

# **Business Development of China Cadastral Management**

**Dong JIANG and Zhiling HUANG, China**

**Key words:** Fundamental business development, Cadastral management, China

## **SUMMARY**

Abstract: Chinese cadastral has a long history of 5,000 years. The oldest cadastral records founded were proved happened at Xia, Shang and Zhou dynasty. While the modern cadastral business show the trends as more and more comprehensive, systematical and deepen. The business of cadastral management which including land registration, land dispute arbitration, land survey, land statistic and land use dynamic monitoring played important roles in conserving resources, supporting development, guarantee the titles, as well as serving the public. With the rapid development of social economy, the cadastral management faces the great opportunities as well as challenges due to its sacred mission in land resources management. So it is essential to overall review and summaries the achievements and referring international advanced experiments, to put forward the goal and directions for cadastral base business development, then to improve the level of China cadastral management.

## **SUMMARY**

摘要：中国地籍有着五千年的悠久历史，早在夏商周时期就有关于地籍的记载。新中国地籍管理业务总体上呈不断走向全面、系统和深化的趋势。当前地籍管理依法实行土地登记制度、土地权属争议调处制度、土地调查制度、土地统计制度、土地利用动态监测制度，在“保护资源、保障发展、维护权益、服务社会”中发挥了重要作用。面对整个社会经济的快速发展以及国土资源管理的神圣使命，地籍管理工作既存在着大好机遇，又面临很多挑战，因此，必须对已往地籍管理的成就进行全面的回顾与总结，在这些基础上充分借鉴国际先进经验，提出地籍管理业务发展的目标和方向，推动地籍管理水平更上一个台阶。

# **Business Development of China Cadastral Management**

**Dong JIANG and Zhiling HUANG, China**

## **1. PREFACE**

The cadastral management is a series of working measures and system to perform the investigation to the natural and economical situations of the land, to establish the cadastral atlas or information system on the ownership, type and other situation for the purposes of effective national management of the land. Its main contents include land investigation, land registration, land statistics, cadastral archive management and cadastral information system, etc. China has the history of cadastral for more than 5000 years, and there were the records on cadastral in Xia, Shang and Zhou Dynasties. Along with the establishment and consummation of the land management system in PRC, the cadastral management is being reinforced constantly, and it is playing an important and fundamental role in the national land resource management and domestic economic construction. However, along with the rapid social and economical development and the wide progression of globalization and informatization, the stricter requirements have been placed to the cadastral management. Because of the non-renewability of the land, the land becomes the most important resources to maintain the sustainable social and economical development; as for the country with large population, such as China, the scientific planning and rational utilization of the lands are the important matter relating to the nationality survival and development. The cadastral records the detailed and accurate information on the land, and it becomes more and more important in the aspects of land planning and utilization, environment protection, and population and resource management etc, and it also becomes the important rationale for reference for the politicians, financiers and managers in various specified filed in making decisions and taking measures, and it is also the important fundamental information for the various economical departments to make the industrial development planning. Therefore, it is very important and necessary to research the development strategy of the fundamental cadastral businesses, construct the modern cadastral management system and make the cadastral serve for the land management.

## **2. THE CADASTRAL MANAGEMENT IN CHINA AND ITS EFFECTS**

### **2.1 The cadastral management in China**

The system of the current cadastral management in China has the core of land ownership management, the other systems such as legal land investigation, land registration, land statistics, and the adjudication of land disputes are also practiced, and the cadastral management information system is established, etc. The cadastral management is the fundamental of the national land resource management, the important warrants of land management, controlling and adjustment, and it is also the important measures of resource protection, development warranty and guarantee land tenure.

### **2.1.1 Land right adjudication and disputes arbitration**

The land right adjudication should be performed by the people's government above county level according to the laws, and the subject, object and content of the land rights should be confirmed.

The bureau of land administration above county level is responsible for the investigation and intermediation for land right disputes, if the intermediation is not accepted, they will draft the arbitrate decision and report it to the people's government of the same level for processing. The procedure herein is: the applicant applies – the Bureau of Land Resources Administration accepts and hears – investigation and evidence obtaining – intermediation – administrative arbitration when intermediation fails – if the applicant dissatisfied with the administrative arbitration, he/she can lodge an administrative review or administrative complaint.

