

## THE EVOLUTION OF CADASTRE AND CARTOGRAPHY IN ROMANIA IN THE 100 YEARS FROM THE GREAT UNION (1918-2018)

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**Abstract:** *The implementation of cadastre and cartographic products was generated by the society's needs to develop, the measurement technologies and the concept of graphic representation. The present case study includes a synthesis of the cadastral and cartographic works that were conducted during three different historic periods: 1918 - 1950, 1951 - 1989 and 1990 - 2018. Cadastre was first established in Greater Romania on January 3<sup>rd</sup>, 1919, based on Decree no. 3922 that stipulated the organization of "Central Office for Cooperation and Apportionment of Propriety to Peasants". Within this new created institution it also functioned the "The Department of Cadastre and Technical Works" that was responsible with the implementation of the general cadastre. In the present stage, it has passed on to the execution of systematic cadastral works estimated to be conducted between 2015 - 2023. These works are financed by the National Agency of Cadastre and Real Estate Advertisement and are conducted by specialized professionals according to the official legislation and technical provisions in force.*

**Keywords:** *general cadastre, cartography, systematic cadastre, legislative updates*

### 1. Introduction

The implementation of cadastre and land registration activity in the 100 years that passed from the Great Union (1918-2018) was marked by different stages and historic periods. Considering the society's organisation and legislation, this process can be divided into three periods: 1918 – 1950, 1951 – 1989 and 1990 – 2018.

The first period, with its two distinct stages, included the organization of general cadastre in Greater Romania (1918 – 1933), and the implementation of the general cadastre (1933 – 1950). The second period included the introduction of real estate records on economic sectors (1951 – 1970), which continued with the actual cadastral works (1971 – 1989). The present period of the unitary cadastral system and land register can also be presented as having three stages: 1990 – 1995, 1996 – 2014 and 2015 – 2018.

## 2. The first cadastral activities in Romania

Cadastré and land registration was introduced by the Romanian provinces gradually, under the impulse of different regulations and legislations. The apparition of cadastral works and/or land delimitation differed from one Romanian province to the other, considering the particularities of their historical evolution and the economic needs of the society.

- In **Northern Bukovina**, the cadastre originates from the “*patenta*” dated August 11<sup>th</sup>, 1770. The cadastral works relied on the legal provisions of 1816 and 1817 that also included the land register advertisement system (Miclea, M., 1995). The cadastre of Bukovina was organized based on the “*cadastral registrations*” that had the same range of activity as the courts of peace, under the command of which it was introduced the land register advertisement system on April 20<sup>th</sup>, 1874.

- In **Transilvania** and **Banat**, the cadastre had its debut in 1794, and it was established by the *Austrian Imperial Decree* of October 20<sup>th</sup>, 1849, based on which the cadastral works were performed in stages, in the following years:

- **1850 - 1854**, the “*concretual cadastre*” it was introduced based on the measurements made by “*picheri*” or “*crocar*”, notaries and other public officers;

- **1875 - 1885**, the previous works were redone by establishing the limits, measuring and drawing up maps, at scale 1:7 200, based on the Ordinance no. 2784, November 8<sup>th</sup>, 1867;

- **1892 - 1918**, the “*precision cadastre*” started being introduced, based on cadastral and merging works, that relied on the general cadastral network;

At the same time with the beginning of cadastral works, it was legalized the real estate advertisement system. It relied on the Land Register Regulation of 1855 and the Ordinance on the expansion of the provision of the regulation from 1870 (Miclea, M., 1995).

- In **Muntenia**, the first written legal provision on the limits of real estates is in Alexandru Ipsilante’s “*Pravilniceasca Condică*” (1780), followed in 1819 by the “*Law of Ion Gheorghe Caragea*”. The two laws stated the real estate had to be measured and delimited, and it also included a set of legal provisions (Boş, N., 2003).

- In **Moldavia**, the “*Calimach code*” was approved in 1817 at the initiative of the ruler Scarlat Calimachi. Apart from legal measures, it was also stipulated the obligation of measuring the estates. This code was also known as “*The Civil Code of the Principality of Moldavia*” and it was applied until 1865 when the Civil Code entered into force.

Based on the Organic Regulations used in the two Romanian provinces until 1858, the following two new law projects were drawn up. They included details on estate delimitation, with cadastral purposes, as follows:

- „*Project of cadastral measurements in the entire Principality*”, drawn up in 1831 in Muntenia, under the rule of Alexandru Dimitrie Ghica;

- „*Project of public laws and real estate delimitation*”, drawn up in 1832, under the rule of Mihail Grigore Sturdza.

