

The Institutional Diversity of TDR in China
---Cases of LUTRG Projects from Zhejiang, Hubei and Sichuan

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Abstract

In the process of China's urbanization, land is the most significant vector to carry tremendous social and economic development. Currently, China's land governance faces the dilemma of two conflicting targets, i.e. the continuous supply of urban construction land and the preservation of cultivated land. However, China seems to have achieved the target of increasing urban construction land and non-decreasing cultivated land since 2004. This puzzle and the corresponding time nodes attract our attention to LUTRG policy, which was introduced in 2004. Around this policy, there also come out several debates and arguments, among which different implementation methods in practice has been highlighted. Based on the differences in dominant players and organization methods, the current LUTRG implementation methods can be divided into three modes: government-led mode, market-based mode and villager-collective-self-organizing mode. Considering the debates and the game between central government and local government, this study tries to analyze the operational mechanism of three LUTRG modes through three research questions: (1) who are the Who are the significant stakeholders involved in LUTRG Policy & project; (2) what are the interests and resources of these stakeholders; (3) through what process and institutional arrangements the interests of these stakeholders can be aligned to achieve agreement. To answer these questions, this research will build a conceptual framework based on current research about TDR and analyze the three LUTRG modes from the perspective of new institutional economics. Finally, this research will also show some empirical evidences through three cases from Zhejiang, Hubei and Sichuan.

1. Introduction

1.1 Background

The urbanization in China has attracted worldwide attention, for its large population, huge economy size and high development speed. In the process of urbanization, there are three significant and indispensable transformations: the transformation from rural population to urban population, the transformation from rural areas to urban areas and the transformation from agricultural industry

to non-agricultural industry. During these transformation, land issue has been in the focus of policy debates among scholars, politicians, policy makers and urban managers, partly because it is a peculiar good and partly because there is an increasing scarcity in land due to fast population growth and rapid urbanization (Ding, 2007). It can be concluded that land is the foundation and vector of urbanization and economic development.

1.1.1 Dilemma: Two Conflicting Land Administration Targets in China

Since the opening-up reform in 1978, China has benefited a lot from economic growth. From 1978 to 2014, the ratio of urban population to overall national population increased from 17.9%¹ to 54.77%², which shows that China has been experiencing an accelerating urbanization period. With the growing urban population, there comes an urgent demand for urban residential land and public facilities.

On the other hand, China has relatively scarce cultivated land resource, and cultivated land preservation is a key issue of sustainable social-economic development in China. For the sustainable ability to feed a growing population, China's government put forward the "Red Line" of 1.8 billion mu cultivated land in 2006. The decreasing tendency of cultivated land from 2001 to 2008 can be illustrated by Figure 1:

¹ National Bureau of Statistics of the People's Republic of China, National Data. Available HTTP: < <http://data.stats.gov.cn/easyquery.htm?cn=C01>> (accessed on 30 September 2015).

² National Bureau of Statistics of the People's Republic of China (2015) Statistical Communiqué of the People's Republic of China on the 2014 National Economic and Social Development. Available HTTP: < http://www.stats.gov.cn/english/PressRelease/201502/t20150228_687439.html> (accessed on 30 September 2015).

