

# Transitions in Romanian Land Information Management and Cadastral System between 1989-2019

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## ABSTRACT

The analysis offers a definition of the concept of land information management and the cadastral system. It aims to identify the issues generated by the shortcomings of an anachronistic system that has precarious mechanisms for securing legal relations regarding the matter of ownership. This paper argues that land and cadastral systems' management can no longer rely on manual processes or traditional structures. It must switch to multi-purpose cadastral systems that can integrate information on a range of issues including: natural resources; planning; use of land; sustainable development, and ownership titles' value used for purposes such as the transfer of land and real estate marketing. The paper discusses the legal reforms necessary that should reflect the strategic policy evolutions, technological developments and institutional reforms. Although the ongoing reform offers a new vision of the land information management and cadastral system, the institutional deadlock may not be simply a failure but rather a difficult task to accomplish. The paper tries to approach exactly this aspect.

**KEYWORDS:** *cadastral system; land information; management.*

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## 1. Introduction

After the fall of the Socialist regime in December 1989, Central and Eastern European countries, weakened by legislative instability<sup>1)</sup>, faced dramatic changes in real estate transactions and function (political & socioeconomic) and a shift from a central planning to a functional market economy and gradually align its regulations with the laws and practices of the other European Union (EU)<sup>2)</sup>.

While post-Socialist countries from Central Europe have mostly succeeded in implementing a multi-purpose cadastre<sup>3)</sup>, some countries in both Central and Eastern Europe (e.g. Croatia, Bosnia & Herzegovina) are still facing a transitional period. After

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<sup>1)</sup> Andrusz, G., Harloe, M., Szelényi, I., 2011, *Cities after socialism: Urban and regional change and conflict in post-socialist societies*. NY: John Wiley & Sons.

<sup>2)</sup> Hirt, S. A., 2013, *Whatever happened to the (post) socialist city?*, in *Cities*, 32, 29-38.

<sup>3)</sup> Bogaerts, T., Williamson, I.P., Fendel E.M., 2002, *The Role of Land Administration in the Accession of Central European Countries to the European Union*, in *Journal of Land Use Policy*, no. 19.

1990, Romania revealed a land registry and cadastral systems management relied on manual processes and other countries (Hungary, Poland, former country of Czechoslovakia, Bulgaria) faced important changes such land fragmentation due to the restitution of agricultural and forest lands, no uniform system for land administration, no operational cadastre system

During the Socialist period, decisions were centralized to control the countries efficiently<sup>4)</sup> while the post-Socialism regimes brought a decentralized management that involved significant changes in the approaches regarding urban and economic development, land property. Switching from a dominant public property to a private property has changed the paradigm of the land management and urban development.

Knowledge about the evolution of land and cadastral system management helps to estimate the consequences of society's attitude to, and relationship with, the land fund in terms of human well-being as mentioned by Fuller & Gaston in 2009 and the impact of European constraints and tools.

This relationship with the land is becoming more and more complex in terms of forms, as well as an increasing number of rights, responsibilities, and obligations.

An argument for the paper is the scarcity of the analysis of land and cadastral system management in relation to legislative changes and effects of the transitional period. In this institutional context, the paper aims to investigate the scale of change in the public administration structures level, the domestic/international business environment level and its relationship with its main beneficiary, the citizen, during the transition from a centralized to a decentralized system. In this context, our objectives were the following: (a) to analyse changes in land and cadastral system management after the 1990; (b) to analyse the institutional arrangements and options for reform and (c) to assess the influence of the legislation changes on the unified information system.

The outcomes will regard the effects that institutional transformation can have on the development of a coherent land registry and cadastral system. Moreover, the present study should bring recommendation on the provision of security of tenure; on the valuation and taxation of property, on the sustainable land use and better management of natural resources<sup>5)</sup>.

## 2. Materials and Methods

This analysis will outline the need to re-design a land registration system that focuses on information management. The features and specifics of the concept of cadastre and land management will be highlighted thanks to an approach creating a comparison between the various systems and theories developed by specific literature. It is used document and content analyses as a qualitative research method<sup>6)</sup> to cluster and systematize the data

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<sup>4)</sup> Grădinaru, S. R., Iojă, C. I., Pătru-Stupariu, I., 2015, *Do post-socialist urban areas maintain their sustainable compact form? Romanian Urban areas as case study*, in *Journal of Urban and Regional Analysis*, 7(2), 129–144.

<sup>5)</sup> Lemmen, C., van Oosterom, P., 2015, *The Land Administration Domain Model (LADM): Motivation, standardisation, application and further development*, in *Land Use Policy*, 49 (2015) 527–534.