- In the **Old Kingdom** it was drawn up “*Regulation for the establishment of real estate limits*” (1868), for better knowing the properties. This regulation introduced the title of land surveyor and it was established the procedure for settling the limits of real estates.

The implementation and coordination of geodetic, topographic and mapping activity was conducted by military and civil institutions. In this context there are mentioned: The Military Topographic Services (1859 - 1870); The Army’s War Warehouse (1870 - 1895) and the Army’s Geographic Institute (1895 - 1910). Towards the end of the 19<sup>th</sup> century the geodetic (1873) and topographic (1875) activity for making the map of Romania started, also known as *the basic plan at scale 1:20 000* (Dragomir, V., Rotaru, M., 1986).

The maps and topographic plans drawn up in time were made using different systems of cartographic projections. In 1873 it was adopted the “*equivalent Bonne pseudoconic projection*”, being considered “*the first applicable projection for the country’s topographic map*” (Munteanu, C., 2003).

- **The map of Moldavia** was drawn up based on the measurements conducted between 1873-1895, with an interruption between 1871 and 1878, due to Romania’s war of independence. The measurements were calculated using the *Bessel – 1841 reference ellipsoid* and reduced to the *equivalent Bonne pseudoconic projection plane*. Moldavia’s map included *496 map sheets*, 50 x 50 cm, scale 1:20 000.

- **The map of Dobrogea** was drawn up based on the topographic measurements conducted after the War of Independence, between 1880-1884. For this territory there were created *736 map sheets*, at scale 1:10 000, which included 25 km<sup>2</sup>, and were used both for the map of the country and for cadastral records.

- **The map of Eastern Muntenia** that included the territory east to the Zimnicea meridian (23° east to Paris) was updated after the works conducted between 1895 and 1899. The decimal system of the meter was used for the first time with these geodetic and topographic measurements. The topographic map of eastern Muntenia, at scale 1:20 000 included *460 map sheets*, 100 km<sup>2</sup> on each sheet, being edited on map sections of 50x50cm.

- **The map of western Muntenia and Oltenia** included the territory situated west to the Zimnicea meridian, being drawn up based on the measurements conducted since 1896 on. The *1880- Clarke ellipsoid* was used as well as the *equivalent Bonne pseudoconic projection*.

Below there is a fragment of the topographic map of **eastern Muntenia** made in 1895, “*Planul Bucureşci*” (The plan of Bucharest), scale 1:20 000, (The Military Topographic Division, 2004), on the anniversary of “*145 years of Military Topographic Service* ” (Fig.1).

