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LAND FRAGMENTATION AND LAND CONSOLIDATION IN THE AGRICULTURAL SECTOR

A CASE STUDY FROM ROMANIA

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Investigating the Potential for Land Consolidation in Romania

The need to improve land management is obvious in the changing environment of Romanian agriculture. Due to this, in this study special attention is paid to rural areas where land relations have profound implications for agricultural productivity, environmental sustainability and the economic and social status of rural households. The recent and dramatic shift from a centrally planned to a market-based economy has emphasized the urgent need for the designing of an effective framework to promote a smooth and effective transition to agriculture land tenure relations consistent with market-oriented development. In the former socialist countries in Europe changes in land tenure have proceeded at varying pace and with different outcomes. The land markets have begun to function, although financial constraints and institutional shortcomings, cause limitations to proper process. Because land turnover is generally low, the consolidation of fragmented parcels occurs very slowly. This is a major problem for countries whose restitution programs resulted in fragmented smallholdings, or where small farms dominated the farm structure even prior to the reforms.

1 Introduction

After the removal of the communist system at the end of 1989, Romania became a country in transition to a market economy. In this transition a proper legal framework, together with a privatisation strategy, became the main objectives. To respond to the political commitment to privatise land, Law no. 18, the so-called “*Land Restitution Law*”, or “*Land Fund Act*” was enacted in early 1991. It stipulated the constitution and re-constitution of property rights to land, starting with the earlier collective farms. Under this law, a family cannot receive less than 0.5 hectares and more than 10 hectares. Other provisions supporting land fragmentation are:

- Within a *comuna* (the smallest rural administrative territory) where the demand is higher than the available area, the procedure is to reduce the assigned area proportionally.
- In mountainous regions the land is assigned in its previous location, which is not the case in the plain regions.

Property rights to the land are constituted to each landowner who was forced to join a collective farm. Most of these people have died and their rights were transferred to a large number of heirs, who have to apportion the land between them.

The enacting of a number of other laws and regulations extended the legal framework on land restitution and management. The last enacted law (Law no 1, 2000), extends the area of agricultural land used to make restitution to the former owners up to 50 hectares, from the land currently belonging to state farms. As a result of the application of Law no. 18 and the related Laws, the character of landownership has been completely changed. In Romania, the total agricultural area is 14,791,000 hectares (i.e. 63 percent of the total area of the country). According to statistics, small owners possess approximately 10,700,000 hectares (85 percent of the agricultural area), of which 9,400,000 hectares are assigned under Law no. 18. The remaining land is generally located in the mountainous areas, which were never collectivised. The remainder of the land is owned by the State and by private commercial companies.

The number of property titles is estimated at 4.5 million. The average area per title is less than 2.2 hectares. This average varies in different districts from 1.3 hectares up to 4.1

hectares. The largest proportion of the new owners is unable to personally work their land (according to statistics, 57 percent of owners are more than 65 years old and 43 percent live in towns).

As a result of the application of the Law no.18/1991, the average number of parcels per owner is around 4 to 5, and the average area of a parcel is approximately 3,000 square metres. Within the plain region, except in some unusual situations, the plots of the old cooperatives were laid out in straight lines. Because of this, after splitting the parcels are rectangular. In several cases the parcels are very narrow (3 m wide and 1 km long). The average width is 25 m, while the average length is 1 km.

Currently the following types of agricultural associations can be found operating, according to Law no 36 of 1991:

- Family associations – the regrouping of owners coming from two or more families. They are based on word of mouth, written documents not being compulsory. Such associations are not juridical entities;
- Agricultural companies – registered in the courts as juridical entities, comprising of at least 10 landowner partners. The partners remain owners of their land, which is provided to the association. The limits of parcels are not marked on the land;
- Commercial companies – legal entities having land registered in their patrimony for productive purposes.

Starting in 1994, according to Law no 36/1994, the leasing of land was regulated. The rent depends on the category of land, and is in the region of approximately 25 percent of the possible yield. Currently more than 20 percent of land is leased. The means of production are very poor and irrigation networks are little used by private owners because of their high costs of operation. Taking the above into consideration, an effective strategy of land consolidation in Romania is required.

This project aims to offer concrete legal, conceptual, methodological and managerial proposals for the governments concerned, and for society to improve rural livelihoods and achieve increased efficiency and competitiveness in sustainable agriculture and rural development.

2 A Brief History of Agrarian reforms in Romania

2.1 *Agrarian Reforms prior to Communism*

In Romania, as in many other transition countries, the historical discourse around the nature and arrangement of property tenure and rights, both physical and philosophical, has often been presented as polar opposites of collective or co-operative forms versus private, individualised forms. In Romania the period between the tenth and eighteenth centuries characterised the feudal epoch. For Romanians this period is associated with the dismantling of village common land operations, and, implicitly, of collective land tenure. Agriculture represented the main economic activity during the whole feudal period.

Historical literature documenting early feudalism (10th to 14th centuries) indicates the emergence of a socially stratified society. For example, in a document of 1247 reference is made to *maiores terrae* (landlords) and rustic people (dependent peasants). In the Golden

Bulla, issued by the Hungarian King Andrew the Second in 1222, details are listed regarding feudal privileges related to social status. In the century, social stratification began to emerge within the social classes of both peasants and feudal lords. The great land estates of the Boyars (large Middle Age landowners) emerged and developed; the value of these land estates was not determined on the basis of the land area in property, but rather on the basis of the number of villages, implicitly the number of peasants working on the respective land. The advanced feudalism of the fourteenth to eighteenth centuries was characterised by continuous servitude for the peasants, who were the slaves of the feudal landlords, church and state. Their rent, which was subject to unfair increases, was paid in labour and in cash, resulting in large-scale revolts.

Since the second half of the sixteenth century, Moldavia and Wallachia had been under the domination of the Ottoman Empire. The monopoly imposed by the Turks upon the foreign trade of these two Romanian principalities was the main reason for the low capital accumulation, and for the decrease of the Boyar household's urge to enlarge their cultivated areas and increase crop yields. The restrictions on the Ottoman monopoly by the mid eighteenth century (1774 - the Kuciuk-Kainargi treaty) brought an increase in size of the great Boyar land properties, by sale and purchase, donations, marriages or even by force. For example, in Moldova in 1803 of the 1,711 existing villages some 927 were located on the Boyars' estates. Of these, 440 were on the land of only 28 Boyar families.

The Adrianople treaty (1829) granted liberty of trade between the two principalities of Wallachia and Moldavia and permitted their entry to the economic circle. This had important consequences regarding structural modifications in economic life and social relations, as well as the process of capital accumulation. As a result of the steady increase in demand from the European market for Romanian cereal, arable land increased more than 3-fold in three decades: in Moldavia from 278,000 hectares in 1829 to 1 million hectares in 1863; in Wallachia from 511,000 hectares in 1839 to 1,415,000 hectares in 1863.

The Boyar - peasant relations began to change at the time when the cultivation of the Boyar's land allowed for greater incomes. The worsening of the situation of the peasantry in the fourth decade of the nineteenth century had, in essence, an economic cause. The landowners, who lacked capital, implements and sometimes even skills, found a solution for increasing their incomes by decreasing the size of plots given to peasants and by greatly increasing the collective work of peasants. The increase of the number of days of collective work no longer permitted the peasants to adequately farm the land given into their use.

By the mid nineteenth century, Romanian society was in a situation to adopt radical measures that should have lead to the elimination of feudal relationships and to the birth of the new bourgeois world. As agriculture was the prevailing economic activity, the established feudal, Boyar - peasant social relationship became the crucial point in the reform of society. Thus the 'Rural Law' was passed in 1864, providing the secularisation of monastery goods (25 to 26 percent of the country's agricultural area), the emancipation - freedom from feudal servitude - and the granting of peasants with plot size decided on the basis of their land farming capacity.

According to this law, the bondman peasants were classified into three categories:

- First - owning 4 to 8 draft cattle and a milk cow;
- Second - owning 2 to 4 draft cattle and a milk cow;
- Third - having no draft cattle, however with one cow.

The land given to peasants mainly came from expropriation from the landowners, the State being the guarantor of related compensation for the receipt of the large property. The new owners, who had received plots ranging from 1.5 to 3.5 hectares per family, were given fifteen years in which to pay for their plot(s). Social protection was a driving strategy behind this land reform.

According to the Rural Law of 1864, 511,896 families were granted land with a total area of 2,038,640.26 hectares, or an average of 3.98 hectares per family. As a result of this reform of Romania's total agricultural land, the peasantry owned approximately 30 percent, the landowners about 60 percent, and the State 10 percent. This was the only agrarian reform that took into consideration the ability of people who had been granted land to work it. The Rural Law did not solve the agrarian social problems; after its enactment, the Boyar - bondman conflict became a landowner - peasant conflict.

Peasant land property holding was eroded by two phenomena in the period leading up to the First World War: first, it was the subject of successive inheritances, leading to the emergence of tiny properties of less than 2 hectares, which were not economically viable. Second, as a result of market forces, some of the peasants who had been granted land were financially ruined, and their land was absorbed into the property of the larger landowners, or of the other richer entities of the village. Thus, at the beginning of the 20th century, the main categories of peasant properties were as follows:

- Peasant households owning no land 25 percent.
- Households with plots up to 2 hectares, 23 percent.
- Households with plots of between 2 to 5 hectares, 35 percent.
- Households with plots of between 5 to 10 hectares, 14 percent.
- Households with plots of between 10 to 50 hectares, 3 percent.

The large number of peasant households with no or little land resulted in peasants being obliged to perform full or part-time paid work for the large landowners.

During the First World War, Parliament adopted constitutional modifications, in the field of agrarian and electoral reform. Expropriation from landowners' property, the State domain and the Crown's property was stipulated for 'reasons of national utility', compensation being offered in the form of State rent. The expropriation imposed by the Agrarian Reform Law of 1921 totalled 6,008,098 hectares, i.e. 66 percent of the landowners' property, which was to be used for the granting of land to the peasants. The law stipulated that a larger landowner was left a non-expropriated 100 hectares area in the hilly and mountainous regions and 150 hectares in the plain regions. The regional land lease price, multiplied by forty for the Old Kingdom (Wallachia), and by twenty for the rest of the country was established as the redemption price.

As a result of the agrarian reforms of 1921, small and medium-sized land properties prevailed. However, a significant number of larger properties remained and at the same time a proportion of approximately 700,000 agricultural workers was maintained. In general the reforms contributed to the change of direction in the development of the Romanian economy, particularly of agriculture, as a result of the modification of the land property structure. According to the statistics, following the reforms land properties under 100 hectares accounted for 89.56 percent of the agricultural land, while the properties larger than 100 hectares made up 10.44 percent of the total agricultural area. The agricultural census of 1930

revealed an average area of arable land per household of 3.92 hectares, approximately 75 percent of households having land properties of less than 5 hectares. The classification of agricultural properties by categories of farms was the following:

- Poor peasants (less than 5 hectares), 74.9 percent of total farms.
- Middle-income peasants (5 to 20 hectares), 22.6 percent.
- Rich peasants (20 to 50 hectares), 1.7 percent.
- Large land estates (50-200 hectares), 0.6 percent.
- Very large land estates (over 200 hectares), 0.2 percent.

Romania's population in 1930 was 18 million, of which 78.9 percent was rural. The excessive numbers dependent on agriculture grew over time, with numerous negative economic and social implications on a national level. From an economic perspective, the existence of a large agricultural population and a high birth rate, together with the seasonal character of agricultural work, limited the possibilities of increasing the standard of life and of capital accumulation, not only in agriculture, but also nation-wide. These economic aspects had social reverberations, in the sense that a permanent 'hunger' for land was maintained in the rural areas, and the Romanian village became the centre of social discontent.

Early in 1929 the press and politicians first began to draw attention to a new phenomenon in the rural areas: steadily growing agricultural debt. This had multiple causes that affected and aggravated the debt problem. For instance, the low profitability of the recently appropriated peasants' households because of the lack of agricultural implements, credit and male labour due to war deaths, the poor harvest of 1928; monetary stabilisation in the same year; the price ratio of industrial products prices compared to agricultural produce prices, customs policy and the economic depression of the period 1929 to 1933.

During the period from 1932 to 1934, four laws were passed for agricultural debt conversion, generally providing debt limitation to 50 percent and requiring the payment of very low interest rates (3-4 percent). The implications of this legislation were significant, both economically and socially. According to calculations made by the economist Virgil Madgearu, the number of rural debtors reached 2.2 million in 1934, while the total debt reached 52.4 billion Lei. For an accurate assessment of this predicament, you have to take into account that the gross value of Romania's crop production (cereals, food crops, industrial crops, orchards, vineyards and meadows) totalled 46.7 billion Lei. According to the Ministry of Justice, the number of debtors owning less than 10 hectares of land who had asked for their agricultural debt to be written off reached 2,474,781. This included practically all those who were granted land by the application of the Agrarian Reform Laws of 1921. The peasants' debts were assessed at 52 billion Lei, of which, 71.4 percent was owed by peasants with up to 10 hectares of land, and 28.6 percent by medium and large landowners.

2.2 *Agrarian Reforms after 1945*

In 1945, after the Second World War, another agrarian reform law was passed. This was carried out via the seizure of land holdings larger than 50 hectares. This large-scale expropriation had two main objectives: the dismantling of larger properties in the interests of egalitarian re-distribution and to gain greater electoral support in favour of the newly installed power. No compensation was provided to the landowners who were subject to land

confiscation. Exceptions regarding expropriation were made for land belonging to the clergy, the monarchy and intellectual circles within certain cultural institutions owning agricultural land. In total the land reform of 1945 led to 1,468,946 hectares being expropriated and 977,777 peasants received land, totalling 1,109,562 hectares. The appropriated people had to pay the State an amount equivalent to the value of an average yearly harvest for the plots received, estimated at 1,200 kilograms per hectare for maize and 1,000 for wheat. After paying 10 percent of the respective amount, the remainder was scheduled for payment over a 10 to 20 year period. This law was revoked in 1950. The 1948 agricultural census revealed the following situation of properties by area:

Land Distribution by Size of Land Holding

Amount of land	Percentage	Cumulative percent
Up to 0.5 hectares	16.8	16.8
0.5 – 1 hectare	20	36.8
1-2 hectares	26.7	63.5
2-3 hectares	15.2	78.7
3-5 hectares	12.6	91.3
5-10 hectares	6.4	97.9
10-20	1.6	99.3
20-50	0.4	99.7
Over 50 hectares	0.3	100

Such agricultural land fragmentation was not conducive to an efficient agriculture sector, nor was it a beneficial use of the country's agricultural potential.

In 1949 a long and difficult process was initiated that lasted more than a decade, called 'the socialist transformation of agriculture'. This is the only agrarian reform in Romania in which the direction of the shift was from small to large farms. A wide range of methods of was used to persuade the peasants of the advantages of common work in order to implement this reform. Model farms were established, appealing to the simplest forms of cooperation, many of which were traditional in the Romanian village, and in certain cases, direct and violent pressure was applied.

The imposition of a system of compulsory quotas of agricultural products from individual farmers, implemented in 1946, played an important role in forcing the peasants to join the cooperatives. The political justification for this was the supply of the urban population with agricultural food products and the protection of the poorer section of the population. Parallel to the establishment of agricultural production cooperatives there was a movement to combine cooperatives from neighbouring villages, agricultural plot consolidation being obtained at the price of the peasant's alienation from his land, i.e. from his property. Furthermore, once a guaranteed minimum monthly income was established for each cooperative member, a conceptual modification was introduced regarding cooperative property, which legally belonged to the group and not the State. As a result of the cooperative system of organisation, and the receipt of payment per job, the cooperative member became an agricultural employee, which permitted the identification of cooperative property as State property, with all its ensuing economic and legal effects.

The completion of this process in 1962 permitted the agricultural production cooperatives to be included in the national economic plan, offering the possibility of the horizontal and vertical integration of agricultural units, either State or cooperative farms. This integration presupposed the establishment of large structures of collective management bodies, which resulted in an overlapping of tasks, formalisation and inefficiency. Thus, although having potentially positive possibilities, the cooperatives did not contribute to the overall development of Romanian agriculture. The Romanian agricultural crisis was determined by the economic policy of the totalitarian regime.

The marginalisation of the agricultural cooperatives was manifested in low investment, the paying of low procurement prices, the contracting of crop and livestock products, inadequate technical equipment, the excessive centralism of cropping plans and, the high level of direct and indirect exploitation of the peasantry. The average yields per hectare were below potential, because of the low level of technology and a lack of labour, caused by the massive and rhythmical migration from the rural areas. As significant parts of any profits made went to the State budget, a huge central bureaucratic system was put in place. Any local initiative was forbidden, and no democratic system existed. This economic sector, and the peasantry in particular, became pauperised as a direct effect of the above-mentioned factors.

During the communist period in Romania, there was a reversal of the relationship between the population employed in agriculture and the population employed in other sectors, due primarily to severe industrialisation policies. In 1950, 74.1 percent of the population was employed in agriculture, in 1970 those employed in agriculture declined to 49.11 percent, less than 50 percent of the working population, falling to 27.5 percent in 1989. In agriculture a real schism had been created, by the discrepancy between the proportion of the employed population and its effective labour capacity. The number of women and the excessive age of the population working in agriculture seriously affected production. December 1989 witnessed a turning point in the economic and social development of Romania.

3 Land Reform and Its impacts on the Agrarian Structure

3.1 *Legislation and regulations around land tenure*

3.1.1 *Features of the land law*

Immediately after 1989, one of the first measures taken was to provide land parcels up to 5,000 square metres (arable land or arable equivalent) for the use of each former agricultural cooperative member or cooperative pensioner, as well as to other former workers from the agricultural mechanisation stations, according to Law Decree number 42/1990. The Land Law (Law number 18/1991), which was passed about a year after the 1989 revolution, represented a starting point for land reform, through the dismantling of the agricultural production cooperatives. A first provision of this law was that ownership right is established on demand, and, if possible, on the old locations. The law stipulates ownership right reconstitution on a maximum area of 10 hectares of arable equivalent land per family; in the case of surplus agricultural land ownership right constitution follows the same limits.

Ownership right reconstitution applies to Romanian citizens, former owners, or their heirs. Ownership right constitution applies to former cooperative members although they did not contribute land to the cooperative in the past, employees who had worked for the last

three years (1987-1989) in the former agricultural production cooperatives or in the inter-cooperative associations, and families who made an application to receive land for use and committed themselves to farming the respective land. Young families from the mountainous areas committed themselves in writing to settle in these zones and establish their households there. This law also stipulates the provision of land into use, up to 5000 square metres (in arable equivalent) per family, to specialised staff from the public communal services, during the period they were working in the respective locality.

