

FINANCING MODE FOR SUSTAINABLE FARMLAND CONSOLIDATION

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ABSTRACT: Sustainable farmland consolidation covers ecology, economy and society, which means, its only goal is to protect eco-environment, in accordance with public benefits and economic laws. China is still a developing country, facing capital-lacking, an important but difficult problem, while sustainable farmland consolidation will need more money than common farmland consolidation. To solve the problem, this paper put forward and designed a new financing mode for farmland consolidation: BOT(Build-Operate-Transfer), which can effectively solve the financing problem and investment reclamation by the way of concession, and make sustainable farmland consolidation be realized in China.

KEY WORDS: sustainable farmland consolidation; financing mode

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1 INTRODUCTION

In China, farmland consolidation is the technical and economic process of comprehensively renovating field, water, road, forestry and village in the countryside, rearranging land property rights and improving farmland use structure, farmland use rate, farmland output rate and human living conditions, according to the defined goal and usage of land use planning (BAO *et al.*, 2002b).

But farmland consolidation is a kind of intense interference to land eco-system, and it will change land use on a large scale. Unsuitable one will lead to serious ecological and social results (WEI β , 1999). Therefore, some countries, such as Germany, Australia, began to develop sustainable farmland consolidation, and have obtained some results.

Farmland consolidation has been sponsored all over the country in China. But from the farmland consolidation practice, we are nervous to find that the goal of farmland consolidation in many areas is to increase the quantity of cultivated land. Though some scholars have suggested to pay more attention to eco-environment in farmland consolidation process (YAN, 2000), and also have made a deep study on the planning and design

mode of ecological farmland consolidation (YE *et al.*, 2001), the development of eco-sustainable farmland consolidation is difficult because of its greater demands for capital than common farmland consolidation, and slower economic benefits cycle. So, eco-sustainable farmland consolidation is somewhat not practicable, even often ignored in the development of farmland consolidation in China.

To protect eco-environment as its only goal, eco-sustainable farmland consolidation should also be in accordance with public benefits and be practicable in economy. In the present China, looking for an operating mode to realize eco-sustainable farmland consolidation is an important task, which involves in eco-environment, society and economy. This paper only focused on the financing mode of sustainable farmland consolidation.

2 PRESENT MODE OF FARMLAND CONSOLIDATION

At present, most farmland consolidation projects are invested and managed directly by the government and its subsidiary institutions, such as farmland consolidation center. The government is not only the sponsor and man-

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ager of farmland consolidation, but also the direct investor and implementer (BAO *et al.*, 2002a).

The government department lacks talents with special abilities needed in farmland consolidation. And what's more, its political desires are often prior to the economic and social drive forces, which makes present farmland consolidation not quite satisfactory. As a public infrastructure, farmland consolidation needs a lot of money, and the cycle to take back the investment is very long. China is still a developing country, whose economic power is not strong, so the capital invested on farmland consolidation by the government is limited. Moreover, there are no other investors except the government. Under such a background, eco-sustainable farmland consolidation will be ended up in failure even if some scholars have made a deep study on the eco-sustainable mode for farmland consolidation. So the research on how to realize sustainable farmland consolidation in China becomes an important and urgent task.

3 FINANCING MODE FOR SUSTAINABLE FARMLAND CONSOLIDATION

Except for isolate examples in the last two centuries, infrastructure development has been the responsibility of public agencies, by means of funds provided by taxes collected by local and central governments (LEVY, 1996). However, the traditional role of governments as the sole provider of the infrastructure is no longer feasible. Now, private developers have access to vast amounts of capital and, in many cases, they have better management skills, so they are beginning to challenge government's traditional role. And, facing several budgetary restraints, governments are starting to encourage private investors to create new public/private partnerships in these fields, utilizing the Build-Operate-Transfer (BOT) concept.

BOT contracts have been proven to be effective in arranging the finance for infrastructure projects in both developed and developing countries (SHEN *et al.*, 2002). In general, implementing infrastructure projects requires a large amount of investment. Particularly, governments in those developing countries usually find it difficult in providing sufficient capital for public infrastructure developments, so BOT system is widely used to attract the private capital for assisting to develop public infrastructures (ZHANG, 1997). By BOT method, a sponsor provides a private company with a concession to build and operate a project. The system provides mechanism for the use of private finance, and it allows government to build more infrastructure services without using addi-

tional public funds (NEVITT and FABOZZI, 1995).

China is still a developing country with the problem of capital-lacking. Based on this, this paper puts forward a financing mode for sustainable farmland consolidation, that is, BOT mode.