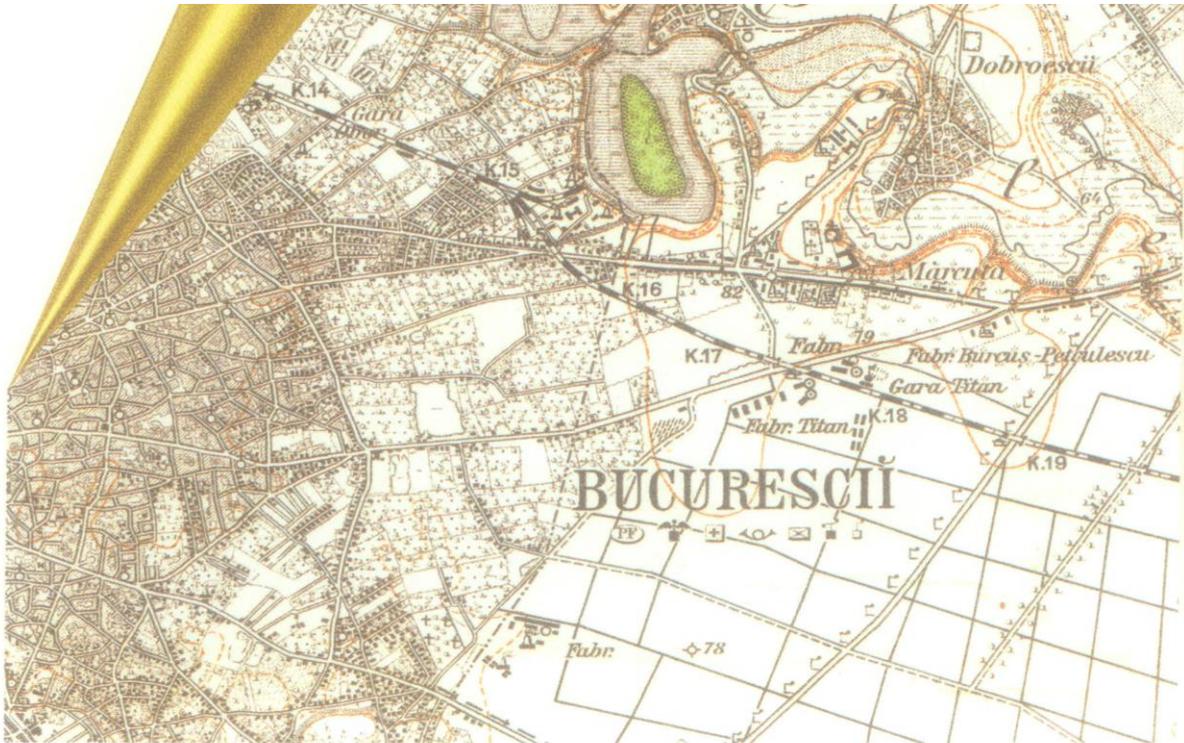


Fig. 1. Fragment of the plan of Bucharest, scale 1:20 000, 1895.

In 1900 the general C.I. Bratianu presented on the anniversary of 25 years of the Romanian Geographic Society (1875-1900), the stage of the mapping process. By 1900 „almost 2/3 of **Romania’s map** were completed, being presented the following documents: the **map of Moldavia**, scale 1:20 000, the **map of Dobrogea**, scale 1:10 000 and the **map of Muntenia**, scale 1:20 000, close to the Olt Valley” (Dragomir, V., Rotaru, M., 1986).

### 3. Historic period (1918 – 1950)

The first great reforms conducted in Greater Romania were the *Agricultural Reform* adopted in 1917 and the *Electoral Reform*, promulgated in 1918 and 1919. The evolution of cadastral and cartographic works in this period underwent two distinct phases.

#### 3.1. The organization and unification of cadastre (1919 - 1933)

This phase began with the approval of the *Royal decree no. 3922 of January 3<sup>rd</sup>, 1919*, that lay at the base of the “*Central Department of Cooperation and Villager’s Appointment of Property*”. At first, this Department also included the “*Department of Cadastre and Technical Works*” that was afterwards transferred to the Ministry of Agriculture.

The existence of this legal framework lead to the organization and the unification of cadastre from Transylvania, Banat and Bucovina and to its introduction in Moldavia, Muntenia, Oltenia and Dobrogea (Tămăioagă, Gh., Tămăioagă, Daniela, 2005).

Apart from the *Department of Cadastre and Technical Works*, that had a key role in the activity of measuring and drawing up cadastral plans, another important contribution belonged to the *Army’s Geographic Institute* that created higher order geodetic networks and topographic maps. Simultaneously, in 1928 it was organized the *Service of Land Registers* within the Ministry of Justice, and in 1930 it was organized within the Railway Department “*the Central Land Register of Railways and Canals*”. The measurements made in 1919-1933 used different local reference systems, with different plan-metric positioning accuracy, elements of plans and cadastral maps.

In 1916, a French military mission arrived in Romania and along with the *Army’s Geographic Service* decided to unify the different cartographic projections. For this, it was adopted the “***modified Lambert - Cholesky conformal conic projection***” and it was drawn up the basic map, scale 1:20 000, in a single format of 50x75 cm.

The activities conducted between 1919-1933 were characterized by intense geotopographic activity and the territorial organization of the state.

The mapping activity in 1930 was highly heterogeneous. In 1930, the *Army’s Geographic Service* becomes the *Military Geographic Institute* that conducted a new general survey based on a modern and unitary execution concept.

- The usage of the *fundamental astronomic point* for the entire territory of the country, it being the *western pillar of the Military Astronomic Observatory of Bucharest*.

- The implementation of the *Hayford reference ellipsoid* (1909) with the wide semi axe of 6 378 388 m, geometrical flattening of 1:297 and the origin at the *Greenwich meridian*.

- The official implementation of the ***azimuthal, oblique, conform stereographic perspective on the secant plane – 1930 projection***, with the central point near Brasov.

- The fulfilment of a *modern triangulation* in a unitary system included: 6 *chains of primordial triangulation*, the *1<sup>st</sup> order complementary network* and the *2<sup>nd</sup> and 3<sup>rd</sup> order network*.

- The approval of a document entitled “*The Regulation for the execution of geodetic works*” that was issued in 1933 by official decree.

### 3.2. The beginning of modern cadastre and land registration (1933 - 1950)

This stage started with the legalization of how cadastre and land register were organized and implemented based on *Law no. 23 of April 10<sup>th</sup>, 1933* for the “*Organization of cadastre and the introduction of land register in the Old Kingdom*”. With this legal base it was conceived a unitary geodetic network for the execution of measurements and for creating the methodology for drawing up plans and cadastral registers (Badea, Gh., Folfă, I., 2002).

