

REALIZATION OF THE GENERAL CADASTRE IN CHINTENI COMMUNE, CLUJ COUNTY

SERGIU POP¹⁾, NICOLAE POP¹⁾

¹⁾University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, 3-5 Mănăștur st., Cluj,
Romania

Keywords: *General cadastre, Real estate, Cadastral sector, Land book*

ABSTRACT

The paper aims to analyze the necessary works, which were carried out in order to carry out the general cadastre, at the level of Chinteni commune, Cluj County. The general (systematic) cadastre is made by measuring all real estate (land with or without construction) within a territorial administrative unit or a cadastral sector, identifying all owners and other holders of real or personal rights over real estate, simultaneously with the opening of books land for all buildings, operations carried out in a single procedure for the entire cadastral sector or for the entire territorial administrative unit. The implementation of the National Cadastre and Land Registry Plan (PNCCF) brings a series of concrete benefits, starting with the free registration of all real estate in Romania in the integrated cadastre and land registry system, including real estate owned without documents, in favor of de facto owners.

INTRODUCTION

The Cadastre is part of the unitary and mandatory system of technical, economic and legal record of all buildings on an administrative territory. The basic entities of this system are the real estate and the owner. The registration system of the cadastre has as purpose the registration in the real estate advertising register (Oprea L, 2017).

1. **The technical function** of the cadastre is achieved by determining, based on measurements, the position of the configuration and size of the areas of the parcels and constructions by destinations, categories of use and by owners.

2. **The economic function** shall set out the technical elements necessary to determine the amount of taxation of immovable property and to calculate the taxes on income from real estate transactions.

3. **The legal function** is achieved by identifying the owner on the basis of the property deed and by registering in the land register.

The cadastre carries out the identification, measurement, description and registration of buildings in the cadastral documents and their representation on maps and cadastral plans.

The Land Registry contains the description of the real estate and the registration regarding the real estate rights, the personal rights, the deeds, the deeds or the legal relations that are related to the real estate.

The General Cadastre is the unitary and mandatory system of technical, economic and legal record of all buildings throughout the country. The general cadastre is organized at the level of each administrative-territorial unit: commune, city, municipality, county and at the level of the entire country.

The building is the land, with or without constructions, on the territory of an administrative-territorial unit, belonging to one or more owners, which is identified by a unique cadastral number.

UAT Chinteni is located in the central part of Cluj County, about 13 km from the city of Cluj-Napoca, on the county road DJ 109A (Figure 1). The commune is situated in the hilly area belonging to the relief units of the Dej Hills and Cluj, a subunit of the Someșan Plateau.

The territory of Chinteni commune is crossed by the Chinteni stream, a left tributary of the Someșul Mic River, which crosses the city of Cluj-Napoca, on a length of 2.8 km out of the total of 15 km. The area of the river basin of the stream is about 45 km with a flow rate of 80mc/s.

UAT Chinteni is included in Lot 9 of public procurement for systematic registration works within PNCCF Stage I. The executor of the work being designated SC CORNEL & CORNEL TOPOEXIM SRL.



Figure 1. Location of Chinteni commune, Cluj County

Chinteni commune has 9 villages: Chinteni, Deușu, Vechea, Măcițașu, Feiurdeni, Pădureni, Satu Lung, Sălișteea Veche and Sânmărtin which totals about 19700 buildings.

Given the location of Chinteni commune in the immediate vicinity of Cluj-Napoca and the rapid development, the population is constantly growing.

MATERIAL AND METHOD

The program of the works – the resources of the contractor

A. Human Resources

A single team was created based on professional experience within the same type of works. The project will be led by the project manager throughout the contract. The project manager will have full authority and responsibility for the operational management of the project. He will constantly report to the technical director. The project manager will be responsible for the financial management within the project, including the allocation of additional personnel and resources needed during the project (Pop at. al., 2020). The contractual details will be handled by the technical director and general manager of the company.

Throughout the project, the work will be monitored by the representatives appointed by the City Hall and OCPI Cluj. The teams involved in the project will act as a single unit under the control of the project manager. The teams will be made up of qualified personnel with experience in the field. The teams are trained in order to obtain results, compliance with the norms, both those related to the rules of the cadastre and the working time.

Qualified specialists will be available to assist both in the project management part, in the development of the works, and in the training in case of need (County, 2018).

