggestions for Forest Tourism Ecological Compensation

Based on the systematic analysis of the components of forest tourism ecological compensation, this paper puts forward a specific mechanism through ecological compensation while taking into account ecological protection and economic development. First of all, improve the administrative management system of forest tourism, and achieve full coordination of management and supervision. At present, the problem of segmentation and multi-head management of forest tourism is very serious, which leads to the constraints and drive into activities from their functions and interests. It is difficult to uniformly deploy and unify ecological compensation, which seriously affects the government's leadership. The realization of the mechanism has also caused a waste of personnel and funds. In this regard, we should learn from the management system of vertical management and division of labor in the United States. Specifically, forest tourism sites can combine the functional authority of relevant departments, set up a special forest tourism ecological compensation working group, make overall arrangements for the formulation of relevant rules, clarify the work objectives and task requirements of each department, and gradually realize the unified and coordinated management in forest tourism land. At the same time, the government should also strengthen the special management of forest ecological compensation funds, and implement the two-line system of revenue and expenditure for the principle of special funds appropriative, making great efforts to the scientific, standardized, and efficient utilization of ecological compensation funds and avoiding the emergence of unfair distribution or corruption. In
addition, since the ecological compensation method is divided into ex-ante compensation, in-process compensation and ex-post compensation, on the basis of realizing the unified and coordinated management of various government departments, it is necessary to establish a top-down vertical supervision system and formulate an open and transparent supervision system. Each link in the establishment and implementation of the ecological compensation mechanism will be supervised and reviewed to improve the efficiency of ecological compensation.

Secondly, we should insist on the primary goal of protection and sustainable development, and achieve diversification of sources of compensation funds. In order to promote the realization of self-compensation mechanism, no matter under any system, the development of forest tourism resources must always put environmental protection first, and the realization of sustainable development goals is the primary task. Specifically, it is possible to build a solar or wind power generation system based on local resources, establish a public toilet system that meets environmental protection standards, set up a recyclable garbage disposal station, build a pedestrian walkway based on natural terrain, and prohibit the construction of high-consumption leisure and entertainment projects. At the same time, in addition to the traditional way of relying on financial funds for one-time compensation, the funds for forest tourism ecological compensation must diversify the source channels and match income and expenditure as much as possible to achieve fairness and justice. Specifically, the government or relevant administrative agencies can encourage local residents to engage in accommodation, catering and other operations in the park, while collecting health and ecological management funds from enterprises operating in the scenic area, which provides residents with a stable source of life. At the same time, it can also provide a reasonable source of funds for the protection and management of the ecological environment in scenic area. For the developer of the project, it should also pay a certain ecological compensation fee to the relevant administrative agencies when transferring the project contract to make up for the cost of ecological restoration and ensure the realization of the self-recovery ability of forest ecological resources.

Thirdly, strengthen policy and legal protection and social supervision, and combine the distinction between reward and punishment and education guidance. Policy and law are the institutional basis for achieving different rewards and punishments. We need to clarify the rights, responsibilities and obligations of stakeholders through policies and laws and regulations, and define clear interests for destroyers, victims and protectors. Specifically, the central government and provinces, autonomous regions and municipalities should introduce systematically improved forest tourism ecological compensation management measures to provide necessary policies and legal guarantees for their ecological compensation and differential rewards and punishments. At the micro level, each relevant entity can sign an ex-ante contract, clarify the relevant provisions of ecological compensation, and restrict its destructive behavior from the legal aspect and encourage its protection behavior. At the same time, compensation or rewards and punishments is only a means rather than an end, only by making the public fully aware of the importance will achieve sustainable development fundamentally. It is necessary to make full use of relevant information dissemination platform, strengthen the education and publicity work on the ecological compensation system and ecological protection knowledge of community residents and other public, encourage the public to form associations or other social organizations spontaneously, and carry out the administrative supervision system and reward and punishment mechanism, especially enhance residents’ participation in ecological compensation workers. The enthusiasm of protection work, the concept of environmental protection public welfare and ecological compensation should be integrated into school education, and thus push forward the implementation of ecological compensation work.

Finally, strengthen scientific research and technical support, and promote the successful realization of cyclical feedback mechanism. Ecological compensation is a multidisciplinary system of practice and a dynamic development process that requires more sustained and diverse scientific research to provide theoretical and empirical support. At the same time, the protection, restoration and environmental management of forest ecosystems are inseparable from the support of science and technology, especially in ecological restoration and pollution control, which need to be governed by
various cutting-edge methods to realize the recycling of ecological compensation. In addition, in the process of forest tourism development, how to formulate reasonable compensation standards and ticket prices is also an important research topic. More importantly, establishing an evaluation system for forest ecological compensation performance and timely discovering the problems existing in it is the core measure to ensure the realization of the cyclical feedback mechanism. This should be led by the government or administrative supervision department, and the ecological compensation team should cooperate and introduce the professional specialist team. Basing on extensive listening to the opinions of the masses, we will eventually establish an effective performance evaluation system to promote the successful realization of the cyclical feedback mechanism.

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