<sup>6)</sup> Bowen, G. A., 2009, *Document analysis as a qualitative research method*, in *Qualitative Research Journal*, 9(2), 27–40.

used (scientific papers and official documents such as laws, reports issued by the national or EU institutions) according to the main concepts or ideas presented<sup>7)</sup>.

The documents were organized in order to reflect the changes in development of Romanian' land registration and cadastre system (beginning of the post-Socialist period, transition period and Romania's EU accession). The qualitative document analysis of the relevant policy papers issued by key actors (ANCPI, Romanian Government/Parliament etc.) involved in the process of institutional reform were used in order to justify some of the comments and assumptions made throughout the article. Analysing secondary data from administrative sources allowed us to emphasize the main measures and objectives that led to a coherent land registration and cadastre system.

Developing a strategy intended to manage the land registration system in line with the emerging requirements of an integrated system has also a practical value: it boosts land development and environmental management. These elements (land, cadastre, information and system management) form the matrix behind the research topics and objectives presented in this paper.

### 3. Results and Discussion

#### ***3.1 Theoretical and scientific arguments of cadastre and land information management***

##### **3.1.1. A land administration framework to support accession of Central and Eastern European countries (CEC) to the EU**

The relationship between EU policies and land administration is supported by international trends in the development of land management and cadastral systems. The framework emphasis the role that institution building plays in setting up a proper land administration system and recognize the role that framework plays in the accession of CEC to the EU<sup>8)</sup>.

The need to reform the represents the most pressing concern of various reports and declarations, reflected in the special attention that it garners from international organizations, including the United Nations, the World Bank and the International Federation of Surveyors.

These international organizations have conducted surveys<sup>9)</sup> to understand and describe the cadastral and land management systems, in particular the structure of the cadastral system. In recent years, we have witnessed<sup>10)</sup> an increasing interest in land management

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<sup>7)</sup> Weber, R. P., 1990, *Basic content analysis*, London: Sage Publications.

<sup>8)</sup> Bogaerts, T., Williamson, I.P., Fendel E.M., 2002, *The Role of Land Administration in the Accession of Central European Countries to the European Union*, in *Journal of Land Use Policy*, no. 19.

<sup>9)</sup> Land administration systems and particularly their cadastral components can be seen in such documents as the International Federation of Surveyors (FIG) Statement on the Cadastre (FIG, 1995), the UN-FIG Bogor Declaration on Cadastral Reform (FIG, 1996), the UNECE Land Administration Guidelines (UNECE, 1996), the UN-FIG Bathurst Declaration on Sustainable Development for Land Administration (FIG, 1999; Williamson et al., 2000).

<sup>10)</sup> Kaufmann, J., & Steudler, D., 1998, *Cadastre 2014. A vision for a future cadastral system*, in FIG, 167-173; Dale, P. F., McLaughlin, J. D., 1999, *Land administration*, Oxford: Oxford University Press; Dale, P.F., 1999, *Cadastral and land administration systems in countries in transition*, lecture to the Department of Geomatics, University of Melbourne, available at: <http://sunspot.sli.unimelb.edu>.

infrastructure. This comes as a result of changes triggered by the globalization engines, as well as political circumstances such as the fall of apartheid in South Africa and the transition from Socialist regime to a market economy in Central and Eastern Europe countries. The common key element in most of these surveys is the focus on developing a new vision of land administration that would be able to cope with a constantly changing world and the developments required to achieve this vision<sup>11</sup>.

Land records and cadastre are the “heart” of land management and have shaped its development. Both systems performed a documentation activity of land units in maps and records<sup>12</sup>. The land records system was designed to serve as a “tax” and “legal” records. This structure met the public and private requirements, primarily on data basis for the complete and accurate land taxation and secondly, served as property registers and other land rights. (Larsson, 1991).

Land information publicity has been an important function of the early cadastre and land registration systems<sup>13</sup>. Land records and cadastre systems have evolved differently in different countries and regions around the world<sup>14</sup>. Historically, developments generated different ways of how land documentation was systematized into a land records or cadastre or a join of these systems<sup>15</sup>. The various applications of the cadastre are also called fiscal, legal and multifunctional cadastre<sup>16</sup>.

In 1970, the multipurpose cadastre was formalized, and its goal was to link the gap between different functions of land administration and provide multiple beneficiaries<sup>17</sup>. It was argued<sup>18</sup> that the cadastre is a kind of land information system, while land registration is the process of recording interests in land. The land registration is highlighted the relation subject-right, while the cadastre emphasizes the relation right-object.

