

The Analysis of Land Expropriation Compensation Based on Non-Market Value of Cultivated Land Resources

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Abstract

This article analyses the non-market value of cultivated land resources firstly, then makes a further study why the cultivated land resources lack of non-market value compensation under current land expropriation systems. The results prove that vacancy of non-market value not only does harm to rights of farmers, but also makes the loss of total social welfare and results in disorder circulation during non-agricultural. Finally, this paper tries to improve and perfect current compensation systems of land expropriation based on non-market value category.

Keywords: Cultivated land resources, Non-market value, Land expropriation compensation

1. Preface

Compensation for requisition of land is the core of land expropriation, the topic to which relative stakeholders widely pay attention in land expropriation and the hot spot in research of academia. Some researches have demonstrated that the social and the ecological problems in current land expropriation are caused by reasons such as excessively narrow compensation area and low compensation guideline. As far as fair compensation is concerned, different scholars have suggested new structure thinking based on the compensation area and guideline in current land expropriation according to value composition, functions of resources and negative effects produced by land expropriation. Zhou Jianchun(2007) have proposed that the compensation guideline in cultivated land expropriation in foundation of studying value composition of agrarian right include the values involved in the right of the proceedings from production, the right of the safeguard from production, development right of agricultural land, the right of food security and the right of ecological security. Zhu Peixin and Qu Fu-tian(2003) deem that direct use-value and indirect use-value of land all should be contained in compensation area in land expropriation from the functions of land resources. Zhang Quanjing and Wang Wanmao(2003) hold that compensation for requisition of land in our country should cover five aspects, that is, the compensations of land ownership, right to subsistence of farmers, ground attachment, remaining land and ecological results. This article will study relative problems brought by compensation for requisition of land in theory based on the summary of various scholars' researches about compensation for requisition of land, in terms of resources quantifications and based on the analysis of non-market value of cultivated land resources.

2. Deficiency of non-market value compensation in modern system of compensation for requisition of land

2.1 Connotation of non-market value of cultivated land resources

For a long time, traditional economics has known the value of cultivated land only based on narrow and limited economic value. In terms of resource and environmental economics, cultivated land resources can supply not only private goods which is of material shape and can acquire internal return through its productive functions, but also public goods and services which is not of material shape and cannot acquire internal return such as regulating climate, preserving water and soil, as well as maintaining biodiversity, food safety and social security. From the quantifications of value of resources, the total value of resources differs from economic value. The total value of resources consists of market value which can directly embody via market mechanism and be measured by currency; and non-market value which cannot come true via market trade and be measured by currency but objectively exist. The source of value lies in function or utility. As the carrier of agricultural ecosystem, cultivated land resources provide human welfare with functions of supply, regulation, support and culture. As for current demand in China, the functions of cultivated land resources can be summarized as functions of economic output, ecological services and social security. Because the values produced by functions of ecological services and social security have externalities, it is difficult to bring their values into present market value system. Therefore, the values of ecological services and social security are regarded as non-market value

of cultivated land resources in this article. Moreover, the values of social security mainly include food safety, security of employment and social stabilization; the values of ecological services chief contain regulating climate, beautifying environment, maintaining biodiversity, and so on.

2.2 Deficiency of non-market value in system of compensation for requisition of land

Compulsory and compensatory are two basic characters in requisition of land. The precondition of enforcedly modifying others' land ownership is that the people whose land is imposed should obtain fair compensation. Fair compensation means it can make up these people's loss due to imposed land as far as possible, which includes the whole value of imposed land. According to Land Management Law in China, the compensation for requisition of land at present is composed of land compensation, resettlement fees as well as ground attachment and young crops compensation fees. The standard of compensation for requisition of land is as follows: apart from the ground attachment whose compensation is based on actual situation, the land compensation is six to ten times as much as the average output value of three years before requisition, the resettlement allowance of each labor force is four to six times as much as the average output value of three years before requisition in which fifteen times is the most. But the sum of minters of both shouldn't exceed thirty times as much as the average output value of three years before requisition. Through the contrast of the value composition of cultivated land above, we can find that modern system of compensation for requisition of land has put stress on the economic values of imposed land, which contains some values of social security, but eco-compensation is wholly lost. In a word, serious deficiency of current system of compensation for requisition of land has been stood out.