B. Technical resources

For the good development of the project and for the observance of the deadlines in the above presented schedule, the material basis allocated for the project includes:

- Total station - 6
- GPS - RTK and ROMPOS compatible – 6
- Graphic station – 8
- Scanner A0 – 1
- Scanner A4 – 2
- Plotter A0 – 1
- Copier – 4
- Software – spatial data processing – 1

Identification of areas with potential difficulties

Regarding the identification of areas with potential difficulties, the following issues were debated:

- real estate owned by minority ethnic communities.
- the buildings in dispute pending before the courts.

For the problem of real estate owned by ethnic minority communities, we have been informed by the representatives of the competent institutions that there will be no particular problems of communication with these people because they are Romanian language-speaking.

The structure of the population by ethnic affiliation is as follows (Table 1):

Table 1

Population structure by ethnic affiliation

Nr. crt.	Etnia	Locuitori
1	Română	2360
2	Maghiară	543
3	Romă	18
4	Altă etnie	3
5	Nedeclarată	141

For the issue of the real estate in dispute before the courts, we do not have information on particular issues regarding this kind of situations.

Other problems identified regarding areas with potential difficulties are the identification of urban boundaries. (Figure 2).



Figure 2. The current limits of the intravilanes of the localities of chinteni commune and those proposed by the PUG in the stage of completion

Estimation of the volume of measurements

In order to detail the volume of measurements, it was necessary to differentiate the areas to be included in the work as follows:

A. Within the town – 578 ha of which:

- Chinteni – 94 ha
- Săliștea Veche – 16 ha
- The old – 98 ha
- Deșu – 55 ha
- Sânmărtin – 26 ha
- Măcicașu – 52 ha
- One Lung – 55 ha
- Feiurdeni – 149 ha
- Pădureni – 33 ha

B. Outside the village:

- land with normal difficulty – 4500 ha
- land with increased difficulty – 4571 ha
- In the case of the areas within the built-up area of the localities, the following types of works will be carried out:
 - measurements for the realization of the thickening and lifting network.
 - topographical measurements for planimetry that can be performed with the help of total stations and by expeditious measurements.
- In the case of areas outside the localities, the following types of works will be carried out:
 - measurements for the preparation of the support, stuffing and lifting network.
 - topographic measurements for planimetry.

- In general, in systematic cadastre works, the volume of measurements depends to a large extent on:
- landforms - in the mountains or in rough areas it is necessary greater number of measurements
- whether or not the locality was subject to the application of property laws - in uncooperativized areas a very large volume of measurements is required. Even if UAT Chinteni is a cooperative area, the measurements will be numerous, because measurements will be executed both intravilan and extravilan. The use of the tern does not correspond to the situation in the documents. Some landowners use land more than was assigned to them by property laws, justifying the property with the area in the old land register with the land outside the country;
- the type of existing constructions - in the case of the existing localities in the Transylvanian area, the number of measurements is higher, due to the specific architecture. Problems with the photogrammetric method arise in the sense that several constructions can be under the same roof or the constructions are glued together, and the difficulty of differentiating and individualizing them in the pictures arises.
- the period of execution of field work - if the work is carried out in seasons when the vegetation is very rich, a greater number of measurements is required;
- the size of the intravilan - the larger the built-up area, the greater the volume of measurements. UAT Chinteni consists of 9 villages: Chinteni, Sălișteea Veche, Vechea, Deșu, Sânmărtin, Măcicașu, Satu Lung, Feiurdeni and Pădureni, totaling the area of 578 ha intravilan;
- identification of the areas where measurements of buildings are carried out in the field with the participation of the holders - it is absolutely necessary the presence of holders in the cooperative areas at *PNCCF* measurements made in intravilan. In the extravilan, the areas where there are disputes or possible conflict situations will be identified and the owners will be summoned. Following the discussions with the representatives of the Chinteni City Hall, it was established that even in the extravilan, even if it is a cooperative area, the measurements for the parcel plans to be made in the presence of the owners;
- identification of areas that have been subject to property laws - depending on the existence of these areas, the field work plan is made up;
- identification of areas with potential difficulties: buildings owned by ethnic minority communities (Roma, Hungarians, etc.), buildings in dispute pending before the courts, etc. - increased attention will be paid to properties owned by ethnic communities. These communities will be identified with the help of data made available by the city hall.

