

Systematic Registration in Romania a New Opportunity for Land Consolidation

Ciprian SAVOIU, Romania,
Christian LEMMEN, The Netherlands and Ionut SAVOIU, Romania

Keywords: Land Registration, Land Consolidation, Capacity Building, Agricultural Development, Communas (lowest level of administrative subdivision), Romania

SUMMARY

The objective of this paper is to reintroduce the possibility or at least open a debate for land consolidation during a systematic registration project in Romania. From 2015 systematic registration of land in Romania is part of the National Program for Cadaster. The development of the new legal framework combined with European funding for Cadaster will give the possibility of many comunas to start a systematic registration project. It is expected that in 2014-2020 hundreds of comunas (lowest level of administrative subdivision in Romania), (out of 2948) will apply for and initiate a systematic registration of land. This paper, based on lessons learnt from systematic registration pilot project supported by the World Bank in 2012, can be used to guide the debate for opportunity to integrate land consolidation into a systematic registration project.

The analysis of opportunities for integration will be made based on the principle of “fit for purpose”. Improvement to cadaster law and technical specifications for allowing conveyance and registrations of a group of parcels of more than two owners, technical solutions, formal and informal rights registration, capacity building, legal security, economic advantages and interest of tenants must be part of the solution.

In Section 1 of this paper a brief description of the existing cadastral situation in Romanian will be given. Legal situation and new development of the legal framework will be presented in Section 2. The authors will analyze the possibility to integrate land consolidation with systematic registration project. Different resolutions and results of the study will be provided in Section 3. The paper closes with conclusions and recommendations for further projects.

Systematic Registration in Romania a New Opportunity for Land Consolidation

Ciprian SAVOIU, Romania,
Christian LEMMEN, The Netherlands and Ionut SAVOIU, Romania

1. ACTUAL CADASTRAL SITUATION

1.1 General overview

Nowadays, Romanian cadastral system is regulated by the core law for cadaster and land registration which is Law no. 7/1996. Systematic registration is defined in the Technical specifications, used as well as a manual for registration, and also Ord. no. 700/2014.

In Romania two land registration systems existed before the communist period: the Land Book system established in 1870 and the deed system in the rest of the country.

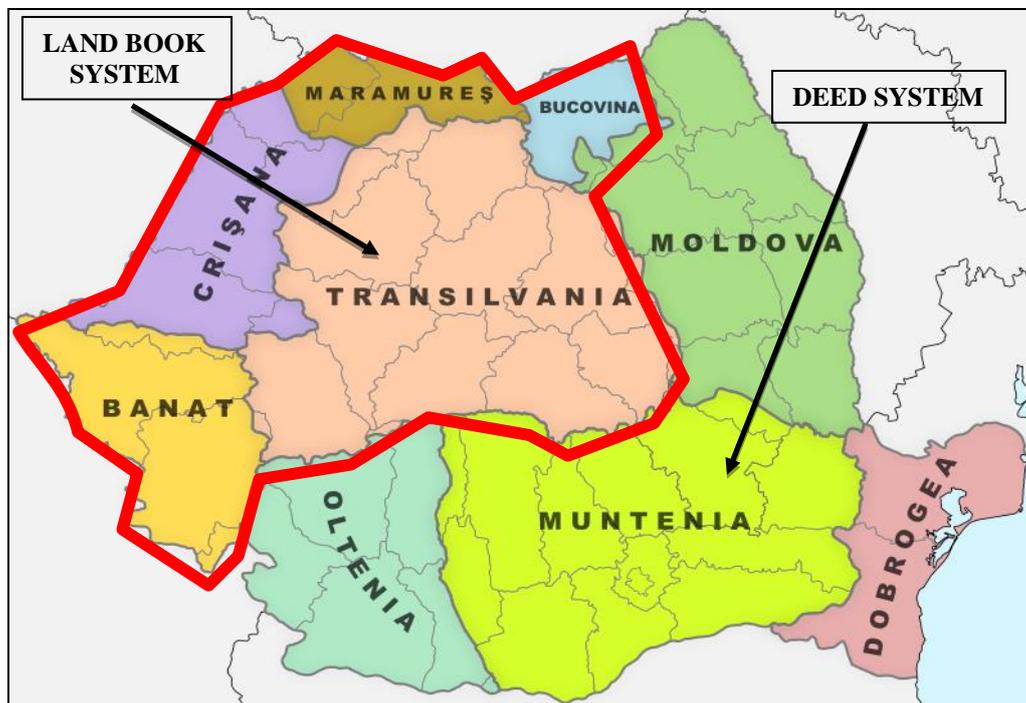


Figure 1 – Land registration systems in Romania

In the case of the Central East European Countries CEEC, land reforms distributional effects involved two separate issues: (1) the legal (historical justice) demands of pre-collectivization land owners whose land was confiscated by the socialist governments or who were forced to participate in the collectivization; and (2) social equity concerns (Swinnen, 1999). The same

happened in Romania were during the communist period most of the agricultural land has been confiscated and consolidated into state farms.

After 1989, when the communism disappeared the confiscated lands were restituted to previous owners. The 1991 land reform resulted in a massive land fragmentation propagated until nowadays. Ideally land consolidation should have taken place simultaneously with the land reforms as it would have reduced the changes that have and will continue to take place in order to accomplish a land parceling structure adapted to current farming techniques (Bullard, 2000). Unfortunately, in Romania land consolidation has not been yet carried out, instead a sporadic registration system was implemented and since then land consolidation was difficult to be introduced. Land restitution was, in 1990, an important step for Romanian people that received back the land confiscated by the communists. The bad experiences from the communist period when the state owned the biggest part of the agricultural land increases the need of people to own land again. People to land relationship needed to be reconstructed and not through the state in which they had little trust.

According to the Report for “Better agricultural conditions by improving land management (G2G project)” Romania’s land reform reveals a marked disjuncture between what was legislated at the center and what happened in the rural areas. With the end of the socialist party’s central power, lower-level authorities became harder to manage. The Romanian LAS is designed to distribute responsibility for the different functions of land administration between different levels of government (Stahl et al., 2009):

- the mayor’s office deals with land restitution, taxation, land-use monitoring and conflict resolution,
- the county land commissions are expected to handle title issuance and changes in land-use designation,
- the National Agency for Cadastre and Land Registration (ANCPI - NACLRL) is in charge of the registration of land transactions and the cadastral and cartographic aspects of land administration (map and deeds), and:
- the court system has the final authority in resolving land-related conflicts.

In most developing countries the legal framework is a barrier for introduction of systematic registration. The Romanian NACLRL has made continuous efforts to improve the legal framework for the purpose of systematic registration. In 2004, the Romanian Government decided to merge the cadastre with the land registry into a new organization for a better management and control, National Agency for Cadastre and Land Registration (NACLRL) that is in place also today.

The two coexisting systems for land registration generated different practices for registration especially registration of informal land is slightly different depending on the cadastral system existed before communist period. In the land books you have to make a proper research in order to identify to full history of the piece of land while in deed systems this is a little bit easier. Unfortunately, in both systems the major problem is the lack of formal documents.

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

The Romanian cadastral system, built on “at request” registration, looks like a massive puzzle with parcels with, some cases, a width of 3 meters and a length of 300 meters. Land fragmentation is a consequence of the land restitution process started in 1991 that generated a segregation of land use and ownership. According to the existing legislation from 1991 Romanians could apply for land restitution but limited up to 10 ha for agricultural land and up to 1 ha for forest land. Titles or certificates were issued for the restituted land but no cadastral registration was made. Inheritances and/or sales subdivided parcels that generated massive fragmentation of land. Another major issue in the Romanian land administration system is registration of rights, registration and responsibilities for land hold informally.