3. The analysis of gains and losses about deficiency of non-market value in system of compensation for requisition of land

3.1 The loss of farmers' rights and interests

"Unfair compensation is also a plunder." Cultivated land is a human-natural and compound ecosystem in which farmers are producers, operators and protectors. Farmers see cultivated land as an object and throw substance and labor into it so that it can bring them value. This value is produced and maintained by farmers. However, farmers' loss because of government's requisition of land is not the only limited economic values. If farmers' compensation is done merely on the basis of the economic values produced by procreative purpose of cultivated land, to a certain extent farmers' rights and interests are undoubtedly deprived.

From Figure 1, we can safely conclude that the non-market values of cultivated land are considerable, which is close to 70% in Chao'an County in the eastern part, gets to 74.6% in Huai'yang County in the middle part, and even 98.4% in Hui'ning County in the western part. It is a pity that few non-market values of cultivated land can be embodied in the standard of current compensation for requisition of land.

As is pointed out in so many researches, land in farmers' hands has functions of both productivity and non-productivity. It goes without saying that the value of social security involved in non-market value of cultivated land resources is significant to all farmers. Huo Yaqin (2004) pointed out in his research that farmers' utility from cultivated land mainly includes social security, employment and direct economic benefit. However, in accordance with current system of compensation for requisition of land, the resettlement allowance of each labor force is four to six times as much as the average output value of three years before requisition in which fifteen times is the most, in addition, both land compensation and resettlement allowance of labor force shouldn't exceed thirty times as much as the average output value of three years before requisition. Obviously, current standard of compensation is far from enough relative to the value of social security involved in non-market value of cultivated land resources. The ecological function of cultivated land resources is to a large degree maintained and preserved by farmers. In other words, farmers have created public goods and should enjoy the compensation of ecological value. However, the compensation of ecological value is wholly lost in current system of compensation for requisition of land.

From what has been discussed above, if farmers' compensation is done merely on the basis of the economic values produced by procreative purpose of cultivated land, farmers' rights and interests are undoubtedly deprived. Unfair compensation can bring farmers enormous property damage and farmers will lose basic survival condition. Meanwhile social stability also will be influenced.

3.2 The efficiency of resources allocation and the loss of social welfare

Although requisition of land is compulsory, it is also of certain business character in terms of requisition itself. There are two behavioral agents in requisition of land: the one whose land is imposed and the other who imposes land, that is, farmer and government. Compensation of requisition of land is regarded as the cost of requisition when government trades with farmers. At the moment the standard of compensation for requisition of land

becomes an important tool which regulates supply-demand relations in land expropriation. Figure 1 shows the relation between the standard of compensation of requisition of land and quantities of land expropriation. Line AB stands for the demand curve of country's land expropriation, Line OD stands for government's outlay cost, and Line OC stands for government's implicit cost in land expropriation. Coordinate Point (P1, Q1) and Coordinate Point (P2, Q2) separately stands for the corresponding standard of compensation of requisition of land and quantities in land expropriation on condition of Line OD and Line OC.

On condition of considering roundly the values of cultivated land resources, government's costs of land expropriation are shown by Line OC, the cost curve intersects the demand curve at E, and Coordinate Point (P2, Q2) separately stands for the corresponding standard of compensation of requisition of land and quantities in land expropriation. Right now the compensation of requisition of land consists of both internal cost that cultivated land changes into nonagricultural land and the gains and losses of external value of cultivated land. Therefore the most efficient resource allocation of cultivated land can lead to the best social welfare, which is shown in the area of "AEO" in Figure 1.