How to make topographic measurements

A. Within the town

In order to start the topographical measurements in the built-up area of the localities, it is necessary to identify the points in the support network and to materialize and determine the points that are part of the thickening and lifting network. This will be done with the help of GPS determinations (Ortelecan et al. 2016).

The materialization of the points of the supporting geodetic network and of the thickening and lifting networks will be made according to the Romanian standard SR 3446-1/1996, having marks according to the state standard SS 4294-73, issued by the Romanian Institute of Standardization as well as with other marking and signaling systems coming from or taken over from European (CEN) and international (ISO) standards, approved or approved by the ANCP.

After the implementation of the support and lifting network, the following steps will follow:

- topographical elevations with the help of total stations and GPS for measuring the contours of the quartets (street fronts) and of the topographical details in the built-up area of the localities;
- expeditious topographic measurements made with the help of roulettes and distomates respectively.

B. Outside the village

In order to start the topographical measurements in the outskirts of the localities, it is necessary to identify the points in the support network and to materialize and determine the points that are part of the thickening and lifting network. This will be done with the help of GPS determinations.

Data sheet of the building and collection of documents

For the buildings located within the built-up area, interviews will be conducted for each building separately and the data sheet will be filled in with the appropriate information. The interviewing program will be announced in advance to the owners and will be flexible for special cases so that as many buildings as possible are visited.

In the case of buildings located outside the country, the provider together with the representative of the City Hall will establish a program of summoning the owners in the field in order to identify the buildings. The owners will present themselves in groups, on the tarlale, according to the established schedule.

Local information campaign

The purpose of the advertising campaign is to plan and implement information actions addressed to citizens about the need to draw up (carry out) this work, to gain their sympathy and trust in order to have access to immobles and their documents.

Any such campaign must start with a study regarding the need for information in the locality. Formal and informal leaders need to be identified. Ensuring their support and involvement is very important in the further development of the work. These people must be present throughout meetings with citizens.

Since the citizens' contribution to the achievement of this objective is very important, it requires on their part the capacity of understanding and analysis, discernment (reason) and decision-making capacity. That is why we propose an advertising campaign to inform the public that will ensure the achievement of this objective.

Due to the fact that the realization of the general cadastre concerns all the owners of real estates from an administrative-territorial unit, their effective participation in the implementation process is not only essential, but also mandatory. Therefore, we intend to carry out persuasive actions in order to collaborate with the residents with the teams in the field regarding the provision of information about the buildings they own, the presentation of their limits and the provision of documents certifying their right to property.

The awareness campaign of the citizens will be made by the counselors of the information provider with the support of the local authorities, informal leaders, educational units, sanitary and religious institutions of worship.

It is necessary to open an information office in the mayoralities, where councilors can inform citizens of the need for cadastre works. Sustained efforts must also be made to convince the inhabitants that the registration of real estate in the land register represents the guarantee of the right to property. It will also insist on the free cadastre and ask for the help of citizens to provide support to the measurement teams. They will also be informed of the need to prepare the property deeds in advance for the collection process. Within the city hall as well as in other places of public interest, there will be displayed banners

inscribed with messages sent to the citizens of the commune and posters with information about this project.

Information and training sessions will be organized with the support of local authorities who will launch invitations to participate to the inhabitants of the commune.

RESULTS AND DISCUSSIONS

During the systematic registration works, the land register included the areas resulting from the measurements.

According to the law, the situation of the buildings reflected in the technical documents of the cadastre is presumed to be in accordance with the real technical and legal situation, until proven otherwise.

Within the systematic registration works, the situation of the buildings previously registered in the cadastral/topographical plan and in the Land Register, changes according to the current technical and legal situation, identified by the measurements made and the legal acts collected.

In the case of buildings located within the built-up area, regardless of whether they were subject to the laws of the land fund or not, as well as in the case of buildings outside the country, which were not subject to the laws of the land fund, the area is entered in the technical documents, the following will be done:

a) if the building is fenced, the area from the measurements is entered, regardless of the area in the property deed.

b) if the building is unimpeded, the area owned when it is equal to or less than the area in the property deed is recorded; when the area owned is larger than the area in the property deed, the area of the property deed shall be recorded, and, where appropriate, for the area additionally owned, the provisions on noting the possession will be applied, a single land register being opened.