According to the welfare economics, farmland consolidation is a kind of public infrastructure and must be launched and managed by government. At the same time, *Constitution of P. R. C* ordains all the lands belong to the country. So, the farmland consolidation in China should be launched and managed by county government or the superior government and operated by the enterprises. After signing the agreement and the concession expired, land-use right and other benefits should be transferred to the government or the farmer collectivity. On the analysis above, we come to the BOT mode about the financing farmland consolidation (Fig. 1).

In this mode, agreement and concession is not only the core of the whole financing farmland consolidation but also the core of the credit guaranteed structure of project loan. It should include the following five aspects:

(1) The company undertaking farmland consolidation project charges the whole project. The standard of construction should reach the standard of farmland consolidation industry (The standard of farmland consolidation industry should be formulated by relative departments in the government and under the requirements of sustainable development.). The standard should be checked by the government. According to the agreement, the project company has the right to charge the fee for the cultivated land changed into construction land and the fee for using the irrigation equipment for cropland and obtain the right to use the cultivated land.

(2) The company undertaking farmland consolidation project is responsible for arranging the funds for construction. To carry out the farmland consolidation successfully, the government should provide an amount of funds for subordinative insurance, contract the concession period, and put the interest rate as the credit support for the financing for farmland consolidation project.

(3) The government provides the lowermost assurance of the land use for the project company, i.e., whatever happens, if the income for construction land is lower than that in the agreement, the government is responsible to pay for the margin.

(4) The government and the private investor negotiate a contract of the concession period. According to *Law for Land Management of P. R. C.* and its feasibility in practice, the project company may possess cultivated land use right in 30 years at best. The charge of fees for using the cropland irrigation engineering may be limited to 5-

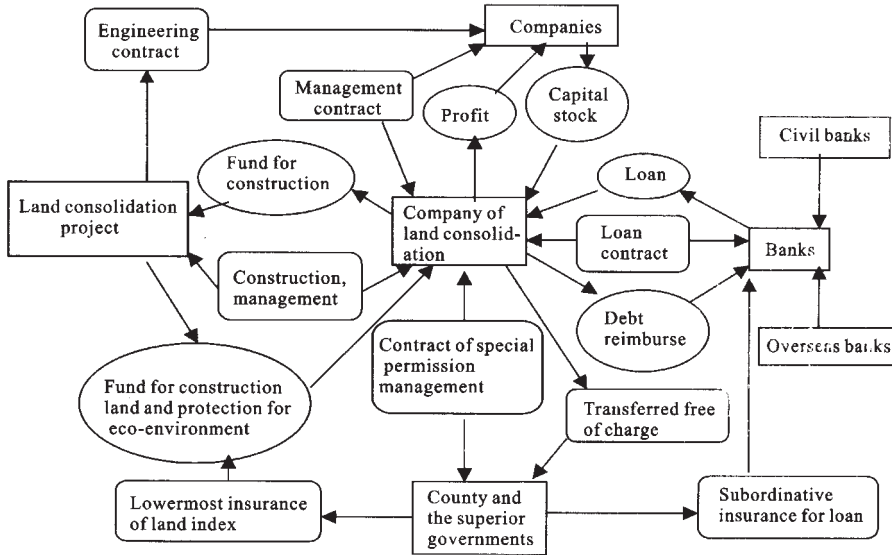


Fig.1 Operating model of farmland consolidation

10 years.

(5) When concession period comes to end, the right for land use and other benefits possessed by the project company should be transferred to the government or farmer collectivity by free of charge or in an agreed price.

The project managers are the principal part of BOT. They obtain concession for the construction of farmland consolidation and the land use management from the government, meantime provide the funds and technique needed, arrange the finance and assume the risk responsibility, then obtain interests from the investment and management in the project of farmland consolidation. The responsible role of project management is usually played by an organized special project company. It is mainly made up of real estate development company, construction company, irrigation construction company, and other companies with adequate technique ability. It also attracts some engineering design company and some financing investors to take part in.

Farmland consolidation projects normally require a large amount of initial investment and span a long period of construction time, and but have a slow payback rate, low profit ratio, and high risk. Thus in the application of farmland consolidation BOT contract, the investors should be given the privilege, to some extent, to monopoly power during the concession period.

In order to make the farmland consolidation project succeed, proper concession period is very important (KUMARASWAMY and ZHANG, 2001). A longer concession period is more beneficial to the private investor, but may result in a loss to the government. On the other hand, if the concession period is too short, the investor will ei-

ther reject the contract offer or be forced to increase the service fees in the operation of the project in order to recover the investment costs and to make a certain level of profit. Consequently, the risk burden due to the short concession period will be shifted to the public who use the facilities. So the government and the private investor should negotiate the concession period seriously.

