# IMPLEMENTATION OF SYSTEMATIC CADASTRE IN AN ADMINISTRATIVE TERRITORY

George Emanuel VOICU, Lect. Dr. Eng., "1 Decembrie 1918" University of Alba Iulia, Romania, emanuelgeorge81@yahoo.com Florina VOICU, PhD. Stud. Eng., "Babeş-Bolyai" University of Cluj-Napoca, Romania

**Abstract**: By its nature, the Earth has always been considered as a means of production without which life would not have existed, being limited as a surface, stable and irreplaceable, people transforming it into a good whose value has been established to the point. As a real estate, both the land and the constructions on it, have been subject to tax and tax records. At the same time, these records made it possible to establish the property right at the same time as creating the premise for its transmission in different situations.

The success of land reform, the consolidation of democratic structures and the organization of society cannot be achieved without clear evidence of land ownership and ownership. Achieving evidence of real estate within an administrative territory now involves the execution of some complex works that allow highlighting the three aspects of a building: technical, economic and legal, so that can be created a complex record of the entire land fund in Romania.

*Keywords:* cadastre, Land Registry, Integrated Cadastre and Land Register System, Administrative Territory, real estate, surface

### 1. Introduction

The Cadastre and the Land Book are a compulsory system of technical, economic and legal evidences of immovables. This system has a major importance for the entire territory of Romania. [1], [2]

Through the National Cadastre and Land Book Program, starting in 2015, based on Government Decision no. 294/2015 regarding the approval of the National Cadastre and Land Book Program 2015-2023 is stated the free registration of real estates in the integrated cadastre and land registry system and the identification of all owners which have property located in urban and rural areas of an administrative territory. [3]

Currently, cadastral works systematically within the National Cadastre and Land Registry (PNCCF) takes place in hundreds of communities across the country, as demonstrated by the information provided by representatives of National Agency of Cadastre and Land Registration (ANCPI). [4]

### 2. Materials and Methods

The objective of systematic cadastre is represented by the activity of registering in the Integrated Cadastre and Land Register System the buildings located outside the city. [5], [6]

For cases where the administrative territory does not have extravilan terrain, the cadastral work can be done at the level of the cadastral sector for intravilan lands. The technical works will be carried out by the delimitation of the administrative territory and the intravilan areas that are set in the integrated cadastre and land registry system. If such

delimitation is contested, the amicable settlement procedure will be followed through mediation by the prefect's institution or through the courts. For the execution of the technical works, the existing limit will be used within the integrated cadastre and land registry system, until the settlement of the dispute. [7]

The specialized cadastral works will be drawn using the National Stereographic Projection System 1970, the measurements being executed according to the technical norms that are available at the time of the work. [8]

According to the law, the legal situation of the real estates within the technical documents of the cadastre is supposed to be in line with the real technical and legal situation, up to proven otherwise. [9], [10]

Taking into account the existence of systematic registration, the technical situation of the related immovables will be changed in accordance with the measurements made and the legal acts collected. [11], [12]

Regarding the surface of the real estates, in case there are differences between the real surface and the surface noted in documents, the situation will be solved taking into account the following aspects: [13], [14]

a) if the surface of the measurements is smaller than the surface from the documents, the surface of the measurements shall be registrated in the land book based on the relevant cadastral documentation;

b) if the surface of the measurements is higher than the one in the acts with a maximum of 10% for the intravilan lands and maximum 5% for the lands in the extravilan, then the area of the measurements shall be registrated;

c) for surfaces resulting from measurements, which are higher than the percentage established for the surfaces of the documents, the possession on the difference of land held without ownership act in accordance with the law shall be recorded on request.

### Determination of cadastral sectors

Determination of the cadastral sector or cadastral sectors, as the case may be, shall be carried out by the two institutions involved in the cadastre: the City Hall of Administrative Territory Unit and the related Office of Cadastre and Land Registry, based on the provisions contained in the contract for the financing of the work.

