

Exploration on the Two-Stage Model Environmental Governance

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Abstract: Based on the research and practice overview of the domestic and international environmental governance in rural areas, the thesis summed up China's rural environmental governance constraints from the perspectives of management body, management costs as well as farmers awareness with the starting point of theoretical analysis. Combining with the actual situation, the author proposed the two-stage model of environmental governance and made an exploration on how to effectively improve the rural environment and improve farmers incomes.

Keywords: Award-promoted governance, environmental governance, two-stage model

INTRODUCTION

The rural environmental problem in China has become one of the outstanding problems that need to be solved in the field of environment. As an important way to improve the rural environment, the rural environmental governance has aroused widely attentions from government departments and research institutions and has turned to be the hot topic in the field of environment. The current treatment limitations make hard to reach the ideal state. Based on this situation, the study attempts to put forward new idea, for the rural environment management provides reference.

Bulkeley (2005) have a research of a reconfiguring environmental governance: towards a politics of scales and networks. Bumpus and Liverman (2008) propose the accumulation by decarbonization and the governance of carbon offsets. Cashore (2002) analyze the legitimacy and the privatization of environmental governance: how Non-State Market-Driven (NSMD) governance systems gain rule-making authority. (Hursh, 1991) study the behavioral economics of drug selfadministration and drug-abuse. Li *et al.* (2011) have a research of the prospects of regional ecological risk management. Li (2011) have a research of the evaluating Factors Influencing Agricultural Households Willingness to Participate in Environment productions.

In this study, we sum up China's rural environmental governance constraints from the perspectives of management body, management costs as well as farmers awareness with the starting point of theoretical analysis. Combining with the actual situation, the author proposed the two-stage model of environmental governance and made an exploration on how to effectively improve the rural environment and improve farmers incomes.

RESEARCH STATUS

The research on the environmental governance is very wide in China and many scholars have studied it from different perspectives, which thereby aroused varied corresponding words and phrases. Based on the theoretical analysis, the thesis conducted the researching on the environmental governance ("environmental governance" or "Environmental Regulation" or "Environmental treatment" or "environmental control") in the database from Science Citation Index (SCI Expanded, SSCI, CPCI-S, CPCI-SSH, IC, CCR-EXPANDED) and totally 4302 literatures were retrieved. The results are as follows:

The document type analysis results are shown in Table 1, of which: articles accounted for a dominant position, totally 2799, accounting for 65% of the total; 783 conference papers, accounting for 19%; other types

Table 1: The statistics of environmental governance literature

Type	Num	(%)
Article	2799	65.00
Book review	92	2.10
Correction	3	0.07
Discussion	5	0.12
Editorial material	96	2.20
Letter	19	0.44
Meeting abstract	79	1.80
News item	9	0.21
Note	11	0.26
Proceedings paper	783	18.00
Reprint	1	0.23
Review	407	9.50
Total	4304	100.00

The above mentioned data is from the research and analysis of the "environmental governance" ("environmental governance" or "Environmental Regulation" or "Environmental treatment" or "environmental control") within the SCI Expanded, SSCI, CPCI-S, CPCI-SSH, IC, CCR-EXPANDED

Table 2: Hot discussion topics in the retrieved documents

Total	1990-2010	90-94	95-99	00-04	05-10
Environmental regulation	426	38	33	126	189
Environmental control	263	31	35	70	106
Policy	129	0	0	33	86
Growth	112	12	3	29	40
Temperature	108	13	15	29	35
Environmental governance	89	0	0	12	77
Management	76	1	1	18	51
Escherichia-coli	73	14	0	17	20
Pollution	73	0	5	23	39
Model	68	4	3	21	31
Expression	65	14	0	18	15
Environment	64	1	11	14	34
Asthma	63	8	10	17	16
Governance	62	0	1	12	49
Gene-expression	58	9	0	15	22
Children	56	6	0	25	15
Politics	50	0	0	7	41
Photoperiod	49	4	9	13	21
United-states	49	0	0	11	32
Performance	41	4	0	15	21

The above mentioned data is from the research and analysis of the "environmental governance ("environmental governance" or "Environmental Regulation" or "Environmental treatment" or "environmental control") within the SCI Expanded, SSCI, CPCI-S, CPCI-SSH, IC, CCR-EXPANDED

of articles (Including the review, discussion, meeting abstracts, review materials, etc.) accounting for 16% of the total.

