# To explore and promote the methods and strategies of rural cadastral housing survey and real estate registration

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Keywords: rural area; Cadastral houses; Registration of real estate; method

**Abstract:** In recent years, with the rapid advancement of the integration of urban and rural development in China, the gap between cities and rural areas has gradually narrowed. In order to further clarify the ownership of rural cadastral houses and speed up the efficiency of real estate registration, many provinces and regions in China have issued relevant policies on the implementation of rural real estate ownership registration. These different policies have played a great role in promoting local rural cadastral housing survey and real estate registration, and also improved the real estate registration work and specific implementation paths. This paper focuses on the methods and strategies of promoting the investigation of rural cadastral houses and the registration of real estate. The paper will discuss the relevant documents and task requirements put forward by the state, and sum up reasonable and specific solutions by combining relevant literature and practical experience.

#### 1. Introduction

The implementation of the real estate ownership registration of rural residential land is conducive to clarifying the situation of rural residential land, investigating whether it is obtained, clarifying the right to use the residential land and other rights and interests, bringing rural cadastral houses and real estate into the scope of legal and legal management, helping to strengthen the protection of farmers' real estate rights, and improving the management of rural cadastral houses and real estate. Under the new historical development background, vigorously promoting the investigation of rural homestead ownership and accelerating the registration of real estate rights can realize the optimization and integration of rural resources, aiming to further revitalize rural economic development, and formulate different economic countermeasures based on the current situation of local development. The work has been underway since 2012, but despite some progress over the past decade, many problems remain to be solved. This is mainly due to the complexity of the current situation and situation of China's rural economic development, which cannot be uniformly deployed and investigated, and the implementation methods need to be formulated according to different actual conditions. As a result, many local governments have not yet completed the work of confirming the right to homestead, and many registration works have not been completed as scheduled. In response to the above, local governments and relevant departments should formulate reasonable methods of rural cadastral house survey and real estate registration in light of the actual situation and rural economic development and existing problems, so as to better promote this work, improve the efficiency of investigation and registration, timely grasp the situation of local rural cadastral houses and real estate, and prepare for the next step to implement the work of the Party Central Committee. Revitalize local rural economic development bureaus and promote the development of various undertakings in rural areas.

#### 2. Rural cadastral survey

#### 2.1 Concept and role of rural cadastre

Rural cadastre covers a wide range of contents, involving different resource fields such as land,

DOI: 10.25236/icssem.2024.067

farm house, forest land, grassland and water area used in rural production. Based on these different contents and resources, a complete land information system of various types is built, and all information is incorporated into a unified institutional database and database. Rural cadastral survey is to carry out scientific and accurate survey and grade including the above contents and resources, and carry out field survey and grade of related land, housing, forestry and planting, which is an important work content before the establishment of rural land ownership system and real estate registration.

## 2.2 Purpose of rural cadastral housing survey

In the new historical background, as well as the continuous advancement of the rural revitalization strategic plan, the purpose of speeding up the rural cadastral housing survey has three aspects, including the following details.

First, through vigorously carrying out rural cadastral housing survey, it will help to clarify the specific ownership of rural land, and timely identify the nature of land use, and define the scope and situation of land use.

Second, complete the field survey of rural land, investigate the land situation in rural areas, and provide necessary reference for the formulation of different land reform plans in the future, so as to make adequate preparations for the next strengthening and promoting the transfer of rural land by the central government.

Third, identify the land use situation in rural areas, including the acquisition of land use rights or illegal occupation of farmland, investigate the basic problems in the use of land in rural areas, especially cracking down on the non-sale of land or illegal occupation of land, which will play a certain guarantee role in promoting social stability and long-term development of China.

# 3. Real Estate Registration

#### 3.1 Concept and significance of real estate registration

Since the reform and opening up, China's social production and development has made great progress, urban and rural economy has made great development, but with the transfer of rural labor force to the city, in addition, China has not carried out large-scale comprehensive cadastral housing survey and real estate registration in rural areas. Therefore, the incomplete grasp of the cadastral housing conditions and real estate data in China's vast rural areas leads to certain deficiencies in this aspect, which will bring certain obstacles to the future development of urban and rural economic development plans and rural revitalization strategic plans. Under such circumstances, it is of great significance and effect to speed up the investigation and research on this aspect. At the same time, it is also for the further promotion of local land reform and the completion of the task requirements of the central document No. 1. Since 2023, the Central Government has put forward tasks and requirements related to rural cadastral housing survey and real estate registration. In the context of this document requirements, different provinces and regions across the country have formulated relevant management and implementation measures and plans in conjunction with the central document No. 1, with the purpose of continuously promoting this aspect of work, and a detailed indepth understanding of the number and status of cadastral houses in rural areas, to do a good job in real estate registration. According to real estate registration, registering the title of a building or other land is a very important right for the owner of the house. Article 60 of the Urban Real Estate Administration Law of the People's Republic of China stipulates that "the State implements a system of registration and certification of land use rights and housing ownership"