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au/subjects/451/418/lecture10PPT/ppframe.htm, (Accessed 5 September 2020); Fourie, C., Nino-Fluck, O., 2000, *Cadastre and land information systems for decision makers in the developing world*, in *Geomatica*, 54; Enemark, S., 2006, *Understanding the land management paradigm, in Innovative technology for land administration*, Madison 19-25 June 2005, Madison, USA.

<sup>11</sup> European Commission, 2007, *Directive 2007/2/EC of the European Parliament establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)*, available at: <http://inspire.jrc.ec.europa.eu/>, (Accessed 4 October 2020); European Environment Agency, 2010, *Land in Europe: Prices, Taxes and Use Patterns*, available at: <http://www.eea.europa.eu/publications/land-in-europe>, (Accessed 02 October 2020).

<sup>12</sup> Larsson, G., 1991, *Land registration and cadastral systems: tools for land information and management*, New York: Longman Scientific & Technical.

<sup>13</sup> Larsson, G., 1991, *Land registration and cadastral systems: tools for land information and management*, New York: Longman Scientific & Technical.

<sup>14</sup> Williamson, I., Enemark, S., Wallace, J., Rajabifard, A., 2010, *Land administration for sustainable development*, Redlands, California: ESRI.

<sup>15</sup> Zevenbergen, J. A., 2002, *Systems of land registration: aspects and effects*, Delft: Netherlands Geodetic Commission.

<sup>16</sup> Zevenbergen, J. A., 2002, *Systems of land registration: aspects and effects*, Delft: Netherlands Geodetic Commission.

<sup>17</sup> FIG, 1995, *FIG. The FIG Statement on the Cadastre. Technical Report Publication No. 11*, Federation International des Géomètres, Commission 7, 1995.

<sup>18</sup> Groenendijk, L., Bennett, R., van der Molen, P., Zevenbergen, J., 2012, *Land administration as an academic discipline: to be, or not to be*, FIG Working Week 2012, Knowing to manage the territory, protect the environment, evaluate the cultural heritage. Rome, Italy, 6-10 May 2012.

Summarizing, we can say that: land registration answers questions about who and how, the cadastre answers questions about how much and both concepts complement each other and describe an interactive system as Kaufmann and Steudler stated in 1998.

Land administration domain purposes is to respond to the changing societal aims as Van der Molen stated in 2001 and 2010. Nowadays, we are facing concerns relate to climate change and disaster management and land grabbing<sup>19)</sup>. To understand the meaning of land administration domain we have to take a look to the societal aims who covers topics as: economic development, food security, good governance, land information services, land tenure security, land use planning, social justice and equity and sustainable development as stated in Groenendijk in 2012. This list is not intended to be complete, it shows the diversity of the interests sometimes, conflicting goals and objectives of land administration<sup>20)</sup>.

It is suggested the need for a “widely accepted standardized domain model in land administration and function as a gathering point of a state-of-the-art international knowledge base on this theme”<sup>21)</sup>.

The changes determined by the evolution of human-to-land relations, the impact of technology on cadastral reform, the changing role of surveying engineers’ in wider society developed new frameworks and instruments for the practical implementation of the land administration model. At international level, land administration model stands implementation of relevant parts of the as New Urban Agenda (UN, 2017), FAOs Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (FAO, 2012), the Continuum of Land Rights as from UN-Habitat<sup>22)</sup> and FIGs “Fit-for-purpose Land Administration” approach<sup>23)</sup> developed in reaction to the challenges set by the Global Agenda for Sustainable Development. At regional level, land administration model has also influenced developments, within the European Commission’s INSPIRE initiative.

This “view” of the land administration has not been followed by the Central and Eastern European countries (CEC). In the Socialist period, the CEC were at various stages of the evolutionary model. Therefore, the transition period with the restitution of property rights issues in the CEC, was not simply a matter of returning to the cadastral landscape of the Socialist regime, but of instituting the land administration infrastructures demanded by the EU constraints and mechanisms.

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<sup>19)</sup> Constantin, C., Luminit, C., Vasile, J.A., 2017, *Land grabbing: A review of extent and possible consequences in Romania*, in *Land Use Policy* 62 (2017) 143–150, <http://dx.doi.org/10.1016/j.landusepol.2017.01.001> (Accessed 5 September 2020).

<sup>20)</sup> Dale, P. F., McLaughlin, J. D., 1999, *Land administration*, Oxford:Oxford University Press.

<sup>21)</sup> Lemmen, C., van Oosterom, P., Bennett, R., 2015, *The Land Administration Domain Model*, in *Land Use Policy* 49 (2015) 535–545, <http://dx.doi.org/10.1016/j.landusepol.2015.01.014> (Accessed 05 October 2020).