In modern economics, economic bodies always seek their own maximum benefits based on circumscribed conditions. To begin with, as a rational economic man, the land user always tends to pay lower cost of land expropriation to obtain land. Under this huge profitable enticement, naturally, the land imposer will not consider the social and ecological value involved in external benefit of cultivated land resources; even not bring them into accounting system of the cost of land expropriation. Secondly, external benefit of cultivated land resources has been put in public sphere for a long time and short of the guidance of price because of its attribute of public goods. Furthermore, the character of market and deficiency of assessment technique make it difficult to embody the non-market value of cultivated land resources. On this occasion, government's cost of imposing land is shown by Line OD, which intersects the demand curve of land expropriation at F, so the corresponding standard of compensation of requisition of land and quantities in land expropriation are shown at Coordinate Point (P1, Q1). This moment government will realize its own maximum benefits. In so doing, government will get more land (area of Q2Q1) comparing with the situation that resources are deployed most efficiently. Area of Q2Q1 stands for excessive loss when cultivated land changes into nonagricultural land. Finally, the total loss (area of EGF) of social welfare that contains the tremendous loss of social and ecological results will produce, because the social and ecological value involved in external benefit of cultivated land resources cannot be well embodied in present value of cultivated land. The analysis above may make clear that overlooking the non-market value of cultivated land resources in land expropriation can lead to lower compensation of requisition of land and then inefficient resource allocation.

4. The structure of compensation mechanism about non-market value of imposed cultivated land

Compensation mechanism about non-market value of imposed cultivated land, which aims to improve the efficiency of cultivated land resources allocation, reduce the loss of social welfare and protect the rights and interests of farmers whose benefits are lost in land expropriation based on scientifically and reasonably estimating the non-market value of cultivated land resources and according to corresponding compensation principle and method of making up for relevant stakeholders. The structure of compensation mechanism about non-market value of imposed cultivated land is described in Figure 2.

4.1 Identification of compensation subject and allocation of compensation

Dividing clearly compensation subject and subject who accepts compensation is the precondition of reasonable compensation. The compensation of non-market value of cultivated land resources in land expropriation refers to numerous relevant stakeholders. In order to reflect the fairness and rationality, author proposes a principle that "who benefited, who destroyed and who compensated" and "who is impaired, who is protected and who is compensated" to divide compensation subject and subject who accepts compensation. Land expropriation means that the use of land changes, which is irreversible. When cultivated land changes into nonagricultural land, the original social and ecological functions of cultivated land will be deprived. For the time being, the end-user of land is obliged to compensate the value of cultivated land. Accordingly, the subject whose interest is damaged because of land expropriation has right to acquire corresponding compensation.

In compensation of social value, as the important carrier in which farmers exist and develop, cultivated land can not only provide farmers with basic means of production, but also absorb numerous surplus labor powers in country to cope with employment pressure. Yet with the ownership and use of cultivated land disappearing in land expropriation as well as farmers' value of social security and employment also disappearing, farmers will lose the support of existence and development. So farmers are viewed as the subject whose value of social security is impaired in this article. Regardless of economy, politics or society, food safety has significant

strategically meaning to whole nation and society, but imposing vast cultivated land will undoubtedly influence the safety of food production in a country. Central government is viewed as the subject whose value of food safety is impaired in this article. In compensation of productive value, as the operator and preserver of cultivated land, farmers have made a contribution to maintain ecological function and create value of ecological service of cultivated land and should gain a part of ecological values of cultivated land resources. On the other hand, local government should also enjoy some ecological values of cultivated land resources. Because the externality of ecological results is evidently regional and ecological restoration still needs government to carry out after ecosystem suffers from land expropriation.

From what has been discussed above, in compensation about non-market value of imposed cultivated land, compensation subject is the end-user of land, and subjects who accept compensation mainly include farmers, central government and local government. The value of social security belongs to farmers, central government can gain the value of food safety and farmers and local government should commonly enjoy the compensation of ecological value.

