# Ecological Compensation of Migrants in Qilian Mountain National Park Based on Big Data

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**Abstract:** Ecological immigration is an important part of the rectification of prominent environmental problems in the Qilian Mountains and the ecological protection and restoration of Lintian Lake. Therefore, a complete and practical ecological resettlement relocation system must be constructed, which involves various aspects such as preliminary assessment, ecological compensation, relocation assistance, employment, and social security. Based on the premise of big data, this paper uses questionnaire survey method and field interview method to study the ecological compensation of immigrants in Qilian Mountain National Park. This questionnaire survey issued a total of 560 questionnaires, 545 questionnaires were recovered, the recovery rate was 97.3%, of which 538 were valid questionnaires, the questionnaire effective rate was 98.7%, the collected questionnaires were sorted and classified in the context of big data The analysis and collation results show that there are still many problems in the ecological compensation of the immigrants in Qilian Mountain National Park. Among the reasons for these problems, the lack of sound legal protection accounts for 73% of the reasons, the ecological compensation funds have a single channel, and the reasons for insufficient funds account for 68. %, The formulation of the compensation policy ignored the humanities and geographical characteristics of the Qilian Mountains accounted for 56% of the reasons, and the subsequent industry development did not make good use of local resources accounted for 49%. The research in this paper is helpful to solve the problem of ecological compensation for immigrants in Qilian Mountain National Park.

## 1. Introduction

Qilian Mountain is located on the western border of Gansu Province in China and northeast of Qinghai Province. It is the boundary between the two provinces. The water system of the Qilian Mountains not only maintains the ecological balance of the five cities in Qinghai and Hexi, Gansu, but also guarantees the security of the ecological environment in which more than 5 million people in the downstream areas of Inner Mongolia and other regions depend. At the same time, it is an important section of China's "Belt and Road" construction [1-2]. Due to the unique geographical location of the Qilian Mountains and the typical continental climatic characteristics, the region's forest resources, mineral resources, and tourism resources are quite rich. Not only are there many rare animals and plants, which guarantees the diversity of animals and plants in China, or tungsten in western China. One of the areas with the most abundant mineral deposits [3-4]. However, in recent years, due to frequent human and livestock activities, overloading and overgrazing, forest and grassland have been severely damaged. The report of the 19th National Congress of the Communist Party of China provided fundamental compliance and action guidelines for the construction of ecological civilization and the construction of a beautiful China. It set a milestone for the construction of an ecological civilization in the new era of socialism with Chinese characteristics. The important measure of civilization construction is ecological immigration, so it is necessary to build a relatively practical ecological immigration relocation system [5-6]. In order to strengthen ecological protection and construction, the Gansu Provincial Government has begun to

implement comprehensive blockade protection for the core area of the Qilian Mountain Nature Reserve and implement resettlement and resettlement for residents in the core area [7]. Then, in the ecological protection of the Qilian Mountains, the relocation of ecological immigrants has become a very important link, affecting the overall process of environmental protection in the entire Qilian Mountains. Therefore, it is particularly important to establish an efficient and reasonable institutionalized policy measure for ecological resettlement [8-9]. To this end, we should study the ecological compensation of immigrants in Qilian Mountain National Park, analyze and discuss the problems and causes, and provide ideas for solving the ecological problems of immigrants in Qilian Mountain Park.

In the context of big data, this paper studies the ecological problems of immigrants in Qilian Mountain National Park. This paper uses a combination of questionnaires and field interviews to study the problems in the ecological compensation of migrants in Qilian Mountain National Park, and analyzes the causes of these problems. The results of this study are used to solve the problems of ecological compensation for migrants in Qilian Mountain National Park. The reference value provided by the solution.