The administrative organization of the territory that stood for the Greater Romania also known as “*Reunited Romania*” ([https://ro.wikipedia.org/wiki/Rom%C3%A2nia\\_Mare](https://ro.wikipedia.org/wiki/Rom%C3%A2nia_Mare)), with the total surface of **295 641 km<sup>2</sup>**, included **10 historic regions** that were divided into **70 counties** (Fig. 2).



Fig. 2. The historic regions and counties of Greater Romania (1918 - 1940)

At the beginning of this stage it was stipulated the execution of these cadastral works in Muntenia and Dobrogea and afterwards in Moldavia and Oltenia, simultaneously with the actualization of the ones existing in Bucovina, Transylvania and Banat. In the first 10 years (1933 – 1943) the “*Technical cadastral norms*” of Transylvania were used. Based on the experience accumulated in those 10 years, in 1943 were drawn up the “*Norms for the introduction of cadastre*”.

The real estate advertisement was introduced with the *Law no. 23/1933 by Decree no. 115 of April 17<sup>th</sup> 1938* on the “*Modification of the provisions on land register*”. From the works conducted in Ilfov County, there are mentioned 78 cadastral territories with the surface of 160 426 hectares. The official cadastral documents included: *the fundamental geodetic sheet*, scale 1:25 000 and the *topographic sheet/cadastral sheet* scale 1:10 000.

Between 1944 and 1950, the cadastral activity stagnated because of the measurements and the parcelling process caused by the temporary appointment of property of peasants and, the lack of financial resources dedicated to cadastre, respectively (Moca, V., Ilioi, D., 1998).

The balance of cartographic representations for the territory of Romania from 1946 included most of the country's territory, except for an area of 7 500 km<sup>2</sup> from the north of Oltenia. In this area it was used the *topographic map*, with cartographic representations from the time of the ruler Barbu Stirbei, 70 years old.

#### 4. Historic period (1951 – 1989)

The first activities from this period include the institutional and organisational frame of institutions specialized in the field of terrestrial measurements and cadastre. The evolution of cadastral and cartographic works from this period recorded a first stage (1951-1970) that included works of “*land registration*”. The next stage (1971-1989) included the actual “land cadastral” works.

##### 4.1. Records of land registration (1951 - 1970)

The institutional and organizational context of land and cadastral measurements included numerous transformations and reorganizations, the most representative ones being:

- On June 28<sup>th</sup>, 1950, the *Military Geographic Institute* is reorganized as the *Military Institute of Topography* with four specialized departments:
- On January 15<sup>th</sup>, 1951, *Military Institute of Topography* became the Military Topographic Division, with six specialized departments.
- By *Order no. 81 from February 10<sup>th</sup>, 1958* issued by the Ministry of Agriculture and Forestry it was organized the *National Centre of Photogrammetry* coordinated by the *General Direction of Geodesy and Real Estate Organisation*.
- In April 1962, the *National Centre of Photogrammetry* becomes the “*Sector III Photogrammetry*”, within the Institute of Agricultural Studies and Projections.
- In 1966, the *National Centre of Photogrammetry* becomes an independent unit of the Superior Council of Agriculture.
- In 1970, the *National Centre of Photogrammetry* undergoes various changes as it is included into a unit of national interest, known as the “*Institute of Geodesy, Photogrammetry, Cartography and Land Organization*”, with four basic sectors.

The legal frame for “*land registration*” was regulated by *Decree no. 281/1955*, published based on HCM 1240/1955. This Law intended, mainly, the merging of agricultural land from the collectivization period. For this there were drawn up “*land registration*” graphics and registers under the coordination of the Higher Council of Agriculture. The “*land registration*” activity conducted between 1955-1968 was not a coherent cadastral system although there were created a series of basic technical elements (Moca, V., Ilioi, D., 1998).

The *Law no. 12/1968* on the “*Defence, preservation and use of agricultural land*” regulated a number of technical aspects of the agricultural real estate and the manner of introducing the land registration activity. The specialized department from the Ministry of Agriculture and Food Industry was named “*The Department of Real Estate and Cadastre*”, and in the counties there were organized “*Offices of Cadastre and Real Estate Organization*”.

The topographic, geodetic, photogrammetric and cartographic activity from this period consisted in the modernization of geodetic networks and the elaboration of the map.

The cartographic documentation was made using the “*Gauss-Krüger Conform Transverse Cylindrical Projection*”. This projection was introduced in 1951 along with the

*Krasovski-1940 reference ellipsoid with the fundamental astronomic point in Pulkovo-Russia, that was defined using the “1942 system of coordinates”.*

The Gauss-Krüger projection was used between 1951-1973 for drawing up basic plans and topographic maps (Moca, V., Chirilă, C., 2002).