The Land Law defined two categories of land under State patrimony: the public domain and the private domain. The ownership right in the public domain cannot be alienated, while the land is taken out of the civil circuit. The land belonging to the private domain of the State, including land areas in the administration of the former agricultural State units, may be the subject of privatisation, concession, etc. A series of provisions of this law, mainly referring to the legal circulation of agricultural land, were totally blocked due to a non-establishment of the Agency for Rural Development and Territory Organisation. The repossession of landowners in conformity with Law number 18/1991 is the task of the communal, town or municipal commissions, with the support of the county commissions. Repossession is quite a slow process, as it presupposes the existence of cadastral evidence.

The essence of the Land Law (Law number 18/1991) - on the basis of which land was given back to its former owners - is characterised by the confluence of social, political and ideological criteria. Firstly, the law provided for the reconstitution, or conversely, restitution of ownership rights of former cooperative members or their heirs. In this sense the law 'healed' by appealing to considerations of historical justice. As a consequence, however, a large number of people, approximately a third of which do not live in rural areas and are not involved in agricultural activities, were able to claim land.

The Law also focused on the dismantling and liquidation of old 'command-economy' agricultural production cooperatives without estimating the consequences of such a large-scale restructuring. Once ownership rights were reconstituted for cooperative members and their heirs who initially contributed, the Law also made provisions for the distribution of small plots of land to other categories of people. This provision of land is often referred to as constitution of land rights rather than reconstitution (or restitution). These people were formerly active cooperative members who did not contribute land to a cooperative or contributed less than 5,000 square metres, as well as those who were not members, but worked as cooperative employees during the three years 1987 to 1989. It also provided for young farm families coming from the agricultural, mountainous zone and families from areas with a surplus of agricultural land, but with scarce labour.

Law 18 set a 10 hectares top limit on the amount of land that could be reconstituted to any one family. This was done in anticipation of the large number of expected land claims and to avoid the creation of large differences in the level of holdings between landowners. In essence the Land Law attempted to recreate a property situation that had existed 40 to 45 years earlier.

Unfortunately, the Land Law, whose aim it was to remove the injustice that had been done to peasants by the nationalisation of agriculture and cooperatives, generated many difficulties, which are reflected both in production and labour productivity, as well as in agrarian relations. In the administrative realm, the Law was applied spontaneously, in many cases its provisions were violated. For instance, the public authorities often limited their

involvement in the organisation and control of the land law application. This partially explains the destruction or the deterioration of large commonly managed production facilities (units, fruit tree and vine plantations, irrigation systems, etc.), which had been built by the peasants expending financial, material and human resources over more than four decades.

In the economic realm, the privatisation of land was not accompanied by the privatisation of both upstream and downstream input suppliers and output procurers of agricultural machinery. These facilities, crucial to efficient production, remained the property of the State, which meant that the new owners faced huge constraints in their ability to farm profitably.

The method of land privatisation also had a substantial impact upon the entire national economy. By application of the Land Law, the previously consolidated land parcels were completely fragmented, from large-sized farms to very small family farms. On the basis of the Land Law, 4,709,108 people, at approximately 2 hectares per person, claimed an area of 9,405,776 hectares. At the end of 1999, the number of individual family farms in Romania was 4,119,611, with a land area of 9,377,000 hectares, or approximately 2.28 hectares per farm. The land area of each household is divided into 4 to 5 parcels, which contributes to even greater land fragmentation. This excessive fragmentation of land and farms over a long period of time presents a serious impediment to the development of a modern and competitive agriculture, comparable to that in more developed countries. The reduction of land fragmentation and the increase of land concentration must therefore be dealt with urgently.

3.1.2 Co-operative forms as a response to production constraints

In response to the problems associated with massive distribution and fragmentation of land and to the fact that farmers lacked access to machinery suited to small scale farming, the government proposed and passed Law number 36/1991, on the basis of which legal agricultural associations and family associations were established. It was believed that these associations would help to alleviate some of the transition problems facing new landowners and also held out the promise of economies of scale. Under Law number 36/1991 two types of association are provided for: (1) formal agricultural associations with legal status, (2) informal family associations without legal status.

The formal agricultural associations are private associations with variable capital and do not have a limit on size of membership. The main activity of the large associations is crop farming and they are characterised by the cooperative utilisation of equipment, land and sometimes labour. They are legal entities and represent the main form of farmers association. These associations work 9.6 percent of the country's agricultural land area. Family associations are informal associations of friends, neighbours and family members. The main reason these members cooperate is to reap the benefits from different production activities and to work larger tracts of land through consolidation. They are non-legal entities, and it is estimated that they operate 5.9 percent of Romania's agricultural land.

Legal and family agricultural associations hold out potential advantages, such as: they are based on maintaining their associated members' private property upon the land; the managerial training of agricultural association chiefs is easier and it takes a shorter time as compared to that of the millions of private farmers. Having larger land areas compared to family farms, these units have favourable conditions for applying technological advances and

for increasing production, productivity and efficiency. In this way the associations can contribute to the development of the associated members' households.

The advantages offered by the consolidation of land in associations, together with the greater openings for investment and the use of advanced technologies and techniques, are reflected in higher yields as compared to the smaller family farms. In 1997 for example, agricultural legal associations and family associations obtained higher yield increases than small family farms. For instance, they obtained, on average, 247 kilograms per hectare more for wheat and rye; 528 kilograms per hectare more for barley and two-row barley; and 393 kilograms for maize.

Although yields are higher than those of small family farms, their levels are still low and vary from one year to another. Associations have faced a series of difficulties, which led to their decline numbers and area. In certain agricultural associations, the problem of land tenure has not yet been clarified; the livestock sector is poorly developed, while ownership of technical equipment is quite modest. The poor managerial training of association chiefs causes other difficulties through lack of cash for production development, certain discriminatory agricultural policy measures, and the inheritance of some agricultural practices and behaviour characteristic of the former political regime.

Recommendations for consolidation through associations:

The increase of agricultural production through the encouragement and development of associations is both necessary and feasible. The following are needed for this purpose:

- a) A solution to land tenure problems;
- b) The improvement of the legal and institutional framework, while promoting modern cooperation principles among associations;
- c) The stimulation of farmers' association by granting them certain rights;
- d) Financial support for buying and procuring:
 - Tractors, agricultural machinery and fertiliser.
 - Devices for monitoring production and product distribution.
 - High-yield biological material e.g. certified seed and efficient cattle breed.
 - An extension of the use of efficient technologies and of scientific research results.
- e) Managerial and professional training of management, providing advisory services on decision-making on resource allocation and activity efficiency. Under present conditions, farmers' associations, should be concerned with developing co-operations for:
 - Supplying high-yielding seeds and livestock breed, fodder, chemical products, etc.
 - Processing agricultural raw materials; cereals, fruit, livestock products, storage and marketing,
 - Mechanisation services in agriculture, dwellings and other annex buildings.

3.1.3 Recent amendments to Law 18

The Land Law was completed by Law no. 169/1997, which permits former agricultural and forest land owners to solicit the restitution of the difference between the land area received in conformity with Law no. 18/1991, and the land area dispossessed by various means, during the communist period. This set a maximum 50 hectares of agricultural land and 30 hectares of forestland. This law represented the legal basis for the filing of

reconstitution applications; effective reconstitution was to be put into practice by a special law at a later date.

Law no. 1/2000 for the reconstitution of ownership rights to agricultural and forest land, known as 'Lupu's Law' (after the name of the draft initiator) maintains an upper limit of ownership right reconstitution to 50 hectares of agricultural land, for forestland, the area is reduced to 10 hectares maximum. This law is considered to be the legal framework for the continuation of land privatisation. The delay in clearing up ownership rights to land inhibits the possibility of a land market operating under good conditions, and, as such, is the main obstacle to land consolidation.

Land Law no. 18/1991 was modified and completed by Law nos. 169/1997 and 1/2000. These had the following aims:

- To increase the maximum area on which ownership rights can be reconstituted from 10 hectares of agricultural land, as stipulated by Land Law no. 18/1991, to 50 hectares of agricultural land and 10 hectares of forested land;
- The removal of the injustice caused to certain categories of physical and legal entities, i.e. their exclusion from the right to acquire land property.

Law number 1/2000, or *Legi Lupu*, stipulated the restitution of the difference between 10 hectares per family acquired according to Law number 18/1991, and the land area contributed to the agricultural cooperatives in the past, but not more than 50 hectares per land owner. To obtain this increase in land applications must be made. Ownership right reconstitution is on the former locations, if these are free, or from land areas constituted as reserves at the disposal of the Communal Commission charged with Land Law application. Where integral ownership right constitution is not possible, compensation will be paid for the non-restituted land difference.

The physical entities (people), for whom the status of shareholder was established in the agricultural or fishery commercial companies on the basis of Land Law number 18/1991, will be restituted a land area of the same quality within the respective company. At the same time, the physical people who concluded leasing contracts, under the conditions provided by Land Law number 16/1994, will be restituted the land areas stipulated in these contracts. Both for physical entities as shareholders (established on the basis of Law number 18/1991) and for physical entities as lessees (according to Law number 16/1994), ownership rights are reconstituted for the agricultural land and for the difference between 10 hectares and the land area that they had owned in the past, but not more than 50 hectares per land owner.

Law no. 1/2000, on *ownership right reconstitution on agricultural and forestland* claimed on the basis of Land Law no. 18/1991 and Law no. 169/1997 is in the process of application. The expected effect is the increase of land areas into the property of individual families. The land areas of families with more than 10 hectares of agricultural land are estimated to increase by 10 percent.

The people, or their heirs, whose agricultural land passed into State property as a result of the Decree 83/1949, and of any expropriation regulations, are reconstituted the ownership rights within the limit of the land area that passed into State property. However in the case of State companies previously headquartered in agricultural land that passed into state property, not more than 50 hectares per land owner may come from land areas in their possession.

Where agricultural land, which is the object of ownership right re-constitution, is under the administration of agricultural research and production institutes and stations, restitution will come from agricultural land delimited for production from the land areas of State property, by a decision of the Government. Where the agricultural land areas do not exist for integral restitution in cases concerning shareholders, lessees and people whose agricultural land had passed into State property by Decree number 83/1949, and by any expropriation legislation, compensation will be paid for the shortfall.

After restitution for the above-mentioned cases the agricultural land remaining in the possession of agricultural commercial companies and in the administration of autonomous régies and national agricultural companies will represent private State property. The representative types of religious establishments acquire agricultural land areas by reconstitution from the Church Fund of the respective religion. The agricultural or forestry high schools and public institutions for the care of children will regain the land areas they had owned in the past. The pre-university education establishments acquire, through reconstitution, agricultural land areas within the limits of land areas formerly owned, while those who had no agricultural land property in the past, receive land areas of up to 5 hectares from local council reserves.

Great changes in the land property structure will ensue from the privatisation of the commercial companies having agricultural land or land under permanent waters in their administration, on the basis of the Romanian Government's Emergency Ordinance number 198/1999. For this purpose, the Agency of State Domains was established, with the following tasks:

- a) To exercise on behalf of the State, all prerogatives concerning the ownership rights on agricultural land and land under permanent waters belonging to the private domain of the state;
- b) The leasing of goods, activities and services, as well as of land areas belonging to the public or private domain, under the administration of scientific research institutes and stations of agricultural or forestry education units, and of national companies and societies under the subordination of the Ministry of Agriculture and Food.

The privatisation of the commercial companies operating agricultural land or land under permanent waters will take place by the following:

- a) The sale of stocks;
- b) Land concession (lease);
- c) The sale of assets to associations established according to legislation in force, as well as to Romanian or foreign physical or legal entities.
- d) Legislation on land market organisation and operation.

As a result of the application of the Land Law (Law no. 18/1991), a total area of 8,043,818 hectares was restored to its former owners (85.5 percent) and 3,383,063 ownership titles were issued by the end of 1999.

3.2 *Stage of Land Law application*

	Indicators	%
Total area to be repossessed (hectares)	9,405,776	100
Total area that has been repossessed (hectares)	8,043,818	85.5
Total no. of people to be repossessed	4,709,108	100
Total no. of people that were repossessed	3,879,563	82.4
Number of ownership titles to be issued	4,330,972	100
Number of ownership titles that have been issued	3,383,063	78.1
No. of validated shareholders	247,910	100
Decisions issued to shareholders	217,406	87.3

Source: *Buletinul informativ no.3/2000*, Ministry of Agriculture and Food

The land balance drawn up by the Ministry of Agriculture and Food, in conformity with Law 169/1997, reveals that: 862,287 restitution applications were filed at national level and a land area of 1,865,898 hectares was claimed, which results in a total deficit of 621,329 hectares. At the end of 1999 the private sector accounted for 84 percent of total agricultural land: 82 percent of total arable land, 74 percent of land under vineyard, 67 percent of land under orchard and 87 percent of land under meadow and pasture. This was a result of the application of the Land Law. As a result of the enforcement of Law no. 1/2000, it is estimated that the proportion of State land will decline by 5 to 6 percent.

In accordance with the Law of Cadastre and Land Registration (Law no. 7/1996), in each locality a Land Book exists, in which the following are recorded:

- The name of the owner;
- The document or legal deed constituting the title of ownership right;
- Any change of property title;
- Any legal deeds, personal rights or other juridical relations, as well as the actions regarding property;
- The land's area, category of use and if applicable, any buildings;
- The location and the details of any immediate neighbours;
- The taxable value.

3.3 *Legal means for consolidation*

A crucial role in counteracting land fragmentation and in the establishing of optimum-sized farms is played by the various functions of the land market, by land sale/purchase and land leasing in particular.

3.3.1 *Land Market for Buying and Selling*

The Land Sale and purchase Law (Law no. 54/1998) on the legal circulation of land.

Under communism, it was only in exceptional cases that land belonging to a legal or physical entity could become the property of another person. By removing the prohibitions regarding legal circulation of land, Law number 54/1991 on the legal circulation of land

stipulates that land areas under private ownership are, and will remain, in the civil domain, regardless of their owner. They can be acquired and alienated (disposed of) by any of the methods established by civil legislation such as, sale, intestacy, etc, however, compliance with the following conditions are necessary: (nb: this is all legal stuff):

- a) Land located in intramural (urban areas) and extramural areas (areas outside the urban boundaries) may be alienated regardless of its area, by legal deeds concluded among living people, by sale inclusively, concluded in an authentic form. In order to be defensible against third parties, it is necessary to transcribe these documents into the land register of the land book.
- b) In order to impose limits to very large land properties and to the stratification of farmers, the property of the person acquiring land cannot exceed 200 hectares of agricultural land in arable equivalent, per family. 'Family' refers to a head of household, a spouse, and any unmarried children, if they farm the land together with their parents. (Law no. 18/1991 provided an upper limit of only 100 hectares).
- c) Foreign citizens and stateless people, as well as foreign legal entities cannot acquire ownership rights to Romanian land by legal deeds among living people or because of death. These people may acquire, with no restrictions, only movable assets or immovable assets such as buildings. They are granted only the ownership right on the respective building and the right to use the land related to that building. This provision prevents foreign people buying large land areas at low prices, reducing the land available to Romanian farmers.
- d) In the case of land which is the subject of the investments of foreign physical or legal entities, Law no. 54/1998 on the legal circulation of land stipulated that the dispositions in force are, and will remain, valid as regards the legal regime of foreign investments. The foreign legal entities, which establish their headquarters in Romania, may acquire, during the period of their existence, the ownership right to that land necessary for their objective. The sale of land to a foreign investor during the period of that commercial company's operations represents a type of transfer, not a sale. A foreign investor cannot indirectly acquire what it cannot acquire directly, by establishing a company with its headquarters in Romania, by a direct transitive contract of immovable property, or common law.
- e) Physical entities of Romanian origin, having their residence abroad, may acquire land of any kind in Romania, by legal deeds among living people and by inheritance. This provision of Law no. 54/1998 increases the number of non-farmer owners and the area they have as property. The sale of extramural agricultural land is conditioned by the exercise of a pre-emption right, i.e. priority when buying, co-owners, neighbour owners and lessees all benefiting from this right. If none of the pre-emption right beneficiaries exercise this right within the deadline provided by law, or if the price offered by them is not adequate for the seller, the land can be sold to anybody wishing to purchase it. (The establishment of pre-emption rights might contribute to the promotion of land consolidation by counteracting the trend of land fragmentation and excessive parcelling.)

The liberalisation of land sale and purchase offers a series of advantages designed to stimulate agricultural development, namely:

- The structure of land tenure will be improved, mainly on the basis of land owned by non-farmers. Land will, to a greater extent, become the property of those involved in agriculture. The limit provided by the present legislation for ownership right re-constitution/constitution will be exceeded.
- Farm sizes will increase (both family farms or farms with hired labour), which is an essential requirement for efficient and competitive agriculture.

- Providing facilities for young farmer families will bring about the improvement of the age structure of farmers and will contribute to the creation of a new farming generation, sensitive to efficient technologies and motivated to develop high-yield agriculture.
- The application of co-owners', neighbours' or lessees' pre-emption rights will contribute to the reduction of land fragmentation, with beneficial effects upon productivity, costs and profitability.

The enactment of Law no. 54/1998 on the legal circulation of land means the initiation of a legal land sale and purchase process, and the operation of this segment of the land market. At present, this is confronted by a series of difficulties:

- The delay in the full clarification of ownership rights and land circulation, including land in the private domain of the State;
- The slow issuing of ownership titles, that have been issued to approximately three quarters of entitled people so far;
- There are still few possibilities for farmers to attain incomes that could permit them to buy land;
- The inflationary process that makes certain potential sellers wait for the 'right' moment, mainly if they do not know how to re-allocate the money obtained by the sale of land;
- The low involvement of farmers (most of them from self-consumption, subsistence farms) in market production;
- The limited access to credit owing to the extremely high banking interest rates.

The land market in Romania requires the right conditions to become more fluid, such as; the granting of credit under advantageous conditions for buying land through the existing banking system; the setting up of specialised banks; solving problems by using land as a collateral for credit and mortgage credit stimulation. The creation of a land market that should effectively and significantly contribute to structural adjustment, and to agricultural development, in conformity with market economy requirements, calls for legal and institutional action. Among these, the top priorities are:

- The completion of agricultural and forest land restitution, on the basis of Law no. 1/2000, for the reconstitution of ownership rights to agricultural and forest land claimed, according to the provisions of Laws no. 18/1999 and 169/1997. The land that may become the object of land transactions will increase in this way;
- The privatisation of commercial companies administering agricultural land or land under permanent waters, on the basis of the Romanian Government's Emergency Ordinance, number 198/1999 (published in Romania's Official Gazette of December 13, 1999).
- The completion of the issue of ownership titles. In the absence of ownership titles confirming the owners' legal right to land, the land market is seriously obstructed
- The elaboration of legislation on agricultural credit and the use of land as collateral. The access of potential land buyers to credit under advantageous conditions is essential for the land market's development, as well as providing the legal possibility of using land as collateral. Agriculture has great potential for guaranteeing credit through land mortgaging. Estimating the value of arable land at only 7.2 million ROL/hectares, which was the average market price in 1999, means that the potential to guarantee agricultural credit totals over 70,000 billion Lei. Agricultural development programmes should take this fact into consideration.