The discussion topics of the literatures are shown in Table 2. In recent years, the discussion temperature on keywords that related to policy, governance, pollution, etc were continued to improve, the policy-related discussion has been ranked to the third place in the year 2005 and 2010, of which: the key to propose the environmental governance from the perspective of behavioral economics is to change human beings behaviors (Hursh, 1991); literatures that interpreted the importance of the environmental governance within the global climate change framework are also of higher reference rates; some authors put forward channels to avoid the governance after the pollutions from the point of the irreversibility of the environment and the timing of environmental governance (Pindyck, 2000); the idea that suggested in 2006 to combat the climate change by integrating fund management, science policy and environmental governance also attracted widespread concerns.

In the governance point of view, it mainly discussed on how to increase the interests with the utilization of market-driven from the feasibility and legality of environmental governance (Cashore, 2002), kicked around the application of the ancient means of regulation and governance thinking in modern environment governance (Lobel, 2004); the reconfigure of the environmental governance (Bulkeley, 2005) under the network size and policy was also being widely discussed; the discussion of the environmental governance from carbon tax, carbon trading and carbon emissions and other perspectives also turned to be the discussion topics.

The domestic researches are primarily poor; the previous studies were analyzed only from two separate fronts: environmental management and farmers behavior,

which failed to establish an effective mechanism that taking farmers as the main body. The main deficiencies were as follows:

- The current co-relational researches are mainly quantitative analysis and lack of empirical research.
- Researches are mainly in allusion to the analysis of status, causes and countermeasures, seldom of them has promoted the theory.
- Lack of academic attentions to the influence of farmers behaviors in the environment governance.

Therefore, based on the previous research achievements and combined with the actual situation, the thesis provided the theoretical basis and practical orientation for the effective mechanism of environmental governance in rural areas.

KEY ISSUES

China's current environmental management system is drafted according to the urban regional development and has no sound system especially in allusion to the rural environmental management, which lead to the emergence of a large number of outstanding rural environment problems. Of which, except for some direct causes like farmers irrational use of pesticides and fertilizers, enterprises wantonly discharge of pollutions, etc, there also exists some deep issues.

China has been implementing a dual-urban environment management policy and put the environmental focus on big cities, large industries and projects in a long time and thereby caused serious "scissors" phenomenon in the distribution of urban and rural environment interests.

The contradiction between intensive and traditional production methods leads to the irrational structure of

rural resources and energy, the intensive tendency of the rural economies scale caused some impact on the environment.

Currently in China, it mainly adopts the award-promoted rural environment governance. Taking the organizational village as the basic management unit, the policy principally focus on the remediation measures that closely related to the improvement of rural environment like the rural drinking water source protection, sewage and waste disposal, livestock pollution and historical legacy of mining pollution in rural areas, agricultural non-point source pollution and soil pollution prevention, etc. Through the analysis of the implementation of award-promoted rural environment governance we can find that it has the following features:

The award-promoted rural environment governance emphasis more on the governance, mainly conducts the environment governance oriented to specific issues and has no specific measures for the prevention and guidance. It a kind of passive behavior that conducts the payable governance in allusion to the questions aroused from the rural environment, whose dispose doesn't make farmers feel that it created the production resources and is lack of effective mechanism. As for a particular area, the award-promoted rural environment governance is a means of short-term behavior; its carryover effects are mainly manifested through the improvement of the environment and are all in allusion to specific issues and lack of unified standard. The way of funds allocation is superincumbent by the government according to the annual plan by the beginning of the year, which may arouse the share and share alike phenomenon.

RESTRAINING FACTORS

It is lack of management subject. The subject of the environmental management can be divided into government, collectives and farmers. As for the government, China's environmental management adopts the control-environmental policy that mainly takes administrative control as the main means and should thereby acquires appropriate agencies, personnel and equipment for the implementation. From the current situation it can find that, the majority of our township government agencies are operated of liabilities and are lack of financial support to establish the implementation mechanism of environmental management, therefore, environmental protection agencies are still not be set up in majority of rural areas at the township level. The environmental protection is scattered to all related departments like EPA, FDA, Bureau of Agriculture, Urban Management Office, the Department of Transportation and Water Department and so on. The inharmonious of departmental interests will lead to ineffective integrated management.

The administrative cost is overtopping. The current environmental management system carries out the urban and industrial point source pollution control with the

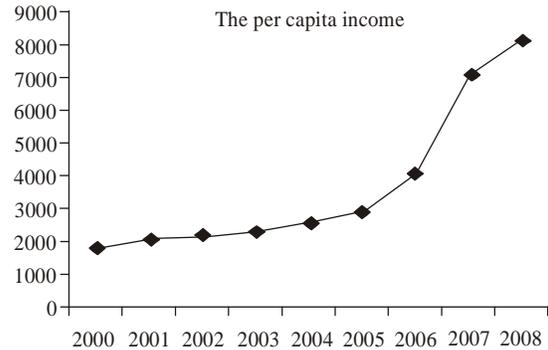


Fig. 1: Annual per capita income of Jiuling town (2000-2008)

foundation of urban centralized inhabitancy. China has 900 million farmers scattered in various rural areas that of diverse environment and specific environmental problems, the current issue-oriented rural environmental management method cost too much. The environmental management expanded in allusion to each issue is obviously that the management cost is too high.