4.2 The standard of compensation

Scientific and reasonable standard of compensation is the foundation that compensation mechanism is successfully carried out and compensation is really efficient. Making scientific and reasonable standard of compensation must be based on scientifically and reasonably estimating the value of ecological service, social security and food safety of imposed cultivated land. Comprehensive method (the gather of substitution-cost method and market price approach) and contingent value method can be used for budgeting the standard of compensation. Using contingent value method to measure and calculate the non-market value of cultivated land resources is done by enquiring farmers' best willingness to pay of maintaining the non-market value of cultivated land resources or their smallest willingness to give up it on condition of hypothetical market. The non-market value calculated by this method is relatively low and can be the lowest standard of compensation in fact. Having not considered the ability to pay of compensation subject in the substitution-cost method, the non-market value calculated by comprehensive method is relatively expensive and can be the highest standard of compensation. The standard of compensation of non-market value of imposed cultivated land ranges from upper limit and lower limit of compensation, compensation subject's ability to pay and the effect of compensation should be considered comprehensively and confirmed dynamically.

4.3 The way of compensation

At present one-off compensation with currency is the chief setting of compensation of requisition of land in China, which is in allusion to the market value of imposed land. One-off compensation with currency makes it difficult for farmers to maintain sustainable livelihood. In view of the special significance of non-market value and sustainable setting of compensation in future, intellectual compensation, policy compensation and project compensation can also be introduced from elsewhere. The choice of compensation method will influence the achievement of result of compensation to a certain degree. Efficient compensation method is chosen according to the actual situation of compensation subject and subject who accepts compensation. When compensating the farmers whose land is imposed, government should ensure farmers' condition of existence in future and create more employment opportunities for them through specialized education and skill training. Completing constantly the security system of rural society is also one of methods of compensation. In addition, the imbalance of regional development in contemporary China and the regional difference in structure of non-market value of cultivated land resources should be taken into consideration.

5. Conclusion and discussion

5.1 Conclusion

The value of cultivated land resources is the important foundation of compensation of imposed cultivated land, whereas the non-market value of cultivated land resources is not adequately embodied in modern system of compensation for requisition of land. This article has analyzed the consequence of deficiency of non-market value of cultivated land resources in compensation for requisition of land and pointed that owing to disappreciation of non-market value, the expropriation and exploitation of cultivated land are merely under the enticement of economic interest, yet various stakeholders' loss of rights and interests, restraint of resources and environment and loss of social welfare are not taken into account. On that basis structuring the compensation mechanism about non-market value of imposed cultivated land and bringing clear and transparent non-market value into the cost of land expropriation and all stakeholders' well-being allocation can not only fully embody the value of cultivated land resources, but also remedy the excessive loss caused by market failure, reduce the loss of social welfare and ensure farmers' rights and interests to some degrees. These measures can still

contribute to optimize allocation of cultivated land resources by economic means as well as provide the preservation of cultivated land resources and achievement of balanced economic development with rationale.

5.2 Discussion

On basis of estimating the non-market value of cultivated land resources, how to confirm reasonable and efficient standard of compensation, that is, subject who accepts compensation can obtain optimal compensation results in the affordable range of compensation subject and compensation fees can be reasonably allocated among epwi subjects after the standard is confirmed, is worthy of further research. When estimating and compensating the value of ecological service in the non-market value of cultivated land resources, government should simultaneously notice the positive and negative external benefits produced in cultivated land resources utilization and avoid lower or more expensive value of cultivated land appeared in assessment process so that supply compensation of land expropriation with reliable rationale. This article has studied the reconfiguration of compensation system of non-market value just in theory without a view to the transaction cost and cost of policy implementation to which compensation refers.

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Table 1. The formation of cultivated land resource value in three typical countries of china

	Economic output value		Ecosystem services value		Social security value		Cultivated land resource value
	amount	proportion	amount	proportion	amount	proportion	
Chao'an	1141106.51	30.3%	352052.03	9.4%	2270732.7	60.3%	3763891.24
Huai'yang	715363.09	25.4%	303730.98	10.8%	1795247.7	63.8%	2814341.77
Hui'ning	10949.52	1.6%	211691.29	30.6%	468406.88	67.8%	691047.69

Description for the above table.