## 2. Basic Principles

### 2.1 Big Data

#### 2.1.1 People's understanding of big data

People have various understandings of big data, and there are many misunderstandings in the understanding. For example, big data is more used in storage. Technology; With big data, you can see the trend or result you want; Big data has a large amount of data, which can deeply protect personal privacy [10-11]. In fact, big data includes collection, storage, and analysis. It requires technical support. Even small companies can use big data as long as they have relevant technical support, such as crawler technology, cloud computing, and No-SQL technology. Data technology. Big data can analyze the hidden laws in the data only by analyzing a large amount of data. With careful analysis and mining, personal privacy is more vulnerable to exposure [12-13].

#### 2.1.2 The concept of big data

Big data is also called massive data, which means that the amount of data that needs to be processed is very large, and it is temporarily impossible to obtain, organize, and process it within a certain time through the existing mainstream and conventional software tools, and then draw conclusions to guide and use. Information that can make more accurate decisions. Just as big data has four characteristics.

1) The amount of data is large, and the storage unit ranges from GB to TB in the past, to PB and EB. We usually generate a lot of data. For example, nearly 400 million members of Taobao.com generate daily transaction data of about 20TB; Facebook's about 1 billion users generate daily log data of more than 300TB.

2) There are many types of data, and the diversity of big data forms is determined by a wide range of data sources, but this type of diversity also allows data to be divided into structured data, unstructured data, and semi-structured data.

3) The commercial value is huge. This is the core feature of big data. The biggest value of big data is to mine valuable data by predicting and analyzing future trends and patterns from a large number of irrelevant types of data. However, if only one file is continuously copied, such a large amount of files is worthless.

4) Fast processing speed.This is the most significant difference between big data and traditional data mining. Compared with traditional data carriers such as broadcasting and newspapers, big data is implemented through the Internet and cloud computing.Therefore, the speed of data exchange and transmission Much faster than traditional methods. The growth rate and processing speed of data are important manifestations of the high speed of big data.

### 2.1.3 Technology required for big data

Big data depends on data acquisition and analysis techniques. Big data can obtain a lot of information by acquiring data, and then analyze the data. The main ways (channels) to get data:

1) Collect information for the logs of a server or system with a sufficient number of people.

2) Use the network to obtain data technology, such as crawler technology, which can collect the information of the entire web page. For example, in Baidu Post Bar, the time and content of the post and the post sent by the landlord and the post are intercepted and stored for analysis. Database collection is also a way. Such as the database of large companies, the common China Knowledge Network, Wanfang, Weipu database. Analytical data technology is the core technology of big data, and there are various analytical technologies, such as: data warehouse, database, data mining technology, social network analysis technology, information retrieval technology, natural language processing technology, cloud computing, No-SQL technology. At present, the more widely used is the distributed system infrastructure Hadoop researched and developed by the Apache Foundation. The core design of the Hadoop framework is to provide HDFS for massive data storage and Google Map Magic for massive data.

### 2.1.4 Storage principle

HDFS (Hadoop Distributed File System) is designed to improve the access and read speed of very large files. Its read method is to divide a large file into multiple blocks (the smallest storage and processing unit in the database). Multiple data nodes (storage nodes, usually with multiple machines) are backed up and stored. Small files will not improve access and read speed due to their small capacity, but may decrease. And HDFS also has the benefits of high throughput access, high fault tolerance, and capacity expansion. HDFS consists of Namenode and Datanode. Namenode is a namespace for managing files and can record node information, but it cannot be saved permanently. Datanode is the working node of the file system, which is responsible for storing and retrieving data blocks. In HDFS, the Namenode is equivalent to a manager Datanode relying on the Namenode to reconstruct the files in the node. Therefore, the Namenode is very important. Once the Namenode is lost, HDFS cannot operate normally. In order to avoid the loss of files in the system due to the machine running Namenode hanging down, Hadoop provides two fault tolerance mechanisms. The first is to backup important files on the local hard disk. Files are written to different file systems; the second is to run an auxiliary Namenode, the second Namenode, which can save a backup of the merged namespace, namely the names pace image.