The acceleration of cadastre and land registration operations on the basis of Law no.7/1996

The general cadastre provides a unitary and compulsory system of technical, economic and juridical evidence, by which, all areas of land, as well as other immovable assets on the whole territory of the country, regardless of their location and owner, are identified, registered and represented on maps and cadastre plans. The cadastre is organized both at the level of each administrative unit (i.e. a commune, town or city) and at the national level through the institutions created for this purpose (i.e. the National Office of Cadastre, Geodesy and Cartography at national level and the territorial offices of cadastre, geodesy and cartography at each county level and for the city of Bucharest). The objective of Land Registration is entry in the land book of the ownership as well as of the other real rights which are transmitted, modified or become extinct (if this is the case), as a result of legal deeds and facts referring to immovable property. The land book is, in fact, the identity card of a property and it is unique to any real estate item. Any owner who wishes to sell land must obtain its cadastre documentation.

The creation of a national land pool (or fund) that should be used for the stimulation of the land market, land consolidation, rational land concentration and agriculture restructuring:

3.3.2 Rental Markets

The Land Lease Law no. 16/1994 modified and completed in 1998 regulates leasing land areas and other agricultural assets. According to this law, leasing is based upon a written contract between the lessor and lessee; this contract must be registered at the local council where the leased assets lie. The contracting parties may be physical or legal entities. The lessees, as physical entities, may be Romanian citizens, regardless of their place of residence (in Romania or abroad), on condition they have the necessary agricultural knowledge, training and skills, or a certificate attesting to their agricultural skills, and they present the guarantees required by the lessors. The lessees, as legal entities, may be Romanian legal entities with their place of residence in Romania, including those entities with partial or total foreign capital, on condition their objective is the operation of the agricultural assets and they present the guarantees required by the lessor.

In practice, several types of leasing can be identified, according to the economic agents leasing in land:

- Direct leasing to the person operating the land who farms it using primarily his own, or family, labour.
- Leasing to a person who farms land areas using hired labour;
- Leasing to a producers' association;
- Leasing to a company with State capital, majority State capital (former agricultural State enterprises etc.), mixed capital (with foreign capital participation), or private capital.

The scale of these leasing forms will depend upon their adjustment to market economy requirements. Besides the private economic interests of those leasing land, as reflected in the anticipated profit, there is a national economic interest that must be considered when conceiving and applying agrarian policy. In conformity with this interest, the public power must act through mechanisms adequate in the field of leasing in a market economy, towards the development and consolidation, for example, of commercial family farms, associations or farms hiring labour.

The legislation on leasing also provides a series of restrictions specifying physical and legal entities that are not allowed to lease out their lands. These include: agricultural research and production institutes and stations; commercial companies and other units having State property under their care, or administration.

The following entities cannot lease-in agricultural land: economic agents with majority State capital, service rendering units, 'AGROMEC' the commercial joint-stock companies resulting from the transformation of former agricultural mechanisation stations. This intervention ceases in cases where State capital is no longer the majority capital. Public employees and employees from the administration or management of the above-mentioned legal entities are restricted from leasing-in land.

A special part of the regulations concerning leasing refers to the obligations and rights of lessors and lessees. The lessor is obliged to hand over the leased assets under the agreed conditions at the established time, and to guarantee the lessee against total or partial eviction. To provide him with peaceful and useful operation of the land, not to change the location of the leased land, to take back the leased assets at the expiry of leasing contract and to fulfil all the other obligations assumed by the contract; the lessee has the obligation to use the leased goods as if he were a concerned owner of them, to maintain the yield potential of the leased land, to hand it back when the contract ceases, to pay the rent at the established time and under the established method(s), as well as to fulfil all other contractual obligations.

The lessor has an obligation to pay the taxes and fees for the leased out land, while the lessee is obliged to pay the taxes on the income obtained from his operation of the right to control, at any time, the way in which he administers the leased goods, and obviously, to pay the rent; in turn, the lessee as the farmer benefits, from the credit and taxation facilities provided by the current legislation; at the same time, the lessee, as a physical person, has the pre-emption right over co-owners and neighbour land owners, in the case of alienation through sale of the leased extramural agricultural land.

The Land Lease Law no. 16/1994 stipulates the duration of leasing contracts in Romania, which cannot be less than 5 years, with certain exceptions. Under its modified and completed form, the Land Lease Law stipulates that the parties of the contract can establish the leasing terms. The lack of certain provisions could be detrimental to a rational basis of land lease and to the lessor – lessee relationship and discourage lessees from making investments.

The leasing contract ceases on the expiry date established by parties. It can be renewed according to the parties' agreement. The lessee may transfer it to his/her spouse participating in the operation of the agricultural land or to his/her children already 18 (with the lessor's written agreement). It can continue in the case of the death of the lessor or lessee (in this case, those heirs already 18 years old must communicate their intentions in writing and to obtain the written agreement of the other party). It can be terminated before it reaches its expiry date if the parties agree on contract cancellation.

Law no. 18/1991 made it possible for people whose land was in the State farms (State agricultural enterprises) to opt for the status of shareholder in these units, or to be a landowner, being obliged to leave the land into the operation of the State unit. Law no. 16/1994 (the Land Lease Law) gives the right to the latter to lease their land, either to the State unit, or to other physical or legal entities. The leasing contract in this case is concluded

for the minimum leasing period established by law (i.e. 5 years). At the expiry of this date, the entitled people may operate the land of their own free will, as owners. During the term of the contract, the lessor has no ownership right to the land, and hence he cannot exercise the three rights: possession, utilisation and disposal.

A crucial element of the transactions between landowners and lessees is the rent that the lessee has to pay to the lessor for the right to use a certain area of land for a defined time period. In the beginning the Land Lease Law no. 16/1994 stipulated minimum and maximum limits for rents, payment being possible in kind, in cash, or in both, according to contracting parties' agreement. Under its modified and completed form, rent payment is made according to contracting parties' agreement and is paid at the terms and place established by the contract. The absence of reasonably established legal provisions, as regards the rent, might result in unfair relations and the practice of medieval forms of land lease, which would hinder the development of this land market segment on a modern basis. This situation is not helped by the absence of a specialised institution that could monitor leasing relations, as happens in other countries.

At present different methods of rent calculation are practised, namely:

Rent calculation on the basis of the land's productive potential.

For determining its production potential, land is classified according to soil quality, relief, climate and subterranean water, on the basis of land-judging scores, into 5 quality classes; each class is further divided into 3 categories. The supervisory bodies, i.e. the Research Institute for Pedology and Agro-chemistry and the offices for pedological and agro-chemical studies at county level, establish the quality and category of agricultural land.

In accordance with the land's quality and category, the contracting parties establish the potential production of the land and, on this basis, the rent and payment method.

Rent calculation on the basis of production potential is practiced mainly by legal entities that have at their disposal the necessary information, qualified staff and technical means. Apparently lessors are favoured by this method, the risk of not obtaining the potential production being assumed by the lessees. On the other hand lessees are motivated to enter such deals in order to avoid or diminish the risk, or to obtain the benefit of production surplus to that in the contracted estimation.

Rent calculation as percentage of yield per hectare on the basis of local tradition.

This is the most common method under present conditions. Generally the rent ranges from one fifth to one third of the obtained harvest. The risk is shared between the lessor and lessee, convenient for both parties considering the uncertain conditions and unpredictable climate of Romanian agricultural production. Such a method of rent establishment does not provide great motivation for obtaining high yields.

Rent calculation as fixed quantity of products per hectare.

As a rule, the value fluctuates around 600 kilograms per hectares for wheat. The risk is totally assumed by the lessee, being the only beneficiary of the surplus when exceeding the

set yields used for rent calculation, the lessee is motivated to improve his agricultural efficiency.

Rent calculation as a proportion of profit.

This method is not very common. The contracting parties are reluctant to use such a rent calculation method, mainly due to the difficulties in defining and measuring the profit, should any profit be available in a period of crisis for Romanian agriculture and economy.

At present, the prevalence of rent calculation in kind, even if it be paid both in cash or both, can be explained by a set of conditions, namely:

- The infancy of the land market.
- The state of crisis in the economy and agriculture, monetary instability, the inflationary process that makes the calculations difficult, inaccurate and risky as regards the costs of products, total cash incomes and, hence, the establishment of rent as part of income;
- Those who lease land are, in most cases, peasants lacking the necessary knowledge and skills for a clear knowledge of costs and incomes per hectare and of crops; there is no accounting system in place suitable for small family farms. Furthermore, on such small farms, the calculation of the above-mentioned indicators is difficult, owing to the overlap between household and agricultural activities.

Although it has developed in recent years, land leasing is confronted with difficulties or obstacles, including the following:

- The older peasants' aversion towards land lease, considering its exploitative nature in the past.
- The low number of entrepreneurs willing to assume the risk of establishing a farm on leased land.
- An acute lack of capital.
- The small size of land parcels leased out and the difficulty in consolidating them.
- The majority of the agrarian population remaining in favour of the preservation of small properties and farms, as long as there is no inducement towards other activities.
- Insufficient knowledge of legislation or the evasion of legislation.

Agricultural land lease has a series of advantages, namely:

- It represents a profitable alternative for those who cannot work their land by themselves, for different reasons. Their number is relatively high if we consider that approximately one third of those who received land are not farmers, while a large proportion of farmers are old.
- It gives peasants with small plots, the opportunity to set up farms that permit them to use their full labour potential and increase their production, not only for self-consumption, but also for the market.
- It leads to the establishment of larger family farms or commercial farms, based on hired labour, which favours efficient agriculture.
- Compared to land purchase, land lease requires lower financial inputs; thus lessees are able to invest in equipment and other inputs. Such an advantage is essential under the conditions of lack of capital within Romanian agriculture at present; hence land leasing facilitates the emergence of entrepreneurs among young peasant families and/or agricultural specialists having limited capital.

- Those who lease land keep their ownership rights to that land, having a permanent source of income.
- In the case of the sale of leased land, lessees have pre-emption rights after co-owners and neighbouring landowners.

For land lease to be practiced on a large scale, it is necessary to set up an institution to take charge of monitoring land lease, i.e. the conclusion of contracts under the conditions of complying with legal provisions, defending lessors' and lessees' interests, promoting leasing forms that should result in improved economic performance, the solving of disputes, etc.

Land Prices

As a result of the various legislation that was passed, there is a land market operating, although somewhat inefficiently. The rural areas in which this market is operating reasonably well are the mountainous zones and those located in Ilfov county (in the neighbourhood of Bucharest); one hectare of land in Ilfov county costs 21 million Lei, while in the southern part of the country, in Calarasi county, the same area costs only 2.97 million Lei. Compared to last year, a 1 million Lei per hectare increase was noticed in Calarasi County: in 1999 the average price of one hectare of land was 5 million Lei, in 2000 it was 6 million. It is worth noticing that the number of sale and purchase contracts is greater for intramural land (86,912) as compared to those for extramural land (42,842).

3.3.3 The Environment Protection Law

The Environment Protection Law (Law no. 137/1995) influences land utilisation, establishes the regulations providing the maintenance of an ecological balance and indirectly favours sustainable agricultural development.

The central authority (the Ministry of Waters, Forests and Environmental Protection, together with other ministries) establishes:

- a) The system of soil quality monitoring;
- b) The regulations concerning soil quality protection, the protection of terrestrial ecosystems and the preservation of bio-diversity;
- c) The authorisation procedure regarding environmental protection problems, included in territorial organisation plans, flood control for drawing up forestry management schemes, soil erosion control, geological and hydro-geological studies and prospecting;
- d) The regulations concerning the restoration of the natural landscape in those zones in which soil, subsoil and terrestrial ecosystems were affected by natural phenomena or other activities with a negative impact.

The central authorities also have the following tasks:

- a) To gather evidence of land being unsuitable for farming and to offer landowners specialised technical assistance for soil melioration or a change of soil utilisation;
- b) To establish regulations concerning agricultural systems and crop and livestock technologies;
- c) To guide and offer technical assistance on farmers' requests regarding the best techniques and technologies for soil management and melioration.

Landowners have the following tasks in order to provide soil quality protection:

- a) To prevent soil quality deterioration;
- b) To provide location, design, building-up and to set into operation projects for different units, as well as change of land use category;
- c) Not to burn stubble, reeds, bushes or grass vegetation without authorisation from the competent authorities for environment protection.

3.4 Assessment of the administrative legislative, institutional framework

The main institutions involved in the application and operation of the different laws are generally the central authorities; The Ministries of Agriculture and Food; Waters, Forests and Environment Protection; Public Works and Territory Organization, the National Agency for Regional Development and the Ministry of Finance, and the county-level and local authorities; County Councils and Communal Counties, the Agricultural and Food Directorates, the environment agencies at county level, as well as the regional development agencies)

The control and supervision tasks go to the local public administration authorities as well as to the specialised departments within the ministries. For supporting the process of economic and administrative decentralisation, the Government promoted, and Parliament passed, the Law of Local Public Finance (Law no. 189/1998) and the Law on Public Property and Its Legal Regime (Law no. 213/1998).

The land-related administrative and regulatory institutions play a key role in defining, supporting and managing land administration in every country, including Romania. The functions of these institutions provide regulations, administration and services including land use planning, taxation, land registration, surveying and mapping.

The rational distribution of responsibilities and authority amongst land related administrative and regulatory institutions is essential to accomplishing the institutional missions. The aim of the central government bodies should be to provide general policy and regulatory mandates from which regional and local administrative institutions can operate.

In Romania, according to the current legal framework, the following central bodies have responsibilities related to supervision and monitoring of land administration:

1. The Ministry of Agriculture and Food Industry (MAFI) is in charge of technically coordinating the procedures of the Land Restitution Laws (Land Fund Act No.18 of 2000 and Law no. 1/2000). In this respect, under the authority and guidance of MAFI, the Rural Cadastre Offices, located in each district, provide technical support for the land restitution procedures (land surveying, land demarcation, the issuing of property titles, etc.) MAFI is also in charge of organising, managing, directing and controlling the execution of the rural-specific cadastre related to agricultural land.
2. The Ministry of Justice (MOJ), according to the Law on Cadastre and Public Registers No. 7 of 1996, co-ordinates legal land registration in the Land Books. In this respect a specialized department of the MOJ organises, co-ordinates and controls the Land Book registration system, which is processed by the Land Book Offices as special departments of the Local Courts. The Judge, as Head of the Land Book Office, puts into effect the registration of the real estate on the basis of a judicial decision.

3. The National Office for Cadastre, Geodesy and Cartography (NOCGC), according to the Law on Cadastre and Public Registers No. 7 of 1996, co-ordinates technical land registration. This activity is carried out by the District Cadastre, Geodesy and Cartography Offices located in each major town of a district. The execution of the general cadastre consists of the technical cadastral works (surveying, property demarcation, collecting data on the land owners and land valuation) and technical land registration in the cadastre registers.
4. The Ministry of Public Works and Regional Planning (MPWRP) organises, manages, directs and controls the execution of the special cadastre of the urban areas and utilities, in the built-up area of settlements.
5. The Ministry of Environment organises, manages, directs and controls the execution of the forestry and water-specific cadastre.
6. The Ministry of Transport organises, manages, directs and controls the execution of the railways and highways-specific cadastre.

All legal and private people carrying out cadastre works must provide copies of these works to the District Cadastre, Geodesy and Cartography Offices for consolidated technical land registration.

3.4.1 The situation of the cadastre and registration systems

The cadastre and land registration system is organized on the basis of Law no.7/1996. According to Article 3 of this law, the National Office of Cadastre, Geodesy and Cartography is a public institution responsible to The Government, with offices at county level, having as its main tasks:

- The organisation, management, guidance and control of geodesy, topography, photogrammetry, cadastre and cartography, at the entire country level;
- The authorisation of physical and legal entities that can execute technical cadastre work;
- The organization of the National Fund of Geodesy and Cartography, as well as of the data bank of the unitary cadastre system;
- Putting statistical synthesis reports regarding land and buildings at the disposal of public authorities and other interested institutions.

The specialised cadastre is also part of the general system of cadastre and land registration, organised by Ministries, other central State institutions and by autonomous units comprising of a majority of state-owned capital. In matters concerning the specialised agriculture cadastre, the Institute of Agricultural Cadastre and Territory Organization was established, as a public institution and a legal entity, responsible to the Ministry of Agriculture and Food.

Romania is at an early stage in this field, the investment resources, infrastructure and human resources necessary for the establishment of an efficient cadastral system are limited.

3.4.2 The Structure of Land Administration in Romania

There are a variety of measurements and structural units related to various aspects of the land tenure and survey in Romania. Each one of these units was formed by distinct legal acts and are subject to the jurisdiction of distinct institutions, any change in their position, course or form in the projection and application of land consolidation can be made only according to

the specific legal system. Due to their diversity it will be useful to provide an overview of these units.

The main administrative and surveying unit is the commune and the city. The Land Administrative Organisation Law of Romania settled their boundaries in 1968, although there have been further changes. The higher administrative unit is the county. Romania is divided into 41 counties plus the capital, Bucharest. From a survey point of view, works are executed only at the level of the main units, the commune and the city. Although because of the cadastre and real estate publicity law the recording of legal acts and facts is made at Court of Law level (BCF). Each county has several offices for legal cadastre registration depending on the number of courts of law (BCF) in each county.

The main surveying and administrative land units are divided into the built-up areas and those outside. There are specific legal provisions in construction, investments and changing the category of use fields for each of these two land categories. Usually, the responsibility for obtaining the cadastre evidence in the built-up areas of the cities devolves to MLPAT, observing the rules of the ONCGC.

The Block (*tarla*) is a specific cadastral unit defined by a closed border, limited by natural factors. It may have one or several types of use and one or more owners in built-up areas. For built-up areas the term *quartal* is used.

The parcel, the working elementary unit in cadastre is defined as an area that has only one type of use and one owner. In older cadastre workings other units were also used to locate owners on plans. Using information systems, 'we consider sufficient for the explanation of property addresses outside built-up areas' by block and parcel.