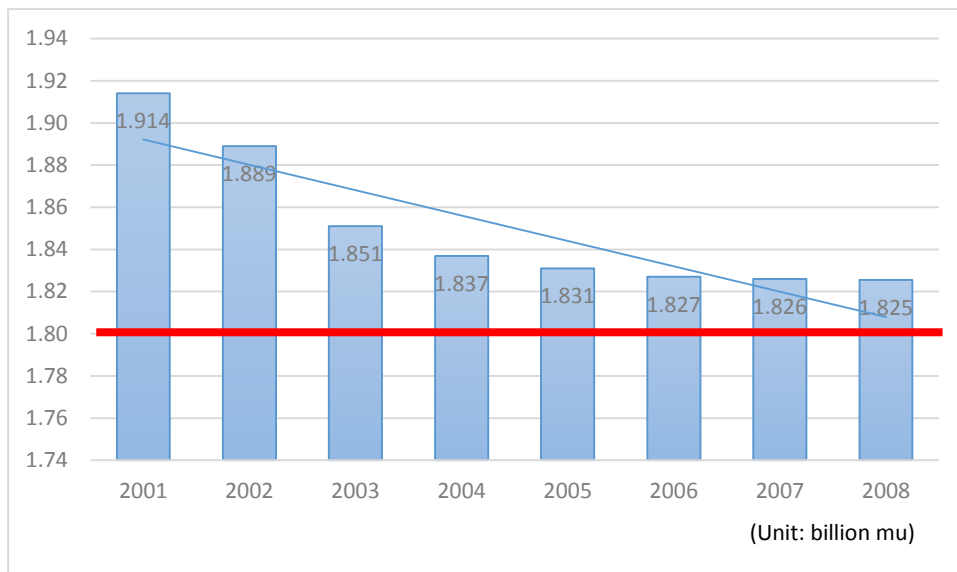


Figure 1. The 1.8 Billion Mu Red Line of Cultivated Land in China 2001-2008³

1.1.2 Puzzle I: Increasing Urban Construction Land and Non-decreasing Cultivated Land

From 2005 to 2013, the urbanization rate in China has increased from 43.0% to 53.7%⁴, and the urban construction land has increased from 29636.83 square kilometers to 47108.5 square kilometers. The growth rate of urban population, urbanization rate and urban construction land from 2005 to 2013 can be illustrated by Figure 2:

³ Data source: Ministry of Land and Resource of the People's Republic of China (2009) Communique on Land and Resources of China 2008. Available HTTP: < http://www.mlr.gov.cn/zwgk/tjxx/200912/t20091215_699769.htm> (accessed on 30 January 2016).

⁴ This rate is calculated by the proportion of urban population over total population in China. Specifically, the urban population refers to all people residing in cities and towns. Data source: National Bureau of Statistics of the People's Republic of China, National Data. Available HTTP: < <http://data.stats.gov.cn/english/easyquery.htm?cn=C01>> (accessed on 30 September 2015).

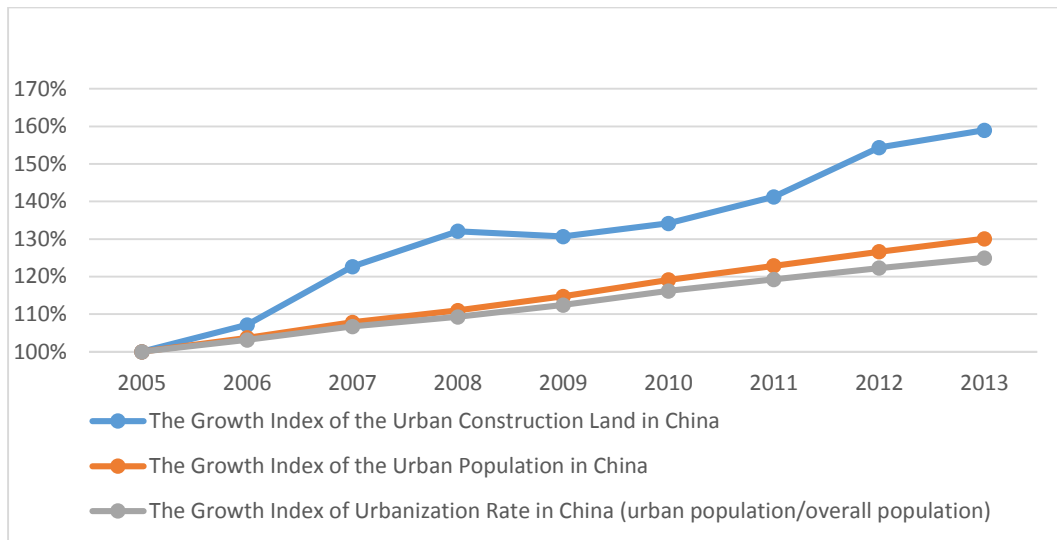


Figure 2. The Continuous Urbanization in China 2005-2013⁵

With the rapid urbanization process in China, the cultivated land should have decreased further, however, the continuous decrease of the cultivated land has been improved since 2004, and more obviously since 2006. The area of cultivated land in China from 2005 to 2013 can be illustrated by Figure 3:

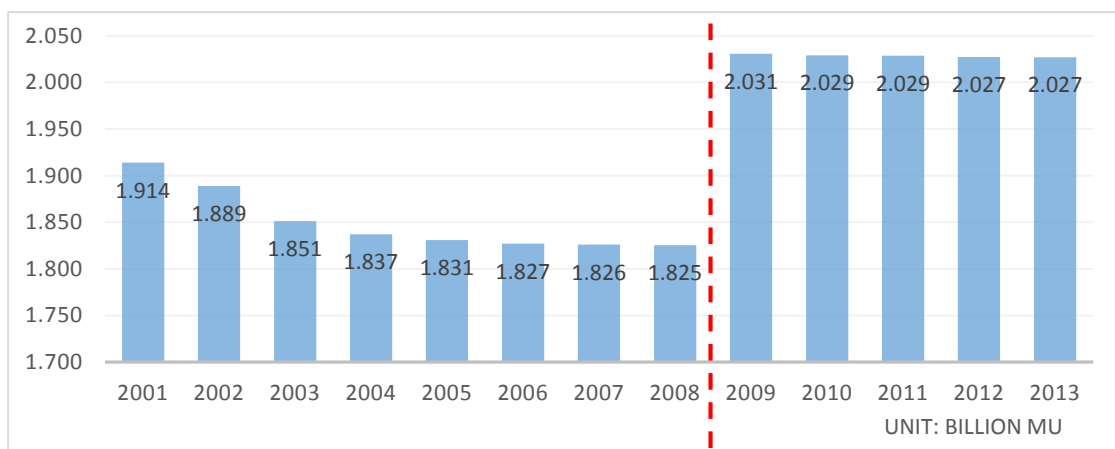


Figure 3. The Area of Cultivated Land in China 2001-2013⁶

⁵ Data source: National Bureau of Statistics of the People's Republic of China, National Data. Available HTTP: < <http://data.stats.gov.cn/english/easyquery.htm?cn=C01> > (accessed on 30 September 2015).

⁶ In 2009, the second national land survey of China has been completed, which has different statistical caliber and new investigation results. As a result, there is a gap between 2008 and 2009 in Figure 3.

Data source: Ministry of Land and Resource of the People's Republic of China (2009) Communique on Land and Resources of China 2008. Available HTTP: < http://www.mlr.gov.cn/zwgk/tjxx/200912/t20091215_699769.htm > (accessed on 30 September 2015).

Based on Figure 3, 2004 and 2006 are two important time nodes for cultivated land preservation. While in 2006, the “Red Line” of 1.8 billion mu cultivated land was proposed (National Congress of People’s Republic of China, 2006), what special event has happened in 2004? To solve this puzzle, a series of land consolidation projects attract our attention, among which LUTRG Policy was introduced in 2004.

1.1.3 Solution: The Introduction of LUTRG Policy

On October 21, 2004, the State Council put forward the concept of LUTRG for the first time. LUTRG is short for “the Linkage between Urban-land Taking and Rural-land Giving” (Tan and Beckmann, 2010; Tan, 2012). In 2008, <Measures for the Administration of the Trial Work of Linking the Increase in Land Used for Urban Construction with the Decrease in Land Used for Rural Construction> explained the LUTRG policy for the first time. The “link” relationship of the construction land between urban sector and rural sector can be illustrated by Figure 6:

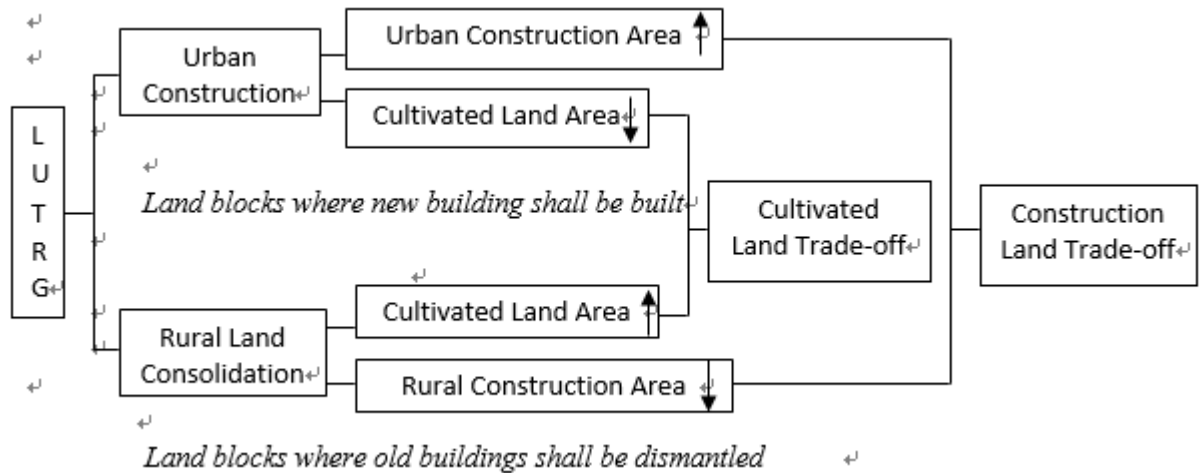


Figure 6. The “Link” Relationship in LUTRG Policy

In 2006, the Ministry of Land and Resources set five provinces as LUTRG pilots, i.e. the Shandong, Tianjin, Jiangsu, Hubei and Sichuan.