Based on the actual regulations, the cadastral sector is the unit of area delineated by stable linear elements in time and is set up for the organization of the cadastral works within an Administrative Territory Unit . [15], [16]

In order to establish the demarcation line of a cadastral sector (figure 1), it is necessary to consider:

- Administrative Territory Unit limits held by Office of Cadastre and Land Registry;
- orthophotomap;
- the boundaries of existing urban areas at that time;
- the existing cartographic database;
- etc.

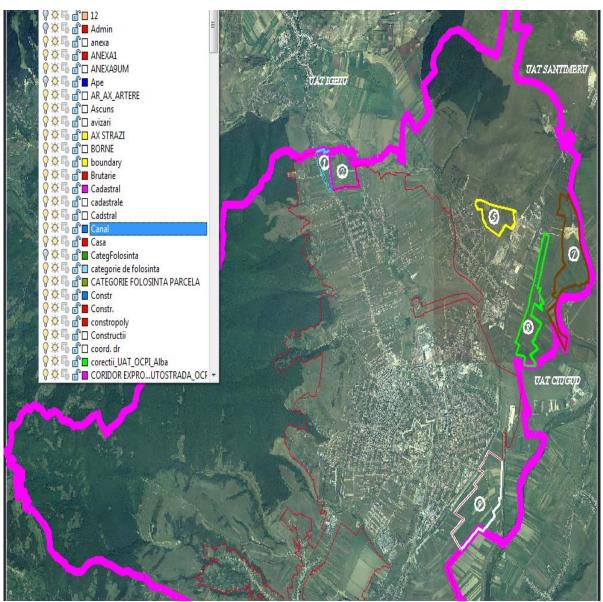


Fig.1 Determination of Cadastral Sectors

### Identify the boundaries of real estates

Systematic registration of real estates is based on the use of graphical representation of the boundary of the administrative-territorial unit and the boundary of the intravilan areas. Regarding the technical and legal identification of the immovables, it will be modify according to the updated data through the systematic cadastral work. [17]

The identification of the boundaries of the real estates will be done in the presence of the owners, and in the absence of them, it will be made by the executor of the work. [18]

For enclosed real estates in the urban area, the boundaries are usually materialized in the field by stable details over time and for those that are not impaired, the boundaries are determined on the basis of existing measurements and plans. [19]

For buildings that are located outside the localities, there are identified several situations that will be treated properly each: [20]

- for the case where parcels plans exist (figure 2), these data are taken where they really reflect the real situation on the ground;

- In the case that there are not parcel plans, the boundaries of the real estates are established on the basis of the information provided by the Office of Cadastre and Land Registry, the City Hall and the owners.

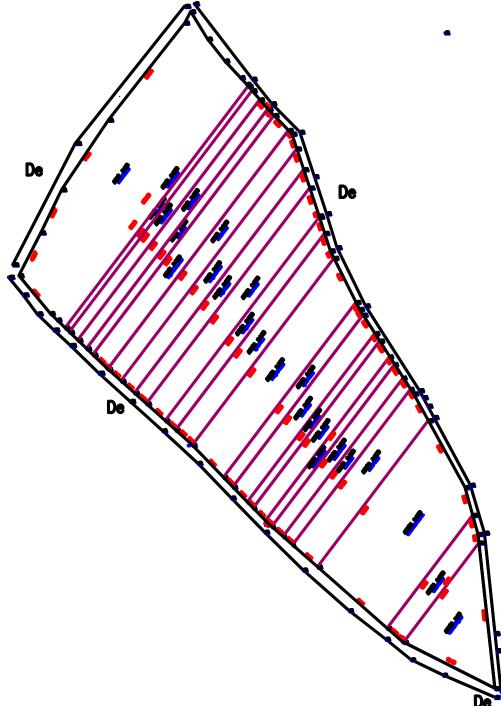


Fig. 2 Parcels Plans

### Collection of documents

This stage is carried out after the owners have been notified about the realization of the systematic cadastre. The acts that are the basis of the legal situation update will be carried out, are:

- Property acts:
  - Title of ownership (according to the original);
  - Sale-purchase contract (certified copy);
  - Certificate of heir (certified copy);
  - Partitioning Act (legalized copy);
  - o Registry Book (copy);
  - Government Decision or Local Council Decision for roads or canals.
- Identity documents:
  - o ID card;
  - o Death certificate.