## 3.2 Procedures and processes of real estate registration

The procedures of real estate registration include application, approval, registration, certification and other links[1]. In the application process, the applicant needs to submit relevant materials and certificates for approval[2]. In the examination and approval process, the real estate registration authority will review and verify the information submitted by the applicant to confirm the right

status of the real estate and the identity of the owner[3]. In the booking process, the real estate registration agency enters the ownership transfer record information into the real estate register and issues the real estate title certificate. In the certification process, the real estate registration agency will issue the real estate right certificate[4].

# 4. Main contents and process of rural cadastral house survey

#### 4.1 Main work contents

In the process of carrying out the rural cadastral house survey and real estate registration, the investigation should be carried out from the ownership and objective actual situation, and the investigation must be carried out in accordance with the relevant national cadastral survey specifications and standards, through the use of GIS system, satellite positioning technology, aerospace remote sensing, etc., and then a full investigation should be carried out. Then we can collect relevant data and materials, make full use of the existing land survey results and real estate registration data, and complete the ownership survey, cadastral survey and real estate survey of aboveground buildings and structures such as homestead and collective construction land and houses through review, internal construction database construction and field investigation. Provide the necessary basis for the registration and certification of rural collective land confirmation [5]. The main purpose of carrying out this investigation is to meet the clear ownership of land in the vast rural areas, so as to further strengthen the real right security of farmers and comprehensively protect the legitimate rights and interests of farmers.

## 4.2 Rural cadastral survey preparation workflow

## 4.2.1 Preparation for rural cadastral survey

As we all know, if we want to steadily promote the work of rural cadastral survey and real estate registration, we must do a good job of unified deployment of work before carrying out this work, and constantly improve the management rules. This is due to the complex survey and registration problems involved in this area of work in rural areas. Before carrying out the investigation, formulating the preparatory work content is to make adequate preparation for the next investigation work, and these contents include six aspects, as follows.

- ① Training of survey talents. Before the investigation, the training of talents should be done well in order to better carry out rural cadastral housing investigation and real estate registration.
- ② Actively organize the relevant management team, in the process of carrying out the investigation and registration work in this area, by strengthening the construction of the management team and reasonably selecting suitable personnel, it will bring great help to the next investigation work.
- ③ Prepare tools and lists. First, select survey tools suitable for investigation and registration in the process of investigation to facilitate investigation, investigation and measurement, such as: GIS system and related equipment, drones, rulers, etc.; Second, in the process of investigation, the manual required for investigation and registration is prepared to facilitate the staff to do a good job of recording the relevant work.
- 4 Before the investigation, select specific tools, such as: using 3S, Internet, database, video, computer, etc., to survey, strategy, etc., adhere to the legal ownership, clear boundary site, accurate area as the most basic principle.
- ⑤ Organize publicity, before the investigation, strengthen the publicity of rural cadastral house survey and real estate registration methods in the region, and go deep into the villages to do a good job in publicity, do a good job in the ideological work of the majority of farmers, so that they can cooperate with the investigation and registration, and explain the benefits of strengthening the investigation and registration in this area, so as to win the support of the majority of farmers. Lay the groundwork for the next work.
  - ⑥In the process of rural cadastral house survey and real estate registration practice, strengthen

the team organization, constantly optimize the management of team organization work and discipline, and improve the efficiency and quality of team organization practice.

### 4.2.2 Ownership survey of rural cadastral survey

In the whole process of foundation housing investigation and real estate registration practice, doing a good job of ownership investigation is the most important and important core investigation link, which directly involves the registration and issuance of land confirmation rights to improve the necessary protection. Ownership survey is to investigate the land topography, information and resources, and after mastering the basic information of ownership, fill in the relevant cadastral survey form and draw the relevant terrain sketch, and measure the distance and length of the boundary site from other sites to register the ownership of the land. Of course, in the process of formulating the working base map, the corresponding technical surveyors must be required to adhere to the original ortho image and the scale of the cadastral map and map as the main basis, and then use the land ownership line, cadastral sub-district line and cadastral area to label the name of the feature, combined with the existing cadastral data. Together with the representatives of the villagers, the representatives of the village committee and the person in charge of the village economic organization, the lot shall be divided and the lot number shall be pre-assigned. In the process of investigation, some areas with independent use area that are difficult to determine may be tentatively designated as public lot [6].