4 Dominant Characteristics of contemporary Romanian Agriculture

4.1 Macro economic situation

Over the last ten years Romania has pursued a variety of different macro-economic reform agendas in an attempt to revitalise its agricultural sector (see Tesliuc, 2000, for a detailed review of these policies). Dynamism within the agricultural sector is of critical importance to the Romanian economy. Together with the food industry, agricultural-related activities account for more than one quarter of the country's GDP and an even larger share of its total employment. The share of agriculture in the Romanian economy is largely due to the country's abundant natural resources. Two thirds of Romania is agricultural land, and more than 80 percent of this land is arable and suited for growing cereals. Compared with neighbouring countries, agriculture is an important sector in Romania, employing over 70 percent of the rural population, yet gross output decreased about 20 percent between 1989 and 1998. In this section we intend to provide an overview of contemporary Romanian agriculture, where possible illustrating trends. First, however, we provide some macroeconomic indicators.

The table below provides some indicators of the macroeconomic situation of Romania over the last ten years. We see that although GDP increased over the period 1993 to 1995, there has been a rapid decrease in the period 1996 and 1997. Unemployment has had a continuously ascending trend. After a rapid increase from 1991 to 1994 and a reduction in

1995-1996, the unemployment rate resumed its upward trend reaching 10 percent in March 1998, and 11.1 percent by the end of January 1999.

Macroeconomic data, 1990-1997

	1990	1991	1992	1993	1994	1995	1996	1997
GDP _[H1]	-5.6	-12.9	-8.8	1.5	3.9	7.1	3.9	-6.9
Unemployment rate, %	-	3.0	8.2	10.4	10.9	9.5	6.6	8.8
Average yearly inflation, %	5.1	170.2	210.4	256.1	136.7	32.3	38.8	154.8
Average nominal devaluation (%),	50.3	240.5	303.1	-	117.8	22.8	51.6	132.5
Budget deficit per GDP, %	0.3	-1.9	-4.4	-2.6	-4.2	-4.1	-4.9	-3.7
Real average wages index, %	5.1	-18.3	-13.0	-16.7	0.4	12.6	9.2	-22.2

Source: Gavrilescu, D., Giurca, D., "Agrifood economy", Ed.Expert, Bucharest, 2000, p.94

Inflation in the period 1990 to 1998 remained at a high level. After 1990, as a result of price liberalisation, inflation fuelled by demand, 'exploded.' The average inflation rate in 1998 reached 59.1 percent as a result of consumer price increases of 48.4 percent for food commodities, 60.2 percent for non-food commodities and 92.1 percent for services (Monthly Statistical Bulletin, 1999:12).

Other indicators not presented in the table above also paint a worsening situation in the Romanian economy. Gross investment has had significant variations and differs from one year to another. In 1997 it represented approximately 85 percent of the 1990 figure and the investment rate was 4.2 percent smaller than that of 1996. Investment made in 1998 decreased by 18.6 percent in real terms, compared to 1997. From the total investments, only 16 percent were made in agricultural-related areas.

Industry and Construction have remained the major contributing sectors in gross added value, but, compared to 1990, their contribution has declined by approximately 6 percent. The contribution of Services to GDP was approximately a third in 1997, varying from 26.5 percent in 1990 to 33.9 percent in 1997. Agriculture and forestry accounted for 14 percent of GDP in 1989 and 19 percent in 1998. The effects of the structural adjustment process have caused a distorted picture of what is happening in the agricultural sector. A relative growth of took place, not so much due to an increase in agricultural output in certain periods, but rather due to a decline in other economic sectors. In 1997 the gross value added by Agriculture increased by 1.6 percent, while in Industry it declined by 5 percent and in Services by 11.2 percent compared to 1996.

Over the past ten years agricultural production has suffered from the effects of macro-economic changes such as, unemployment and inflation. It is often reported that a process of agricultural de-capitalisation took place involving the destruction of fixed production assets, and the reduction and deterioration of breeding livestock and tractor and agricultural machinery fleets. Agriculture de-capitalisation was aggravated by the limitation of net capital investment possibilities.

4.1.1 Contemporary Agriculture

Contemporary Romanian agriculture has the following dominant characteristics:

1. A severe dualistic structure: such that large subsistence agriculture co-exists alongside a smaller number of large-scale commercial farms. This means that a substantial amount of produce from agriculture is not marketed.

The subsistence agriculture is dominated by small-scale crop farmers and represents around 60 percent of the farming structure of the agricultural land area. The rearing of livestock within this type of agriculture represents a similar percentage. There is low intensity marketing of produce; in the period 1994 to 1998, the percentage of non-marketed production was 42 percent in wheat, 61 percent in maize, 38 percent in pigs, 55 percent in poultry and 68 percent in milk.

Agriculture with a commercial function: State farms (16 percent of agricultural area), private associations (20 percent) and agricultural commercial companies (4 percent) produce for urban and export markets. The State sector contributes 50 percent of the marketed wheat and barley production and more than half of pork and poultry meat.

2. Continued State control over the agricultural input and output markets. Recent privatisation pushes have helped to reduce state control over these markets, however, much still needs to be done to alleviate physical capital and marketing constraints facing farmers. The State companies prevail in the 'upstream' sectors of agricultural production.
3. Stagnant land market due to problems of land privatisation – administrative and technical. In 1991, land was restored to its former owners and to their heirs; after this, privatisation stagnated until 1997, when it accelerated again because agricultural privatisation of State enterprises was included in the political agenda.
4. The rural credit market is non-functional. Due to: (1) Low supply – as determined by a macroeconomic policy and an institutional and legal framework of financial transactions that are not beneficial to rural people; State policy and interventions on the rural financial markets, especially preferential agricultural credit, which are not advantageous to rural people; (2) Low demand, owing to the high interest rates, the uncertainty of price existing in produce markets, and farmers unfamiliarity with financial institutions.
5. Romanian agriculture does not specialize in produce that goes to export. Over the past ten years Romanian agriculture has witnessed a change in the structure of crop production, leading to low-technology crops (maize and barley) being increasingly substituted for crops requiring more technological inputs (tobacco and sugar beet). This shift is likely to reflect, in part, the fact that farmers are severely constrained by lack of capital.

Changes in the area under main crops

	1989	1998	1998/1989 -%
Grain cereals –000 Ha	6,027.1	5,920.6	98.2
Pulses – 000 Ha	3,113.3	44.7	1.44
Fibre crops – 000 Ha	123.2	3.4	2.8
Oil crops – 000 Ha	1,071.6	1,156.1	107.9
Industrial crop–000 Ha	312.5	136.3	43.6
Medicinal and aromatic herbs – 000 Ha	41.6	27.7	66.6
Potatoes – 000 Ha	351.4	261.3	74.4
Vegetables – thou-Ha	252.8	223.2	88.3
Fodder crop – 000 Ha	1,149.2	1,128.7	98.2

Source: “Aspects concerning agricultural evolution in Romania, 1989-1998, National Commission for Statistics”, 1999

In the livestock sector, the number of herds declined by approximately 50 percent in all species. However, as a result of the increase in yields and livestock herding reforms, meat production decreased by only 12 percent.

Changes in livestock number and meat production

	Livestock number – 000 head			Meat production – 000 tons live weight		
	1989	1998	%, 98/89	1989	1998	%, 98/89
Bovines	6,416	3,235	50.4	351.2	370.8	105.6
Pigs	14,351	7,097	49.5	878.5	842.8	95.9
Sheep, goats	17,288	9,547	55.2	187.5	129.6	69.1
Poultry	127,561	66,620	52.2	470.6	339.8	72.2
Horses	702	822	117.1			

Source: “Aspects concerning agriculture evolution in Romania, 1989-1998, National Commission for Statistics”, 1999

4.1.2 A Socio-demographic and economic profile of Romanian Agriculture

The main activity in the rural areas is agriculture. Around 70 percent of the total employed population in the years 1995 to 1997 has been working in agriculture.

The structure of the employed population by economic sector and residence area

	1995		1996		1997	
	Rural	Urban	Rural	Urban	Rural	Urban
Employed population (000's)	5 900	5 252	5 546	5 390	5 673	5 372
- in agriculture - %	69.8	7.2	68.4	6.7	69.8	6.5
- in industry - %	16.7	46.1	17.0	46.4	16.1	45.7
- in services - %	13.5	45.8	14.6	46.9	14.1	47.8

Source: Tesliuc E. and Chirca C, 1999:15

Agriculture is a dominant livelihood strategy in the North-eastern (Moldova) and South eastern regions of Wallachia and Dobregu, where 78.9 percent and 74.6 percent respectively of the population in rural areas are employed in the rural sector. In Bucharest (Ilfov region) only 30.3 percent of the rural population are employed in agriculture, with 39.2 percent and 30.5 percent respectively being employed in industry and services (see Tesliuc and Chirca, 1999: p15). With the exception of Bucharest, all other regions have a greater proportion of the rural population employed in agriculture than any other sector. According to Tesliuc and Chirca (1999: p46) the regions of the Northeast and Southeast have the highest level of poor rural communities, with the central region having the lowest.

Self-employed and non-paid family workers account for over 70 percent of the employed population in the dominant agricultural regions. There is a direct correlation between the nature of employment and geographic location (Tesliuc, E., and Chirca, C., 1999:15). For instance, of the rural population living in the Northeast (one of the poorest regions) 35 percent are non-paid farm workers, whereas in the central region 27 percent, and in Bucharest only 9 percent, are non-paid family workers. Similarly, the level of education of the employed population is geographically distinct. Tesliuc and Chirca (1999) report that; of the employed people living in the poor rural areas of the Northeast, only 35.8 percent have been educated post-high school and only 0.8 percent have a university degree. Whereas in the more affluent regions of the West and Bucharest, 2.8 percent of the employed population have obtained university degrees and 40 and 55 percent respectively have obtained post-high school education.

The table below illustrates the dramatic difference in demographic profile between selected regions of Romania. Comparing rural and urban we see a stark contrast in the age profile of the labour force, with over 40 percent of the population in rural areas comprising people aged 50 and above. However only 13 percent in the urban areas are of a similar age, reflecting the age structure of the Romanian countryside. Specifically, the Northeast region has the highest number of elderly workforce and the Central region has the lowest.

Population by age group, residence areas and statistical regions, 1997

Region	15-24 years	25-34 years	35-49 years	50-64 years	65 years and over
Urban	10.7	28.5	47.1	12.6	1.1
Rural	16.2	18.4	24.3	25.4	15.7

North-east region	19.0	17.5	21.2	24.6	17.7
Central region	17.1	21.2	27.5	21.8	12.4
Bucharest-Ilfov region	14.9	26.4	34.4	18.4	5.9

Source: Tesliuc E. and Chirca C.1999:18

As a hangover from the dramatic rural urban shifts in population brought about by the strong industrialisation policies of the nineteen-seventies and -eighties, the reduction of the rural population continued after 1990. In the period from 1990 to 1992, rural population reduction took place at a faster rate than in recent years. The table below illustrates these changing dynamics. Just after the collapse of communism in 1989, we see a large outflow of the population from rural areas (an estimated 47,3000 people). This flow has declined over subsequent years, with a slight upturn in 1997.

The impact of demographic factors upon population's evolution in rural areas in the period 1990 - 1997

Per 1000 inhabitants	1990	1991	1992	1993	1994	1995	1996	1997
Internal migratory balance of the rural population	-47.3	-9.8	-7.2	-4.6	-3.1	-1.2	-0.4	1.2
Natural increase of the rural population	-0.9	-1.0	-1.9	-2.2	-2.4	-3.1	-4.5	-3.5
Rural population reduction	-9.7	-18.5	-3.2	-6.6	-7.1	-3.3	-4.9	-2.0

Source : Tesliuc E. and Chirca C., 1999:10

Over the last thirty years the predominance of older people in the rural population increased.

Rural population structure by age and gender, 1977 and 1997

	1977			1997		
(% of total)	Total	Males	Females	Total	Males	Females
under 15 years	27.1	28.2	26.0	19.6	20.2	19.0
15-59 years	56.2	56.6	55.8	56.4	58.7	54.2
over 60 years	16.7	15.2	18.2	24.0	21.1	26.8
Demographic dependence ratio	781	769	793	772	702	846

Source: Tesliuc E. and Chirca C., 1999:12

The activities of the 15-24 years and over 50 years age categories have a much higher social impact upon the specific demographics of communities in the rural areas. The proportion of active young people is 61.9 percent compared with 37.4 percent in the urban areas. The active population of those of retirement age (65 years old and over) is 52 percent in rural and 5.5 percent in urban areas (the proportions represent the activity rate of the respective demographic groups) (Tesliuc E. and Chirca C., 1999:14).

Households in rural communities present significant differences regarding their size, demographic dimension and proportion of the socio-economic structures. With regard to the head of household's occupational status, pensioners' households prevail in rural area (55.5 percent); 16 percent of these being peasants and 21 percent employees.

The striking point is that the age of the head of household is high. The distribution according to head of household's age reveals that, of total households, 53.6 percent are managed by people in age category 30 to 59 years, 40.2 percent by people aged 60 and over and only 6.2 percent by young people up to 30 years old. It is worth mentioning, both statistically and sociologically, the high proportion of households managed by people over 60 years old, as well as the number of households consisting of pensioners and peasants.

Distribution of households according to household head's age, by categories

	Total	Percent of Households					
	Households	Employees	Employers	Self-employed in non-agricultural activities	Peasants	Unemployed	Pensioners
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
up to 30 years	6.2	11.6	10.5	17.6	7.9	13.0	x)
30-39 years	13.9	28.1	35.4	30.9	15.4	31.0	0.5
40-49 years	21.1	42.0	44.7	32.6	23.0	36.3	3.1
50-59 years	18.6	17.2	8.3	15.5	30.2	18.9	17.8
60 years and over	40.2	1.1	1.1	3.4	23.5	0.8	28.6

x) less than 0.05

Source: "Aspecte privind calitatea vietii populatiei in perioada iulie 1997-iunie 1998", CNS, Bucharest, p.7

The proportion of households managed by people over 60 years of age is 40.2 percent – the majority of them identifying themselves as peasants or pensioners. This reveals both a rapid ageing of the population, as well as the rural tradition of recognizing the oldest person as the head of a household of various family groups. The age group 30 to 49 years comprises a large number of household heads, the highest frequencies being with employers (80.1 percent), employees (70.1 percent) and unemployed (67.3 percent). People aged over 49 mostly head peasant households. Young people up to 30 years are mainly employees (65.8 percent), peasants (11.0 percent) and unemployed (9.0 percent).

Most households (69.2 percent) consist of 2 to 3 people, the average size being 2.8 people. From all the categories of household head occupation, peasants have the largest incidence of households comprised of 6 members.

Education

The correlation between the occupational status of the household head in rural areas and the level of education of the active and employed population reveals various intensities. In general, those heads that identify themselves as 'employers' have a higher level of educational attainment than heads of households in other professions. The gross school enrolment rate was 40.6 percent in 1996-1997 in rural areas and 78.1 percent in urban. In 1995 the literacy rate of the adult population in rural areas was 94.7 percent and 99.0 percent in urban.

4.2 Family farm incomes¹⁾

Information on GDP per capita in 1997 presented in the National Human Development Report (1999) and disaggregated by geographic region indicates that the regions of the Northeast, Northwest and South have lower levels of GDP per capita (\$3,011, 3,563 and \$3,680 respectively) and lower human development indices than other regions. Bucharest has the highest levels of GDP per capita and the highest HDI.

Farm income levels in Romania are so low that a prevalence of subsistence strategy and chronic poverty exists. If agriculture is the only income source, then the households fall into the category of poor households; if agriculture is coupled to other sources of income (e.g. salaries, pensions, incomes from self-employed activities etc.), then households have a reasonable standard of living and the possibility of using commercial strategies.

Incomes in kind are larger than cash incomes, owing to the strong dependence on agricultural production. In the structure of total incomes, incomes in kind account for 58.6 percent.

The structure of total nominal incomes, by category of household

	Total	Percent of Households					
	Households	Employees	Employers	Self-employed in non-agric'l activities	Peasants	Unemployed	Pensioners
Total nominal incomes	100.0	100.0	100.0	100.0	100.0	100.0	100.0
- Cash incomes	68.7	79.9	86.7	71.0	41.4	64.1	58.6
- Income in kind - estimated in ROL)	32.2	20.1	13.3	29.0	58.6	35.9	41.4

Source: "Aspecte privind calitatea vietii populatiei in perioada iulie 1997-iunie 1998", 1998:12

Cash incomes - the average, gross, nominal cash income per household (1,061.8 thousand ROL every month) mainly came from wages (56 percent), social protection services (27 percent) and sales from self-employment activities (7 percent). The maximum level was found in employers' households (2,769,200 Lei per 28 months); at the opposite end of the scale, peasants have a monthly income of 629.9 thousand Lei. The peasants' cash incomes represent 23 percent of the employers' cash incomes. The main income source of peasants was represented by the sales of produce from their own agricultural activities: 41 percent.

By residence area, the cash incomes of urban households were 1.7 times higher than those in rural areas. Two-thirds of cash incomes came from wages, while in rural areas, 50 percent came from sales and social protection services.

Young men perform 68 percent of wage- based activities - an obvious trend.

¹ Statistical data published in "Aspects Regarding the Population's Quality of Life", were used

The distribution of people who participated in wage-earning activities, by age group and place of residence

	Total	Urban	Rural
Total people	100.0	100.0	100.0
15-24 years	10.2	9.3	12.1
25-34 years	28.2	26.6	31.0
35-44 years	33.5	35.9	28.5
45-54 years	24.5	24.7	24.0
55 years and over	3.8	3.5	4.4

Source: "Aspecte privind calitatea vietii populatiei in perioada iulie 1997-iunie 1998", 1998:15

The source of incomes obtained from the sale of produce indicates, as expected, a statistically and sociologically significant preponderance of rural households: the average monthly value of this source is 3.7 times higher than the average for all households. Receipts from the sale of agricultural products, animals and poultry (85.5 percent) dominate this source.

Farm expenses

As regards nominal expenses, the monthly average was 1,541,700 ROL per household, while for peasant households, the figure was 1,501,200 ROL; the monthly average per person reached 544,000 ROL, for peasant household members it was 453,700 ROL.

Level and structure of total expenses, per category of household

Total expenses	Total	Percent of Households					
	Households	Employees	Employers	Self employed in non-agric'l activities	Peasants	Unemployed	Pensioners
- monthly average per household, 000ROL	1,541.7	2,000.7	2,664.6	1,527.5	1,501.2	1,336.3	1,227.9
- monthly average per person, 000ROL	544.0	588.6	780.5	435.5	453.7	373.8	551.4
Cash expenses, %	68.6	80.1	84.3	71.0	42.4	64.6	60.4

Source: "Aspecte privind calitatea vietii populatiei in perioada iulie 1997- iunie 1998", 1998:19

The monthly average consumption expenses per household were 1,246,800 ROL of each household. In peasant households, the structure of expenses was the following: 59.3 percent for food products, 33.3 percent for non-food commodities and 7.4 percent for the payment of services. In the case of expenses for non-food commodities, a high proportion was represented by the purchase of agricultural machinery and implements, home appliances and agricultural inputs.