In the case of buildings located outside the country, which were subject to the laws of the land fund, if the area from the measurements is larger than the area in the property deed, the difference in land remains at the disposal of the local commission for establishing the ownership right over the land, in which case the property right will be provisionally registered in favor of the administrative-territorial unit.

CONCLUSIONS

The implementation of the PNCCF brings a series of concrete benefits, starting with the free registration of all real estate properties in Romania in the integrated system of cadastre and land register, including the real estate owned without documents, in favor of the owners in fact.

In addition, certificates of succession will be issued free of charge to citizens in the case of undissold successions for buildings that have been the subject of systematic registration.

At the same time, the public or private domain of the state and of the administrative-territorial units will be entered in the cadastre and land register records.

Also, by carrying out the PNCCF, a real and complete record of the real estate will be created, in order to establish a real basis for the taxation of the properties.

Last but not least, the realization of PNCCF will help attract investors and facilitate real estate trading and stimulate the real estate and mortgage market. In addition, it will facilitate the trading of land and the development of high-capacity farms.

In parallel, PNCCF contributes to the creation of 600 new fixed-term jobs within the ANCPPI and indirectly, to new jobs in the private sector, respectively in the companies that will be involved in the implementation of the PNCCF.

BIBLIOGRAPHY

1. Badea, Gh., 2013 - Cadastru, Ed. Conspress, București.
2. Badescu, G., Calina, A., Calina, J., Milut, M., Babuca, N., Croitoru, A., & Buzatu, C., 2018 - Some aspects regarding the use of gns technology in the general cadastre works in Romania. Annals of the University of Craiova-Agriculture, Montanology, Cadastre Series, 47(1), 465-469.
3. Constantin, O.A., 2010 – Tehnica Satelitară Poziționare Punctuală Precisă, Ed. Tehnopress, Iași.
4. County, A., 2018 - The Introduction of Systematic Cadastre in Romania. Case Study: The Territorial Administrative Unit Cricău, Alba County, 77-86
5. Leu N., V. Budiu, Y. Moca, C. Ritt, ,Yalerta Cioiac, Ana Ciotlăuș, 2002 - Topografie și cadastru, Editura Universul., București.
6. Miluț, M., CĂLINA, J., Călina, A., & Bădescu, G., 2019, Utilization of total stations in the work of detachment a property. Annals of the University of Craiova-Agriculture, Montanology, Cadastre Series, 48(2), 328-331
7. Naș S., Văcaru M., 2010 – Topografie noțiuni de teorie și aplicații, Editura Argonit, Cluj-Napoca.
8. Neuner, J., Badea, G., Onose, D., Badea A.C., Moldoveanu C., 2001– Măsurători terestre. Fundamente, vol. I., Editura MatrixRom, București.
9. Oprea, L., 2017, The registration of real estate through systematic cadastre. International Multidisciplinary Scientific GeoConference: SGEM, 17, 681-688.
10. ***Ordinul Directorului General nr. 700/2014 privind aprobarea Regulamentului de avizare, recepție și înscriere în evidențele de cadastru și carte funciară.
11. ***Ordinul nr. 533/2016 privind aprobarea Specificațiilor tehnice de realizare a lucrărilor sistematice de cadastru în vederea înscrierii imobilelor în cartea funciară.
12. Ortelecan M, Sălăgean T, Pop N, Ficior D, Deak J, Lupuț I., 2016 - Aspects Regarding the Establishment of the Scale Coefficient in the Case of Distances Measurements in a Geodetic Network, Bulletin UASVM Horticulture 73(2): 315-320.
13. Palamariu, M., Padure, I., Ortelecan M., 2002, Cartografie și cartometrie, Editura Aeternitas, Alba Iulia.
14. Pop N, Pop S, Miluț M., 2020, Realization of the topo-cadastral works necessary for the registration of a cadastral sector, belonging to Cătina commune, Cluj county in systematic cadastre, Annals of the University of Craiova - Agriculture, Montanology, Cadastre Series, ed. Universitaria, Craiova, România, ISSN 1841-8317.
15. ȘUBA, E. E., SĂLĂGEAN, T., ONOSE, D., POP, I. D., MATEI, F., ORTELECAN, M., & CHIOREAN, S., 2019, Creating the Cartographic Database and Informatization of the Systematic Cadastre Works Process. Bulletin UASVM Horticulture, 76(1), 114-119.