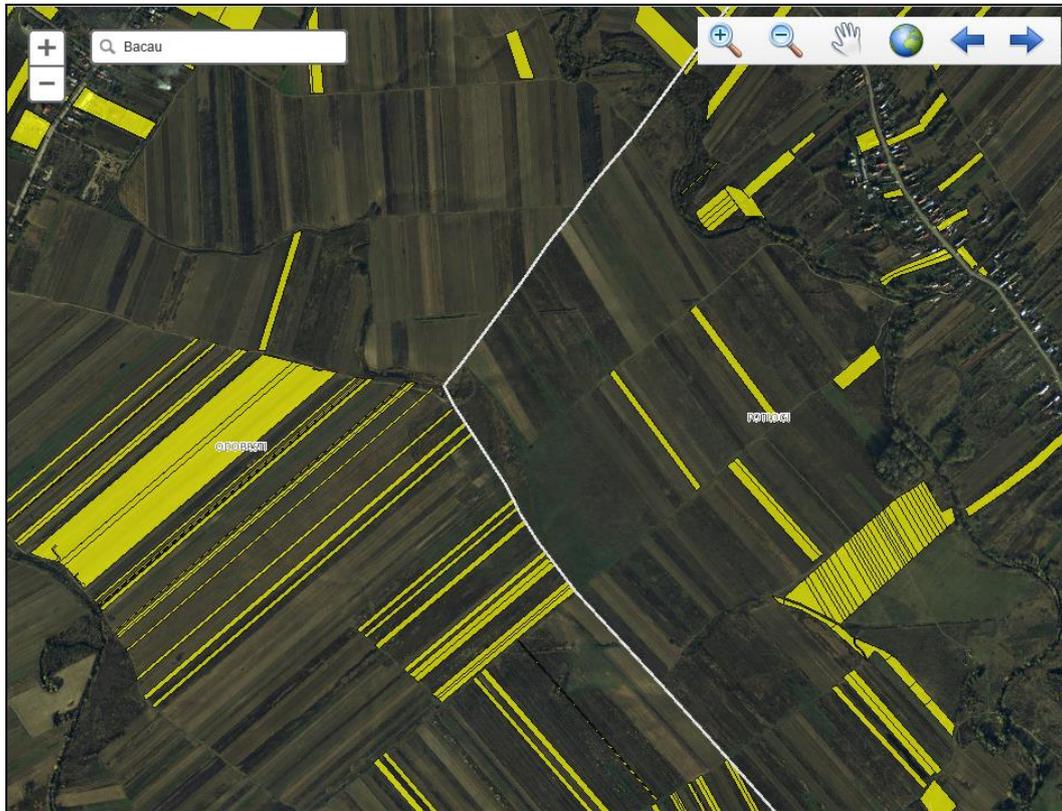


Figure 2 - Sporadic registration in Romania – source ANCPI

However, sporadic registration system needed improvements and consequently NACLR implemented projects, like E-terra (integrated computerized system) and Complemented European Support for Agricultural Restructuring CESAR (systematic registration project), focused on building a performing cadastral system.

The systematic registration process started in 2011 with 19 comunas and continued in 2013 with another 31 as part of World Bank and Romanian Government funded project. According to NACLR report from May 2014 just 6 comunas out of 50 are completed till this date,

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

representing only 0.2% from the total number of the comunas in Romania (NACLR May 2014).

However, the analysis of systematic registration is not part of the subject of this paper. The purpose of this paper is to debate the possibility to introduce a land consolidation project in the comunas where systematic registration has been completed. In Western European countries land consolidation is used as an instrument for the development of especially rural areas, in Central and Eastern European countries (CEEC) land consolidation could have been used as an instrument for land reform (Lemmen et al., 2012).

1.2 Land consolidation

Different types of land consolidation do exist. Demetriou (2014) recognizes (1) rural land consolidation, (2) urban land consolidation, (3) regional land consolidation, (4) environmental land consolidation and (5) forestry land consolidation (Louwsma et al., 2014). The authors focus on rural land consolidation in order to correlate with systematic registration that are implemented also in the rural area. Of course, it is not mandatory that a systematic registration is carried out in order to implement land consolidation but we will not analyze this aspect in the current paper.

In (FAO, 2003) approaches such as comprehensive land consolidation, simplified consolidation, voluntary group consolidation, and individual consolidation initiatives are recognized.

The land consolidation process starts with agreement on the area involved and comprises in general: (1) preparation and voting of the land-use plan in a specific area, (2) inventory of the (ownership, use) rights on the land and the valuation of the land, (3) drafting and confirmation of the reallocation plan and other functions to be realized, (4) implementation of the reallocation plan and creation of other functions, (5) financial arrangements taking into account the benefits, and (6) registration of new titles (Lemmen et al., 2012). See also Box 3 in (FAO, 2003).

In most of the cases running a pilot project before starting a mass land consolidation is important in order to identify all the necessary phases and actions that has to be implemented. The pilot of the systematic registration project proved also the necessity of doing it and as an example the legislation and the technical specifications changed three times based on the lessons learned from the pilot.

Back in 1948 compared with the situation from 2007 in Romania the agricultural holdings had the following structure:

Agricultural holdings, by use category and size class of agricultural area in use		
Size class of agricultural area in use (hectares)	Number of agricultural holdings	
	Year 1948	Year 2007
Under 0.5	901.016	1.075.501
0.5-1	1.100.852	609.999
1-2	1.472.785	800.066
2-5	1.535.604	965.594
5-10	363.678	299996
10-20	88.335	70.128
20-50	22.698	16.107
Over 50	15.170	14.399
Total	5.501.138	3.851.790
Sources: Agricultural Census 1948 and Agricultural Census 2007		

Figure 3 - Statistical data for land size

At this moment, the legal framework is not flexible enough, the farmers are not so flexible and neither the financial resources are not available, to implement a land consolidation project. Land consolidation need a good legal and institutional structure. Although at the high institutional level a lot of changes has been made, at the local level the legal framework has been poorly understood. There is an urgent need for building the capacity along Local Office for Cadaster and Land Registration (LOCLR) to facilitate the implementation of the current legislation.

Exploatațiile agricole, pe categorii de folosință și pe clase de mărime a suprafețelor agricole utilizate														
14.5 Agricultural holdings, by use category and size class of agricultural area in use														
Clase de mărime a suprafețelor agricole utilizate (hectare)	Suprafața agricolă utilizată										Suprafața agricolă neutilizată	Size class of agricultural area in use (hectares)		
	Total		Teren arabil		Grădini familiale		Pășuni și fânețe naturale		Culturi permanente				Set-aside agricultural area	
	2007	2010	2007	2010	2007	2010	2007	2010	2007	2010			2007	2010
	Exploatații agricole (număr)													
	Agricultural holdings (number)													
Total	3851790	3724332	3158890	2756912	2687519	2483557	1364814	1511261	1108375	1124114	152258	320633	Total	
sub 0,1	273544	384944	30030	54594	249537	297853	4337	39958	18040	50689	6067	34488	under 0.1	
0,1 - 0,3	522538	662122	266117	341024	385685	435108	51319	135292	114840	187855	12429	43826	0.1 - 0.3	
0,3 - 0,5	279419	355182	241623	278239	180734	226127	55834	111801	66804	102288	7808	26980	0.3 - 0.5	
0,5 - 1	609999	617198	560228	522209	394502	380249	165485	246948	150752	177977	17514	49674	0.5 - 1	
1 - 2	800066	712288	746430	637780	529406	467400	325601	360025	252386	240214	30845	65487	1 - 2	
2 - 5	965594	727389	929273	678017	673049	505779	514254	444063	361959	278645	50501	72909	2 - 5	
5 - 10	299996	182444	290949	171648	211030	127024	189878	125416	111818	65506	21229	19505	5 - 10	
10 - 20	70128	43609	67299	40308	49087	28269	44000	27752	24672	13090	4869	4230	10 - 20	
20 - 30	9548	9730	9167	8790	6418	5818	5010	5469	2881	2577	403	772	20 - 30	
30 - 50	6559	8213	6187	7345	4284	4466	2965	4363	2116	2032	243	633	30 - 50	
50 - 100	4791	7556	4295	6524	2330	3229	2000	3720	1105	1529	101	595	50 - 100	
peste 100	9608	13657	7292	10434	1457	2235	4131	6454	1002	1712	249	1534	over 100	

Sursa: Anchetă Structurală în Agricultură pentru anul 2007 și Recensământul General Agricol pentru anul 2010.
Source: Farm Structure Survey for 2007 and General Agricultural Census for 2010.