Daily food consumption was based to a large extent upon products from a household's own resources (agricultural production, stocks established in previous periods, gratuities, gifts etc.). Romania's farms maintain, at least statistically, an economic independence with minimum commercial relations, based on the traditional autarchic environment of a peasant society.

4.3 *The physical and institutional structure of Romanian Agriculture*

Privatisations in agriculture, and the restructuring of other economic sectors, have brought social and economic changes to rural communities. First, in terms of economic physical change, applying the law on land restitution the privatisation strategy has led to the division of approximately 9,300,000 hectares of land (40 percent of Romania's surface area) into approximately 50 million parcels. Any attempt at efficient economical exploitation of these properties becomes unworkable, and the administration in fiscal and legal terms of this huge amount of data presents a technical challenge, even for states with extremely evolved resources and informational systems, not just Romania. Second, the continued existence of various forms of production cooperatives in response to the excessive fragmentation (for instance, production cooperatives, joint stock companies), now based on voluntary membership, has strongly influenced the emerging character of institutions and relations that make up the agrarian structure. These two factors have decisively contributed to diversification within the social structure of rural communities (the Romanian contemporary village 1996:159). In this section we will examine these points in turn.

The ownership structure and land fragmentation before 1989:

In the 1980s, under the command economy structure, the agricultural sector was structured as follows:²:

	Agriculture (Ha)	%
Total:	14,964,526	100
Public units	4,490,559	30
Agricultural production cooperatives	9,068,580	61
Private owners	1,405,387	9

Over 90 percent of agricultural land was under State control through production associations or through agricultural quota systems (for those landowners who managed their lands individually). The structural principles behind the large-scale production cooperatives were:

- Blocks of large dimension, i.e. approximately 50 to 500 hectares were the norm.
- The isolation of private properties in distinct placements.
- The concentration of the production centres in the locality of the built-up areas or the adjacent zones.
- Increasing the agricultural and arable area by any means, sometimes neglecting the ecological risk factors.

² Statistical Yearbook, 1980

During the communist period large investments had been made in accordance with the large-scale production cooperatives. For instance, huge irrigation and drainage systems were built to be suited to the farming of very large tracts of land. Annex two illustrates the structural organisation of an area of 4,000 hectares for agricultural production before the restoration of land started. An optical configuration and the dimensions of the farm size with field roads, channels and irrigation pipes can be seen. Although, the agricultural service road quality was poor, their density was optimised specific to the economic requirements of cooperative agriculture. The territory structure permitted the application of advanced agricultural methods using mechanised equipment on a large scale.

Total area (Hectares)	4,139.25
Number of "tarla"	35
Min. area of tarla (Ha)	34.11
Max. area of tarla (Ha)	145.12
Average area of "tarla" (Ha)	118.26
Fields road (km)	91
Density of road (km/100 Ha)	2.20

Although agriculture profited from such large investment, along with the efficiency specific to a socialist economy, from a technical point of view, the following aspects were neglected:

- ✓ The infrastructure of built-up and surrounding areas in non-modernised earth roads.
- ✓ The excessive concentration of production centres in the heart of the villages, neglecting the ecological impact.
- ✓ The processing, sales, and service sectors.

Due to the application of law no. 18 /1991, the organisational structure of the territory and the centralised agricultural economy, the technical and legal deficiencies of the law, and application of rules, led to an excessively chaotic and irrational fragmentation of the agricultural land, having negative implications in the economic performance of this sector.

The property structure after land restitution – Law 18/1991

From a legal and social equity point of view, the Land Law 18/1991 attempted to recreate the pre-communism agrarian situation. After applying the special stipulations of this Law, a comparison between the property structures of 1938 and 1999,³ shows that the average national area of a landholding, reduced to almost a third per ownership title, and almost a fifth if we refer to the number of entitled people.

A comparison of the land structure property (1938 and 1999)

<i>Year</i>	<i>No. Of owners</i>	<i>Area (ha)</i>	<i>Average area</i>	<i>% Area</i>
1938	3,279,700	19,425,000	5.9	100
1999	4,920,000	9,200,000	1.9	100

³ Sources: 1938, Romanian History, I. Gurescu – 1999, MAA

If we detail the analysis of the test territory shown in the annex 2, the level of property dispersion of the returned lands through ownership titles depends on the restitution of ownership titles.

Area (Ha)	No. of owners	Period	%
2 Ha	647	730	33
2-3 Ha	412	1,036	21
3-4 Ha	309	1,082	16
4-5 Ha	226	1,017	12
5-6 Ha	141	777	7
6-7 Ha	91	595	5
7-10 Ha	107	917	6
Total:	1,933	6,154	100

The average area per title in the test territory is: $= 6,154 \text{ Ha} / 1,933 = 3.18 \text{ Ha}$. This is relatively close to that obtained through land survey investigations (3.74 Ha). Both figures are greater than the national average ($S = 1.9 \text{ Ha}$, table 3) so it may be assumed that there are territories in which the average area per title is much lower than these values.

The percentage of properties smaller than 5 hectares increased from 28 percent to 63 percent. It is predictable that the average area of a property will decrease greatly through the division of ownership titles of the deceased former landowners (which represent 40% of the total titles in some localities) among heirs. Due to objective and subjective reasons with an impact on the next phases of land consolidation, (to be dealt with later), the fragmentation rate of land will increase by almost 5 times as a result of assignment to new owners through the distribution of properties in 2 to 10 locations.

From a technical point of view, the first phase of the land assigned to new owners comes from the physical structure of the territory presented in annex 2, where new physical units are defined that will determine the fragmentation level of the areas stipulated in the ownership titles. This results in a first level of the land fragmentation shown in annex 3 and in next table[H2].

tarla = land blocks

	Phase 2	Phase 1	Ratio
Total area (Hectares)	4,139.25	4,139.25	1
Number of <i>tarla</i>	101	35	2.9
Min. area of <i>tarla</i>	7.27	34.11	4.7
Max. area of <i>tarla</i>	72.03	145.12	2.0
Average area of <i>tarla</i>	40.98	118.26	2.9
Fields road (km)	170	91	1.9
Density of road (km/100 Ha)	4.12	2.20	1.9

The permanent assignment of placement to each owner, according to the final situation detailed on the reverse of the ownership titles, leads to a model of land structure shown in annexes 4 and 5. This results in parcels disposed of in neither homogenous nor uniform ways

of ensuring access from all main directions, and with a width/length ratio incompatible with the use of mechanised equipment. The average area of a parcel is almost 0.72 Hectares, in the whole 4,139 Hectares of the test territory, this resulted in almost 6,000 parcels for c.1,900 owners. The calculation of average area of a parcel at 0.72 Hectares, obtained by processing the real data in the test territory, is almost identical to that of 0.85 Hectares obtained in the land investigation.

4.4 Land Fragmentation – the current situation

The existing legislation in Romania has resulted in excessive land fragmentation. However, this was caused by the acute political need to remedy the serious injustices of the 1940's and 1950's. Land was restored to its former owners, who had been forced to join the agricultural production cooperatives in the period from 1948 to 1962, or to their heirs; hence, two-thirds of those who received land are old people; property was further fragmented because most of the deceased former owners left several children. Since 1990, the problem of fragmentation has been exacerbated due to the system of rural inheritance that typically divides up land holdings between the families of those children who wish to remain involved with farming.

Land fragmentation in Romania: 1948 versus 1998

Households (%),	1948	1998
Less than 1 Hectare	36	45
1-2 Hectares	27	24
More than 2 Hectares	37	31
Total	100	100

Source: Tesliuc, E.D., "Agricultural policy: achievements and challenges"
- Conference Romania 2000, Bucharest, 1999, p.9

4.4.1 The problems of land fragmentation

The situation that exists in Romania at present between land fragmentation and subsistence agriculture creates a vicious circle. Low property size is one of the main factors affecting the type of agriculture currently employed. The land fragmentation problem resulted in:

- A shift from mechanised to non-mechanised crop production; statistically, minimal mechanisation is recorded in rural households (see table below). The direct consequence of this is low productivity.

Agricultural equipment ownership: 1997

Equipment per 100 households	Rural areas
Tractor	2.1
Trailer	0.9
Truck	0.4
Motor mower	0.4
Plough	4.0

Tractor plough	0.9
Cultivator	0.6
Cart, wagon	16.5

- The shift from commercial to traditional crop production: statistically, a reduction of areas under industrial crops and an increase in traditional crops was noted: In 1989, the area under industrial crops totalled 312,500 Hectares, while in 1998, it reached only 136,300 Hectares, a reduction of 43.6 percent; at the same time, there was an increase in the importance of high-yielding crops requiring a high amount of labour, e.g. potatoes.
- A rise in transaction costs (post-harvest, transport, quality control), combined with farmers not wanting to assume risks, led to production diversification and autarchy.
- The prevalence of a subsistence strategy of low specialisation: In general farmers cultivate more than 4 field crops, a wide range of vegetables, fruit-trees and vines; most farmers rear 2-3 breeds of poultry and pigs (Tesliuc, E.D., 1999:25-26);
- The incidence of excessive land fragmentation is different by region; Local characteristics obviously influence the way in which the vicious circle of land fragmentation and subsistence agriculture operates and, making it necessary to conduct rural regional surveys. Any possible ways of breaking this vicious circle cannot apply to the Romanian rural area as a whole, due to this strong diversity.

4.4.2 Causes of excessive fragmentation

The causes of excessive fragmentation of agricultural land may be analysed from several points of view. Some of them are generated by the application of specific stipulations of the law, and others by its imperfection. In terms of land consolidation strategies, the different causes must be evaluated in terms of how they can be alleviated through technical means or by appropriate education policies and the instruction of farmers.

Causes related to legislation:

- The limiting of the restorable area to a maximum of 10 Hectares, regardless of the area donated when entering the agricultural productive cooperatives.
- A legal stipulation, by which people who worked in the agricultural productive cooperatives, but did not have land, may receive up to 0.5 Hectares, where available.
- An imprecise stipulation, by which assignment is made as a rule on old placements. Often, to establish the original location of the property, the Land Commission would have to rely on witness statements due to lack of legal documents. Instead of giving priority to efficiently sized agricultural land holdings, priority was given to restitution of land in its original location.

Causes related to 'flexible' application of the law:

- Ignoring some of the articles of Law no.18/1991 which stipulated:
Article 44: 'The territorial delimitation of the new properties resulting from the application of the present law shall start from the present organisation of territory and shall be made on the bases of parcelling-out projects prepared by specialised bodies'.
Article 68: 'The Ministry of Agriculture and Alimentation, the Ministry of the Environment, together with the Academy of Agricultural and Forestry Sciences shall take measures for the development of the national surveillance, estimation, prognosis, and warning system with regard to the quality condition of agricultural and forestry soils, on

the basis of an informational system and provision of databanks at country and county levels and shall propose the necessary measures for land protection and improvement, in order to maintain and increase the production capacity.’

Article 35 from the Application Regulations that stipulates the way in which the hydro-ameliorative arrangements are applied.

- Ignoring owners’ choice of site for properties in several places, even in very small sizes, based on economic grounds, resulting in:
Increasing the climatic risks: rain, early freezing, hail etc.
Reducing the production variety of types of crop
A disparity in the time of sowing and gathering the same crop on different parcels, a frequent option for vegetable crops in areas outside cities.
- Even without the existence of the division caused by inheritance, the extra amount of labour available in the rural environment, as well as the existence of many heirs to original property titles, generated the acceptance of returnable land, in many places.

Conclusions:

Land fragmentation is an unfinished, still evolving process, especially due to the influence of the following factors:

- The ending of the application of Law 18/1991.
- The application of Law 1/2000 (*‘Lupu’s Law’*), which extends the returnable area to 50 Hectares.
- The privatisation of the former State-owned agricultural units
- The physical restoration of the lands to those who nowadays hold shares based on Law 18/1991.
- The technical characteristics of fragmentation are:
- The size of the areas is between 0.4 to 10 Hectares, with an average of 0.7 Hectares per parcel.
- An unfavourable length to width ratio between 1/5 and 1/100 with an average of 1/12.
- Parcels with unfavourable cross-angles, which hinder mechanised workings (see parcels 18 and 90-94 from annex 4).
- Locations not included in irrigation system schemes and without access to hydrants.

From a legal point of view, ownership titles can be registered in the cadastre register only after verification and acceptance according to the regulations of the ONCGC

Options for Consolidation:

In the specialised literature, and in the legal systems of the EU, activities connected to the whole structure of agricultural land are known under different names in each country, the term ‘land consolidation’ being mainly in international use. In the technical literature and the legal system in Romania, many definitions were used to describe one or many of the activities connected to the arrangement of agricultural land:

- Land re-allotment – This refers strictly to the technical cadastral operation of the concentration and redistribution of land to an owner in compact placements.
- Agricultural land organisation – This reflects the activities of the former IGFCOT and OCAOTA, which employed specialised staff to organise the land, resulting in the conditions of centralised agriculture.

- Complete land reclamation arrangement – This refers to the integrated projects of land melioration arrangements made mostly by ISPIF SA.

Although there is practical experience, as well as the use of technical methods and rules, often with extremely positive results in economic efficiency, in a centralised agricultural economy, they are not relevant in today's climate, especially as a result of the development and transformation of land property type.

It is a known fact that, in the countries of the European Community in the past 50 years, there has been huge investment in the organisation and administration of land to create efficient economic agricultural exploitation. This has been achieved by increasing the size of the exploited areas and investment in the infrastructure⁴. As a result of these coherent strategies, the average area of a parcel has increased by approximately 3 to 7 times, and the 6 to 15 parcels per owner decreased to 1 to 3. Obviously, these re-arrangements are not only to do with the amalgamation of land, this result being just a consequence of the restructuring of land use, the remodelling and consolidating of roads and land improvement and ecological protection arrangements.

The social characteristics of rural communities and community traditions require the informal organisation of land farming to be taken into consideration. Generally, neighbourhood and kinship relations are the main factor in the creation and operation of informal associations (associations as non-legal entities) for agricultural land use.

Institutional arrangements to combat land fragmentation:

The main characteristic of agricultural land fragmentation is the discrepancy between the juridical situation of the assignment reflected in the property titles, and the associated method of land exploitation that is largely practised, especially in the plains region. This discrepancy acts as a positive factor in reducing the negative effects of fragmentation and may be seen as a starting point in land consolidation. Data shows that, while the average private property area is almost 3.5 hectares, the average association area increases to 100 Hectares.

Presented in annex 1 is the general layout of an administrative rural area (a commune), to a scale of 1:100,000, detailing investments in land reclamation typical of the central-southern agricultural zone of Romania. In the content of the report, the results of the field survey will be combined and illustrated with graphical and textual reports on this pilot area, which is covered by complete structural data following the implementation of Land Restitution Law.

4.5 The Institutional Structure of Romanian Agriculture

Due to the enactment of Law 36 and Law 31/1991 (detailed in the section on law), the private land operation of the agricultural sector in Romania, consists of a variety of different institutional forms and options for land use: individual family farms; formal associations; informal family associations; leasing options; shareholders in joint stock enterprises and; a mixture of these categories. Below is a brief review of the dominant institutional farming forms in Romania.

⁴ MAA,1993, Gh. Timariu-Land Consolidation in EU Country

4.5.1 Individual Family farms

The private sector in Romania accounted for over 2 million Hectares in 1989, consisting of:

1. Personal households of agricultural cooperative members up to 0.5 Hectares, totalling approximately 10 percent of the total area of agricultural production cooperatives.
2. Peasant households from the mountainous regions, where, due to geographical conditions, agricultural cooperatives could not be established, with an average area of 2.34 Hectares each.

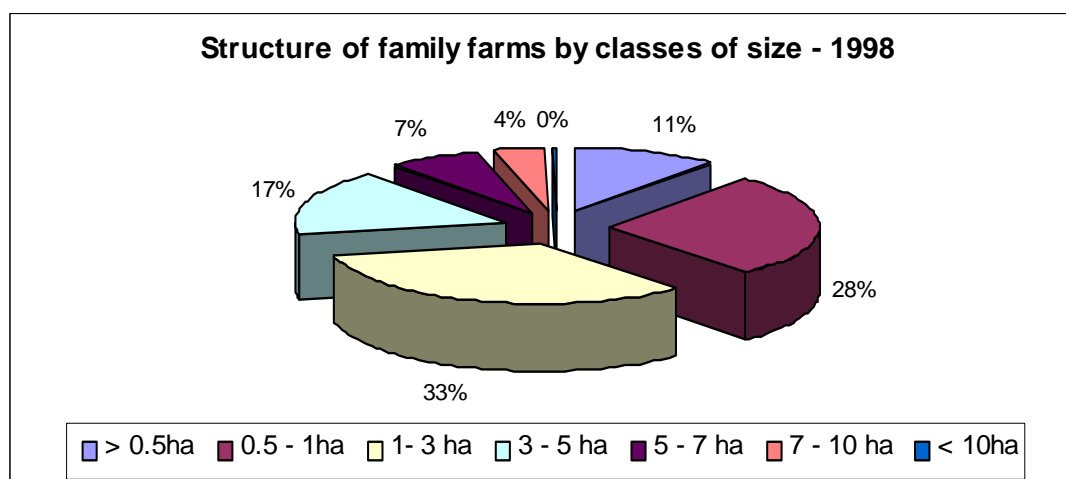
Family farms, 4,119,611 in number at the end of 1999, operated approximately 9,377,000 Hectares of agricultural land, with an average area of 2.28 Hectares.

The evolution of family farms

	Cultivated area 000.hectares	Number of Landowners	Average size Ha/landowner
Dec 1993	7,333	3,419,736	2.10
Dec 1994	7,905	3,578,234	2.20
Dec 1995	8,052	3,597,383	2.40
Dec 1996	8,348	3,625,758	2.30
Dec 1997	8,897	3,973,329	2.24
Dec 1998	9,182	3,946,121	2.33
Dec 1999	9,377	4,119,611	2.28

Source: MAF, *Buletin informativ* no.3/1995, 1/1996, 2/1998, 12/1998 and 3/2000

In the period 1993 to 1999, the average size of family farms remained relatively static, although their number and operated area increased. There are regional disparities regarding the average size of family farms. The analysis of family farm structure by category of size, (see graph below) revealed a significant proportion (72 percent) to be smaller than 3 Hectares, with an extremely reduced proportion (0.3 percent) being larger than 10 Hectares. Most of these farms, according to field surveys, have a subsistence social function, both for the rural population and for a part of the urban population.