Farmers have poor environmental consciousness. On one hand, urban residents have a greater understanding of environmental issues and related environmental policies and regulations and have certain environmental awareness and thus are able to do self-restraint in environmental protection to some extent; on the other hand, urban residents have more understanding of environmental problems and hazards as well as the strong feedback capability and therefore they become an important force to supervise the government to promote the environmental control measures.

Based on the above analysis, the lack of management subject, high management cost as well as farmers poor environmental consciousness led to the current environmental problems in rural areas in China.

EMPIRICAL ANALYSIS

The thesis takes an organic food planting base (town) in a mountain county as the research object. The town has an area of 43.6 km² and a long history of vegetable cultivation, the region gives priority to organic vegetable production. Here we just analysis its overall environmental conditions with the utilization of environmental energy value so as to investigate the environmental quality changes and changes in per capita income of the town in the past 10 years. The results are show as Fig. 1 and 2.

It can be seen from the Fig. 1 and 2 that two distinct inflection points relatively present at the year 2004 and 2006. Jiuling Town established the cooperative organizations in the year 2000 and thereafter started to reverse the course of land management. The agricultural production formed a certain size in 2004 and then it begun

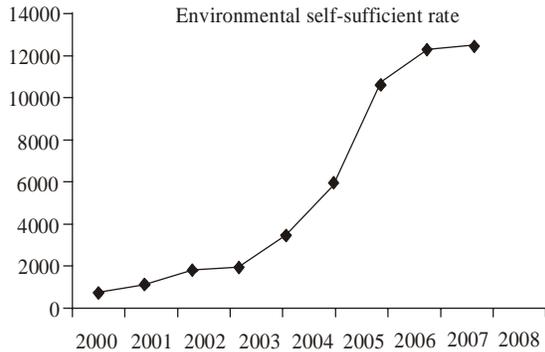


Fig. 2: Environmental self-sufficiency rate of Jiuling town (2000-2008)

to develop the agricultural production bases with the utilization of government fiscal expenditure, rural credit as well as the social capital investment. By Miller, (2006), it has basically completed the construction of pollution-free agricultural base and the per capita income appeared a clear increase in the same year.

From the above analysis we can conclude that, there exists the Two-stage model environment operation in the survey region. From the year 2004 to the year 2006 was the first stage. During that process, the main work of the government was to repair and reconstruct the origin of agricultural production, consciously guide farmers to participate in environmental management and train farmers autonomy in the environmental governance. In the year 2006, the area passed the certification of pollution-free production bases; the agricultural products were improved from the common quality to the pollution-free quality and thus enter the second stage. Due to the increase of the products quality, farmers incomes were increased significantly, which had greatly improved farmers autonomy in the environmental governance. The environmental governance was basically completed by farmers autonomously and the function of the government was then being converted from the economic stimulation to the service guidance.

CONCLUSION

The environmental governance has two stages and the government should adopt different supervisor mode according to the varied stages.

In the first stage, farmers are lack of thinking to discriminate, judge or distinguish the behaviors that may impact the environment, the subjective initiative deficiency makes them only focus on the direct economic benefits from the immediate occurrence of the behavior, can hardly think about the results and influence from the conscious level and thus should be greatly supported by

the government. In this stage, the government supportive role mainly manifested as follows:

- **Renovate the damaged environmental quality:** The government emphasis more on the environmental governance in this stage, through the establishment of the incentive mechanisms, stimulate farmers to change their behaviors by economic incentives so as to participate in the environmental management and then repair and improve the regional environment.
- Protect farmers' enthusiasm to participate in environmental management. Since the behaviors of farmers are changed from the pursuit of short-term economic benefits to the consideration of both short-term economic benefits and long-term environmental benefits, the economic benefits will thus be affected to a certain degree. In order to protect farmers' enthusiasm to participate in environmental management, government should purchase environmental products from farmers and use the environmental products revenue to subsidize the economic losses on agricultural production.

In the second stage, farmers has generated awareness and established the subjective initiatives of the environmental management, government support can be gradually transmitted from economic dominated incentive mechanism to the service and supervision dominated protection mechanism. Since the environmental management and restoration has been basically completed in the first stage, it can then conduct the market-accepted environment production to produce the environmental products. The independent operation of farmers environmental operation plays a decisive role in the protection and enhancement of the income of farmers, which significantly increased farmers income, greatly improved farmers' enthusiasm to participate in environmental management and emerged a significant positive effect to the environmental governance within the region.

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