Figure 4 - Statistical data

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

FIG Working Week 2015

From the Wisdom of the Ages to the Challenges of the Modern World
Sofia, Bulgaria, 17-21 May 2015

In countries with land consolidation legislation this is formalized since many decades; see for example the contributions in odern land consolidation in FIG, 2004.

Kovács and Osskó (2004) state very clear in relation to an evaluation of land consolidation pilots: after 50 years of collectivization and bad memory of “socialist land consolidation” the new land owners did not show too much interest in the project (Lemmen et al., 2012).

However, land professionals, both from private and public sector, used with a sporadic registration system that implies high accuracy, are reticent to the change. The hearts and minds of land professionals need to be turned to fully understand and embrace the fit-for-purpose approach (Enemark et al., 2014).

The naive trends of reducing all the effects of the socialist economy with a simple privatization and passing towards a market economy, has generated an agrarian crisis, at the same time with the land restitution, emphasized by the idea of returning to the traditional way of using land (Bold, Ion 1999).

According to (Bold Ion, 1999) 14.8 % from the entire agricultural land privately owned is used in farms, 8.6% in familial associations and 76.6% is held by individual owners.

In the table from below the key figures for land fragmentation are presented according to (Sabates-Wheeler 2002):

Fragmentation indicator (unit)	Romania (2000)
Total size agricultural area (Ha) (FAOSTAT 2000; 2001)	14,857,000
Total number of farms	4,700,000
Total number of parcels	40,000,000
Average farm size (Ha)	2.30
Average plot size (Ha)	0.43
Average number of parcels (No.)	4-5
Private farms with more than 1 hectare of land (%)	40

With an average plot size of 0.43 ha and an average farm size of 2.3 ha it is hard to make sustainable agriculture. About 47% of the population lives in the rural areas (EU average is 15%) that comprise approximately 94% of the country territory.

Systematic registration revealed even more fragmentation on land due to inheritances that has not been registered, sales of land without legal documents and division on land with no registration in the cadastral system.

2. LEGAL SITUATION

2.1 Existing legal framework

Based on the study from (Jansen and Wubbe, 2012), after 1989, land policies evolution in Romania is marked by four major periods: the period from 1991 to 1997, from 1997 to 2000, from 2000-2005 and from 2005 until the present time.

In the period 1991-1997 the Law no. 18/1991 was the guidance for all the actions related to land, especially land restitution. Some might believe, since that point on, the land fragmentation could not be avoided.

One particular article from the law generated land fragmentation and land disputes among restitution process. According to the article 14 from the law “land restitution will be made, in the hill area, as much as possible on the old locations, and in the plain areas, in soles established by the local commissions not necessarily on the old locations...” In reality, in both areas the land restitution was made mostly at the old locations of land held by previous owners, one of the reason being the quality of the soil.

Furthermore, Law 18/1991 resulted in a situation in which the powerful instrument of land restitution was laid in the hands of local (political) elites. They had access to the information, they could manipulate it, they could cause maps and pages and entire registers to disappear and they could withhold facts that claimants required. The design and implementation of the land restitution process concentrated power in the hands of commune mayors (Jansen and Wubbe, 2012). According to (Verdery, 2002), they had every interest in slowing things down and delay the completion of the land restitution process. Thus, a situation was created in which corruption could emerge at a time when justice was critical to consolidating the new (political) order. The very legitimacy of private property as an institution was compromised. Law 18/1991 and amendments to it comprised no sanctions if local officials failed to implement the law (Jansen and Wubbe, 2012).

In 1996, the Law for Cadaster and Land Registration, Law no. 7, has come into place. The intention was to standardize the cadastral and land registration activity. Although the land restitution based on the law 18/1991 has not been yet been completed, the cadastral registration for the new issued titles was not mandatory. The idea of systematic registration, called at that time “general cadaster” appeared for the first time.

The period 1997 – 2000 is identified with the law no 169/1997 that accepted landownership right reconstitution claims for the difference between the already restituted land area in conformity with Law 18/1991 (maximum of 10 ha per family) and the area contributed to the former agricultural production cooperative (30 ha per family). However, this law could not be applied in practice because the land area that could have been restituted were under the administration of the former state farms that had been transformed in ‘commercial companies’ and these lands were not at the disposal of the local land commission. Again, the compensation concept was not introduced into the law (Jansen and Wubbe, 2012).

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

The 2000-2005 period is associated with four updates on the law no 7 /1996 and introduction of law no. 1/200 the Law on the Reconstitution of Property rights. In the new law, similarly to law no. 18 it is encouraged the restitution of land on the previous locations as is stated in the article 2 of law. In the meantime the maximum area that could be restituted increased from 10 ha (as it was in the law 18\1991) to 50 ha, compensations also has been introduced and more regulation on land restitution has been mentioned. However, compulsory registration of the new issued titles in the cadastral system has not been introduced.

In 2005 the law no. 247 come into force adding even more regulations for restitution on land. High attention has been paid to compensatory measures for persons that has not received the entire plot of land owned originally.

The law no. 7 from 1996, has been the subject of numerous changes from 2005 until the present. It has been changed 21 times, sometimes even twice in a month, with mainly one significant focus: systematic registration. Even now, in 2015, is expected a consolidated version of the law, again to support systematic registration.

Land consolidation in Romania, from the policies point of view, has received little to no attention since 90's. Romanian cadastral system, all the authorities involved (Ministry of Agriculture and Rural Development, Ministry of Regional Development and Tourism, National Agency for Cadaster and Land Registration, etc.) focused on two major actions: land restitution and systematic registration. None of them being completed until today.

In the last 5 years, three legislative proposals, related to land consolidation, were submitted to the Romanian Government for approval. The law project no. 584 from 2011 was comprehensive, including methodology and financing sources but the Romanian Government rejected. Rejection motivation was lack of finance to support it, contradictory legislation regarding association state-aid and incompatible with Romanian Constitution. Another initiatives has been proposed for approval to the Romanian Government in 2012 and 2014 but also rejected.

In the Netherlands, according to the report from the Land Consolidation/Land development Act is a symbiosis between public law and civil law. It is a formal act with special tools that surpass other laws. Land development is also a matter of public law; you do not exchange your lands, but your land is exchanged by the land development committee.