Figure 7: First Group of LUTRG Pilot Provinces

Up to 2015, there have been 29 provinces that have been listed as pilot provinces of LUTRG Policy. Furthermore, the annual overall LUTRG quota has been increased from 73.8⁷ thousand mu to 0.9 million mu in 2014⁸ and 2015⁹.

⁷ Tian (2014) “Linkage Between Urban-land Taking and Rural-land Giving”(LUTRG) policy and its evolution of the mode of operation: Based on the investigation in Chengdu, Journal of Hunan Agricultural University 15(6):99-104 [In Chinese].

⁸ Ministry of Land and Resource of the People's Republic of China (2014) The Overall LUTRG Quota for 2014 is 0.9 Million Mu China News 13 July [In Chinese]. Available HTTP: < <http://www.chinanews.com/gn/2014/07-13/6380645.shtml>> (accessed on 30 September 2015).

⁹ Ministry of Land and Resource of the People's Republic of China (2015) The Overall LUTRG Quota for 2015 is 0.9 Million Mu), Chinese Territory Resource News 28 October [In Chinese]. Available HTTP: < http://www.mlr.gov.cn/xwdt/jrxw/201510/t20151028_1385599.htm> (accessed on 30 September 2015).



Figure 8: Second Group of LUTRG Pilot Provinces

1.1.4 Exploration: Three Different Modes in Practice

Based on the differences in organization method, realistic LUTRG projects can be divided into three modes: government-led mode, market-based mode and villager-collective-self-organizing mode (Wang et al. 2007). Specifically, these three modes refer that the projects are mainly organized and managed by local governments, market investors and villager collectives respectively. In particular, the differences among them focus on the dominant player, organization mode, fund-raising source, management method and the use of the LUTRG quota, which can be illustrated by Table 1:

Table 1. The Organization Forms of Three LUTRG Modes

	Government-led	Market-based	Villager-Collective-Self-Organizing
Dominant Player	Governmental land arrangement center	Social investor	Villagers collective
Organization Mode	Government regulations from above to below	Promoted by market force	Independent self-organization
Fund-raising & Management	Mainly financed and supervised by the government	Multi-channel financing and market based operation	Government-Bank-Collective-Villager as a whole

Use of the Quota	Unified purchased and allocated by land administrative departments	Owned and used by the investors	Owned by the villagers collective and transferred to the developers in TDR market
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1.2 Research Question

Based on the analysis above, LUTRG Policy is implemented through a top-down quota system and its implementation includes the interaction among several groups with different interest demands. According to the current implementation range, LUTRG must have done something right to align the interests of these different stakeholders. Moreover, the existence of three LUTRG modes can show the feasibility of different alignment methods to resolve the conflicts of the stakeholders and achieve agreements. To understand the operational mechanism of LUTRG Policy & projects in practice, the first question is how the three LUTRG modes align the interests of different stakeholders.

To answer this question, there are several sub-questions should be analyzed. Firstly, since LUTRG is a significant land policy in China to achieve some policy goals, governments should be regarded as an important stakeholder of LUTRG Policy. However, LUTRG Policy is implemented through decentralized LUTRG projects which involves several groups at several implementation stages. To understand the operational mechanism, we must figure out the significant stakeholders involved in LUTRG Policy and LUTRG projects. Secondly, to analyze the interaction of these stakeholders in LUTRG, we must elucidate their interests that can decide their action and their occupied resources that can decide their positions. Finally, we should answer through what process and institutional arrangements the interests of the stakeholders can be aligned to achieve agreements.

2. Literature Review

To understand and analyze LUTRG comprehensively, its dual nature, which has roots in the project-based land governance in China, should be taken into consideration. Recently, this new type of decentralization in land-related public

goods provision has been observed and concluded as project-based land governance (Tan and Zhou, 2015). In this study, LUTRG is analyzed as a representative type of PG governance structure, which can be regarded as a significant policy established by the central government to achieve specific policy goals, as well as a series of projects implemented by local governments involving several stakeholders with limited rationality. Further, the three LUTRG modes are analyzed as a type of institutional diversity in China's centralized land administration system.