<sup>22)</sup> UN-HABITAT, 2008, *Secure land rights for all*, Nairobi, United Nations Human Settlements.

<sup>23)</sup> Enemark, S., Bell, K.C., Lemmen, C.H.J., McLaren, R., 2014, *Fit-For-Purpose Land Administration. FIG Guide*, in: Joint FIG/World Bank Publication. FIG Publication No 60, available at: <http://www.fig.net/resources/publications/figpub/pub60/Figpub60.pdf> (Accessed 25 September 2020).

### 3.2 The first step of reform: Romanian's problem

Romania is a middle income-per-capita country that witnessed a severe yet inevitable fall of income in the early '90s when it transitioned from a planned economy to a fully functional market economy. After the initial decline, the GDP stagnated during the early '90s. It began to grow again in the late '90s once Romania had initiated the process of accession to the EU under the aegis of the Commission.

Special laws governing the restitution of agricultural and forest lands were promoted in the early '90s alongside the privatization of state companies. By 1997, ownership titles confirming the transfer of land in private property were issued for almost 70% of the 4.3 million applicants who had filed for restitution according to Law 18/1990, on restitution of lands and properties from former collective farms. This transfer of the ownership title in agricultural and forest lands from the state into private ownership was doubled by the transfer and sale of apartments from the state residential fund to the persons entitled to it, based on special laws<sup>24</sup>). There was no operational domestic system for land administration in existence at that time and the registration of ownership titles in properties was chaotic and fragmented. This meant that the real estate market was weak in both urban and rural areas.

Under these circumstances, in 1997 Romania applied for funding<sup>25</sup>) for the General Cadastre and Land Registration Project (GC-LR) with the World Bank, in an attempt to introduce a new system for management of information about land registration.

The Romanian real estate market was not operating according to market rules back in 1997. It was, in fact, barely operating at all. The number of deals signed at national level was significantly lower than what would be expected of a modern economy relying on operational market rules. Formalities were not uniform across the country and they were also time consuming, generating a significant number of court disputes and bureaucratic formalities, the latter performed before numerous agencies and instrumentalities. The previous politically driven land reform programs resulted in many non-registered ownership titles based on incomplete or even erroneous cadastral plans (for example, pursuant to Law 18 on restitution). Real estate transactions also lacked transparency. Owners found it difficult to obtain assistance which led to incomplete or denied applications, multiple visits with the authorities and a general mistrust regarding reliability of services. A major revision of the legal proceedings was necessary in terms of land registration to adopt the national land register system. For these reasons, a step-by-step approach was used to identify the three support elements: (a) develop the cadastre; (b) establish a land register system and (c) consolidate the institutions. The first two elements would allow the two implementing authorities (*Oficiul Național de Cadastru, Geodezie și Cartografiere și Ministerul Justiției* / the National Office of the Cadastre, Geodesy and Cartography and the Ministry of Justice) to focus on their own needs and issues. The

<sup>24</sup>) Law no. 10 of 2 February 2001 on the law applicable to properties abusively seized during 6 March 1945–22 December 1989, republished in the Official Journal of Romania no. 653 of 22 July 2005; Law no. 112 of 25 November 1995 on the clarification of the legal standing of some properties used for residential purposes, transferred in the state ownership, published in the Official Journal of Romania no. 279 of 29 November 1995.

<sup>25</sup>) The project was assessed in July 1997 and approved on 9 December 1997. A loan worth USD\$ 25.5 million was declared available/valid on 20 May 1998 and an agreement was signed on 30 June 2006, pursuant to an extension by 2.5 years of the completion date. The target population included current and future real estate owners, private investors in agriculture, residential units and industry, commercial banks and other users of information about real estate properties. The project was considered to cover approximately three million hectares of rural land and 75,000 hectares of urban land.

third component would focus on technical assistance and development of a unified IT system, intended to bring the two parts of the system together.

In order to mitigate the risk of low integration and connectivity, it has been deemed appropriate to implement a digitized Unified Information System with a technical assistance supplier providing on-the-spot answers to clients' needs. The absence of qualified personnel in the public sector and the recruitment difficulties generated by under-payment in the private sector caused the mapping, cadastral measurements, and data input activities to be undertaken by private suppliers.

The GC-LR was intended to create an efficient system for safekeeping of ownership titles and a profitable mechanism for land transactions that would focus on the following specific objectives: (a) create an efficient system for safekeeping of real estate ownership titles that can be extended nationwide; (b) create a general cadastre system that provides clear, up-to-date definitions of land plots to be used for property registration, and (c) set out a simple, safe and efficient process for real estate transactions.