2.2 Expected improvements

According to the report from (Jansen and Wubbe, 2012) the following issues were identified referring to policy/institutional issues:

- an integrated vision on rural development is needed in order to improve the agricultural conditions by improving land management. This means that various parts of the administration that are involved with key roles for government (integrated policies) such

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

as MARD (agriculture and rural development) and ANCPI (cadastre and land book) should collaborate to define this vision and policy,

- urban plans and regional development plans should be included into land consolidation projects. Those projects should be financially supported by the state through the Ministry of Agriculture and Rural Development and the Ministry of Regional Development and Tourism,
- a policy should be defined and elaborated that reduces the number of small farms and increases considerably the number of middle-sized farms, the so-called family farms. For instance, initiate a law proposal to encourage medium size farms through a state tax and/or a local tax reduction,
- land consolidation project needs powerful catalysts such as tax reductions, powerful farmers (who are functioning as the examples), huge areas of land that are available for enlargement of the farms, and state subsidies for formal land consolidation or voluntary parcel exchanges, and:
- a pilot project should be executed where the necessary conditions for applying land consolidation (sound land administration, land fund available in a land bank, communication strategy) are readily available.

In 2014, the law no. 17, Some measures to regulate the sale and purchase of agricultural land located outside the built-up area (called also “extravilan” in Romania) enforce three main objectives: (1) guaranteed food security, protected national interest and natural resources exploitation, (2) established measures that regulates sale and purchase of agricultural land in the “extravilan” area and (3) land consolidation for agricultural land to increase the farms size and to create economically viable farms.

Another difficulty during first registration of ownership is the fact the more land is restituted on paper then is available in tarla in reality. Titles or certificates were issued during the land restitution process based on measurements made with old techniques like chain, rope, foot or tape line.

Legal framework for systematic reduction must be introduced in order to make the registration possible and avoid land conflicts.

Although is mentioned as one of the objective, land consolidation is poorly described in the content of the law. Many people from all the national organizations, even from the Romanian Government are speaking about land consolidation and still nothing happened.

3. LAND ADMINISTRATION IN RELATION TO LAND CONSOLIDATION IN ROMANIA

This section discusses the current situation in land administration in Romania – in the context of land consolidation.

First the need of a complete registration before the start of a land consolidation project is discussed. Then the proposed procedure is presented. A proposal follows with respect to the introduction of a deed for allocation. Finally a set of conclusions is presented.

3.1 Need for a complete land administration in land consolidation areas

Land administration is under implementation. A first, systematic, registration is ongoing in some areas. Sporadic registration in relation to land-right transactions is the common case.

There is a register of the people that have received titles in 1991. In many cases it cannot be assured if those persons still are the owner, because many transactions take place without registration: (i) the holder of the title may have passed away, in this case his/her heirs are owners by law; or: (ii) the title with the land right may have been sold without registering it because parties are allowed to “straight forward”, by bilateral agreement, or: (iii) parties can go to court to register the sale of a land-right (as described in the title), without registration in the Landbook.

At the level of local administration (Municipalities/Comunas) the information regarding agricultural lands is kept in a local Land Register which contains data obtained generally by declaration, without a geo-referenced graphical correspondence.

For European Union (EU) subsidy purposes, Agency for Payments and Intervention in Agriculture (APIA) registers the use of land in a separate database. Information of land use (tenancy rights, lease rights, etc) is relevant information in the design of a reallocation plan. Ownership has to be reallocated as well as factual land use.

Prices for agricultural lands are related to zone, soil quality, presence of irrigation network etc. In rural areas the market value of land is low. One must take into consideration here that in rural communities the land represents a social security and is in principal not sold.

The land is under valued and cannot be used as collateral¹ for loans. The lack of financial resources, the high costs of transactions and the land fragmentation are obstacles to development of a dynamic land market in rural areas.

One issue during the land consolidation pilot in Jirlau was the option of a *combined reallocation and registration approach*. This means an identification of *all* existing rights as known from the existing legal documents (titles from around 1991). Those land-rights could

¹ It should be observed that mortgage rights have to be reallocated in combination with ownership (this may result in new parcels in some cases).

then be valued, re-allocated and formally registered. This implies the set-up of an inventory of the land rights (ownership and land-use rights) in the existing situation for the land consolidation project area:

1. Consistency check for existing administrative and geometric data from land registry and cadaster. Court decisions to be included here.
2. Comparing the legal data with the factual land use in the field, this means to clarify and reconcile the legal situation registered in the deeds with the reality in the field;
3. A check on completeness (check if all existing titles are known); and:
4. Agreement between land owners *and land users* and the notary as a legal basis for reallocation.

The last point means in fact a complete registration before land consolidation can start. This means there can be no interpretations in the legal situation. According to the notary this is the only possible option: complete coverage of registered titles in land consolidation areas. There can be no land disputes (overlapping claims), area differences, or owners using pieces of land in the field other than the ones they legally hold. It has to be remembered that only a small part of the lands in Romania has been surveyed and only approximately 20% of the titles originally issued have been registered in the Landbook so far. The other 80% still has to be registered.

Without a consolidated legal situation one cannot speak about introduction of land consolidation. Also a land market cannot be supported.

The subsection below provides an over view of the land consolidation process from the perspective of management of land rights. ANCPI should be responsible for the inventory of land (ownership and land use) rights in a land consolidation project; for the inventory of land use rights, for the registration of the valuation and wishes of land owners and users, for drawing up reallocation plans in land consolidation projects, and for the preparation of the reallocation deed. The measurement of land can be privatized to certified companies and persons.

3.2 Methodology

Land consolidation is to a large extent based on data about land administration as the ownership of land is exchanged. In a voluntary re-allotment farmers and other land owners are invited to discuss the new allocation together (Louwsma et al., 2014).

According to the authors, land consolidation projects has more chances to be successful when all the land is registered and the cadastral system is working properly.

One of the issues encountered in the pilot project G2G was registration of the new situation. According to the Report (Jansen and Wubbe, 2012), it was not possible to follow this procedure (here registration of the new situation) completely due to the following reasons:

- Time: insufficient time for a well performed and executed communication campaign;

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

- Costs: the administrative costs for registration of the existing land rights are too high, this is one of the reasons that land consolidation in Romania will not be successful; and
- Participation: the many smallholder farmers were not very interested in this swapping process.

Registration of land in Romania is costly and time consuming, 19 days and 1.5% of the property value according to the doing business report (Worldbank, 2014)⁷. Registration time and costs increases when the ownership right is not clear.

Without systematic registration, land consolidation is difficult to be implemented, sometimes even impossible.

In a systematic registration project each parcel from a “communas” is registered in the cadastral system. The basic data offers a complete picture of land ownership, owners or tenants, boundaries and area.

In 2011-2012 a pilot project for land consolidation was implemented in Romania. The inception report mentioned the following:

“In the project two approaches will be applied:

- a practical one in a pilot area, executing a land exchange project and learning from the experiences in that pilot;
- a theoretical model comparing the situation in Romania with other countries, studying literature and writing conclusions and recommendations for an optimal approach in Romania.”.

The area of Jirlau has been selected as the pilot area.

Due to the fact that in Romania a Land consolidation law does not (yet) exist a voluntary land consolidation had to be performed in this pilot. An approach is presented here based on (Lemmen, 2012a, Lemmen, 2012b and Rosman, 2012b).

Current situation

At first the objective was to realise an exchange of land between many owners and users.

In that case three different stages can be distinguished:

1. The registration of the current situation,
2. The situation in which all the properties are available for re-allocation on the basis of agreement; and:
3. The situation that all the parcels are reallocated and registered.

The following procedure has been followed in regard those three stages:

1. Registration of the current situation

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

- Check the ownership in the Landbook.
- Arrange inheritance if required. In case the official owner has deceased, the inheritance has to be arranged within the family and with the notary first
- Find agreement amongst all owners. If more persons own a parcel, all should agree to the reallocation of their land rights (swap)
- Check if there is an existing representation on a cadastral map of the involved parcel; if not a survey has to be executed in order to provide the co-ordinates of the boundaries for representation on the cadastral map and to perform the mapping
- Perform field survey. Survey is only possible on the basis of a “plan de parcella”, this is an agreement of all owners, ratified by the mayor. This plan visualises the approximate location of the land in a Tarla². If there is no “plan de parcella”, survey is possible if all neighbouring owners agree with the allocated boundaries in the field. Those boundaries will be monumented.
- Register current situation. Registration of the existing situation via a notary if this has not yet been done. The notary then sends the documents of the cadastre with the location and the deeds of inheritance/ownership to the Land Registry. The Land Registry registers the parcel in the name of the owner. The Landbook issues a so called ‘extras de carte funciare’, which ‘proves’ the registration.