2.1 The Research on LUTRG

The Gaps of Recent Literature:

I. The dual-nature of LUTRG: Current studies on LUTRG always confuse LUTRG Policy and LUTRG projects and didn't distinct them clearly. Moreover, they always ignore the dual-nature of LUTRG and analyze it at just policy level or project lever. However, there are few research regarding LUTRG as both a type of projects, which can bring economic benefits to stakeholders, and a land policy, which is to realize certain goals of central government. These confusion will lead inappropriate evaluation about LUTRG Policy and can also hinder the analysis of the problems existing the practical implementation of LUTRG projects. Moreover, the separate analysis just at one level is also not enough to cover all stakeholders and their relevant interest demands to get a comprehensive conclusion about LUTRG.

II. The diversity of LUTRG projects: Most studies related to LUTRG are focused on the traditional government-led LUTRG projects, so their analysis and conclusion cannot be always true in different modes of LUTRG projects.

III. The theoretical division of LUTRG modes: The research related to LUTRG modes just gives an introduction and conclusion to different local operational method, but the theoretical division of LUTRG governance structures has got much less attention. Wang et al (2007) just give an introduction and brief comparison to them, but didn't compare and evaluate them from comprehensive theoretical perspectives.

IV. The analysis of TDR: Though some scholars have analyzed that the LDR of rural land is the objective of LUTRG policy & project, this opinion has not got enough detailed analysis and enough response. The price mechanism of the LDR of rural land, which can help to decide more reasonable compensation standard or market price, has not been analyzed deeply enough.

V. The institutional problems behind LUTRG: Most of the current literature related to LUTRG Policy & project just focus on this policy or this type of projects, but the behind revenue allocation mechanism, the institutional arrangements and the development of property right structure have not got enough attention.

2.2 The Research about Governance Structure of TDR

In practice, there came up three modes to operate different LUTRG projects, while theoretically, they are three different institutional arrangements for the same type of transactions. For the evaluation and choice of organization, Coase (1960) has emphasized repeatedly that the problems of efficient economic organization need to be examined in a comparative-institutional way. Commons (1930) defines institution as collective action in control, liberation and expansion of individual action, with the forms of unorganized custom and organized concerns. Williamson (1998) considers that the institutions of principal interest to the New Institutional Economics (hereafter abbreviated as NIE) are the institutional environment (or rules of the game---the polity, judiciary, laws of contract and property) (North, 1991) and the institutions of governance (or play of the game---the use of markets, hybrids, firms, bureaus). Also, he proposes the study of economic institutions needs to make provision for two background conditions: the condition of societal embeddedness and the attributes of human actors. These description and discussion about institution can offer us available dimensions to describe and analyze certain institutions.

To define the nature of TDR, Kaplowitz, Machemer and Pruetz (2008) express their opinion that TDR, which allows serving of the right to develop land in a

free-market system of willing sellers and buyers, is one potential market-based policy solution for land use challenges, for example, agricultural land preservation. Tan and Beckmann (2010) also introduce the TDR in the US as a tradable permits systems which has the potential to increase efficiency through markets, and conclude that LUTRG is a combination of zonal system (within each municipality) and pollution offset tradable quotas. Since LUTRG projects are generally regarded as an innovation to bring market mechanism in traditional land administration, another question arises that whether market mechanism is the only choice to govern LUTRG projects.

Specific to the governance structure for TDR, Hahn (1984) proposes that markets of transferable property rights have the potential to achieve a given objective in a cost-effective manner, and analyze how a single firm with market power might influence the market by affecting the price at which a commodity sells. Stinson (1996) mentions both the situation, in which direct market transaction can occurred between the property owner in sending areas and the property buyers in receiving areas, and the possibility that the municipality may create a “development rights bank” to facilitate a market for TDR. In the field of farmland conversion, Tan and Qu (2012) also analyze the roles that the market and government should play to minimize transaction costs.

3. Theoretical Framework

After the review of the current literature, this study will conceptualize the most significant research object in this part, including LUTRG transactions, the objection of LUTRG projects, the stakeholders of LUTRG Policy & projects and the three modes of LUTRG projects.