#### 4.2.3 Cadastral survey of rural cadastral survey

In the process of carrying out this investigation, all technical personnel should start from the facts to do their job well, and must carry out the investigation based on objective reasons. They must always adhere to the final results of the ownership investigation as the main basis, and then use the cadastre to do various measurements to determine the specific location of the boundary address point where the investigation is located. At the same time, calculate the specific area of the lot. Cadastral survey includes a lot of specific content, among which, the most important work content can be roughly divided into

Four parts, as follows.

First, the area of the specific cadastre is calculated in the survey.

Secondly, the actual cadastral map is drawn according to terrain, location and area.

Third, do a good job of the actual measurement boundary point work.

Fourthly, the surveying work of cadastre should be well controlled in the investigation.

In the process of actual investigation, relevant technicians should pay attention to minimizing errors, must carefully carry out cadastral control survey work, and the cadastral measurement of the survey must be completed in accordance with the actual situation, such as: for the area where the boundary point is not measured, there is no need to carry out control survey. When all the boundary point survey work is completed, a survey drawing can be drawn in combination with the provisions and requirements of cadastral survey, and then a plot map can be prepared according to the actual situation, and a detailed plot location information map can be drawn for a small part of the area where the boundary point is not measured in combination with the actual situation of the ownership, which can meet the requirements of urgent certification.

#### 4.3 Workflow of housing real estate investigation

#### 4.3.1 Investigate the property rights

In the process of housing real estate investigation, relevant technical personnel should truthfully build files according to the actual situation, collected information, data and materials, as follows.

First, according to the property owner provided the house rural planning permit to complete the construction of the document, and obtain the house construction permit, town planning site selection, complete the preliminary data collection work, file preservation

Second, the existing houses are in mortgage condition or have been sealed up by the court to make remarks, and then file and save.

Third, the inheritance of houses, bequests, gifts, exchanges, sales and other property rights to do a good job of data collection, and clear the specific relationship of the owner of the house, file preservation.

After collecting all the above information, the relevant personnel should make copies of the backup data and retain it.

#### 4.3.2 Measuring the house

The relevant technical management personnel shall carry out detailed measurement of the corner points in the house, implement the same technical measurement method as the electrical measurement of the land boundary site, and adopt a unified way to complete the measurement work. For a small number of houses that cannot measure the length, the actual distance between the boundary point and the corner point is required to be measured, or the adjacent point is used as the main reference for measurement. In this way, the area of the house can be measured more accurately. The property owner who has moved the original house can be measured in accordance with the "Property Measurement Code" as the main standard.

# 5. Implementation

## 5.1 Survey database design

In the process of building the database, the data is logically divided into three different types according to the specific update frequency and the characteristics of the investigation project, as follows.

First, the spatial elements database is mainly divided into different administrative areas of the region, including the cadastre where the project site is located, and the real estate unit area.

Second, the database of non-spatial elements is mainly divided into the identity of property owner, cadastral information and housing conditions.

Third, the document storage mainly includes the lot situation, actual house photos, current features and so on. Among them, the land use status data are mainly divided according to different categories of land use, such as land type map spots or linear features. In addition, the unit measurement data of real estate mainly includes land parcel, boundary point and so on. Finally, the basic geographic data mainly includes line terrain elements.

## 5.2 Methods for building libraries

The construction of the database is to better store the basic information of rural cadastral house survey and real estate registration, and complete the investigation work. Software can choose ARCGIS, the software is powerful, compatibility, data processing efficiency, and can provide a strong scalability of GIS platform, in which ArcObjects can contain a number of different programmable components, from fine-grained objects to coarse-grained objects, the scope involved is relatively wide. Each of these different objects can integrate a fairly complete GIS functionality for the developer. In the process of building the library, the data generated by the platform software can be exported according to different defined attributes; The survey data of non-production platforms is followed by a process to build a database. Based on the spatial element database and non-spatial database, a mapping association is established according to the relevant file database, so that data can be efficiently associated. At the same time, in the process of building the library, it is necessary to complete the conversion of data in time, strengthen the integration of data, and do a good job of sorting.

## 6. Conclusion

To sum up, in the process of rural cadastral house survey and real estate registration, it is necessary to do a good job in the pre-survey personnel training, clear work content and purpose, investigation scope and method, and at the same time

To strengthen the investigation and management work, it is required to carry out the

investigation in accordance with the requirements of laws and regulations, policies and documents, and carry out the investigation according to the investigation work process, accurate measurement, mapping and collection of cadastral housing data, complete the registration of real estate in rural areas, strengthen the construction of the database, and improve the data to complete the data registration work.

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