As the different steps costs some time, mostly there is a certain amount of time, like e.g. 5 working days after the notary has asked a certain certificate, that no other transaction can be performed with the land-rights because transactions to this parcel are locked.

2. Reallocation

- Invitation of right holders which are willing to join the voluntary based land consolidation. Small land holders have been invited, this group was not really interested
- Discussing the re-allocation options using large scale maps
- Identification of potential swaps of land rights
- Agreement

3. Registration of the new situation

- As soon as all parcels to be swapped are registered correctly where the existing situation is concerned, the buying and selling deeds for the landrights to be swapped is made and executed.
- Registration of the new situation

Unfortunately it was not possible to follow this procedure completely due to – amongst others – the following reasons:

- Time. Insufficient time for a well performed and executed communication campaign;
- Costs. The administrative costs for registration of the existing land rights are too high, this is one of the reasons that land consolidation in Romania will not be successful;

² Block of about 100 hectares

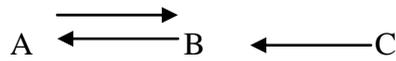
- Participation. The many small owners were not very interested in this swapping process.

The number of swaps that could finally be realised was limited. Only six swaps have been performed.

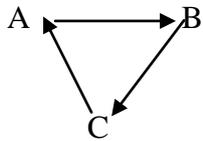
If the exchange takes place on a voluntary base there are several possibilities:

Possibilities to swap

Explanation



Exchange of rights between A and B
C is selling land



Three owners exchanging land rights



Four owners: B and C exchange land. A and D are selling

Naturally in a voluntary exchange more than four owners can be involved!

In the pilot project all the swaps were one to one swaps in which the parcels A and B were simply exchanged and even a third owner C wasn't involved.

So this meant that finally only the above mentioned steps 1 and 3 had to be applied.

Desired situation

Policy to support the transition from the present agricultural production and ownership structure to the expected and desired one.

The desired situation referring to the procedure has the following characteristics:

- There should be a legislation (arranging voluntary and comprehensive land consolidation based on secured land rights), institutions (mandates, responsibilities and rules), policies (achievements, priorities and goals, allocation of areas and budgets) and instruments

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

(valuation, participation, re-allocation, registration) that stimulates and supports land consolidation.

- Land users should be better protected (tenancy or lease). Land users are the factual producers of food. Investments in land require security over longer terms (more than one year)
- Clear procedures allowing to apply for land consolidation project in a certain area with support from the different responsible governmental institutions farmer associations and local authorities.
- A knowledgeable, independent organisation that implements land consolidation; ANCPI has the knowledge for this.
- Good education and information sources for farmers. Measures to compensate possible impact of small farms/farmers that will probably stop at some stage.

Supposing that such general policy, instruments, procedures, organisation and training facilities do exist it is necessary that the process of exchange of parcels can take place based upon the following points:

- First compulsory registration has to take place, free of charge, for all extravillan land
- Continuously improvement of systems and procedures has to take place in order to exchange information between e.g. cadastre, Landbook, notary, comuna, APIA and civil registration.
- The notary only has to make one reallocation deed for the whole area (no matter how many parties are involved) for the new situation. ANCPI can support in this.

The initial methodology was simplified once all the land is registered, and the first registration step is excluded. The most important is that time and costs for the first registration are avoided.

The proposed methodology for implementing land consolidation consists on the following steps:

1. Announcement for project initiation
2. Re-allocation:
 - o Invitation of right holders that are willing to join the voluntary-based land consolidation.
 - o Discussing the re-allocation options using large-scale maps.
 - o Identification of potential swaps of land rights.
 - o Agreement
3. Registration of the new situation:
 - o Exchange contracts are made.
 - o Registration of the new situation.

The approach here above is based on (Lemmen, 2012a, Lemmen, 2012b and Rosman, 2012b).

Not all land owners are involved in farming activities and might not be interested in a land consolidation project. For such a category of land holders a so called “Land Bank” should be introduced. According to (Jansen and Wubbe, 2012) an analysis has to take place to analyze what kind of land bank will be useful in Romania. It could be a public or a private institute, or a private-public partnership (PPP). A possibility is to use the State Domain Agency (ADS) as main land bank. Possibly this land bank organization could also have an important role concern the responsibility of the preparation and execution of land consolidation projects because they would know where land funds are available that facilitate the execution of land consolidation projects.

3.3 Voluntary based land consolidation

Different approaches do exist for land consolidation around the world. We are also aware of the fact that there is no “one size fits all” solution for land consolidation. Voluntary land consolidation seems to be the most appropriate solution for present situation in Romania. However, approaches such as compulsory land consolidation, individual or simplified land consolidation or any other type of land consolidation should be considered.

The proposals in this section are based on (Lemmen, 2012a, Lemmen, 2012b and Rosman, 2012b).

Voluntary based approach

This approach is based on participation of land owners and land users in the decision on land consolidation, the valuation (if applicable) and the development of the re-allocation plan and its implementation. An alternative to the voluntary approach is the comprehensive approach as explained below under ‘further principles’.

1. Set up a project administration.

- Manage the information on: all land holders and land users; valuation data and wishes; re-allocation data and complaints in one (GIS) environment with different layers. This project information is crucial to keep overview and to provide a check on completeness (nobody forgotten in the re-allocation). Parts of data are copied from the Landbook and have to be maintained (updates in the Landbook have to be maintained in the project administration).
- Make this administration accessible to all participants who are joining, all data are available for this group.
- Take care that updates are included from the land book all times. Organise availability of updates in land use with APIA.

2. Appoint a local committee. The chairman is the mayor. Land owners and land users should be represented. Experts (ANCPI, Ministry of Agriculture) should be represented as well. The local committee could perform the valuation of lands; this may also be done by a separate valuation committee.

3. Organize meeting(s) with landowners and land users.

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

- Present the local committee
- Explain project and benefits
- Present next steps on how to join

During this process it is important to take into consideration the remarks made under “communication”. E.g. maybe separate meetings for small and big farmers, for men and women, young and old farmers etc.

4. Find agreement by participants about the current situation.

- Present the draft land exchange rules including the valuation method by valuation committee.
- Present lists/maps/photos of land owners/users to be checked and agreed by the participants. Participants have to check that the information is accurate. A complaint procedure has to be established to manage this.
- Present an overview of the valuation results (optional, see below).
- Arrange land of the land bank of the state that might be used in the exchange process.

5. Registration of the existing situation.

- All interested parties who want to join have to be registered in the land book.