## 2.2 Implementation of Ecological Migration in Qilian Mountains

Qilian Mountain National Park, with a total area of more than 5 million hectares, is an important ecological function area in China, including the Qilian Mountain Provincial Nature Reserve in Qinghai Province, Qilian Heiheyuan National Wetland Park, and Xianmi National Forest Park. During the relocation of the core area of the Qilianshan National Park system pilot, the area adhered to the combination of protection and innovation in accordance with the requirements of the Qilianshan National Park System Pilot Program issued by the Central Committee of the Communist Party of China and the General Office of the State Council. The principle is to promote down-to-earth ecological resettlement in the core area of the pilot system of the Qilian Mountain National Park. In accordance with the principle of "easy first, then difficult, step by step", we will coordinately advance the relocation of ecological immigrants. The following measures have been taken.

1) Conduct a comprehensive preliminary assessment to improve the accuracy of basic data on ecological resettlement. Further investigation and verification of the economic conditions, forest land, cultivated land, grassland and natural disasters of the residents in the pilot area of the national park, and grassland ecological protection subsidies, grazing bans, forage subsidies, and demolition facility loss subsidies will be provided. Institutions are responsible.

2) For immigrants who have reached the legal retirement age, provide policy support in the areas of pension, insurance and medical treatment to fully mobilize the enthusiasm and initiative of

immigrants. According to the resettlement capacity of the resettlers, the resettlement of ecological resettlers in the core area will be steadily promoted, and the rational and orderly resettlement will be guided.

3) Combine ecological resettlement policies with targeted poverty alleviation, co-ordinate funds for ecological relocation, ex-situ poverty alleviation and relocation of dilapidated houses for farmers and herdsmen, include the poor in the region into the scope of ex-situ poverty alleviation and relocation, and enjoy subsidies for rebuilding dilapidated houses policy.

4) Strive to improve the quality of life and economic income of the resettlers, and ensure that they can move out smoothly and settle down securely, that is, work that can support their livelihoods and economic development. Guidance on transition to employment, granting subsidies to improve production conditions, and subsidies for industrial transformation to guide local community residents' production and lifestyle changes and economic structural transformation, and to give priority to the development of people's livelihood and social undertakings.

The core area relocation focuses on policy guidance and support. In accordance with the general goal of “removing, stable, able to get rich, and doing something”, adhere to the synchronization of resettlement relocation with subsequent industries, promote industrial development and increase income of resettlers, and change the thinking of relocated households. As well as the production and lifestyle, it has effectively promoted the smooth implementation of resettlement.

## 3. Experimental Methods and Research Objects

In the context of big data, this paper uses big data technology to study the ecological compensation of migrants in Qilian Mountain National Park. The research object of this article is the people who need to be resettled in Qilian Mountain National Park. The questionnaire survey method and field interview method were used to study the immigration of Qilian Mountain National Park. A total of 560 questionnaires were distributed in this questionnaire, and 545 questionnaires were recovered. The recovery rate was 97.3%, of which 538 were valid questionnaires, and the effective rate was 98.7%. Sort and analyze the collected questionnaires in the context of big data. Then, randomly select 300 people who need to be resettled for field interviews, and sort and analyze the interview content.

## 4. Discuss

### 4.1 Problems with Ecological Compensation for Migrants in Qilian Mountain National Park Based on Big Data

In the context of big data, sort and classify the questionnaires and analyze them. Table 1 summarizes the problems in the ecological compensation for migrants in Qilian Mountain National Park.

Table 1. Problems in ecological compensation for migrants in Qilian Mountain Qilian Mountain National Park

| Existing problems | Percentage | Existing problems | Percentage |
|---|---|---|---|
| Long-acting ecological compensation mechanism has not been established | 73% | The industrial structure is unreasonable, and the development of the follow-up industry is difficult. | 62% |
| The standard of ecological compensation for immigrants is on the low side and the investment of funds is insufficient. | 39% | The Unbalanced Economic Development of Qilian Mountains | 53% |
| Lack of a perfect social security system | 49% | Religious compensation and cultural compensation have not yet started. | 56% |

It can be seen from Table 1 that there are still many problems in the ecological compensation of migrants in Qilian Mountain National Park. The national government needs to formulate and implement relevant policies in response to the voice of the masses, so as to solve the problems in ecological compensation for migrants in Qilian Mountain National Park.