### 3. Results and Discussion

Following the measurements will result the cadastral plan that must contain:

- Polyline of the sector boundary;
- Sector number;
- Provisional ID and final real estate ID;
- Parcel number;
- Category of use;
- Land Registry Number (for immovables that are already listed);
- Destination of constructions.

Verification of correct assignment of the work from the point of view of the national coordinate system was done by digital overlaying of the cadastral plan with the other existing digital cartographic products. [21]

When importing the cadastral information into the database (figure 3), the following information must be completed:

- Provisional ID and final real estate ID;
- Surface obtained from measures;
- Parcel number;
- Category of use;
- Destination of buildings;
- Fencing / not enclosed;
- Cooperative / non-cooperative area.

For each real estate it will be necessary to complete all the existing documents for holding the respective immovable (figure 4).

St	erne	Adau	na	Sumar imobil	Date cadastrale	Proprie Deschide PDF imobil
Sterge 1 imobil(e) in lista Cautare rapida: Sector: Id Final: Id Provizoriu: Filtre		Adauga 4 350 reaza		Id Final: Id Provizoriu: S. Masurata: S. Acte: S. act constr.: Tarla: ; Parcel	350       Sector cadastral         350       Sector cadastral         2300       4         2300       4         0       a: 2318/1         Extravilan       Parte din CFE	
ld Proviz. 350	S. Mas. 2300 mp	S. Act 2300 mp	Sector 4	Mentiuni imobil:	Cooperativizat	Neimprejmuit
				CFE: CF hartie: Judet: Comuna: Localitate: Tip strada: Nume strada:	ALBA Sona	Nr. topo.:
				Numar postal: Bloc: Cod postal: Mentiuni adresa: Contestatia: Solutie contest.:		Scara:         Etaj:         Ap.:         Data:         □         Data:
				Solutie contest.:	eaza	

Fig. 3 Importing the Cadastral Information into Database

Sumar imobil	Date cadastrale	Proprie Deschide PDF imobil
Acte		PDF = IdProvizoriu
Denumire:	Titlu de proprietate	~
Tip:	Act administrativ	~
Numar:	6414/213	Data: 15-03-1995
Emis de:	CJSDPAT ALBA	
Mentiuni:		
Moneda:	~	Numar:

Fig. 4 The Introduction of Property Documents into Database

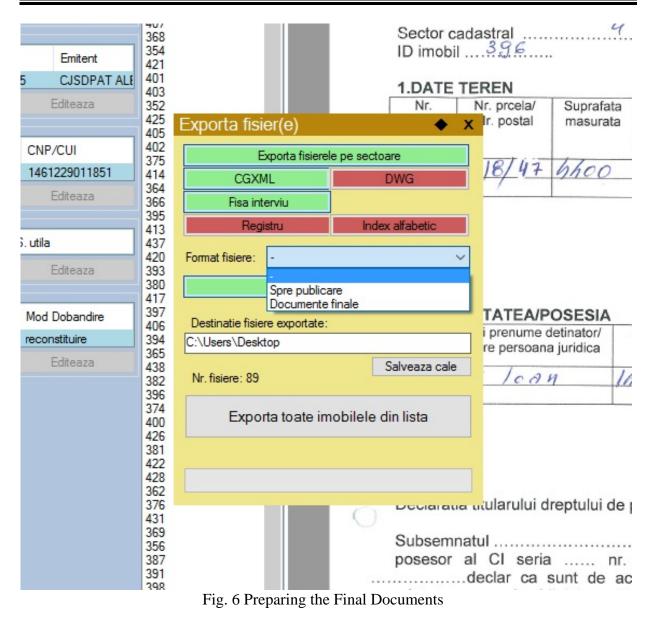
Subsequently, on the basis of the ownership documents, all the owners owning the property at that time will be registered with their identification data: Personal Numeric Code (CNP) or Unique Registration Code, respectively the address (figure 5).