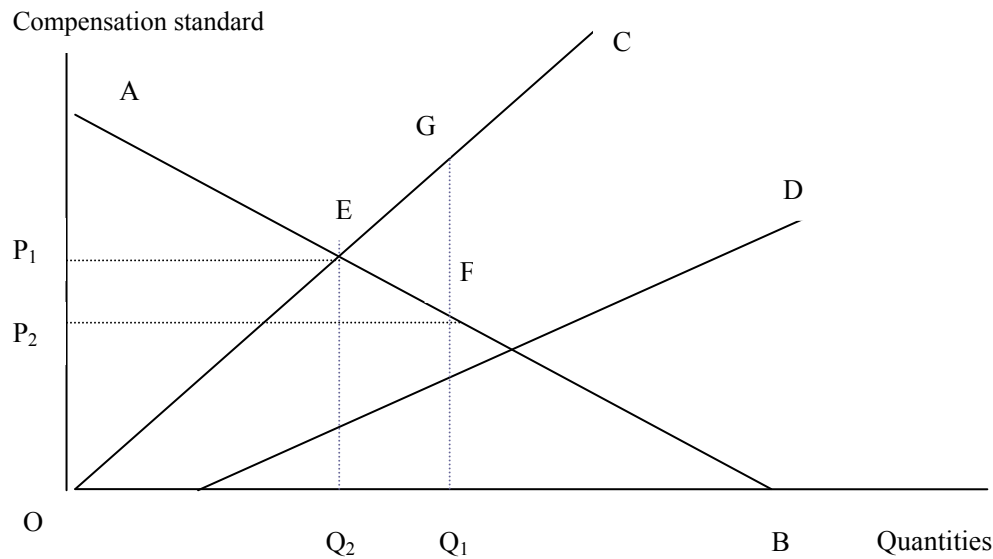


Figure 1. The Standard of Compensation and Quantities of Land Expropriation
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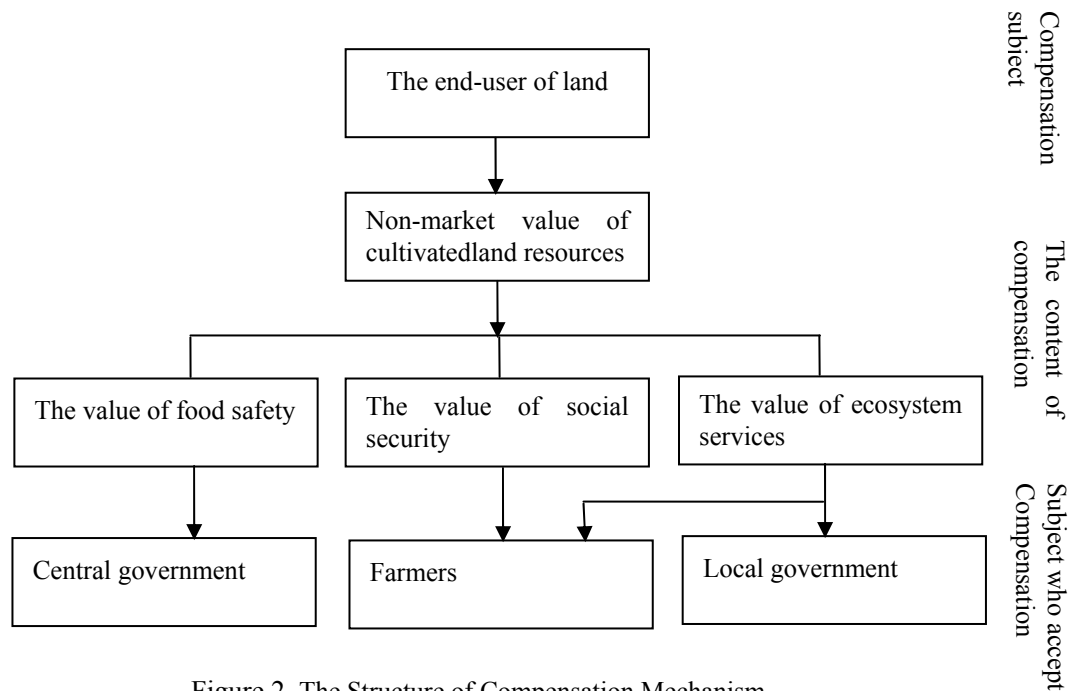


Figure 2. The Structure of Compensation Mechanism
Description for the above figure.