- *Basic topographic plan*, scales 1: 5 000 and 1: 10 000.
- *Basic topographic map*, scale 1: 25 000, printed in 7 colours, was made in the following phases: 1951 – 1959, the first edition (“*classical map*“); 1970 – 1990, the second edition („*modernized map*“) and from 1991, it was made the third edition, as a „*digital map*“ for the entire territory of the country (Fig. 3).

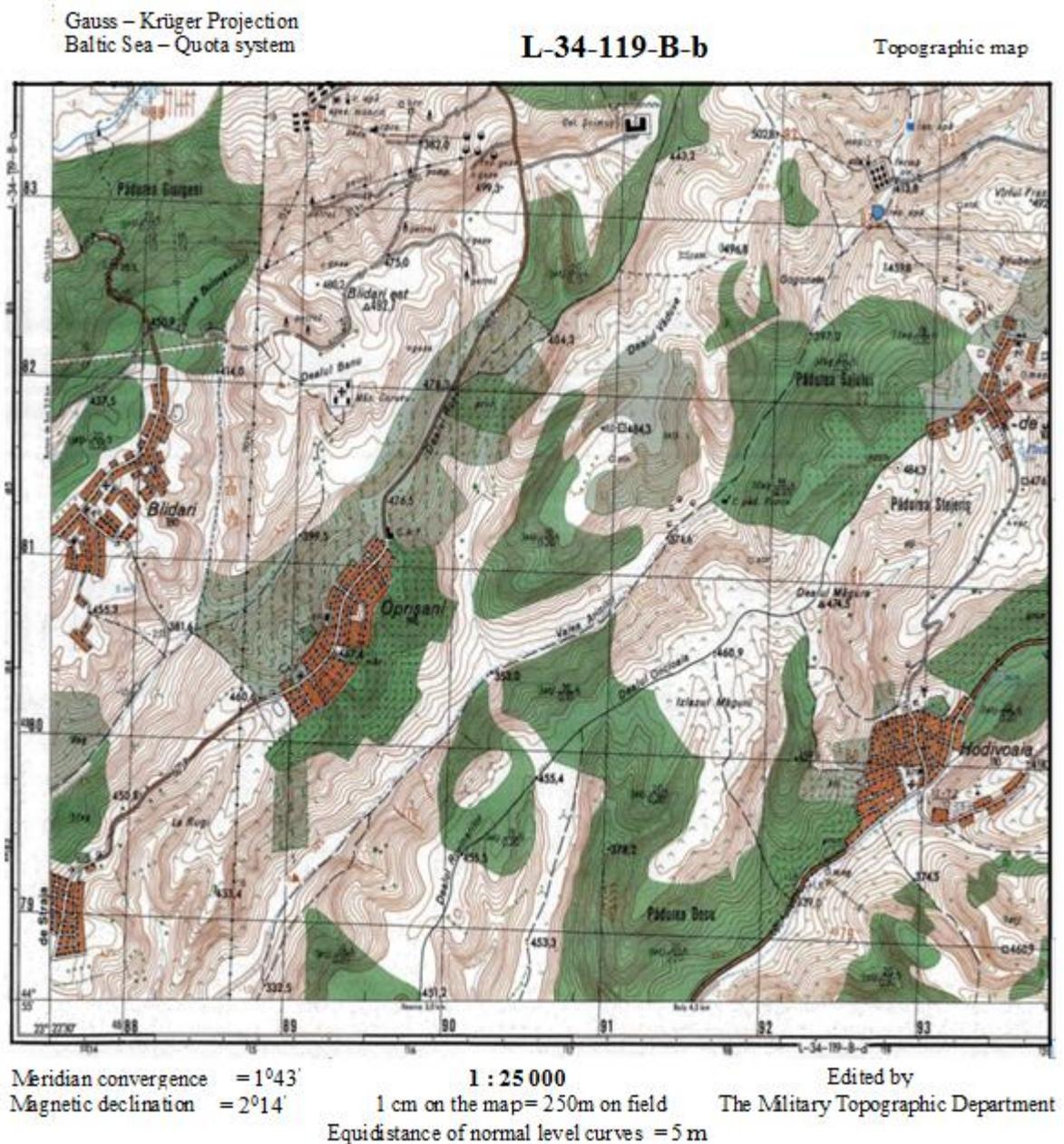


Fig. 3. Basic topographic map sheet, scale 1:25 000

## 4.2. Cadastral works period (1971 - 1989)

The legal context for the execution of geodetic, topographic, photogrammetric and cartographic works as well as the use of data and documents resulted from the cadastral real estate activity was regulated by *Decree no. 305/1972*.