Proprietari			Deschide PDF imobil				
			PDF = IdProvizoriu				
Persoana fizica							
Nume:	MUSCA						
Prenume:	VICTORIA						
Initiala:							
Nume anterior:							
CNP:	2301026011852						
Cetatenia:	Romania		~				
Tip buletin:			~				
Serie:		Numar:					
Telefon:							
Email:							
Mentiuni:							
	Adresa necuno	scuta	Decedat				
Judet:	Adresa necuno ALBA	scuta	Decedat ~				
Judet: Comuna:		Iscuta	Decedat ~				
	ALBA	scuta	Decedat ~ ~				
Comuna:	ALBA Sona	scuta	Decedat ~ ~ ~				
Comuna: Localitate:	ALBA Sona	oscuta	Decedat ~ ~ ~				
Comuna: Localitate: Tip strada: Nume strada:	ALBA Sona	scuta	Decedat ~ ~ ~				
Comuna: Localitate: Tip strada: Nume strada: Numar postal:	ALBA Sona		Decedat V V V V V L L L L L L L L L L L L L L				
Comuna: Localitate: Tip strada: Nume strada:	ALBA Sona	Scara:	Decedat ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~				
Comuna: Localitate: Tip strada: Nume strada: Numar postal:	ALBA Sona	Scara: Etaj:	Decedat				

Fig. 5 Entering Data about the Owner

The export of data will be made in accordance with the documents to be handed over to the completion and receipt of the systematic cadastral work. At this moment, the type of documents to be taught will be identified, because the teaching will be done in two stages, namely (figure 6):

- Stage 1: documents for publication;
- Stage 2: Final documents.



### 4. Conclusions

The works of the National Cadastre and Land Registry Program began in 2015 and are in full swing. Until 2023, all real estates in the country will be registered free of charge in the Integrated Cadastre and Land Registy System. With the implementation of this program, the legal status of buildings will be clarified, which will lead to an alert development of infrastructure projects, land consolidation, inventory of public or private property of the state, the issuance of legal acts objecting to property, etc.

Along with the general advantages offered by the National Cadastre Program, such as: the reduction of the deadlines for the requests made for obtaining the cadastral information regarding a real estate, the reduction of the costs of the real estate transactions, the updating of the register of the buildings in the mayor's offices and the updating of the cadastral data buildings.