4.5.2 Association forms in agriculture

The association forms in the transition period emerged in conformity with the legal framework established by Law no.31/1990 concerning commercial companies, and Law no.36/1991 regarding agricultural associations and other forms of organisation. Law no.31/1990, regarding commercial companies, regulates the establishment of commercial companies and their inclusion in the Register of Commerce of Romania's Chamber of Commerce and Industry. This Law applies both to those who own land, and those who do not. Law no.36/1991 mainly refers to the association form, which is common in agriculture:

- Family associations, as non-legal entities, established by written or verbal agreement between two or more families, with a view to the working of agricultural land, animal husbandry, input supply, production storage, conditioning processing and sale, etc
- Non-associative types of farms-consisting of individual farm households, owning the land around the house and 1 to 5 Hectares of land in the fields, and family farms, having more than 5 Hectares, which account for 11 percent of individual farms; the latter usually engage in specialist production and have a marketing function. These non-associative farms operate a total area 9,377,000 Hectares, the number of owners is 4,119,601 and their average size is 2.28 Hectares.
- Agricultural associations established as legal entities, having a defined statute, a specific administration, comprising boards of directors, auditors and general meetings; the minimum number of associates being 10. Their activities are related to the working of land for agricultural purposes, machine operation, livestock husbandry and other activities, as well as in investments in agriculture.
- Associations with legal status number 3,573, with an average area of 396 Hectares, operating a total area of 1,415,000 Hectares, also simple associations as non-legal entities, 6,264 in number, with 138 Hectares average area, operating 868,000 Hectares.

Law no.169/1997 stipulates that those agricultural associations that do not apply to the local commissions charged with the application of the Land Law to perform the following actions may be dismantled:

- The restitution of land areas to those entitled in conformity with Land Law provisions.
- Mutual recognition of property boundaries by neighbours.

- Land reconstitution on its old location and the issue of ownership titles.

In Romania, the cooperative sector equated to the production sector. By the end of 1999, agricultural associations with an average 393 Hectares operated 1,415,000 Hectares, while the family associations with an average of 138 Hectares, worked 868,000 Hectares.

Evolution of indicators regarding agricultural associations at the end of the year

	Cultivated area 000 hectares	No. of agricultural associations	Average size Ha/agricultural association
Dec 1993	1,910	4,265	448
Dec 1994	1,771	3,970	446
Dec 1995	1,733	3,973	436
Dec 1996	1,752	3,759	466
Dec 1997	1,714	3,913	438
Dec 1998	1,558	3,578	435
Dec 1999	1,415	3,573	396

Source: MAF, *Buletin informativ* no.3/1995, 1/1996, 2/1998, 12/1998 and 3/2000

The main characteristic of the transition period was the reduction of the total number and the land area operated by association forms. The association movement is specific to the plain regions, mainly located in the Southern, Southeastern and Western parts of the country; it is in these regions that the agricultural production cooperatives prevailed during the communist period (Figure 2).

Field surveys conducted at national, regional and local levels in Romania identified the main factors that fostered the association movement, those being principally:

- The low degree of technical equipment available to rural households;
- The low work capacity, due to the landowners' old age and precarious health condition;
- The new landowners' incapacity to operate and manage their land areas;
- The generally low motivation of the movement towards creating efficient, commercially viable family farms.

Besides operating the associated members' own land, the agricultural associations leased land areas from local landowners, mainly living in the towns, on a formal or an informal contract basis. Generally, payment was in kind or was established in kind and transformed into cash after the sale of produce. The payment of rent represented 25-30 percent of the land's gross profit. The agricultural associations had represented the only viable alternative to individual land operation before the law on free circulation of land came into force in 1998.

In the association forms, private land tenure is respected; only the actual farming of the land is undertaken in general association. In certain situations, the operating capital is constituted as property, but with frequent member changes, this relationship becomes confused.

4.5.3 *State farms*

At the end of 1989, the Agricultural State Enterprises (IAS) had a strong material basis and practised a relatively high intensity of agriculture, operating an average 5,012 Hectares of agricultural land and approximately 4,000 Hectares of arable land. The average number of employees working in such a unit was 636, of which 43 were specialists, half of these being higher education graduates. Each IAS consisted of several specialised farms, integrating crop production and livestock farms, and processing units.

In 1991, the IAS's were organized into commercial companies, under the legal framework provided by Law no.15/1990 regarding the reorganisation of State units as autonomous units with majority state capital and commercial companies, and by Law no.31/1990 concerning commercial companies.

On the date of the enactment of the Land Law, part of the land areas, filed for ownership right reconstitution applications, was in IAS administration. The people who found themselves in this situation could opt for being shareholders, or lessees. In order to regulate this situation, a series of normative acts were adopted regarding the physical entities (people) holding shares according to article 36 of Law 19/1991, Law no.46/1992, Law no.29/1993, Law no.48/1994 etc. These normative acts, necessary to foster the privatisation of commercial companies, have been enacted recently. Thus, the Government's Emergency Ordinance no.198/1999 regarding the privatisation of commercial companies, having in their administration agricultural land or land under permanent water, establishes a series of competencies, i.e.: the privatisation of commercial companies takes place in the name of the State and is performed by the Ministry of Agriculture and Food, in collaboration with the State Ownership Fund. The Agency of State Domain was established, as a public interest institution and to establish methods of selling shares and land concession.

Government Decision no.46/2000, establishes the organisational structure and the tasks of the Agency of State Domain, while Government Decision no.97/2000 approves the methodological norms for applying Emergency Ordinance no.198/1999.

At present, the agricultural area operated by the commercial companies with majority State capital comprises approximately 1.8 million hectares. The agricultural land in State property consists of approximately 124,000 hectares, in the public domain of the State and 1.69 million hectares in the private domain. Of this area, approximately 600,000 hectares belong to 257,000 shareholders. At the end of 1999, of 547 State farms, only 20 were privatised (3.5 percent); 51 were under in legal liquidation (9.3 percent) and 2 in administrative liquidation.

Most agricultural, commercial joint-stock companies are in a difficult financial situation. The income related to shares is paid in the form of dividends and is paid in relation to the companies' profits and not the net income of land. Although the law establishes a minimum limit of net income per hectare, regardless of a company's profit, the shareholders do not have any real practical means to benefit from their legal right. Most of these shareholders cannot even take possession of their dividends, as the administration boards avoid making the payments.

The transformation of shareholders into lessees resulted in the situation that the State leases approximately 2 percent of the country's agricultural land, thus becoming the most important lessee in Romania.

4.5.4 Land market

The key element of the land market is represented by sales. The Land Law had obstructed this process for 7 years, stipulating that land ‘.... Cannot be alienated through official deeds between living people for a period of 10 years, calculated from the beginning of the year next to the year in which the property was registered’. Under these conditions, an unofficial land market has developed. In order not to violate the existing laws, the people interested in this process found a series of solutions, namely the concluding of apparent juridical acts of donation, accompanied by sale and purchase documents under private signature.

The coming into force of Law no.54/1998, regarding the legal circulation of land areas, initiated the legal process of land sale and purchase seven years after the enactment of

Law no.18/1991. Law no.54/1998 tried to correct a series of Land Law provisions, namely:

- The maximum upper limit of land property holding was extended from, 100 to 200 Hectares.
- The exchange of land parcels between private physical or legal entities was permitted within the same limits.
- The pre-emption right was extended not only to co-owners and neighbours, but also to lessees.
- An opportunity was created for Romanian citizens who resided abroad to be able to acquire ownership rights, thus creating the possibility to increase the number of non-agricultural owners.

After one year from the official coming into existence of the land market, only 17,686 Hectares in the intramural areas and 18,408 Hectares in the areas outside the village boundaries were the subject of transactions. By the end of 1999, the transacted areas were twice as high, accounting for 0.48 percent of total land area.

The legal circulation of land areas

	Jan.	Feb.	March	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Intramural												
000 Ha	14.6	16.6	17.6	20.5	21.8	23.5	24.0	24.6	25.7	26.0	26.6	26.9
mil. Lei/ Ha	44	43	44	40	58	58	58	58	58	58	58	58
Extramural												
000 Ha	13.7	15.6	18.4	24.4	27.4	32.2	34.8	37.0	39.4	40.8	42.3	43.9
mil. Lei/Ha	5	5	5	5	6	6	6	6	6	6	6	6

Source: *Buletin Informativ no.12/1999, MAF*

According to the statistical data of the Ministry of Agriculture and Food in March 1999, transactions had been reported in 2,135 communes, both in intramural and extramural areas. In the intramural areas, 61,342 transactions of ownership right transfer had been concluded, of which 53,125 were sale - purchase contracts, representing 17,686 Hectares at an average price of 43.7 million ROL per Hectare. At the same time, in the extramural areas, of 20,262 transactions, 14,335 represented sale - purchase contracts, totalling 18,408 Hectares, at an average price of only 5.3 million ROL per Hectare. The intramural/extramural price ratio is almost 9:1.

Romania is confronted with the absence of conditions for land market fluidity, i.e. the granting of credit under advantageous conditions for buying land through the banking system, or through the establishment of specialised banks, solving the problems raised by using land as collateral for obtaining credit and the stimulation of mortgage credit. At the same time, there is a delay in clarifying ownership and land circulation rights, and the low possibility of farmers obtaining incomes that enable them to buy land.

The development of the land market may represent an opportunity for agricultural development stimulation through the following:

- The improvement of the land tenure structure, mainly on the basis of land areas owned by non-farmers.
- An increase in farm size, an essential requirement for competitive agriculture.
- The application of the pre-emption right of co-owners, neighbours or lessees. This will lead to a reduction in land fragmentation, with beneficial effects on production, costs and profitability.

4.5.5 Land Lease

Law no.16/1994 reintroduced a land lease institution into the country. The leasing of agricultural goods is not a new practice in Romania, the first regulation in this respect dates back to 1865, as registered in the Romanian Civil Code. The land lease institution presents a series of circumstances that differentiate it from the situation prior to 1959, when land lease was forbidden by law.

For the application of the Land Lease Law, the Ministry of Agriculture and Food produced, 'The guiding methodological norms for calculating land lease', approved by Ministerial Order no.26/194, later modified by MAF order no.51/1995. Law 16/1994 was modified and enacted in 1998.

Land lease represents an important method of organising viable farms. It offers the possibility to integrate certain parcels of land for better farm organisation; to organise adequate sized farms to permit the application of modern technology; to cultivate the land belonging to people lacking financial means or other possibilities to farm it, etc.

In the transition period, three forms of land leasing can be noticed, namely:

- a) The leasing of parcels in which the lessor, who holds land on an ownership title basis, can choose his lessee, and can lease out to him, one, or several parcels, on a contract basis.
- b) A concession, in which the landowner owns the land in the form of shares. The land is in the lessee's possession (in this case the State farms – agricultural State enterprises). The owner can conclude the concession contract only with the lessee in possession (in this case the State company)
- c) The leasing of organised farms allows the leasing of some other goods besides land, e.g. agricultural goods, fixed assets, inventory items, etc.;

According to the law, leasing is on a written contract basis between the lesser and lessee. This contract must be registered at the Local Council in the territory in which the leased goods are located. The twice-amended Land Lease Law became more flexible as regards the duration of land lease – the restriction of a minimum 5 year period was eliminated and an obligation introduced, namely, that the lessee – the physical entity -must have the necessary

agricultural education, knowledge of agricultural practices or a certificate attesting that he has agricultural knowledge and skills, while the lessor - the legal entity - must have the operation of the land/agricultural goods as an active objective.

However the restriction on the possibility of subleasing was not removed, although, this could have helped accelerate land market development. The new element in Law no.65/1998 was the possibility of contract transfer to the spouse who was a partner in the operation of the land/agricultural goods by the other spouse or by their heirs being 18 year old or more, if the contract titular died, or could not perform his duties. As regards the physical entities that have shareholder status, according to Law 18/1991, The Land Lease Law gave them the possibility to choose to be lessors. The leasing contract was concluded for the minimum 5 years period provided by the law; after the expiry of this period of time, the entitled people could operate the land of their own free will, as landowners. During the contract period, the lessor does not have ownership rights to the land, and thus cannot exercise the three prerogatives: possession right, utilization right, and disposition right.

In the beginning, the Land Lease Law provided minimum and maximum limits for land lease in Romania, the rent being in kind, in cash or both, according to the agreements of the concerned parties. Under its modified form the law imposed no restrictions on the method of rent payment, leaving this to the agreements of the concerned parties. In practice, different methods of rent calculation are used:

Rent calculation on the basis of land production potential:

For the determination of yield potential, land areas are subject to 5 classifications of quality, according to soil type, relief, climate and underground water, on the basis of land judging scores, each quality class is divided into 3 categories. The quality and category of agricultural land areas are established by the bodies responsible: the Institute of Research for Technology and Agro-chemistry and the offices for pedological and agrochemical studies at county level.

In conformity with land quality and category, the contracting parties establish rent and payment methods on the basis of the production potential. For this purpose, land judging scores are given in product equivalents. A land judging score is worth 40 kg of wheat, 45 kg of barley, 52 kg of maize, 16 kg of sunflower, 200 kg of potatoes or 280 kg of sugar beet.

Legal people, who have the necessary information, qualified staff and the necessary technical means, mainly practice such rent calculation on the basis of production.

Rent calculation as percentage of yield per hectare on the basis of local tradition:

This is the most common practice under present conditions: generally the rent being between a fifth and a third of the obtained harvest.

Rent calculation as a fixed quality of products per hectare:

In general, in the case of wheat, it is approximately 600 kg per hectare.

Rent calculation as percentage of net profit:

This is a less common practice. The contracting parties are reluctant to use such a calculation, mainly due to the difficulties in defining and measuring the product, as well as the unlikely possibility of making a profit in the period of crisis that Romania's agriculture and economy are facing. Though present legislation does not provide any other arrangements but land lease, in practice, sharecropping cases are relatively frequent.

4.6 Conclusions

Besides the beneficial social and economic effects, the anomalies brought about by land reform caused the following crisis effects in the agricultural sector:

- a) The main aspect in property relations was the confusion related to ownership rights. The delay in clarifying these rights represents the main obstacle to good operation of the land market and agricultural land consolidation in particular.
- b) Farm and management structures were manifested by: a lack of competitive attitude, the production function being given an increased importance, to the detriment of the commercial function, resulting in the maintenance of a significant proportion of smaller, subsistence farms, and a lack of strategic orientation by the newly-created farms;
- c) The land market was determined by the lack of a legal and institutional framework, the construction of which is still at an early stage;
- d) Economic lack of efficiency in agriculture, mainly caused by the high fragmentation of land; approximately 55 percent of land area being owned by older people, or by non-residents in the rural areas; a lack of integration of the main production factors; the limited circulation of land capital; the lack of an adequate legal and institutional framework, etc.

A number of these elements seem to be only transitory, however their solving needs time and adequate measures.

5 A Survey investigating the potential for land consolidation

5.1 Characteristics of the Survey Site

A field survey for the analysis of concrete social-economic possibilities for agricultural land consolidation conducted in the Balaciu commune of Ialomita County in the Southern Development Region of Romania disclosed the following:

- A degradation of the quality of life both in rural and urban communities;
- Great social and economic discrepancies; i.e. there are certain rural areas that are located in an absolute poverty zone, while other are located in the developed rural zones.

The economic and social marginalisation of rural communities in this region is also influenced by a series of intrinsic characteristics, namely: excessive dependence upon agriculture, inadequate and dysfunctional models for agricultural land use and the product-marketing network. To all of these can be added the deficient infrastructure (mainly the poor drinking water supply network). The poor communities are defined by the penetration of economic and social poverty made worse, at least statistically, by the economic crisis.

Data from the '*Rural Development in Romania*, Green Paper, Bucharest, 1998' shows that in 1997 the southern areas of Romania had the highest 'aging index' – that is the highest ratio of elderly people over 60 years to children under 16 years – and the highest average area of land in farming associations. Ialomita County, where the rural community Balaciu is located, has a high index of community poverty. It is located in an absolute poverty zone,

which includes the rural area of the Baragan Plain. This latter region has the following characteristics that are essentially unfavourable to agricultural dynamic development:

- A low birth rate, a high death rate and a rapidly ageing population;
- A limited livestock sector, few non-agricultural activities, the lack of tourist attractions.
- Most dwellings are of non-durable materials, a low proportion were built after 1970; an inadequate drinking water supply system;
- High infant mortality.

5.1.1 The socio-economic profile of the commune of Balaciu

The commune of Balaciu consists of 6 villages, with a population of 3,540. A non-modernised road network limits road access: Balaciu is the main village of the commune. The other villages are: Sarateni, 4 km away, via an asphalt road, Pitesteanu, 1 km, Crasani de Sus, 8 km, Crasani de Jos, 5 km, and Copuzu, 9 km, all via non-asphalt roads.

Only the main village, Balaciu, has access to bus transport. Its location, on a national highway, gives it increased accessibility to urban markets in Slobozia, the county capital, 42 km away, and Urceni, 25 km away, and to the weekly markets of agricultural products and building materials at Lehliu, 30 km, and Ciochina, 14 km.

A strong argument in favour of land consolidation is the commune's location in the plain region, making consolidation of plots easier. Another possible argument, both in favour of consolidation and, at the same time, against it, would be that this commune had an agricultural production cooperative in the past: on one hand, this means that people already have an associational attitude and, on the other, people could be reluctant to contribute their land to an association/cooperative because of the negative connotations associated with the cooperative movement in the former communist period.

An economic analysis of the investigated commune offers arguments both in favour of and against land consolidation.

In favour of land consolidation:

- There is a high, 86.2 percent, proportion of arable land in the total agricultural land, (84 percent at county level) from a total 8,462 Hectares. The very large proportion of arable land is a strong argument in favour of land consolidation. The reason for this being that a efficient agriculture can not be made on 2.5 hectare plots, a reason also invoked by our respondents.
- The rapid re-orientation of agricultural activity; in the last 3 years the dynamics of agricultural activity were affected by the experience of the emergence of a new crop, rape seed, in cultivation and the disappearance of soybeans and sugar beet;
- The existence of the association movement: there are 3 agricultural associations (legal entities): one in Balaciu, with 61 members, totalling 123.7 Hectares; one in Sarateni with 78 members and an area of 159.65 Hectares, and one in Copuzu with 91 members and 137.45 Hectares. It is worth mentioning that these associations are managed by specialists: Two by agronomists and the third by an accountant. There are 28 family associations (non-legal entities) of which there are:
 - 13 associations of less than 50 Hectares,
 - 15 associations with more than 50 Hectares.

The area of those associations having less than 50 Hectares ranges from 2.73 to 49.17 Hectares, while the number of members ranges from 2 to 20; the area of the associations with more than 50 Hectares ranges from 53.48 to 1,394.57 Hectares, while their members number from 29 to 453 people.