According to Romanian law<sup>26)</sup>, the general cadastre is a unitary and mandatory system for technical, economic, and legal recording of all properties across the territory of Romania. The general cadastre records system is eventually intended to record properties in the real estate publicity register (the land register).

Some form of cadastre (land register) for technical and taxation purposes has existed in the current territory of Romania ever since the 19<sup>th</sup> century around the provinces which were part of the then Austro-Hungarian Empire (Transylvania, Banat and Bucovina). After the 1918 Great Union, the relevant laws on cadastre organization and land register implementation across Romania were not adopted until 1933 and amended in 1938. The advent of the communist regime (1948-1989) interrupted the implementation of these laws. Relevant operations were confined to keeping records of lands by use and owner, with no legal effects through real estate publicity in the land register.

Real estate publicity based on general cadastre records is meant to assure registration with the land register of legal acts and writs regarding real estate properties within the same administrative territory. It is performed by the officers for cadastre and real estate publicity for the properties located in their jurisdiction.

This section aimed to introduce the complex land issues in Romania and described how resolving these issues by setting up an appropriate land administration system is central to achieving the criteria related to the protection of human rights, a Common Agriculture Policy and an effective free market (T. Bogaerts et al., 2002).

### ***3.3 Institutional arrangements and options for reform***

#### **3.3.1 The evolution of institutional reform under the influence of legislative framework**

The cadastral systems in Central and Eastern European countries have a long history. Two systems were dominant in this region. The first is the "Grundbuch" system that was introduced in Prussia in 1871. The principle of this system was that the land transaction must be proper record in a registry to be valid. Each entry was registered in the "Grundbuch" as a sole evidence of the property right. The "Grundbuch" system has

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<sup>26)</sup> The subject matter of the general cadaster is the land fund of Romania, i.e. all lands in the communal, city, and municipal administrative and territorial units within the state frontiers, irrespective of their category of use, economic destination, owners and whether they are in the public or private domain.

many similarities with the cadastral service that was established in the regions covered by the Austro-Hungarian Monarchy in 1792, called “Maria Theresia Cadastre” system. Until recently it was the basis of the land registration in eight countries in Central Europe, including the Czech Republic, Hungary, the Slovak Republic and Romania (Transylvania) as stated in Bogaerts, T. et al. in 2002.

Soon after the collapse of the communist regimes in Central Europe the countries started the restitution of property rights on the basis of their historic cadastral systems. The reconstruction of property rights was in fact the re-establishment of the historic cadastral systems and started the process of privatization of land.

During the '90s, Romania had two land registration systems in force – one for registration and transcription<sup>27)</sup> governed by the Civil Code, and one for registration of titles based on the land register<sup>28)</sup> or the “GrundBuch” system inherited from the Austro-Hungarian Empire. Both were ignored and became obsolete during the communist regime because most of the lands were transferred into state ownership with no records kept of the plots and ownership titles. Although both systems were reactivated in the early '90s, the lack of uniformity and improper, outdated cadastral maps have hindered property registration. Law 7/1996 on the general cadastre and real estate publicity gave credit to the advantages of the land register system which records properties rather than individual transactions and provided the legal framework for a uniform system to be progressively implemented across Romania.

In 2004, the Romanian government admitted that a dual system of land property administration brought with it many inherent difficulties. The best solution was to create a unique agency<sup>29)</sup> to compile and manage all information on land registration according to international good practice. *Agenția Națională de Cadastru și Publicitate Imobiliară* (the National Agency for Cadastre and Real Estate Publicity or the National Agency) was created based on article 3 of Law 7/1996, republished (as amended by GEO 41/2004) pursuant to the reorganization of the National Office for Cadastre, Geodesy and Cartography and the transfer of the relevant real estate publicity responsibilities from the Ministry of Justice to the new institution. The National Agency became the unique authority with powers in this respect and a public, incorporated institution subordinated to the Ministry of the Interior. This new formula also considered the actions listed in Recommendation No (86) 12 dated 16.09.1986 of the Committee of Ministers of the European Council,

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<sup>27)</sup> The personal publicity system based on the records for transcriptions and inscriptions, laid down by the Civil Code and the Code of Civil Proceedings, applicable in the “Old Wallachian Kingdom” and in Moldova (the south and north-east of Romania).

<sup>28)</sup> The real publicity system based on the land books, according to which real estate rights are either created or transferred pursuant to registration, laid down in the Decree-Law 115/1938, applicable in Transylvania, Banat, Crisana, Maramures and South Bucovina.