The inventory of agricultural land that started in 1968 was continued by *Law no. 59/1974*, which stayed at the base of the “*annual agricultural fund balance*”. This law focused mainly on the patrimony of the agricultural real estate belonging to the state and the cooperatives. At the same time, it was limited the legal circulation of real estates, considering legal inheritance the only way for obtaining them.

For the execution of cartographic products there were used: the *azimuthal, stereographic, oblique, conform perspective on the unique secant plan projection – 1970*, adopted in 1973, and the *Krasovski-1940 reference ellipsoid*. From the documentations made since 1965 it is mentioned the basic topographic plan, scales 1:5 000 and 1:2 000 made for almost 90% of the country (Moca, V., Chirilă, C., 2002).

At the same time, it was created and updated the basic topographic map, scale 1:50 000 and it was obtained a partial representation of the basic cadastral map, scale 1:25 000. The existent cartographic base, mainly at scale 1:5000 and partly at scale 1:2 000, was used as graphic support for cadastre and technical documentation by various economic sectors.

## 5. Present period (1990 – 2018)

After the fall of the communist regime in Romania there have been promulgated first a set of regulations and normative acts concerning the property right (1990-1995). Afterwards it continued with the legiferation of the organizational structure of cadastre as an institution. The purpose was the introduction of a modern cadastre meant to ensure the consolidation of property (1996-2014). Simultaneous to developing the general and unitary cadastre and land registration system, it continued with the implementation of the National Program of Cadastre and Land Registration (2015-2023).

### 5.1. The stage application of the Law on Agricultural Land no. 18/1991

Among the modifications that occurred in the first years (1990-1995) there are mentioned, first of all, the general legal frame on public and private property, attribution of the property right and the legal transfer of real estates. The first regulations adopted in the field of property were mentioned in *Romania’s Constitution from 1991*. At the same time, it was promulgated the *Law of Local Public Administration no. 69/1991, the Civil Code and the Code of civil procedure*, modified and subsequently completed.

With the *Law on Agricultural Land no. 18/1991* it was regulated both the legal frame of acquiring the public or private property right as well as the legal transfer of real estates.

Based on the provisions of the *Law on Agricultural Land no. 18/1991* with the subsequent modifications and completions, the property titles were awarded and they were put into practice. The total surface subjected to the process of assigning the property right was initially of almost **8 million hectares**. This law was modified and completed especially between 1991 and 2000 by a set of legal provisions that represented the base for the property right. The Law no. 18/1991 was completed and republished with Law no. 169/1997 that included the legal norms on private and public property over real estates. This new configuration of the parcels requires new cadastral plans, scale 1:2 000 for the non-incorporated areas and 1:1 000 or 1:500 for the localities (Moca, V., Ilioi, D., 1998).

## 5.2. The stage of cadastre and real estate advertisement (Law no.7/1996)

This stage begins with the apparition of *Law no. 7/1996* referring to the general cadastre and real estate advertisement which with its content ensures a unitary registration system of properties from technical, economic and legal point of view.

The legal and organizational frame of cadastre and land registration was approved with the *Law on cadastre and real estate advertisement no. 7 from March 13<sup>th</sup> 1996* published in the *Official Gazette no. 61 from March 26<sup>th</sup>, 1996*.

The importance of the general regime of cadastre and real estate advertisement was pointed out by three key arguments (Rotaru, M. Anculete, G., 1996):

- The law represented an older dream of the specialists in terrestrial measurements.
- The Law represented a key moment in developing the legal and constitutional frame for the introduction of cadastre and real estate advertisement.
- The Law represented an essential requirement for implementing and accelerating the reform in the field of cadaster, geodesy, cartography and real estate advertisement.

The Law 7/1996 regulated the registration of the two distinct institutions of cadaster, *the technical institution and the legal institution of the new land registers*. Simultaneously, it was intended to obtain a unitary cadastral and real estate advertisement system to replace the systems used for this purpose in a non-uniform manner.

The *Law no.7/1996 on cadaster and real estate advertisement* underwent numerous modifications and completions that were republished in the Official Gazette in the 20 years that passed from the first promulgation (1996-2016). From the subsequent modifications and completions there are mentioned the ones published in the *Official Gazette no. 201 from March 3<sup>rd</sup>, 2006*. Based on *article 1* and its four paragraphs from Law no. 7/1996 there have been defined the fundamental notions for the completion of the general cadaster.

*Real estate advertisement (art. 17, par. 1)* based on the registration system of the general cadaster focuses on the registration into the land register of the legal documents and acts referring to the real estates from the same administrative territorial unit.