### 4.2 Analysis of the Causes of Problems in Ecological Compensation for the Immigrants of Qilian Mountain National Park Based on Big Data

The collected questionnaires and the results of field interviews were sorted out and analyzed, and the reasons for the problems in the ecological compensation of the immigrants in Qilian Mountain National Park were found.

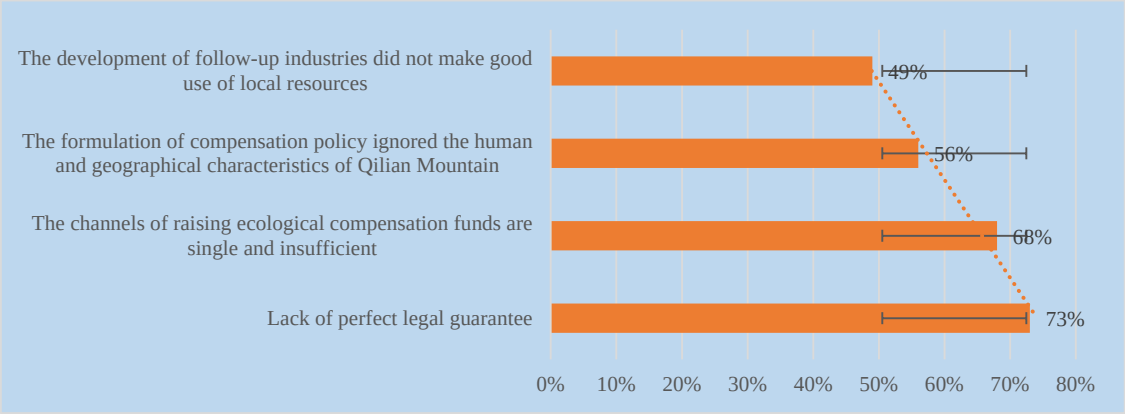


Figure 1. Analysis of the reasons for the problems of ecological compensation for the migrants in Qilian Mountain National Park

It can be seen from Figure 1 that there are various reasons for the problems of ecological compensation for immigrants in Qilian Mountain National Park. Any reason is not caused by a single reason. In general, the reasons are probably: lack of comprehensive legal guarantees and a single channel for raising funds for ecological compensation. Insufficient funds, the formulation of compensation policies ignored the humanities, geographical features of the Qilian Mountains, and the failure to make good use of local resources for the development of subsequent industries. Among them, the lack of sound legal guarantees accounted for 73% of the reasons. There was a single channel for raising funds for ecological compensation. The cause of the shortage accounted for 68%, the formulation of the compensation policy ignored the humanities and geographical characteristics of the Qilian Mountains accounted for 56%, and the subsequent industry development did not make good use of local resources accounted for 49%.

## 5. Conclusion

The issue of ecological compensation for immigrants from Qilian Mountain National Park has always been a key issue for people's livelihood in China. This paper studies the issue of ecological compensation for immigrants from Qilian Mountain National Park based on the background of big data. The research in this paper finds that there are various problems in the ecological compensation of immigrants in Qilian Mountain National Park. In general, long-term ecological compensation mechanism has not been established, the standard of ecological compensation for immigrants is low, capital investment is insufficient, and industrial structure Reasonable, difficult development of follow-up industries, uneven economic development of counties in the source area, lack of a perfect social security system, and religious compensation and cultural compensation have not yet started. The reasons for these problems include lack of comprehensive legal guarantees and funding for ecological compensation. There are single channels, insufficient funds, and the formulation of compensation policies have ignored the humanities, geographical features of the Qilian Mountains, and the failure to make good use of local resources for the development of subsequent industries.

The research in this paper has a reference role in solving the ecological compensation of migrants in Qilian Mountain National Park.

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