3.1 Conceptualize LUTRG Policy & Project

Since a fundamental feature of the NIE is that it retains the centrality of markets and exchanges and all phenomena are to be explained by translating them into market transactions (Simon, 1991), how to conceptualize LUTRG Policy &

projects as transaction? Take the whole process into consideration, the time span of the transaction is not merely the transfer of the quota, but the aggregation of a series of secondary transactions (Alexander, 2001; Tan, 2009; Cho, 2011). Specifically, the LUTRG projects contain several sub transactions in the whole process: designation of LUTRG “giving area”, project initiation, planning design and preparation, reclamation and new construction, development rights acquisition and assembly, LUTRG quota transfer to the “taking area”, which can be shown in Table 2:

Table 2. Sub-transactions of LUTRG Projects

<i>Stages</i>	<i>Activity</i>	<i>Sub Transactions</i>	<i>Hazards</i>
Designation of “Giving Area”	Designation of “Giving Area” reference to reclamation potential	Negotiation with the involved village collective Approval Process by levels of government	Information completeness about the actual land use situation in the villages and villagers’ attitudes
Project Initiation	Determination of project leader Selection of professional service providers	Organization of project leadership Procurement of professional services	Information completeness about the service market; Possible rent-seeking behavior of the involved parties; The asset specificity of the organization
Planning Design and Preparation	Design of the project plan based on LUGP Design of Transfer plan of the development right	Negotiations between the relevant parties to determine their profits Final approval to the plan by local government	Information completeness; Financing risk; Games between stakeholders; Uncertainty of the project benefits; The complex process of plan approval; Opportunism activities of the relevant parties
Reclamation and New Construction	Reclamation of the past construction land New Construction of the resettlement	Negotiations with the involved villagers Management of the project	Information completeness about the village’s property right structure and villagers’ requirement; Opportunism activities of relevant parties (some villagers ,the project leader the professional service providers); Project risk; Financing risk
Development Right Acquisition	Transfer of the development right Resettlement of the	Negotiations with the resettled villagers and compensation to them	Opportunism activities of the relevant parties (village collective, The project leaders)

and Assembly	involved villagers	Negotiations and transaction with the village collective	Risk in confirmation by local government; Financing risk
Quota Transfer to the “Giving Area”	Transfer of the LUTRG quota to the developers of “giving area”	Negotiation and transaction with the developers Regulations from local government	Market risk

3.2 Conceptualize the Object of LUTRG Projects

Visually, the object of LUTRG projects is LUTRG quotas. Since a transaction means the transfer of property rights (Commons, 1931), the deeper analysis is what kind of property right behind this LUTRG quota.

In this study, urban development has been regarded as a kind of pollution, which can bring great negative externalities, such as the adverse effect on cultivated land preservation and ecological protection. To solve some externality issues brought by urban development, LDR has been considered as an institutional innovation. At present, the connotation of LDR is universally acknowledged as follows: the right to change the former use nature of land, or the right to strengthen the former intensity of land (Sun and Chen, 2011). Based on this analysis, we can further describe the transfer process of LDR, as well as the LUTRG quota, as Figure 9:

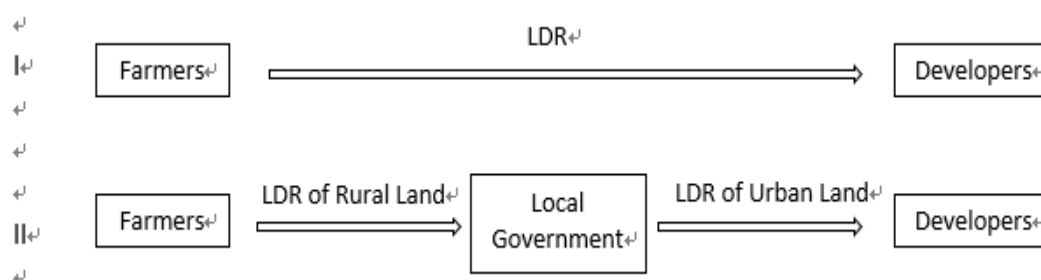


Figure 9. Two Types of Transfer Process of LDR

3.3 Conceptualize the Stakeholders of LUTRG Policy and LUTRG Projects

The TDR programs definitely involve the reallocation of land revenue among the government, farmers and developers (Ding, 2008). By regarding LUTRG as a

project-based land policy, we can analyze the interactions of these stakeholder at two levels. At the policy level, LUTRG is an important land policy proposed by central government to promote the improvement of rural development and the preservation of cultivated land, which has great social value and can be regarded as a kind of public goods. At the project level, the authority of design and management has been transferred to the local government, which creates separate LUTRG projects with great potential economic revenues. At this level, local government, as the supplier of urban construction land, the villagers, as the owner of the rural land, and the developers, as the users of the urban construction land, are involved. The stakeholders and their relationships can be illustrated as Figure 10:

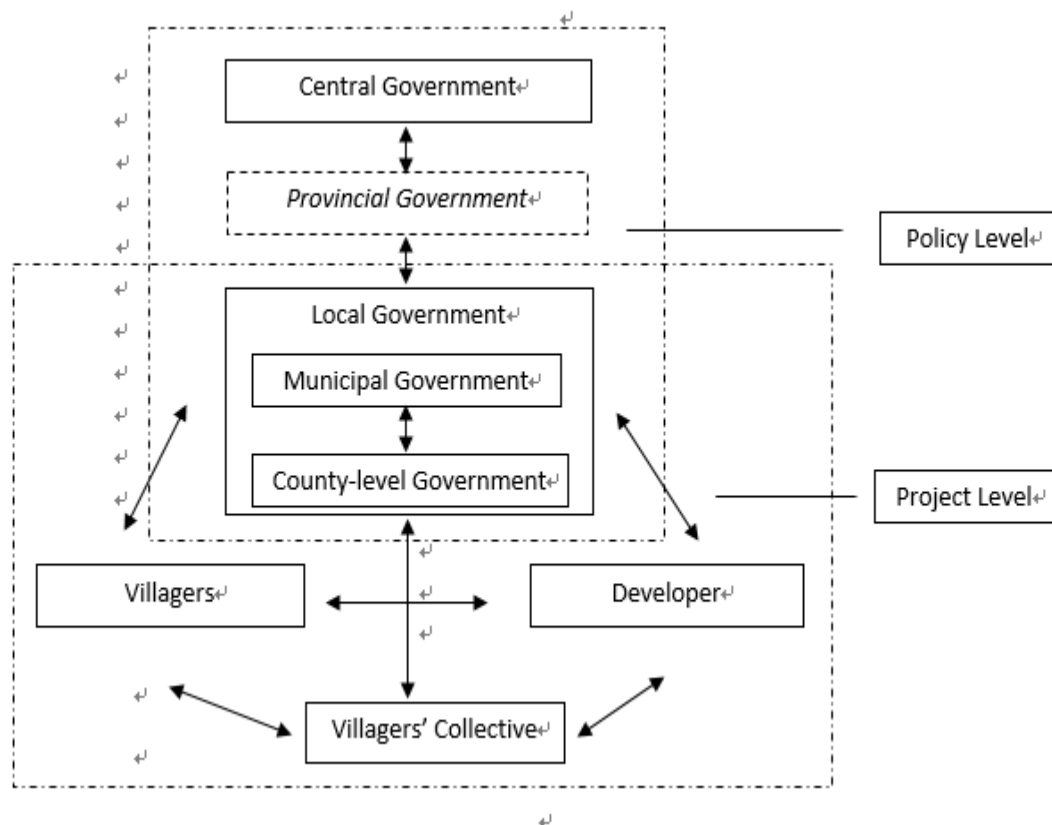


Figure 10. Stakeholders of LUTRG

3.4 Conceptualize Three Modes of LUTRG Projects

Based on the analysis above, this study will conceptualize LUTRG project as different transactions. Based on the existing research, the LUTRG

implementation can be divided into three modes: government-led mode, market-based mode and villager-collective-self-organizing mode (Wang et al. 2007). In this research, these three modes are analyzed as three different governance structures to organize LUTRG projects in different circumstances, or some more specific transactions embedded.

3.4.1 Three Participation Methods

As the analysis above, the three modes can be regarded as three different participation methods for the stakeholders at project level.

Combined with the subdivision of the sub transactions in LUTRG projects, we can get the Table 4 below:

Table 4. The Relevant Involved Parties of LUTRG Projects

<i>Stages</i>	<i>Sub Transactions</i>	<i>Involved Parties</i>		
		<i>Government-led</i>	<i>Market-based</i>	<i>Villager-Collective-Self-Organizing</i>
Designation of “Giving Area”	Negotiation with the involved village collective	Government & Village collective	Developer & Village collective	Internal governance
	Approval Process by levels of government	Internal governance	Developer & Government	Village collective & Government
Project Initiation	Organization of project leadership	Local Government & Professional service providers	Developers & Professional service providers	Villagers collective & Professional service providers
	Procurement of professional services			
Planning Design and Preparation	Negotiations between the relevant parties to determine their profits	Local Government & relevant parties	Developers & relevant parties	Villagers collective & relevant parties
	Final approval to the plan by local government	Internal governance	Developer & Government	Village collective & Government
Reclamation and New Construction	Negotiations with the involved villagers	Government & Villagers	Developer & Villagers	Internal governance
	Management of the project	Local Government & Professional service providers	Developers & Professional service providers	Villagers collective & Professional service providers
Development Right Acquisition and	Negotiations with the resettled villagers and compensation to them	Government & Villagers	Developer & Villagers	Internal governance
	Negotiations and	Government &	Developer &	Internal governance