6. Make an inventory of all wishes for the land exchange plan

- Invite right holders (land users included)
- Discuss alternative wishes for re-allocation
- Include the data in the project administration

7. Prepare the land exchange plan (re-allocation plan)

- Prepare maps and propose a land exchange plan based on wishes
- Set definite land exchange rules
- Find commitment of local committee on land exchange rules and land exchange plan

8. Present a draft land exchange plan in a meeting to the registered participants

- Explain in this meeting the final rules and plan
- Discuss the plan with participants: individual or (if possible) in small groups. Groups can be for example two till six neighboring land owners/users. Provide maps for individuals and present benefits from re-allocation
- Make an inventory of comments and remarks on the re-allocation plan. Complaints should be avoided, the design of the re-allocation plan is a participatory design, all parties have to agree. Several cycles in the design may be needed.
- Redesign the plan for final discussion

9. Making Cadastral documents by the ANCPI

- Survey and registration of the new situation
- Preparation of the (reallocation) deed

10. Signing the reallocation deed (owners, notary)

- Signing the registration documents by all participants (this is the re-allocation deed)
- Registration of the reallocation deed

Land exchange rules

The main objective of land exchange is improving the agricultural conditions for all participants. All participants have equal rights in the process. The purposes of land consolidation are:

- concentration of parcels (ownership/ use)
- lessen travel distance between business location (farm) and parcel
- improving the shape of the parcel and access to the parcel
- Enlargement of farms: As a land owner you can decide to sell the land to the Landbank who will guarantee to lease it or sell it to the farmer community which will improve the agriculture structure.

This implies application of rules, e.g.:

1. No one will get less hectares (or less value) in the new situation compared to the old one (*with a tolerance of 3%*), unless there is agreement on this. If the area has been reduced there will be compensation in money. If one gets extra land allocated there has to be a payment for this based on area or value.
2. The benefits will vary by land owner/user; the goal will be to maximize benefits for all owners and users.
3. If spatial planning elements for general/public interest have to be carried out this will be integrated in the land exchange.
4. The land will be valued via agreed Valuation method (including soil validation map (method will be defined by the local committee))
5. The registration costs will be free.
6. The costs for surveying the parcels will be free.
7. if there is a difference in quality or amount of hectares the total costs/benefit will be based upon valuations which will be paid by the new owner (possible Landbank).
8. All costs (council taxes etc) on the property or income (subsidies APIA) on the parcel will be for the new owner or user
9. *If a participant doesn't sign the land exchange agreement the costs for surveying (can be twice) and registration will be charged on this participant. A new exchange plan has to be designed in that case and the process starts again.*

Valuation method

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

The valuation of land exchange could be done on the current agricultural land values (before and after land consolidation). The following aspects determine the agricultural value of the land:

- size
- access to road
- shape
- slope
- water availability
- drainage
- cultivation condition
- Soil quality and suitability for agricultural use

Further principles

All the time it should be noted in Eastern Europe that after 50 years of collectivization and bad memory of “socialist land consolidation” the new land owners did not show too much interest in the project. Land consolidation can be implemented on voluntary basis. There are similar experiences in other CEEC countries, *it is therefore recommended starting land consolidation only on (complete) voluntary basis as presented in the proposed procedure above.*

But awareness on other options may be use full for the future (see also Lemmen et al., 2012).

FAO (2003) speaks about ‘*comprehensive land consolidation*’. This includes ‘the re-allocation of parcels together with a broad range of other measures to promote rural development. Examples of such activities include village renewal, support to community based agro-processing, construction of rural roads, construction and rehabilitation of irrigation and drainage systems, erosion control measures, environmental protection and improvements including the designation of nature reserves, and the creation of social infrastructure including sports grounds and other public facilities’.

Apart from comprehensive land consolidation there are other approaches as simplified consolidation, voluntary group consolidation, and individual consolidation initiatives. In Western Europe land consolidation changed over time as policies changed. It moved from the agricultural sector into the environmental and recreational sectors. In addition to the economic role of agriculture to supply food and fibers, it is now involved in the comprehensive renewal of the rural economy and landscape. The restructuring of land and farm holdings is a *dynamic* process, which is taking place constantly and for all kinds of socio-economic reasons. For land consolidation participation is absolutely necessary and its implementation proved successful only where stakeholders and beneficiaries are involved in the decision-making processes and existing, informal approaches and schemes are recognized and integrated into local democratic governance institutions. In countries with land consolidation legislation this is formalized since many decades.

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

Known objectives in land consolidation in Western Europe are:

- improvement of production and working conditions in agriculture and forestry,
- improvement of the general use of land in rural areas,
- maintenance of existing and creating new employment in rural area's,
- improvement of the livelihoods of the rural population, and:
- conservation and protection of the natural and cultural legacy.

A future Romanian land consolidation process could start with agreement on the area involved and could comprise in general: (1) preparation of a comprehensive plan preparation and voting of the land-use plan in a specific area, (2) inventory of the (ownership, use) rights on the land and the valuation of the land, (3) voting on execution of the plans (3) drafting and confirmation of the reallocation plan and other functions to be realized, (4) implementation of the reallocation plan and creation of other functions, (5) financial arrangements taking into account the benefits, and (6) registration of new titles.

In the process there are several moments in which persons can file objection to what is being proposed to them. Such objections need to be solved before the next step in the process can be made. For example: it has to be clear who is participating and for how much from the inventory before a re-allocation plan can be designed. This is only clear after all complaints have been processed – but it is of course always possible to be practical here. The redistribution of the land according to the ratio of each one's contribution, i.e. proportional distribution, to the total is an important characteristic of the reallocation process.

This reallocation can be based on the area or on the value of the land. The proportional distribution incorporates the possibility to reduce each portion that has to be redistributed with a percentage in order to acquire land that can be used for uses having a public interest (for example water management systems, new roads or bicycle paths, new recreation facilities).

Such a reduction is called systematic reduction. But it is also an option to use *governmental owned land* in the area where land consolidation is executed for the realization of provisions in the public interest. Landbank can play a role here. Reallocation of such governmental land can take place to where these provisions need to be established. In advance the government can buy land in the area and this will reduce the amount of land to be acquired by systematic reduction. However, governmental land can also be used to enlarge farms. Differences in land in terms of topography and quality limit the possibility of reallocation. Therefore often a quantified discrepancy between the reallocated portion and the reallocation claim is permitted.

Issues for consideration

The following issues are for discussion and consideration:

- The local committee be elected or appointed? Sufficient representation of local farmers is needed: small and big farmers. Owners and tenants.
- Registration of participants. Is it a good idea to ask commitment by signing an agreement between committee and participant?
- Valuation? Valuation committee is the same as the local committee? Is there a valuation map available? The valuation could be simplified to the valuation of soils that have to be exchanged; unless a complete valuation before and after the land consolidation has to be performed to identify differences in value before and after lc. Is this needed?
- Participants have to check in advance if the information on their property is accurate. And if needed the boundaries of the property are identified in the field by a Surveyor. In practise this means that all existing properties have to be surveyed in advance, except the properties which are registered already. This means the difference in area's on the title and the situation in the field will be found. It is expected that the area's in the field are not equal (less) then the area on the title. This means that most people will claim extra land to be allocated compared to the existing situation. Those extra lands could be available from the land bank or from an owner who wants to stop farming. This check on size can only be done afterwards – at the end of the process one more survey is needed.
- Tolerance in reallocation of 3%. This means the allocated land can be 3% more/less then the contributed claim.
- Exchange can be based on areas or on value. The approach based on areas is far more simple then the approach based on value. But there may be objections against the approach based on area's, people know about differences in qualities of the land. The valuation boundaries for soil have been projected on the land allocation maps which where used for distribution of original titles.
- Exchange based on ownership or on land use (tenancy). One extra option is that the user could represent the owner if the owner agrees.

Deed of allocation: a proposal

Given the existing legal options for transactions it has to be observed that in case of the registration at the end of a land consolidation project the notary will not look to the result of land consolidation as a whole. The notary will look for the perspective of transactions in land ownership rights: which owners of which pieces of land in the old situation are re-allocated to new owners.

Comparison ('polygon overlay' in a GIS) of the 'old' and 'new' situation can identify all those pieces, the size of those pieces can be calculated and the names of the old and new owners can be related. Each individual piece can be considered as a transaction. If the same owners are involved in several transactions it has to be checked if a reduction in the number of transactions for those owners is possible. The number of pieces identified as a result from

the comparison can be substantial – especially given the fact that improvement in shape of parcel is a rule for exchange.