The republished form of *Law no.7/1996* in the *Official Gazette, part one, no. 720 from September 24<sup>th</sup>, 2015 and its consolidated form from July 12<sup>th</sup>, 2016* presented a series of rectifications to the regime of the general cadastre and real estate advertisement.

Based on article 1 and its seven paragraphs from Law no.7/1996 that have been updated on July 12<sup>th</sup> 2016, the basic notions have been defined.

- *Cadastre and land register* represent a unitary and compulsory system of technical, economic and legal record of national importance of all real estates.

- *The cadastre* accomplishes the identification, measurement, description and registration of real estates in cadastral documents and their representation on maps and cadastral plans.

- *The land register* includes the description of real estates and the registration of real estate legal rights, personal rights, acts, facts or legal relations.

- The *record of the real estates* registered in the cadastral plan and in the land register is updated ex-officio, at the request of the interested parties.

- *The real estate* was presented as the land with or without constructions, from the territory of an administrative-territorial unit, with one or more owners.

- *The real estate* is registered in the land register.

- The *basic entities* of this system are the *real estate and the owner*

*The real estate advertisement (article 1, paragraph 1)* based on the cadastral records focuses on the registration in the land register of the documents and legal acts referring to the real estates from the same administrative – territorial unit.

The National Cartography Centre with more than 50 years of activity had a key role in developing the national cartographic fund. The actualization of cartographic representations, in digital and analogic format, materialized into: *basic topographic and cadastral plans, basic topographic and cadastral maps* (Fig. 4).