## 5. References

- 1. Tudoraşcu, M.; Oprea, L.; Ienciu, I., Cadastral Register in the New Romanian Civil Code, 15th International Multidisciplinary Scientific GeoConference SGEM 2015, SGEM2015 Conference Proceedings, Book2 Vol. 2, 2015, p. 129-136;
- 2. Oprea, L.; Ienciu, I.; Grecea, C.; Popa, D., Protection and Inclusion of Nature Reserve Areas into the Romanian General Cadastre, Journal of Environmental Protection and Ecology, 12 (4), 2011, p. 1935-1940;
- 3. Hotărârea Guvernului nr. 294/2015 privind aprobarea Programului național de cadastru și carte funciară 2015-2023;
- 4. Badea, A.C.; Badea, G.; David, V., A Study about New Cadastral Legislative Provisions in Romania Correlated with Cadastre 2034, 15th International Multidisciplinary Scientific GeoConference SGEM2015, Volume 2, 2015, p. 21-26;
- 5. Oprea , L., The Registration of Real Estate Through Systematic Cadastre, 17th International Multidisciplinary Scientific GeoConference SGEM 2017, SGEM2017 Conference Proceedings, Vol. 17, Issue 22, 2017, p. 681-688;
- 6. Badea, G.; Badea, A. C., Considerations Regarding the Implementation of the Technical Specifications in the Urban Information System, RevCAD Journal of Geodesy and Cadastre, Issue 15, 2013, p.23-32;
- 7. Oprea, L.; Ienciu, I.; Tudorascu, M.; Filip, L., Legal Aspects Related to the Neighboring Of Properties, 15th International Multidisciplinary Scientific GeoConference SGEM 2015, SGEM2015 Conference Proceedings, Book2 Vol. 2,, 2015, p. 331-338;
- 8. Oprea, L.; Ienciu, I.; Tudorascu, M.; Filip, L., Implications of Topography and Cadastre in Tourism Planning and Sustainable Development of 'Alba Carolina' Vauban Citadel, Journal of Environmental Protection and Ecology, 16 (3), 2015, p. 1016-1023;
- 9. Ienciu, I.; Oprea, L.; Tudorascu, M.; Filip, L., Aspects Regarding the Realization of Real Estate Cadastre in Romania, 15th International Multidisciplinary Scientific GeoConference SGEM 2015, SGEM2015 Conference Proceedings, Book2 Vol. 2, 2015, p. 105-112;
- 10. Oprea, L.; Ienciu, I.; Popescu, C.; Vorovencii, I., Urban Conversion and Topographic Extension of Residential Land in View of Building New Housing Complexes, 14th SGEM GeoConference on Informatics, Geoinformatics and Remote Sensing, SGEM2014 Conference Proceedings, Vol. 2, 2014, p. 623-628;
- 11. Tudorascu, M.; Ienciu, I.; Oprea, L., The Institution of Property in the New Romanian Civil Code, 14th SGEM GeoConference on Informatics, Geoinformatics and Remote Sensing, SGEM2014 Conference Proceedings, Vol. 2, 2014, p. 521-528;
- Oprea, L.; Ienciu, I.; Vorovencii, I.; Popescu, C.; Voicu, G. E., An Optimized Cadastral Registration System for Real Estate Property in Romania, 13th SGEM GeoConference on Informatics, Geoinformatics and Remote Sensing, SGEM2013 Conference Proceedings, Vol. 2, 2013, p. 33 – 40;
- 13. Ienciu, I.; Tudorascu, M.; Oprea, L., The Realization of Extrajudicial Cadastral Expertise in Romania, 14th SGEM GeoConference on Informatics, Geoinformatics and Remote Sensing, SGEM2014 Conference Proceedings, Vol. 2, 2014, p. 575-582;
- 14. Oprea, L.; Ienciu, I.; Tudorascu, M., Legal and Technical Effects of Property Law Application in Romania, 14th SGEM GeoConference on Informatics, Geoinformatics and Remote Sensing, SGEM2014 Conference Proceedings, Vol. 2, 2014, p. 337-344;
- 15. Oprea, L., Standardization of Cadastral Numbering in International Context, 16th International Multidisciplinary Scientific GeoConference SGEM 2016, SGEM2016 Conference Proceedings, Book2 Vol. 3, 2016, p. 455-462;

- 16. Grecea, C.; Ienciu, I.; Dimen, L.; Bala, A.C.; Oprea, L., Cadastral Support for an Efficient Town Planning in Timisoara, Journal of Environmental Protection and Ecology, 13 (2A), 2012, p. 1099-1106;
- 17. Badea, G., The Importance of Creating Topology in Workflow Systematic Cadastral Records of Romania–CESAR Project, GENG'13 Conference, Proceedings of the 1st European Conference of Geodesy & Geomatics Engineering, 2013, 156-163;
- 18. Ienciu, I.; Vorovencii, I.; Oprea, L.; Popescu, C., Urban Development of Mountain Areas with the Aim of Developing Local Tourism, Journal of Environmental Protection and Ecology, 14 (3), 2013, p. 980-985;
- 19. Ienciu, I., The Achieving of Cadastral Data Bank for Real Estates Intended on Restitution Actions, 17th International Multidisciplinary Scientific GeoConference SGEM 2017, SGEM2017 Conference Proceedings, Vol. 17, Issue 23, 2017, p. 687-694;
- 20. Ienciu, I.; Oprea, L.; Popescu, C.; Vorovencii, I.; Voicu, G. E., Survey Mapping of Romanian Forestland and its Update Through Low-Cost Applications, 13th SGEM GeoConference on Informatics, Geoinformatics and Remote Sensing, SGEM2013 Conference Proceedings, Vol. 2, 2013, p. 443 – 450;
- 21. Ienciu, I., Forest Management Part of the Cadastre In Romania, 16th International Multidisciplinary Scientific GeoConference SGEM 2016, SGEM Vienna GREEN Extended Scientific Sessions, SGEM2016 Conference Proceedings, Book 3 Vol. 3, 2016, p. 431-438.