The polygon overlay can only be ‘perfect’ if both the ‘old’ situation has been completely surveyed in the field and the ‘new’ situation has been completely surveyed in the field. Both in the same geo reference system.

Of course results of the polygon overlay will be less perfect if less accurate cadastral maps representing the ‘old’ situation are used. Those maps may be projected to the new cadastral map (the new cadastral map is the map with a representation of the new ownership situation based on field surveys).

It may be so that the notary will not sign for the results of the re-allotment if a property in the ‘old’ situation is not clearly identified or described – this means that the object is not surveyed in the field in the old situation.

The notary only supports transactions on:

- exchange of ownership between 2 owners of 2 pieces of land, or a process between three persons (see document Freek) or:
- buying/selling transactions.

This is insufficient to support re-allocation in a practical way.

Proposal

Do not propose land consolidation before a complete and dispute-free coverage of titles in the foreseen land consolidation area is available.

Prepare a legal basis allowing one single (re-allocation) deed for the registration of the rights of all allocated parcels in the new situation. See this as one single transaction of ownership of rights on lands as described in existing titles to new (re-allocated) rights.

There should be new titles on the rights to the new parcels after re-allocation, the existing titles should not remain in force because the location of the object changed.

In the (re-allocation) deed all the original titles have to be listed, the allocation rules have to be included and a complete list and overview, including a map, of the allocated lands has to be included.

The results of the polygon overlay needs to be included in the (re-allocation) deed. In this way the historical links are guaranteed. There will be no problem with area calculations.

Advantage for ANCPI: problems with area’s solved; there is progress in registration because of land consolidation; support in the land consolidation (inventory of wishes, re-allocation

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

plan, guidance to the process). ANCPI can prepare software (later) allowing the inscription of deeds of allocation in one transaction.

Alternative proposal

One transaction deed for each transaction as identified from the polygon overlay. Also in this case the area problem is solved.

In both alternatives it has to be remembered that there can be changes in area if the re-allocation is value based.

Farm size is a major problem in Romania as it was in Western Europe. The instrument of land banking concentrates amongst other things on this type of fragmentation. Land consolidation, the most prominently used instrument in Western Europe, spatially optimizes land use of each participant but by definition does almost not change the amount of land of each participant. Considering the above, land banking makes the best match with Romania's fragmentation problems in the short term, whereas formal land consolidation would be more suitable in the longer term. Land consolidation is likely to meet a growing demand when land banking is effective. Voluntary parcel exchange has proven to be useful in Western Europe for smaller adjustments in land ownership; the same applies for the CEEC. One should, therefore, consider the use of the different instruments in parallel whenever they are suitable to tackle the problems in a specific area.

Comprehensive multi-functional land consolidation projects that improve the rural areas in many respects are only meaningful when they connect to the actual sentiments and interests in society. This means that interest groups are organized and this prerequisite is something that may not yet be the case in all regions within Romania.

In a voluntary process of land consolidation the state or NACLRL does not necessarily need to participate. However, national authorities might be involved in the process facilitating registration or approving convenient fiscal measures that can relax land consolidation.

Agricultural land in Romania has low value especially in areas of the country where the irrigation systems are not present, quality of soil is poor and interest in farming is low. It will be then very important to motivate people to be involved in the process.

3.4 Land consolidation software

Land consolidation in Western European countries is often managed by an information system. In The Netherlands a dedicated software application has been developed, named TRANSFER, including various mathematical algorithms to optimize the land re-allocation process (Lemmen et al., 2012, Rosman, 2012a)).

In this paper, the authors will pay only little attention for the automation software used as a tool for land consolidation. In Romania, at a later stage a software for automatic land re-

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

allotment might be a solution, but at this moment linking land bank with the cadastral system and other data sources is a must.

Considering the situation that the very small average size of the farmers is a big problem, land banking makes the best match with Romania's fragmentation problems in the short term, whereas formal land consolidation would be more suitable in the longer term. The land bank might also function as a representative of the absentee-owners.

E-terra, the Romanian computerized system for cadastral data management is used only by NACL. No other authorities has access to view the cadastral data. In 2014, through the GEOPORTAL, access to the geometry of the cadastral data has been given to the public. It is a huge step forward for NACL, although no information regarding the use, ownership or rights, restrictions and responsibilities are made available.

In places where systematic registration was completed a clear picture of the Romanian land fragmentation is shown. Making this available for the public, it may raise awareness for authorities, owners, farmers and other people interested in land.

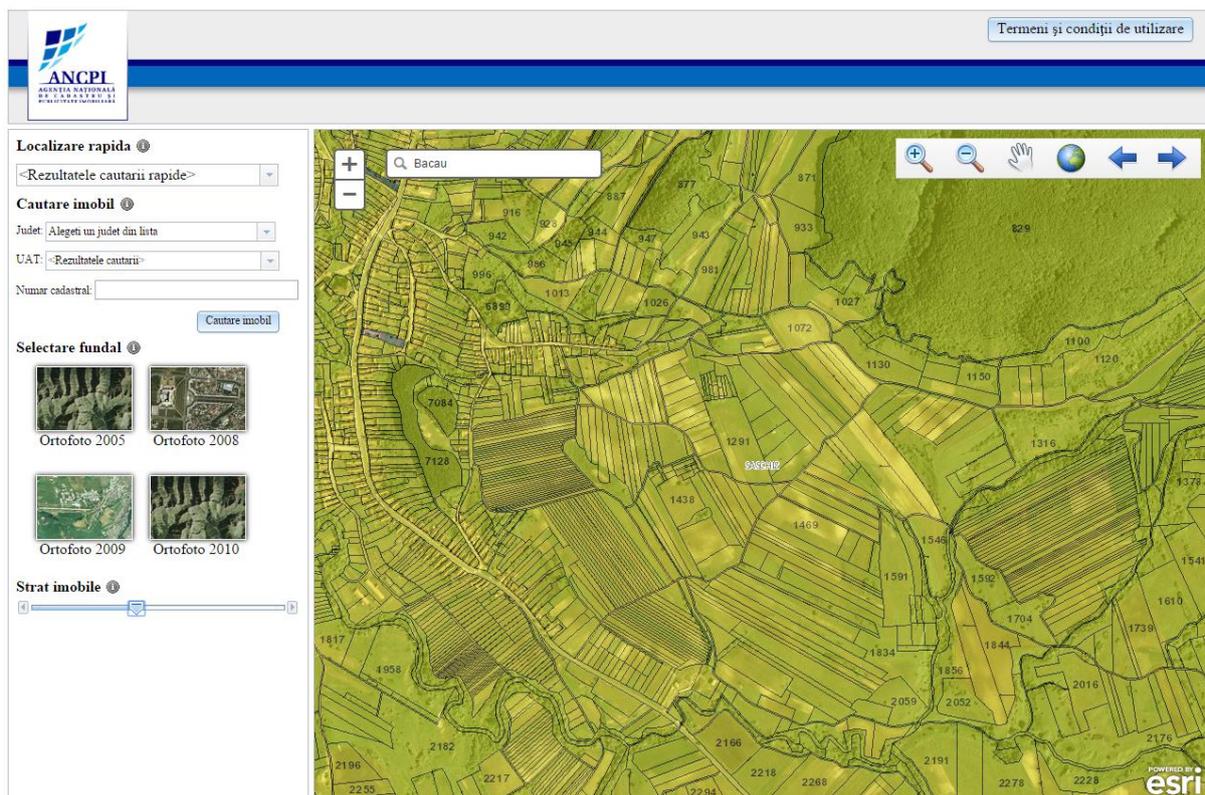


Figure 5 - Systematic registration in Romania – source ANCP

A new information system or a module for the existing system is recommended for a better management of land consolidation. In the Netherlands a specific software application called

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

TRANSFER has been developed (Rosman, 2012a) to assist the Kadaster expert in optimization of the allocated value and allocation claim for each farm. This procedure is very complex and automated support is very effective and less time-consuming than doing this (Lemmen, et al., 2012).