4 CONCLUSIONS AND DISCUSSION

Financing for the project in the market, farmland consolidation is carried out by enterprises, and checked by the government. This mode makes the responsibilities of carrying out and checking separate so that the specific tasks can be finished by the market and the government can focus on the formulating of industry standard and checking the standard of farmland consolidation, and managing. It will benefit the project financing and the orientation of the government, and will be helpful to prevent corruptions of some officials, thereby promote the realization of eco-sustainable farmland consolidation. The mode put forward in the former part has several merits:

(1) It can reduce preliminary capital invested by the government. As a public infrastructure, farmland consolidation needs a lot of money, and the period to reclaim the investment is very long. As China is still a developing country, and capital-lacking is a common problem. Utilizing BOT mode, the government can invest their limited capital into more fields.

(2) It can attract foreign capital, fetch in advanced technology ("3S" technology) and advanced thoughts

(such as sustainable thoughts and land use ethic). Thereby, it will improve the construction, management level of farmland consolidation.

(3) Through market competition and the checking by the government, it will help to perfect the planning and design technology in farmland consolidation, realize eco-sustainable farmland consolidation and make harmonious development of humans and different life forms in nature.

(4) It will help to reduce or even stop the corrupt behaviors of the government in farmland consolidation.

Of course, the BOT mode is fraught with many difficulties, requiring favorable legal, political and economic environments. The government, as the major of such projects, plays a key role in creating the prerequisite environments and in consolidating the constructive partnership.

Firstly, the government should change the present farmland consolidation mode, and work out relative law and policy systems, such as farmland consolidation law and the standard of farmland consolidation.

Secondly, the central government should reform taxation, such as value-added tax, consumption tax, and land value-added tax to attract overseas investment to the Chinese market by adopting tax holiday. Tax holiday is a universally common practice for attracting foreign investment.

Thirdly, the government should design methods for foreign investors to exchange RMB for foreign currencies. When a country's economy is market-oriented and becomes international, its currency will be accepted by other countries for free circulation and settlement of international payment, and the currency becomes wholly convertible. So the long-term goal of China's reform on foreign exchange is to achieve the free convertibility of RMB to foreign currencies.

Lastly, in addition to working out relative law and policy, tax holidays and free convertibility of RMB, the

following means should also be taken into account: price adjustment, minimum profit insurance and guarantees against high inflation and interest rates. In order to make it a better use in more areas, we should choose some experimental areas to carry out this mode and summarize relative experience and lessons.

REFERENCES

- BAO Hai-jun, WU Ci-fang, XU Jian-chun, 2002a. BOT: the new mode of land consolidation [J]. *China Land*, (6): 24–26. (in Chinese)
- BAO Hai-jun, WU Ci-fang, YE Yan-mei *et al.*, 2002b. Dimension design of farmland and application of GPS-GIS-RS technology to land consolidation [J]. *Transactions of the Chinese Society of Agricultural Engineering*, 18(1): 235–240. (in Chinese)
- KUMARASWAMY M M, ZHANG X Q, 2001. Governmental role in BOT-led infrastructure development [J]. *International Journal of Project Management*, 19(3): 195–205.
- LEVY S M, 1996. *Build, Operate, Transfer: Paving the Way for Tomorrow's Infrastructure* [M]. New York: J. Wiley & Sons., 18–21.
- NEVITT Peter K, FABOZZI Frank, 1995. *Project Financing* [M]. Sixth Edition. London: Euromoney Publication PLC, 25–30.
- SHEN L Y, LI H, LI Q M, 2002. Alternative concession model for build operate transfer contract projects [J]. *Journal of Construction Engineering and Management*, 128(4): 326–330.
- WEI β Erich, 1999. *Farmland Consolidation in the Federal Republic of Germany* [M]. Translator: JIA Sheng-hua. Beijing: China Agricultural Press, 18–33. (in Chinese)
- YAN Jin-ming, 2000. Land consolidation should be care of landscape ecology [J]. *China Land*, (5): 19–20. (in Chinese)
- YE Yan-mei, WU Ci-fang, HUANG hong-hong, 2001. Influence of farmland consolidation engineering on farmland and its model of eco-environmental care [J]. *Transactions of the Chinese Society of Agricultural Engineering*, 17(5):167–171. (in Chinese)
- ZHANG Ji-jing, 1997. *Project Financing* [M]. Beijing: CITIC Publishing House, 8–15. (in Chinese)