<sup>29)</sup> The Office for Cadaster and Organization of the Agricultural Territory was created and started operating back in 1990 as a subordinated department of the Ministry of Agriculture. In 1997, pursuant to Law 7/1996, the National Office for Cadaster, Geodesy and Cartography was created and subordinated to the Government under direct coordination of the Prime-Minister. Based on GEO 70/2001, the responsibility regarding the cadaster and agricultural land organization was later transferred from the Ministry of Agriculture to the National Office for Cadaster, Geodesy and Cartography. Pursuant to this institutional and organizational change, one single institution was entrusted with both the general cadaster and the agricultural cadaster. Starting in 2002, the National Office for Cadaster, Geodesy and Cartography was transferred to the Ministry of the Interior and, in 2004, according to GEO 41/2004, the text of article 3 of Law 7/1996 was amended to allow the creation of the National Agency for Cadaster and Real Estate Publicity, hereinafter referred to as the National Agency.



advising all member states to prevent and reduce the excessive workload in court by “gradually reducing the non-judicial tasks entrusted to judges by assigning such tasks to other persons or institutions”. The short- and medium-term objective of The National Agency is to create and perfect an efficient system of property registration across the country, in line with European standards applicable to cadastre and real estate publicity. The long-term goal is to put together an automated, uniform, readily accessible and easily maintained database of cadastral information and real estate publicity. The ultimate goal is to provide quality, efficient and transparent information to all citizens while supporting professional companies, freelancers or relevant institutions in conducting their activities in accordance with the relevant laws and trends of European and international markets. In waiving a significant source of income from registration fees, the Ministry of Justice made a surprising move which other countries in the region are still reluctant to make. The implementation of a coherent GC-LR system was intended to develop the private sector in rural areas and offer local private companies the opportunity to undertake mapping, topographic measurement, IT/data input and processing activities as well as retain professional notaries. The GC-LR provided a solid legal, technical, and institutional basis for a safe and transparent real estate market, systematic cadastre and registration activities in rural and urban areas and for forests” restitution.

According to the Law 7/1996, ANCPI comprises two distinct but interfering structures: the technical cadastre body and the legal body of the new land registers. This administrative bodies’ activity is organized in each county through the cadastral offices and real estate publicity.

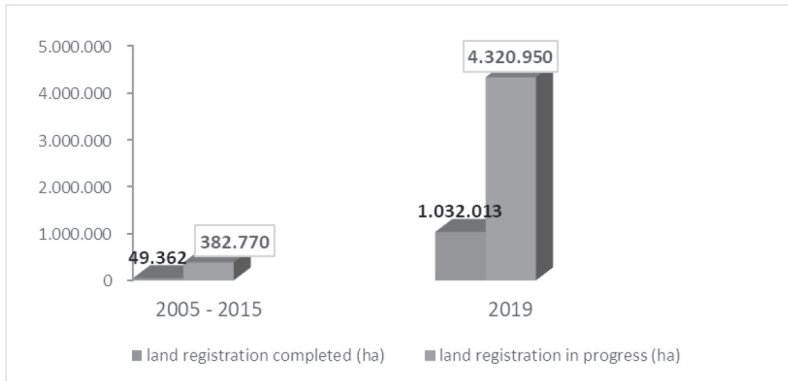
Land registration is in two steps: cadastre offices provide the technical basis of land registers through cadastral documents that include data and information on properties and owners. The land register is the legal record of the real estate which is the fixed and sustainable element of the evidence. Therefore, without the necessary measurements and the necessary cadastre evidence, one can does not move to a real system of real estate publicity. The cadastral office and real estate publicity deliver administrative acts with regard of recording the real estate rights in the land register, which can be reviewed by the courts at the request of interested persons.

At the same time, taking into account the fact that the implementation of a national cadastre is a matter of the future, and the cadastre works are in progress as we can see in Fig. 1 and Fig. 2, the legislation provides for a gradual and progressive extension of the new real estate publicity system, as the cadastre works are completed in each administrative-territorial unit (ATU).

This emphasize the fact that two systems will coexist temporarily on an administrative territory, for example, the system of new land registers and the system of transcriptions and inscriptions, or that of the old land registers in Transylvania.

According to ANCPI (2019) in “The stage of implementation of ANCPI” specific activities” for June 2019: as one can notice the completed systematic registration were finalized in 69 ATU’s in their entirety from the total of 3.181 ATU’s in Romania, as well as in cadastre sectors with a total area of 1.032.013 ha. In-progress systematic recording works are under way in 2.299 UAT’s, with an estimated area of 4.320.950 ha. In the graphic bellow it is illustrated the current stage of the real estate systematic registration. In Fig. 1 is presented the evolution of cadastre and land registry operations in Romania, 31.05.2019.