4. CONCLUSION AND RECOMMENDATIONS

Before starting a Land Consolidation process, it is necessary to have the availability of a sound land administration of that area.

It is important to define the different steps during a Land Consolidation program and make someone responsible for the execution of each step. At any case the organization of ANCPI has an important role during this process. Further it is important defining the rules of the game. E.g, nobody's situation should get worse. Attention has to be paid to the fact if the parcels will be exchanged based upon the area or based upon the value. In the latter case it will also be necessary to value the parcels. To get as much support as possible it is important to involve the local people in this process of valuation. It is important that the interest of the involved people is properly represented.

It is recommended first to try to apply Land Consolidation on voluntary base in Romania. Due to the reluctant attitude of the rural people towards central directed activities referring to land it is not wise starting with Land Consolidation by law. Further it is recommended having a local committee that is responsible for the progress of the project. The mayor should have an important role in this committee as well as representatives of the various stakeholders. Finally it is recommended only to transfer one big deed to the notary. In this deed all the transactions of the whole area have to be mentioned. From the original situation until the final situation.

REFERENCES

Bold, Ion, C. A. (1999). Territory Organization.

Bullard, R. K. (2000). Rural development of land in the changing environment and culture of Central Europe. Proceedings UDMS 2000. Conference Land Markets and Land Consolidation in Central Europe. Delft.

Demetriou, D., 2014. The development of an integrated planning and decision support system (IPDSS) for land consolidation. Leeds, Springer.

Enemark, S., Bell, K.C., Lemmen, C.H.J. and McLaren, R., (2014). Fit-For-Purpose Land Administration. FIG Guide. Joint FIG/World Bank Publication. FIG Publication No 60. International Federation of Surveyors and The World Bank, Copenhagen, Denmark. ISBN 978-87-92853-10-3

FAO, (2003). The design of land consolidation pilot projects in Central and Eastern Europe. FAO Land Tenure Studies No 6. Rome, Italy, 2003, FAO. ISBN 92-5-105001-5

FAOSTAT, 2000; 2001. FAO Statistical Databases. FAO, Rome (www.fao.org).

FIG, (2004). Modern land consolidation the proceedings of a symposium by FIG commission 7, September 10-11, 2004, Volvic, France. International Federation of Surveyors, Frederiksberg, FIG, 2004.

Jansen, L. J. M. and Wubbe, M., (2012). Better agricultural conditions by improving land management (G2G/11/RM/8/1), ANCPI, Agentschap NL EVD International, Netherlands' Embassy.

Kovacs, E. And Ossko, A, (2004). Land consolidation in Hungary: dream or reality. Modern land consolidation : proceedings of a symposium by FIG commission 7, September 10-11, 2004, Volvic, France. Frederiksberg, FIG, 2004. pp. 4-18

Lemmen, C.H.J., Jansen, L.J.M. and Rosman, F. (2012) Informational and computational approaches to Land Consolidation. FIG Working Week 2012, Rome, 6-10 May 2012 – Knowing to manage the territory, protect the environment, evaluate the cultural heritage. Rome: FIG. 2012. ISBN: 97887-90907-98-3.

Lemmen, C.H.J., (2012a). Current and desired procedure. Internal project documentation: Better agricultural conditions by improving land management (G2G/11/RM/8/1).

Lemmen, C.H.J., (2012b). Land Administration in relation to Land Consolidation in Romania. Internal project documentation: Better agricultural conditions by improving land management (G2G/11/RM/8/1).

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)

Louwsma, M., Van Beek, M. and Hoeve, B. (2014). A new approach: Participatory Land Consolidation. In: Proceedings of XXV FIG Congress, 16-21 June 2014, Kuala Lumpur, Malaysia. FIG, 2014. ISBN: 978-87-92853-21-9.

NACLAR (2014). CESAR Progress report, National Agency for Cadastre and Land Registration, Romania, May 2014.

Rosman, F., (2012a). Automated Parcel Boundary Design Systems in Land Consolidation. FIG Working Week 2012, Rome, 6-10 May 2012 – Knowing to manage the territory, protect the environment, evaluate the cultural heritage. Rome: FIG. 2012. ISBN: 97887-90907-98-3.

Rosman, F., (2012b). Test results. Internal project documentation: Better agricultural conditions by improving land management (G2G/11/RM/8/1).

Sabates-Wheeler, R., (2002). Consolidation initiatives after land reform: responses to multiple dimensions of land fragmentation in Eastern European agriculture. *Journal of International Development* 14(7): 1005-1018.

Stahl, J., Sikor, T., Dorondel, S., 2009. Transparency in Albanian and Romanian land administration. Paper forthcoming in the Cahiers Options Méditerranéennes entitled 'La question foncière dans les Balkans'. 13pp.

Swinnen, J.F.M., (1999). The political economy of land reform choices in Central and Eastern Europe. *Economic of Transition*. Vol. 7 (3): 637-664.

van der Molen, P., Lemmen, C.H.J., van Dijk, T. and Uimonen, M. (2004) Introducing the subject of modern land consolidation and symposium report. Modern land consolidation : proceedings of a symposium by FIG commission 7, September 10-11, 2004, Volvic, France. Frederiksberg, FIG, 2004. pp. 4-18

Verdery, K., (2002). Seeing Like a Mayor Or, How Local Officials Obstructed Romanian Land Restitution. *Ethnography March* 2002 vol. 3 no. 1 5-33

World Bank, (2014). Doing business report from <http://www.doingbusiness.org/>.

BIOGRAPHICAL NOTES

Christiaan Lemmen is international consultant at Kadaster International, the Netherlands. He is chair of the Working Group 7.1 “Pro Poor Land Tools” of FIG Commission 7, and director of the FIG Bureau of Land Records and Cadastre, OICRF.

Email: Chrit.Lemmen@kadaster.nl

Ciprian Savoiu is a land administration consultant at Geodata Consulting and Management, Romania. He is project manager for systematic registration projects at Ramboll SEE, Romania.

Ionut Savoiu is member of The Romanian Parliament – Vice-president of IT&C Commission. Between 2005-2012, he was country managing director of Blom Romania, Romania and international consultant in Blom International. In 2004, he was appointed as deputy general manager of National Agency for Cadastre and Land Registration (NACL), Romania. He is honorary advisor to the Board of the Romanian Surveyors Association

CONTACTS

Ciprian SAVOIU

Geodata Consulting and Management

Targoviste

ROMANIA

Tel. +40 731 492 464

Email: savoiu22041@itc.nl

Web site: www.g-data.ro

Dr. Christiaan LEMMEN

Netherlands Cadastre, Land Registry and Mapping Agency

Kadaster International

PO Box 9046

7300 GH Apeldoorn

THE NETHERLANDS

Phone: +31 88 183 3110

E-mail: Chrit.Lemmen@kadaster.nl

Website: www.kadaster.nl

Ionut SAVOIU

Member of The Romanian Parliament – Vice-president of IT&C Commission

Targoviste

ROMANIA

Tel. +40 722 231 929

Email: isavoiu@yahoo.com

Web site: www.savoiu.ro

Systematic Registration in Romania a New Opportunity for Land Consolidation (7749)
Ciprian Savoiu, Ionut Savoiu (Romania) and Christian Lemmen (Netherlands)