- Land leasing is a common practice, although the leasing out of land is more frequent than leasing in; 162 people leased out land to legal entities totalling 506.38 Hectares; 81 people leased out a total 257.75 Hectares, to physical entities. This is important because the easing behaviour may determine a positive perception of land consolidation.
- 25 percent of landowners do not live in the commune, thus, co-operative farming would help to bring idle land into use;

The economic factors representing arguments against land consolidation, or those that may present difficulties at commune level are the following:

- The decline of the association movement as a result of accusations of irresponsibility/lack of seriousness directed at the association leaders.
- Only 30 percent of total ownership titles were issued. Land rights are still not 'fully privatised' and this acts as a barrier to any land transactions, including land consolidation.
- Community poverty, seen as traditional poverty by the authorities; which comprises 60 percent of the commune's population. It is our view that, Generally speaking, poverty determines a conservative rural attitude, directed against the alternatives for modernization.
- As the land market is still in its infancy, land consolidation through land transactions is restricted.

5.1.2 Demographic characteristics and rural infrastructure analysis

Of the total 3,540 population of the commune in 1999, 51.2 percent were women. The birth rate was 8 percent (the rural average was 9.4 percent), the death rate was 15.5 percent (rural average 15.9 percent), marriage rate was 5 percent, (rural average 6.4 percent), while the divorce rate was 1.1 percent (rural average 0.89 percent). The average number of people per household was four.

The socio-educational, cultural and information resources are a cause of unrealised human capital, which may cause problems in the assimilation of association life styles. The deficient educational infrastructure has a direct causal effect, namely:

- The educational infrastructure suffers from insufficient basic equipment and the low number of fully qualified teachers; only 30% graduated from a faculty;
- The three village clubs are not functional;
- Only pupils borrow books from the two libraries.

Health assistance is precarious: There is only one physician per 1,770 inhabitants and one nurse per 708 inhabitants; the nearest hospital is 22 km away in the town of Urziceni, It is 2 km to the nearest dentist away in the commune of Sf. Gheorghe.

The banking infrastructure is also deficient – in Balaciu only one CEC (savings bank) office is operating.

The community problems represent potential problems for the possible reorganisation of the operation of agricultural land. The factors that indicate a lack of social capital in the commune are:

- The church has no role in community life.
- The local authorities are not involved in the life of the commune – there are 13 local councillors, who do not get involved in community life; there is a lack of collaboration among the local authorities and between the decision makers at commune and county level; there is too much bureaucracy
- There is no cooperation among people living in the community: during the repair and maintenance of common property (bridges, roads, fountains, etc.), there was an 80 percent contribution from the Town Hall and 20 percent from community members.
- The existence of alcoholism as specific social disease in the local authorities' perception.

5.1.3 Survey Statistics

The survey sampled 150 people, 50.7 percent women, 49.3 percent men. The average age of respondents was 50 years, with no significant difference between the male and female respondents average ages. From the total sample, 43.3 percent had only received a primary school education and 9.4 percent had no formal schooling at all. Only 10 percent had obtained an education higher than high school (or twelfth grade).

The structure of working time spent in respondents' own households is specific to a peasant economy. That is, 73.3 percent of respondents spent more than 75 percent of their working time in their own household (including work on family agriculture).

Structure of working time spent in own household

Categories	%
More than 75%	73.3
50 – 75%	11.4
25 – 50%	7.2
Under 25%	8.1
TOTAL	100.0

The occupational structure has drastically changed in the last 10 years, revealing relatively high occupational flexibility.

Occupational structure of the investigated sample

Activity sector	Before 1989	At present, 2000
Agriculture	41.4	20.7
Agriculture& industry	8.1	3.2
Industry& construction	8.8	2.6
Services	4.0	2.3
Trade	1.7	1.1
Administration	2.4	2.3
Student/pupil	4.7	3.2
Housewife	9.4	12.9

Social security pensioner	2.7	13.8
Pensioner of former agricultural coop's.	14.8	25.6
Unemployed	1.0	4.3
Other	1.0	8.0
Total	100.0	100.0

The occupational diversification of the investigated rural households is quite low: of those having an occupation 91.6 percent work in agriculture, 2.8 percent in industry and construction, 2.8 percent in services, 1.9 percent in trade and 0.9 percent in administration.

The ethnic and religious structure are typical of a relatively homogeneous community; in the investigated sample 95.5 percent were Romanian, 4.0 percent Roma and 0.3 percent Hungarian; 0.3 percent were of other nationalities; Regarding the respondents' religion, 98.7 percent were Orthodox, 0.3 percent Roman-Catholic and 0.3 percent Greek-Catholic, while 0.8 percent were of other religions. Although we did not analyze the data in relation to ethnicity or religion we feel that these factors may be important elements of social behaviour regarding working together, helping each other inside the community.

Several characteristics of the investigated rural households

In the table below we categorise households according to the occupation of each member of the family. That is, agricultural households have members involved only in agricultural activities; non-active households have members that are unemployed and/or retired; non-agricultural households are composed of members that have non-agricultural activities; and the pluriactive households have members involved both in agricultural activities and non-agricultural ones. (Five questionnaires are missing because when we verified them we discovered that they were not correctly filled in).

	Agricultural households	Non-active households	Non-agricultural households	Pluri-active households
No. of households	57	43	9	36
Percentage of total investigated households, %	39.0	30.0	6.0	25.0
Average no. of people per household	2.02	2.02	3.75	3.89
Average age of household members, years.	67.44	70.02	47.78	55.14
Time lived in the village; years	60.14	60.63	32.44	49.22
Main field of activity for all household members, %				
-Agriculture	31.6	-	-	40.5
-Agro-industry	3.5	-	-	5.4
-Industry & Construction	-	-	22.2	5.4
-Services	-	-	11.1	2.7
-Trade	-	-	11.1	2.7
-Administration	-	-	22.2	5.4
-Student/pupil	-	-	11.1	-
-Housewife	3.5	9.3	11.1	2.7
-Social security pensioner	17.5	41.9	22.2	5.4
-Former agric'l coop. Pensioner	43.9	48.8	-	10.8
-Other	-	-	-	13.5
-Social security pensioner +agricultural co-op. pensioner	-	-	-	5.4

5.1.4 Land Holding characteristics and acquisition

The agricultural land in the property of rural households included in the sample, ranges from 0.5 Hectares to 10 Hectares. The average area in property is 3.74 Hectares larger than the rural average i.e. 2.9 Hectares and the national average of 2.3 Hectares. The analysis of the number of rural households by size reveals their concentration in the 3 to 5 Hectares group, totalling 38 percent of investigated households.

Distribution of rural households by size category

	Total	Ialomita	Balaciu commune		
	Country	County	No. of respondent households	%	Average area (Ha)
< 1 Ha	39	40	6	3	0.5
1-3 Ha	33	30	41	28	1.66
3-5 Ha	17	16	54	38	3.58
5-7 Ha	7	10	32	22	5.49
> 7 Ha	4	4	13	9	8.16
Total	100	100	146	100	3.74

Average area of land as property by household type

	No. of households	Average area (Ha)
Agricultural households	57	3.56
Pluri-active households	37	3.43
Non-agricultural households	9	3.45
Inactive households	43	4.30
Total	146	3.74

The analysis of the average area by type of household reveals that pensioners have the largest land area as property, i.e. 4.3 Hectares. This situation can be explained by the fact that Romanian Law no.18/1991 re-established ownership rights to people who were formerly landowners before the communist period: These are the old people included in this category.

Distribution of households according to the land acquisition method, by category of size

	Reconstituted		Inherited		Constituted		Other cases	
	<i>No. of Hholds</i>	<i>Average area</i>	<i>No. of Hholds</i>	<i>Average area</i>	<i>No. of Hholds</i>	<i>Average area</i>	<i>No. of Hholds</i>	<i>Average area</i>
Types of households								
Agricultural households	12	4.22	42	3.41	2	1.0	1	0.5
Pluriactive households	7	3.49	26	3.58	8	1.05	1	1.0
Non-agricultural households	2	2.75	6	4.10	2	0.5	-	-
Inactive households	19	3.41	27	4.22	3	0.83	2	3.23
Household size								
< 1 Ha	1	0.5	0	0	3	0.5	2	0.5
1-3 Ha	11	1.4	28	1.64	7	0.78	1	1.00
3-5 Ha	12	2.98	42	3.52	4	1.6	2	3.23
5-7 Ha	11	4.61	23	5.13	1	0.5	-	-
> 7 Ha	5	8.6	8	7.88	-	-	-	-
Total ^{*)}	40	3.64	101	3.71	15	0.93	3	2.49

^{*)} Certain households acquired land by several methods.

One notices that the main method of property acquisition is by inheritance (69 percent), followed by ownership right reconstitution and constitution. The instances of property, through land purchase, donations or as a gift are so few as to be insignificant at 2 percent. Ownership right constitution is specific to households with an area smaller than 3 Hectares. The reason for this may be found in the Land Law's provisions. There are also fluctuations in the methods of property acquisition and by the types of households. Thus, the agricultural and multi-active households, the households of pensioners in the first place, acquired their land through inheritance.

Gaining possession of property documents in the Balaciu commune is quite limited. Thus, of the total sample, only 51.4 percent of households received ownership titles, while 41.1 percent declared that they effectively took over the land. A non-correlation is noticeable between the peasants' statements and official declarations. The mayor of the commune declared that he is confronted with great difficulties to do with distribution of ownership titles; this situation, according to him, is generated in the first place by the owners' financial difficulties. According to the mayor, less than 30 percent of the ownership titles were distributed (approximately 1,000 out of 3,500).

The distribution of ownership titles and the repossession by category of size and household type

	Received their ownership titles		Took possession of land	
	Yes	No	Yes	No
Types of households				
Agricultural households	54.4	45.6	45.6	54.4
Pluri-active households	43.2	56.8	21.6	78.4
Non-agricultural households	88.9	11.1	88.9	11.1
Inactive households	46.5	53.5	41.9	58.1

Household size				
< 1 Ha	50	50	50	50
1-3 Ha	53.7	46.3	41.5	58.3
3-5 Ha	44.4	55.6	35.2	64.8
5-7 Ha	53.1	69.2	46.9	46.2
> 7 Ha	46.9	30.8	53.1	53.8
Total	51.4	48.6	41.1	58.9

One notices the high proportion (88.9 percent) of non-agricultural households with their property situation resolved. This household type is known to consist of relatively young age people with a high level of education.

5.1.5 Institutional Profile of Farming

Of the investigated sample: 38.6 percent are members of legal associations, while 14.0 percent are members of a family association. In order to identify the rural social players who can help land consolidation by their structure, attitude and functionality, a typology of rural households was established.

The lack of production equipment necessary for the optimum operation of the production process, the owners' old age and precarious health, and the lack of financial means for the initiation of production cycles may justify the land owners' opting for the association form in crop production organization, i.e. 55.5 percent of the total sample; only 6.2 percent of those sampled were in favour of individual land operation.

Operation modality by categories of size and types of household

	Individual	Legal association	Family association	State farm	Mixed types
Type of household					
Agricultural households	7.0	84.2	15.8	17.5	17.5
Pluri-active households	10.8	40.5	13.5	10.8	24.3
Non-agricultural households	11.1	33.3	33.3	11.1	11.1
Inactive households	0	23.3	27.9	30.2	18.6
Household size					
< 1 Ha	16.7	50.0	16.7	0	0
1-3 Ha	17.1	41.5	22.0	7.3	12.2
3-5 Ha	1.9	31.5	25.9	16.7	24.1
5-7 Ha	6.3	59.4	34.4	0	0
> 7 Ha	23.1	15.4	23.1	12	38.5
Total	6.2	35.6	19.2	19.2	19.2

The agricultural associations established as production units capable of providing high labour, capital productivity and satisfactory incomes, in fact establish and maintain the framework of the formal participation of associated members, subordinated by the

satisfaction of the modest family requirements. In the most common situations, relations between the associated landowners and the association management consist of merely establishing the cropping structure of plots and the conditions for sharing the obtained products.

Interest in techniques and methods of land operation (e.g. soil mechanisation works, input utilization, average yields, costs, etc.) is very low. From discussions held with landowners who were members of an agricultural association, it was clear that they are familiar only with the quantities of agricultural products going to their own household, this attitude being atypical of a landowner.

In the Balaciu commune there is a yearly movement of parcels, determined by the economic interests of the associations and State farms. With this background, it is difficult to explain how an improvement in the level of interest can be achieved. The way agreements are reached between association chiefs and association members is highly informal, verbal agreements being 49.3 percent and non-registered contracts 39.9 percent.

Types of agreement between lessors (agricultural landowners) and lessees (legal associations) concluded by household type

	Contract registered at notary's office	Non- registered contract	Verbal agreement	Non-member of an association
Agricultural households	1.8	45.6	45.6	7.0
Pluri-active households	2.7	27.0	62.2	8.1
Non-agricultural households	11.1	33.3	44.4	11.1
Inactive households	14.0	41.9	44.2	0

Property transfer in Romania is dominated by inheritance. Regardless of the type of household and size, in the main property is divided into equal proportions to heirs.

Property transfer options by type of farms and category of size

	To only one child	Equally to children	To child who remains in household	Sale	Other	Not known
Type of household						
Agricultural households	36.8	50.9	1.8	0	8.8	1.8
Pluri-active households	35.1	40.5	16.2	0	2.7	5.4
Non-agricultural households	22.2	33.3	33.3	0	0	11.1
Inactive households	27.9	62.8	4.7	0	0	4.7
Household size						
< 1 Ha	0	50.0	16.7	0	0	33.3
1-3 Ha	39.0	41.5	9.8	0	7.3	2.4

3-5 Ha	27.8	57.4	7.4	0	5.6	1.9
5-7 Ha	40.6	46.9	9.4	0	0	3.1
> 7 Ha	30.8	61.5	0	0	0	7.7
Total	32.9	50.7	8.2	0	4.1	4.1

5.1.6 Land Holding Fragmentation

In Romania, the main causes of fragmentation are the following: the historic traditions and method of inheritance; political will and, in certain regions, the shortage of financial resources. The traditional practice of inheritance, i.e. of property transfer by dividing it into equal proportions to heirs, generation by generation, led to the fragmentation of land over time. However, it is quite difficult to determine to what extent this method of inheritance had determined parcel or property division.

In order to identify the degree of fragmentation, the following parameters were used: household size, the number of parcels, parcel size and distance to parcels. According to the Januszewski fragmentation index all households, regardless of size, are considerably fragmented.⁵ As this index does not take distance into consideration, the average distance to the nearest and farthest parcel was also included in the table. From this one can draw the conclusion that distance is a further stress factor in the degree of fragmentation.

The average parcel size increases with an increase in household size. The results indicate that larger households also have the highest degree of fragmentation.

Degree of fragmentation

Household structure by size in Ha	Number of household	Mean plot size in Ha	Mean no of plots	Mean of Januszewski's fragmentation index	Mean distance to farthest parcel	Mean distance to nearest parcel	Believe land is too fragmented (%)	Desire less-fragmented land	Average age
< 1 Ha	6	0.4	1	0.88	4.5	1.92	60.0	50.0	45.5
1-3 Ha	41	0.79	3	0.63	7.04	2.06	63.2	61.0	60.2
3-5 Ha	54	0.88	4	0.54	7.2	1.7	72.0	72.2	63.8
5-7 Ha	32	0.91	6	0.48	7.56	1.95	86.7	87.5	67.9
> 7 Ha	13	0.92	8	0.4	7.46	1.82	60.0	47.2	74.8
Total*)	146	0.85	4.39	0.55	7.15	1.88	71.20		64.0

*) All totals are weighted averages according to population distribution across household size.

The farmers interviewed perceive the consequences of fragmentation differently. For instance, a high proportion of respondents (32.2 percent) consider that fragmentation generates low efficiency. A further 24.7 percent believe that it is due to the application of crop technology under optimum conditions. Seven and a half percent think that fragmentation has positive consequences related to the head of the household's ability to spread risk by cultivating a series of crops on several parcels, each with its own soil and microclimate characteristics, 5.5 percent consider that the existence of several parcels offers greater security of harvests against theft.

⁵ It was calculated for the first time in 1964 and it is used commonly to evaluate levels of fragmentation in contemporary agricultural systems. This index divides the square root of total farm area by the sum of the square roots of the plot sizes. (Source: Jolyne Melmed-Sanjak, Peter Bloch and Robert Hanson, „Project for the Analysis of Land Tenure and Agricultural Productivity in the Republic of Macedonia”, Working paper no.19, Land Tenure Centre, University of Wisconsin-Madison, 1998, p.137)

The consequences of fragmentation – perceptions

	<i>Low efficiency</i>	<i>Bad technology</i>	<i>Unsure harvest</i>	<i>Advant</i>	<i>Others</i>	<i>Not the case</i>	<i>Not known</i>	<i>No answer</i>
Type of household								
Agricultural households	24.6	33.3	7	1.8	1.8	1.8	28.1	1.8
Pluri-active households	35.1	21.6	2.7	13.5	2.7	5.4	16.2	2.7
Non-agricultural households	22.2	11.1	0	11.1	0	11.1	33.3	11.1
Inactive households	41.9	18.6	7	9.3	2.3	4.7	16.3	0
Household size								
< 1 Ha	33.3	16.7	0	0	0	16.7	33.3	0
1-3 Ha	31.7	14.6	7.3	4.9	4.9	7.3	26.8	2.4
3-5 Ha	24.1	33.3	5.6	11.1	1.9	1.9	20.4	1.9
5-7 Ha	37.5	31.3	3.1	3.1	0	3.1	18.8	3.1
> 7 Ha	58.8	7.7	7.7	15.4	0	0	15.4	0
Total	32.2	24.7	5.5	7.5	2.1	4.1	21.9	2.1

5.1.7 The Nature of Farming: inputs, outputs and possibilities for cooperative activity:

Crop production

Crop production represents both a source of raw materials for the household's direct consumption and the basis of livestock production development in the rural areas. Owing to the favourable natural and climatic conditions, Romania has many assets to cultivate a wide range of species.

The analysis of crop structure and of its role in the cropping schedule of each rural household reveals a high percentage of cereals. Cereals need relatively low investment and production costs per unit for area. The harvest can be stored without strict conditions using household annexes such as barns, granaries, corn lofts and attics, etc.

Maize, cultivated in 138 households, on an average area of 1.72 Hectares, with possibilities for selling it on, or for use for self-consumption, represents the basic crop. Maize also represents the basic feed for livestock, as well as food for human consumption. Wheat, cultivated in 137 households on an average of 1.4 Hectares is the staple food in the rural areas. With a strong seasonal character in labour utilization, it is a crop mostly favoured by the multi-active and non-agricultural households. In the Balaciu commune, a declining trend is noticed in the cultivation of industrial crops, of these only sunflowers are cultivated in 84 households. This crop requires a high input of labour and input consumption per hectare.

Vegetables, vines and fruit-trees are cultivated on very small areas to supplement household food needs.