### **2.1.2 The System of Land Registration**

The using right of the state-owned land, the ownership and using right of the collective-owned land and other rights of the lands are registered by the government. After the registration of the right of the lands, the register authority of the people's government at and above county level will issue the land certificates to the land obligee and confirm the land title. The change of the land right can only be effective when it is registered in the land registrar, and only by such a way can it be legally protected. The principle of publication is emphasized for the land registration, people can inquire of the land registration information according the regulation. Since land registration is a legal act, we require all staff should pass the examination and get the certificates for land register. Besides, private land register agent who gets the professional land registration certificates can involve in land registration on behalf of applicants.

### **2.1.3 The system of land investigation**

The land investigation is the investigation to clarify the amount, quality, type, distribution, utilization and ownership situation of the lands, and it mainly includes the investigation of the current land utilization, the investigation of the land utilization changing, the cadastral survey at township level, the investigation of the land conditions and the dynamic supervision of the land utilization, etc.

#### **2.1.3.1 The investigation of the current utilization of the lands**

China performed the first land investigation from 1984 to 1995, and it had clarified the area, ownership, distribution and utilization of various kinds of land. The main scale of base map used in this time is 1:10000. The first land investigation set the foundation for the establishment of the land investigation system. After then, the second national land investigation was performed and completed from 2007 to 2009 in order to investigate the current land utilization of the whole nation. GIS, GPS,RS,and other high technologies as well as the new technical regulations, the standard of land type classification are used in this investigation.

#### **2.1.3.2 The investigation of the land utilization changing**

On the basis of the investigation of the current land utilization, the investigation of the land utilization changing is organized each years; the on-site fieldtrip is performed for the

changing area annually so as to keep the updating and objective data of land investigation.

### **2.1.3.3 The cadastral survey**

The cadastral survey can be divided into the township cadastral survey, village cadastral survey and the investigation of the collective-owned land. Its content includes the attribute investigation and cadastral demarkation . The attribute investigation includes the situation of the rights holder, what kind rights of the parcel, where is the boundary and the usage, etc; the cadastral survey includes the demarkation of the horizontal location of the boundary point, the shape, area and geological elements of the parcel of land, etc.

### **2.1.3.4 The land condition investigation**

It refers to the special land investigation performed according to the needs of the land resource management, economical development, ecological environment protection and sustainable development. For example, we had organized the investigation on reserved land that can be used as cultivated land from 1999, which includes the spatial distribution, what type of the land (e.g. marsh, wasteland, etc.), the quantity and quality as well as the ownership or use right situation, suitability evaluation of the resources of reserved cultivated land.

### **2.1.3.5 The dynamic land supervision**

The remote sensing image processing and identification technology is used to extract the change information from the remote-sensing images, so as to realize the regular supervision to the changing of the land use (such as cultivated land and construction land). Currently the full-cover remote-sensing supervision has been realized for the whole country annually.

## **2.1.4 The land statistics**

The county-level administrative area is the statistics unit for the land statistics, and the land statistics account table and the land statistics book should be established, and the statistics results should be summarized and reported hieratically. The amount, quality, distribution, conditions of the rights, utilization and changing tendency should be mastered.

## **2.1.5 The cadastral management information system**

The Cadastral management information system has been developed from 1980's. It integrated the morden technology with business operation model of cadastral management and guided by the laws, regulations, policies, as well as technical procedure and standards. It can do all functions which includes the collection, storage, processing, analysis, administration and applicaiton of the cadastral management information so as to provide the rapid and accurate services for the society and goverments. When the Ministry of National Land and Resources was founded in 1998, the construction of the cadastral information entered a new stage. In the recent years, the cadastral information construction in China has obtained great achievements, and the cadastral information has become the important technological supporting of the information of the national land resource, especially the information of the land management.

## **2.2 The effects of the cadastral management**

The results of the cadastral management in China is playing a very important role in the land resource management and the domestic economic construction, and also widely applied in the

fields of environment protection, population and resource management and the social and economical construction. They are applied in the land use planning and land supervision, etc; they are applied in the relative ministries of government on agriculture, forestry, hydraulic engineering and statistics, etc; they are applied in the earthquake disaster evaluation in Wenchuan of Sichuan, Yushu of Qinghai and Yingjiang of Yunnan so as to provide the data supporting for the re-construction after disaster in time.