Assembly	transaction with the village collective	Village collective	Village collective	
Quota Transfer to the “Giving Area”	Negotiation and transaction with the developers	Government & Developers	Internal governance	Villagers collective & Developers
	Regulations from local government	Internal governance	Developer & Government	Village collective & Government

3.4.2 Three Production Processes of LUTRG Quota

When the LDR of rural land is transferred, there are two problems. Firstly, the ownership of the LDR of the rural land is ambiguous, because the development right is derived from the ownership which belong to the villagers collectively but cannot be alienated or mortgaged. Secondly, though LDR of the rural land, which is contained in ownership, is the substantial object of the transaction, it still can't become the tradable commodity in the LUTRG transaction directly and naturally. In this section, the time span of the LUTRG transaction is expanded to the combination of the production of LUTRG quota and the transfer of the quota.

The three different production method of LUTRG quota can be illustrated as Figure 11:

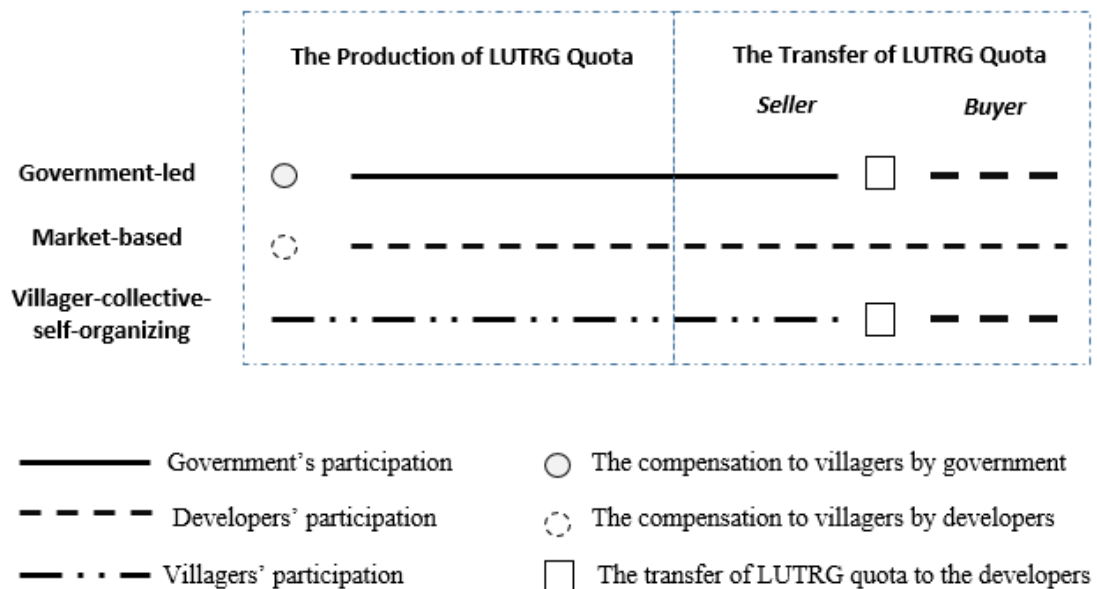


Figure 11. Three Modes of LUTRG Projects

3.4.3 Three Organization Forms

Theoretically, when we regard LUTRG as a form of TDR and a way to solve externality problem, there is an implicit assumption that the development both in rural area and in urban area can cause negative externality. Further, if we analogy it to emission trade, we regard development activity is a special pollution, because it is adverse to the conservation of cultivated land. As the analysis above, the object to be transferred in LUTRG project is the LDR of the rural land, through which we can realize the dynamic balance of the cultivated land or the “pollution offset”. Coase (1960) proposes that there are three ways to solve externality problems: market, firm, government regulation.

4. Case Study

To support the theoretical analysis, this study will give the empirical evidences by the case from Zhejiang Province (Jiaxing), Hubei Province (Shayang) and Sichuan Province (Chengdu), which are organized through government-led mode, market-based mode and villager-collective-self-organizing mode¹⁰.

¹⁰ The cases are from Land Policy Evaluation Project initiated by Land Surveying and Planning Institute of China.