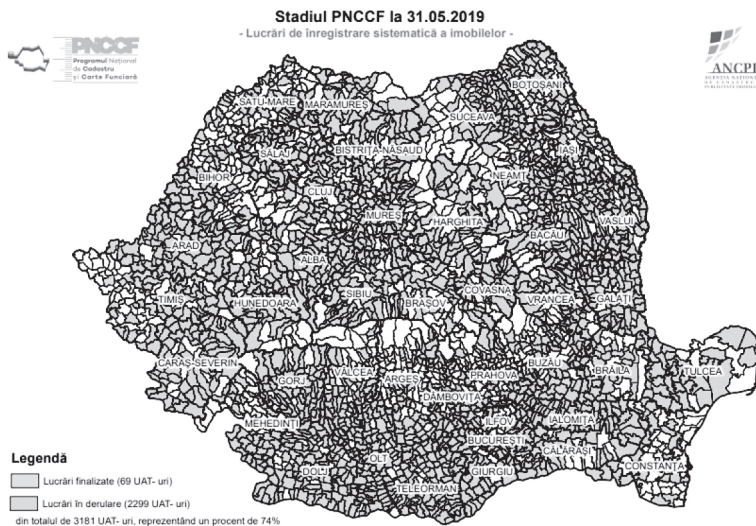
**Fig. 1** The stage of systematic registration



Source: The stage of implementation of ANCPPI' specific activities at 31<sup>th</sup> of May 2019, pp. 3, available at: [http://www.ancpi.ro/files/Statistici\\_home\\_page/nota\\_stadiu\\_activitati\\_ancpi\\_01\\_06\\_2019.pdf](http://www.ancpi.ro/files/Statistici_home_page/nota_stadiu_activitati_ancpi_01_06_2019.pdf)

As one can notice, the territory of Romania looks like below: in light blue are expressed the administrative units' number (69 ATU) with completed land registration works and in pink the administrative units' number of land registration works in progress (2.299 ATU from total of 3.181 ATU's in Romania, representing 74%).

**Fig. 2** National Cadastre and Real Estate Publicity. Systemic registration of real estate at 31.05.2019.



Source: ANCPPI available at <http://www.ancpi.ro/>

The most important point is that a safe land register system was implemented across Romania and that a simple<sup>30)</sup> cadastre system is now in existence. It has been integrated into the land register<sup>31)</sup> to offer a one-stop shop of services for real estate transactions that are simple, efficient and profitable. While the overall term for processing applications was significantly reduced, the quality of information processing vastly improved. Public awareness about registration benefits grew considerably and the process turned more and more professional<sup>32)</sup>.

### ***3.4 Drivers of change: the importance of information system in cadastral and land register applications***

The Unified Information System (UIS) was initially designed as a dual architecture system to support cadastral and land register applications within the two institutions, but this has complicated the workflow. Pursuant to the merger of the two institutions, the UIS retained the cadastral and land register components but introduced a higher integration level. The cadastre module includes functions for cadastral information management (text and graphics), updating and maintenance. It supports the response activities for requests of information as well as the preservation of geometry of boundaries/frontiers. The land register module uses an integrated electronic workflow to support the receipt of applications, verification of documents, registration and receipt by the client.

The growth and increase in sophistication of the private sector in Romania was a positive outcome. The private sector grew along with this project to offer diverse and increasingly sophisticated services – cadastral measurements, data input, and digitization of cadastral plans, scanning and indexing of documents. This suggests a positive growth pattern and evolution for future programs and projects of The National Agency in this sector. It must be noted that once Romania joined the EU, the boost of foreign investments triggered the need for sophisticated, well managed topographic measurements (for construction of roads, real estate development etc.), as well as scanning and data input and other services. The system was necessary to assure consistency between land registers and the information contained therein as well as expedite the processing/treatment of title applications and recovery of cadastral data to certify the location, size and boundaries/frontiers of plots. It is currently being installed across Romania using funds offered by the

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<sup>30)</sup> The National Agency provides a digital ortho-photographic coverage of the entire country, which exceeds the subject matter of assessment by eight points. In addition, the agency introduced the notion of the mapping index which allows it to provide a geographical reference to all plots without precise land boundaries/frontiers.

<sup>31)</sup> The number of rural plots has significantly increased over the past few years as accession to the EU offered an opportunity for real estate market transactions to boost in the rural areas. A national unified registration system was put in place across all 42 counties, per subject matter of assessment, with professional registrars (19 certified) across Romania. There are 163 offices across the entire country which offer efficient integrated services of registration and cadaster.