### **3. THE DEVELOPMENT OF FUNDAMENTAL CADASTRAL BUSSINESS**

#### **3.1 The facing challenges of the cadastral management**

The period from 2011 to 2015 is the critical period for China to construct a well-off society in an all-around way, and it is also the period to deeping the reform and opening and accelerate the transformation of the economical growth ways, and it is also the important period of strategic opportunity for the development of China; such a period has put higher requirements to the work of cadastral management. The consistent consummation of the socialist market economic system calls for the construction of the modern land tenure system as the fundamental guarantee. The integrated urban and rural development and the construction of the socialist new countryside require to protect the land rights and benefits of the peasants in a more effective and all-around way, as well as to maintain the social stability in rural areas. Since land policies involve in the national macro adjustment policies, in order to achieve the goals of controlling and improvement the intensive and saving utilization of the land resources, the cadastral should provide abundant and real-time information to support the goal.

#### **3.2 The expectation of the development of the fundamental cadastral businesses**

The cadastral management will still be very vital as the important measure of resource protection, development promotion, rights and benefits maintenance and serving for the society in the new historical period. The cadastral management will develop in the direction of the enhancement of the legal position of land registration, the all-around realization of the information of the cadastral management and the social development of the cadastral carrier, with the land property right management as the core task, with the land registration as the mainstream, with the land investigation and statistics and the remote-sensing supervision as the fundament, with the cadastral information construction and socialized services as the critical points, and with the cadastral industrialization as the driving form.

There are five targets for the recent developments: the first is to establish the modern land tenure system which vision is "to define rights and responsibilities more realizingly, to protect more strictly, to adjudication rights more clearly and to transect more smoothly according the laws", so as to protect and maintain the legal rights and benefits of the right holders; the second is to provide the fundamental services for the land resource administration scientifically and effectively, and make it bring out the effects of fundamental warranty more effectively; the third is to accelerate the conversion from the traditional cadastral to modern cadastral, and the cadastral information and data will become the foundation of the effective macro economical adjustment and controlling of the state, as well as the powerful supporting for the decision making of various levels of government; The fourth is to reinforce the research of the legalization of the real estate registration, improve the land legislation work

and form the legal system on integrated land registration which meet the requirements of the socialist market economy in China and conforms to the international practices; the fifth is to apply the new technologies sufficiently, improve the land registration system construction and the construction of the cadastral information management system and popularize the socialized application and services of the cadastral results.

## REFERENCES

1. Dong JIANG et al. (2011) Report of Cadastral Management Business Development Strateg,Project Report of CLSPI.
- 2.Zengjie LIN(2006), Cadastre[M], Beijing, Science Press,pp75-78
3. Yanli Gao, Ping HE, Dong JIANG et al (2008). Land Registration Menu [M]. Beijing, China Agricultural Press, pp13-15.
4. Dong JIANG, Xianbin CHEN, Zhiling HUANG, et al (2012), Methods and Prictice of Surveying and Investigation of Rural Collective Tenure[M], Beijing , China Land Press, pp133-134.

## BIOGRAPHICAL NOTES

**Dong JIANG** was born in 1963 and she graduated from Aerophotogrammetry and Remote Sencing Department of Wuhan University, China. As a Senior Research Fellow, she is the director of Cadastre Divisition of China Land Surveying and Planning Institute(CLSPI) .

**Zhiling HUANG** is a PHD Candidate of Renmein Uiniversity(China). She got her Master Degree of Geo-information System Management at International Institute for Geo-information Science and Earth Observation(ITC, the Netherlands). Now she works in Cadastre Division, CLSPI, as an engineer.

## CONTACTS

Name: Zhiling HUANG  
Institution: China Land Surveying and Planning Institute  
Address No.37 Guanyingyuan xiqu, Xicheng District,  
City: Beijing,  
COUNTRY China  
Tel. +86 10 66562932  
Fax +86 10 66562073  
Email: [huangzhiling@mail.clspi.org.cn](mailto:huangzhiling@mail.clspi.org.cn)  
Web site: <http://www.clspi.org.cn>