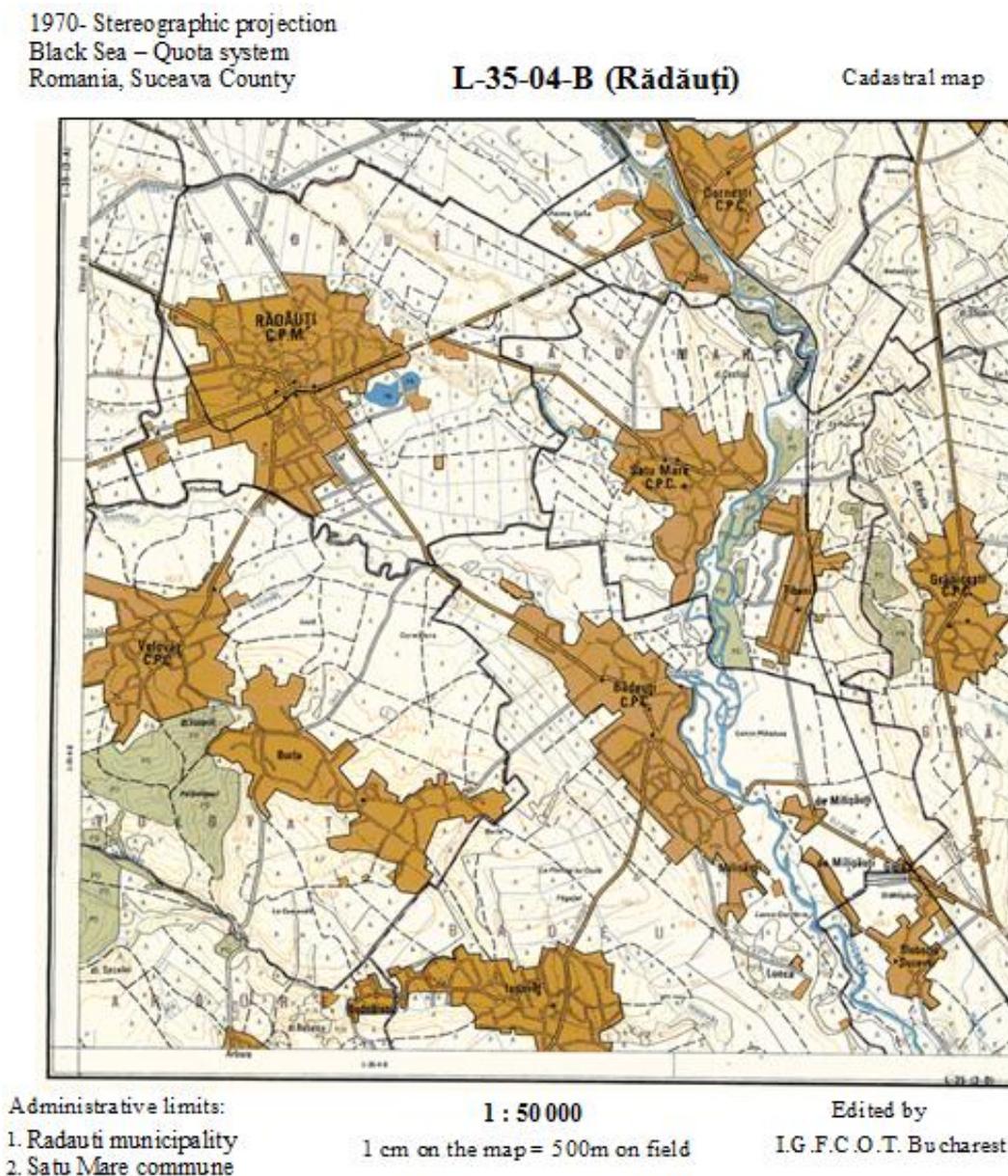


Fig. 4. Basic topographic map sheet, scale 1:50 000

The drawing up of the *basic topographic plan* included the following structure of cartographic representation from the total surface of the country: **12% scale 1:2000; 75% scale 1:5000 and 3% scale 1:10 000**, with territories situated in the Danube Delta and in the mountain area. The drawing up and the actualization of the map consisted of the following cartographic elements: the *basic cartographic map*, scale 1:50 000, *basic cadastral map*, scale 1:50 000 and partly, at scale 1:25 000.

The *drawing up and the actualization of cartographic products*, in digital format, included: the topographic plan, scale 1:5 000, for the areas of natural hazards and the limits of territorial-administrative units.

*The digital model of the land for Romania* based on the representation of the relief using level curves extracted from the basic topographic map, scale 1:50 000.

The ongoing stage includes the completion of the unitary cadastral and real estate system at national level, according to the requirements of the legal property rights. For the graphic representation of the limits of the real estates, new cadastral plans are taken into consideration. The numerical cartography scales are: 1: 1 000, for urban areas; 1:2 000, for rural areas and areas with very small parcels; 1:5 000, for large agricultural areas and 1: 10 000, for subalpine areas and alpine areas with forests.

### 5.3. The National Program of Cadastre and Land Registration (2015 - 2023)

The works for the introduction of the unitary cadastral and land register system are conducted at the level of cadastral sectors and all real estates from the entire country (*Law no. 7/1996*). The implementation and the completion of specialty works helps create the cadastral plan and the registration of real estates in the land register.

The implementation of the integrated cadastre and land register system involves at national level **3,181 administrative-territorial with: 103 municipalities, 217 cities and 2,861 communes with 12,957 villages** (Romanian Statistical Yearbook, 2017)

The ongoing *National Cadaster and Land Registration Program*, financed by the National Agency of Cadaster and Real Estate Advertisement is to be implemented by 2023.

This program is the strategical document regulated by the *Law of cadaster and real estate advertisement no.7/1996*, with the subsequent modifications and by the *Resolution of the Government no. 294/2015*. With the completion of this program is accomplished the free of charge registration of real estates in the integrated cadaster and land register system.

The works related to the systematic cadaster are conducted at the level of the entire area of an administrative-territorial unit, or only at the level of some cadastral sectors.

The systematic registration of real estates at the level of cadastral sectors is conducted by specialized providers, according to the legislation and the technical norms in force promulgated by *Order no. 979/05.08.2016* (<http://www.ancpi.ro/>). After the free of charge registration of the real estates it is obtained the certificate for the registration in the land register of the owners or their heirs (Hogaş, H., I., Bofu, C., 2018).

With the financial resources allocated between 2016 - 2017 by the *National Agency of Cadastre and Real Estate Advertisement* there have been completed cadastral works including the systematic registration at the level of the basic administrative - territorial units and cadastral sectors.

The present stage of the systematic registration process on *September 12<sup>th</sup>, 2018* indicated their completion in **57 administrative territorial** units from 20 counties. At the same time, there have been completed the works of systematic registration for **1,470 cadastral sectors**, situated in 595 administrative units, from 38 counties (<http://www.ancpi.ro/pnccf/>).

In Suceava County the systematic cadastral registration works have been completed for the entire surface of *Moara and Humor Monastery* communes. The two basic administrative-territorial units cover *14,0963 ha*, the territory of Moara commune being of *4,1891 ha* and that of Humor Monastery, of *9,9072 ha*, respectively (Moca, V., et al., 2018).

At the level of cadastral sectors there have been completed partial works of systematic registration in 10 administrative units, and presently, this activity is in process in 33 administrative units.

## 6. Conclusions

Knowing the history of cadastral works and land register is absolutely necessary for the future of the new generations of specialists.

The critical observations on the historic past represent key elements for the present manner of implementation of the unitary cadastral system and land registration.

The systematic registration of real estates in the integrated cadastral system and land registration is performed only based on the surfaces resulting from field measurements.

The technical documentation for the systematic registration at the level of cadastral sector must include the cadastral plan and the data file of surfaces for the real estates.

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