Implemented through Government Ordinance 4/2010 on the creation of the National Infrastructure for Spatial Information in Romania and elaboration of the rules for the operation of NISI Council – the coordinating structure of this process.

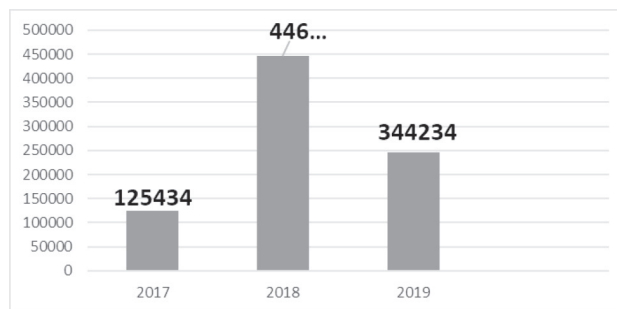
<sup>32)</sup> 80% of registration applications are filed directly by public notaries or topographic professionals on behalf of their customers.

government and assistance from database administration consultants who also undertook to re-design the project/the plan of the system to create some nodes in the original plan.

A summary of the trends to be expected includes: a higher focus on risk management; a larger number of efficient processes, inclusively processes intended to improve data quality; decentralization of services and processes, inclusively collection and dissemination of data in digital format through data networks; switch from liability for data accuracy and updating to data sources, improvement of safety actions by data replication, inclusively; primary references to the plot as a main access criterion, and development of new products and services. The past decade, more than any other period, marked a period of significant change for many cadastral systems.

In this regard Fig. 3 point out the statistics e-Payment and land register certificates generated online in Romania, 2017-2019.

**Fig. 3** Statistics e-Payment and online land register certificates



Source: ANCPPI' specific activities at 31<sup>th</sup> of May 2019, pp. 7, available at [http://www.ancpi.ro/files/Statistici\\_home\\_page/nota\\_stadiu\\_activitati\\_ancpi\\_01\\_06\\_2019.pdf](http://www.ancpi.ro/files/Statistici_home_page/nota_stadiu_activitati_ancpi_01_06_2019.pdf)

## 4. Conclusions

Romania's experience shows that the one-stop shop agency model and the creation of a semi-autonomous, self-financing agency seems to function better and may be applied on a larger scale at Central and Eastern Europe level.

The GC-LR has been facing severe problems because of its obsolete institutional structure and lack of institutional cooperation. Romania's case was even more complicated because a precedent did exist in terms of separate responsibility for urban and rural cadastre. This experience suggests that when systems are immature and responsibilities are entrusted to several different bodies, the adoption of a one-stop shop model is crucial for successful implementation. Political decision-makers understood that the creation of a single agency in charge with registration of property titles and cadastral activities was the only way to assure accurate, transparent and easily manageable records.

In Romania, the public use of professional services for real estate transactions became more and more frequent. In many regions, notaries are entrusted with the organization and implementation of the transaction on behalf of their clients. This leads to more

accurate documents, a lower rate of rejection and a quicker settlement of cases. The creation of a unified system and the merger between land registration and cadastre functions helped to enhance the public trust through better, more efficient services.

The importance of data managed and the implications this generates at both the public administration structures level, and the domestic/international business environment level gives the Agency a specific role in terms of supporting the sustainable economic growth of Romania and its relationship with its main beneficiary, the citizen.

The reform generates unrealistic expectations regarding the automation and may underestimate the complexity of the large-scale development of an IT system. Reform of the land management information and cadastral system resulted in the creation of an IT system capable of administering the real estate registration and supporting transactions across the entire country. However, the development of the IT system component was hindered and severely slowed down as the initial scope of application revealed that the system would require two distinct institutions and high degree of integration. Simpler is better and a step-by-step approach whereby a first-generation system would later turn into a more sophisticated one might be preferable in countries where the IT management is weak, and the system requirements are unclear. Finally, a larger focus should be placed on both the design and implementation to build an IT and management capacity in beneficiary agencies sufficient to leverage the development of IT systems at large as well as their launch and maintenance.

This paper demonstrates how any strategy of land administration at any level of governance should have a larger approach than previous efforts. This approach should consider the increasing number of social and economic issues related to lands. A key result of such strategies is to develop both the infrastructure for land administration and the spatial information management strategies.

Sustainable development will be the core element for changing the human-land relationship in the future. It calls for sophisticated land management structures that rely on IT technologies capable of processing and storing high quality data meant to support the necessary decision-making processes. This is the greatest challenge that the next generation of land management systems must overcome.

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