Crop structure is established according to:

- Decisions taken in associations (29.8 percent agricultural households, 37 percent inactive households, 22.2 percent non-agricultural households and 35.14 percent in multi-active households);
- The needs of households; (24.6 percent agricultural households, 23.3 percent inactive households, 22.2 percent non-agricultural households, 29.7 percent multi-active households);
- Tradition (28.8 percent agricultural households, 37.8 percent multi-active households, 22.2 percent non-agricultural households).

The analysed data indicates the absence of significant variations in yields according to household size.

Animal husbandry

Although having a long tradition in the country, the livestock industry strongly declined after 1989; this situation also exists with the respondent individual households, where the number of livestock is quite small. In the investigated sample, 81 percent of households raise animals. The prevailing species are poultry (81 percent) and pigs (80 percent). Livestock breeding is under the household system, which is characterised by the small degree of livestock concentration; poor technical material and equipment; the traditional organisation of production process and reproduction as a closed or half-closed system. Rural households generally buy animals for supplementing their herds from acquaintances, and only when absolutely necessary.

Rural households practice mixed maintenance of animals. Over the winter, animals are kept in stables, while in the summer they graze on the communal pastures. Feed is mainly based on fodder produced on arable land or on grazing. The cases where people buy combined feed are very rare.

Livestock numbers

	Total sample	
	<i>No. of house-holds</i>	<i>Average no. of animals</i>
Cattle	92	1.52
Pigs	127	2.57
Sheep + Goats	47	5.91
Poultry	129	20.33
Other	15	1.40

When comparing the different categories of households, variations were obvious in five specific dimensions:

The investment dimension: – the investigated multi-active and non-agricultural household revealed an investment attitude; buying livestock and buildings and making educational investments specific to the households. It is worth mentioning that, in multi-active households, investments are also made in agricultural equipment, while, in non-agricultural households, investments were also made in non-agricultural businesses. The proportion of these investments is quite low, but they are significant through their very existence:

- Of the total multi-active households, 2.7 percent invested in agricultural equipment, 10.8 percent bought animals, 5.4 percent invested in building construction, while 2.7 percent paid for their children's education.
- Of the total non-agricultural households, 11.1 percent bought animals and 11.1 percent established a non-agricultural business (this refers to investments made in 1999).

The commercial dimension:

The multi-active households considered that they sell 22.7 percent of their own production and non-agricultural, 16.6 percent. Lower proportions were found in agricultural households with 10.6 percent, and inactive households at 13.0 percent. All the interviewed subjects assume that self-consumption is mainly over 80 percent, the highest values being found in agricultural and inactive households.

The desire of multi-active households to sell their products is quite obvious; it is also obvious that all households have a tendency to sell non-processed products; the only type of household in which a minimum processing of livestock products is found is in the multi-active households.

The respondents mentioned the following difficulties which they encounter in selling their products: production levels too low to sell, a lack of transport, an unfamiliarity with market prices and a lack of knowledge of the potential outlets.

The association dimension:

There is a desire to join an association, an informal type of association, in particular. The most vulnerable household, i.e. those intending to leave associations, are the non-agricultural (44.4 percent), which do not wish to be members of formal associations in the future; the most stable are the multi-active households, as only 2.7 percent of them intend to leave the legal associations. The existence of the association movement is an asset for land consolidation, especially if the perceived association advantages are analysed.

Perceived advantages to association farming, by type of household

	Agric'l households		Inactive households		Pluri-active households		Non-agric'l households	
	<i>Advantages formal associat.</i>	<i>Advantages informal associat.</i>	<i>Advantages formal associat.</i>	<i>Advantages informal associat.</i>	<i>Advantages formal associat.</i>	<i>Advantages informal associat.</i>	<i>Advantages formal associat.</i>	<i>Advantages informal associat.</i>
Provides an income for me	28.1	1.8	16.3	2.3	26.0	18.9	33.0	11.1
Money can be earned	7.1	-	2.3	-	5.4	-	-	-
I have a job	21.0	1.8	7.0	9.4	13.3	13.9	-	-
Provides agric'l inputs	12.3	-	9.3	2.3	5.4	-	-	-
Buy my products	3.6	-	2.3	-	2.7	-	-	-
Supplies social services and other benefits for me	5.3	1.8	-	-	2.7	-	-	11.1
Provides mechanization services	36.8	8.8	44.2	27.9	43.2	15.4	44.4	22.2
Provides land operation into compact areas	17.6	8.8	34.9	-	32.4	5.4	-	11.1
Other	7.1	-	2.3	4.6	-	-	-	-

The mechanisation dimension:

Most of the households in the sample do not use mechanisation, as they contributed their land to the agricultural associations that provide machinery to work on the respective areas. The share of those using draft animals (i.e. horses) for land operation is quite low by type of households. The highest share was found in the case of multi-active households (27.0 percent), followed by non-agricultural households (11.1 percent).

The share of households type using mechanical work in their activities

Working method/ Household type	Use mechanical works		Draft horses	
	Yes	No	Yes	No
Agricultural households	14.0	82.5	7.0	75.4
Pluriactive households	27.0	64.9	27.0	54.1
Non-agri.households	33.3	66.7	11.1	55.6
Inactive households	34.9	44.2	7.0	67.7

As we have already mentioned, the agricultural associations provide the mechanisation work on their land. However, for the agricultural work on individual parcels not contributed to an association (i.e. ploughing, seeding, maintenance works, weed control, irrigation, harvesting, transport, works in livestock sector, processing, etc), a proportion of the households hire mechanisation services; the highest proportion is found in non-agricultural and multi-active households. This reveals more modern attitudes, with non-agricultural households ahead of the multi-active; this is revealed by the non-agricultural households' use of the mechanisation services provided by private entities, indicating a stronger social-relation based capital; the other types of households mainly use services provided by State companies or agricultural associations (legal entities and family associations). (See annex 2 for information on mechanisation services used by the different households.)

The Land lease dimension:

Land lease is at an early stage. Only multi-active households leased land (2.7 percent of total households).

The following leased out land:

- agricultural households 21.1 percent
- multi-active households 10.8 percent
- non-agricultural households 11.1 percent
- inactive households 34.9 percent

The situation of land leasing out by household type (percentages)

	Agricultural households	Inactive households	Pluriactive households	Non-agric'l Households
Fixed quantity of products (A)	29.8	25.6	48.6	33.3
Sharing the obtained products (B)	35.1	30.2	18.9	22.2
Fixed rent in cash (C)				

Exchange of labour and other services (D)	3.5	-	-	-
Combination of previous items (E)	17.6	25.6	16.2	22.2
Other situations (F)	-	-	-	-

Payment in kind is characteristic of all type of households, the payment of rent in cash not being a common practice for any rural household.

As regards the intention to develop agricultural businesses, the multi-active households lead, followed by the non-agricultural households, inactive households and lastly, the agricultural households. However, in all categories, quite high proportions do not want to develop agricultural activity.

Intention to develop agricultural business activity (percentages)

	Agricultural households	Pluriactive households	Non-agriculture households	Inactive households
Yes	14.0	48.6	33.3	16.3
No	75.4	45.9	44.4	81.4

When asked “If you had the possibility to enlarge your activities, what would you prefer?”, the answers revealed the following picture: buying land is in top position for quite a large proportion of multi-active and non-agricultural households; livestock comes top for quite a large proportion of agricultural and inactive households, followed by land; then investments in machinery and equipment in third position for each type of household; the establishment of non-agricultural businesses is an option for a higher proportion of non-agricultural households, which again indicates a modern and favourable attitude to land consolidation.

Options for activity enlargement by household type

Type of household/ Option	Agricultural households	Pluriactive Households	Non-agricultural households	Inactive households
Option 1				
To buy more land	31.6	56.8	33.3	20.9
To buy more animals	42.1	35.1	33.3	37.2
To open a non-agric'l. business	5.3	5.4	-	2.3
To invest my money in machinery and implements	1.8	2.7	-	11.6
To continue to be member of association	1.8	-	-	-
To establish another association	1.8	-	-	-
Other	-	-	-	-

Option 2				
To buy more land	8.8	10.8	11.1	11.6
To buy more animals	24.6	51.4	33.3	14.0
To open a non-agric'l. business	-	2.7	11.1	-
To invest my money in machinery and implements	5.3	18.9	-	2.3
To continue to be member of association	-	5.4	-	2.3
To establish another association	5.3	-	-	-
Other	-	-	-	2.3
Option 3				
To buy more land	-	2.7	-	-
To buy more animals	1.8	5.4	-	-
To open a non-agric'l. business	-	5.4	22.2	2.3
To invest my money in machinery and implements	5.3	18.9	33.3	4.7
To continue to be member of association	1.8	18.9	-	2.3
To establish another association	-	2.7	-	-
Other	-	-	-	-

On the basis of the established facts, one could estimate that there is a budding entrepreneurial attitude; as a result of data analysis, most of the projects for improving the households' own activities are found in multi-active households: land consolidation projects at 32.4 percent, 35.1 percent wishing to invest in buildings and 40.5 percent wishing to invest in mechanisation.

Structure of development projects by household type

	Agricultural households	Pluriactive Households	Non-agricultural households	Inactive households
Irrigation	15.8	10.8	22.2	9.3
Mechanisation	17.5	40.5	22.2	10.3
Land consolidation	12.3	32.4	-	9.3
Plantations	15.8	13.5	-	7.0
Buildings	40.4	35.1	11.1	7.0
Fences	31.6	21.6	11.1	4.7

5.1.8 Assessment of people's attitude towards guided land consolidation

The attitude of household heads to land fragmentation is a significant indicator of the situation of ownership rights to land. When asked, "Is land too fragmented, in your opinion?" 71 percent of those interviewed thought that it was. This opinion is more obvious in the size

category 5 to 7 Hectares. The next question was linked to farmers' opinions of the need to consolidate land to have a smaller number of parcels; most respondents thought that land should be consolidated. The diversity of the answers to this question seems to depend upon the age of the head of the household and their level of education.

Parcel exchanges by household types and category of size

	Yes	No	Not the case
Type of household			
Agricultural households	0	98.2	1.8
Multi-active households	2.7	91.9	5.4
Non-agricultural households	11.1	89.9	0
Inactive households	4.7	95.3	0

Parcel exchanges between landowners were very few. By type of household, the non-agricultural households, consisting of young people with a high level of education, exchanged parcels to a percentage of 11.1 percent. Of those few exchanging, all were of a size between 3 and 7 hectares.

Respondents perceive the lack of possibilities to buy land as the main obstacle to having a less fragmented land area (30.1 percent).

Obstacles to consolidation – perceptions

	<i>Cannot buy the desired plot</i>	<i>Cannot buy</i>	<i>There aren't land exchanges</i>	<i>Legal constraints</i>	<i>Others</i>	<i>Not the case</i>	<i>No answer</i>	<i>Don't know</i>
Type of household %								
Agricultural households	19.2	33.3	15.8	1.8	5.3	8.8	0	15.8
Pluri-active households	16.2	24.3	13.5	10.8	5.4	10.8	0	18.9
Non-agricultural households	22.2	33.3	11.1	0	0	11.1	11.1	11.1
Inactive households	7	30.2	11.6	9.3	9.3	2.3	4.7	25.6
Household size								
< 1 Ha	0	0	16.7	0	0	33.3	33.3	16.7
1-3 Ha	12.2	49.3	7.3	2.4	4.9	12.2	0	17.1
3-5 Ha	13	25.9	18.5	9.3	7.4	7.4	0	18.5
5-7 Ha	21.9	31.3	12.5	6.3	9.4	0	0	18.8
> 7 Ha	23.1	15.4	15.4	7.7	0	0	7.7	30.8
Total	15.1	30.1	13.7	6.2	6.2	7.5	2.1	19.2

* these categories reflect a behavioural difference: “cannot buy the desired plot” indicates that the subject wants to buy, made plans in this direction and calculated the price he/she has to pay; “cannot buy” indicates a more general attitude, the subject made no calculations, no projects of buying.

The socio-demographic structure is one of the elements that can be built upon in order to become a positive factor in land consolidation; the level of education, the occupational structure and the working time structure are positive elements that can become encouraging factors in promoting and strengthening land consolidation. On the other hand, the traditions

of inheritance point to the continuation of excessive land fragmentation; this is one of the most significant barriers to the normal operation of land consolidation.

Types of rural household behaviour

	Agricultural households	Pluriactive Households	Non-agric'l households	Inactive households
I. Modern behaviour				
- change	54.4	67.6	77.8	25.6
- risk	35.1	16.2	11.1	30.2
- working together	21.1	40.5	55.6	46.5
- trusting people	21.1	21.6	-	-
II. Traditional behaviour				
- continuity	42.1	16.2	33.3	60.5
- old ideas	54.4	16.2	55.6	55.8
III. Community behaviour				
- participation to common community activities	43.9	48.6	44.4	39.5

The multi-active and non-agricultural households have a low rate of risk acceptance, as opposed to the others; hence the position of the two types of household as possible factors for inducing new values and modern behaviour must be analysed in relative terms. 'The traditional behaviour' is specific to inactive and agricultural households; a strong traditional behaviour was also found in non-agricultural households. The perception of community spirit reveals the existence of another element that may become a serious barrier to land consolidation:

If, within the same 'modern-traditional' paradigm we investigate the productive, investment strategies or the adjustment to phenomena or processes specific to a capitalist economy, we discover that the main factors most likely to become the social reactors of rural/agricultural modernization, and, implicitly, of land consolidation, are the multi-active and non-agricultural households.

An assessment of the major constraints to land consolidation strategies:

At a community level, the following main constraints were noticed:

Legal and institutional constraints:

- There is no land market;
- Only 3 percent of entitled people received property titles.

Economic and ecological constraints:

- The declining associative movement;
- The traditional poverty;
- A lack of alternative activities;
- Air pollution.

Educational, cultural and information constraints:

- The lack of specialised staff;

- The lack of an educational, information and cultural infrastructure.

Community constraints:

- There is no community spirit;
- The lack of communication between the decision-making tiers.

Other constraints:

- Alcoholism;
- The church has no role in community life.

At an individual level, the main constraints are determined by the economic and social poverty resulting in people's inertia and a low incentive to modernise and develop their own households. The inadequate attitude of certain association leaders determines a generally negative perception of the whole movement and a refusal to join.

Conclusive summary

- It is obvious that in the investigated community, one can find a category of multi-active people, who, owing to their multiple job holding and social capital owned, have the desire to become associated and, implicitly, to consolidate their land. They are the would-be agents of rural development, who are able to establish highly productive associations.
- At a community level, the establishment of certain associations and organisations that could induce a will to participate through a normative framework should be encouraged. It is necessary to teach rural people to participate in decision-making regarding problems in their own economic and organisational strategies. In the first stage of the creation of co-participative organisations, it is necessary to apply certain normative formulae, as a strong reliance on formalities is still in place.
- As a general conclusion, any type of agricultural land consolidation can be achieved only by taking into account the local specifics (the economic history of the area, its socio-economic and sociological characteristics, the rural population's expectations and orientations) and the social-economic needs. The application of uniform consolidation schemes is doomed to failure, as they could be perceived as a second collectivisation. This would spell disaster.

6 Conclusions:

Proposed measures:

For agricultural land consolidation, a coherent and well-articulated set of measures must be established.

The economic environment:

The main proposals of rural development policies and programmes must be, and are focused, on the following:

- An increase in the performance, efficiency and competitiveness of farms by promoting technical progress, production rationalisation and the better utilization of inputs, and of labour in particular;
 - The continuation of privatisation in agriculture, the service sector, the food industry and the distribution of agricultural products;
 - The integration of competitive farms into agricultural chains;
 - The implementation of economic and financial policies that stimulate the stabilisation of agricultural products and their markets.
-
- One of the important proposals that can be made in this respect is the improvement of the economic climate in which farmers are working, which should result in their natural orientation towards land consolidation.
 - The improvement of access to credit, the development of agricultural markets and the infrastructure in the rural areas could lead to land consolidation.
 - It is necessary that land consolidation programmes should be linked to projects aiming to increase farm size. The policy of structure reform should target the establishment of efficiently managed, viable farms, endowed with modern technical resources, providing farmers with an acceptable standard of living.

Land cadastre:

The speeding up of the issue of ownership titles is vital, i.e. both the titles given according to Law 18/1991 and the creation of the technical cadastre necessary for the application of Law 1/2000. Potential buyers and lessors will not buy ownership or utilization rights if they cannot identify the real landowner and are not convinced that such rights are reliable.

Simultaneously the following are necessary:

- The acceleration of the agricultural cadastre reform and the consolidation of the Land Book offices;
- The delimitation and strict establishment of areas of responsibility for the cadastre offices at county level and the Office for Cadastre and Agricultural Territory Organization, in order to eliminate the present overlapping of responsibilities between the two institutions.

Taking into consideration that currently, most of the property titles on land issued by the Ministry of Agriculture, according to the Land Fund Act, no. 18/1991 (the Land Restitution Law), are not registered in the Land Registry (the Land Book), due to the debate on the

accuracy of the measurements, the Land Consolidation Projects could be the best opportunity of solving this issue.

Property titles, available to the landowners to prove their property rights to land, could be the basis for the processing of the land consolidation projects. Once the LC proposal is agreed, the Ministry of Agriculture could replace the existing property titles with new ones, based on accurate survey, in accordance with the existing real rights and the new restitution. These adjusted property titles could then be registered in the Land Book after the completion of the LC project. This registration should be based on systematic cadastre works and without any payment from the landowners.

Rural credit:

It is necessary to develop an institutional framework and a specific infrastructure. Rural credit policy should be based upon the principle neutrality in investment financing in the rural areas.

This would require financial support for:

- The training of staff from the local labour supply organisations.
- The implementation of efficient, ecological technologies.
- Facilitating access to banking and fiscal system for firms in rural areas through:
 - Opening bank branch offices.
 - Establishing a system of field operators for different banking and fiscal activities.
 - Giving preferential access to credit.

Rural credit should support land buying by farmers with loans at lower interest rates and longer repayment periods.

At the same time, it is necessary to adopt a 10 to 30 years prohibition from land parcelling for those who previously benefited from subsidies when buying land

The land market:

- By developing policies and legislation that can improve the quantity and quality of information on land and land transactions, a land market would develop, thus facilitating land consolidation without other special measures being taken.
- The utilization of land price controls and limiting mechanisms may facilitate land consolidation in the future.
- The establishment of a land bank, to buy land for sale and to resell that land equipped with certain technical facilities (land melioration works, annex production buildings, etc.), after a specific period of time, to those wishing to enlarge their farms.

Land lease:

Under conditions of scarce financial resources, the stimulation of land lease is an extremely important element in the establishment and development of viable farms in Romania. The legal and institutional framework should take into consideration both local experience and traditions and the social and economic realities. It is necessary that land lease laws should provide greater security to the lessee, encouraging the development and modernization of his farm. Also the lease period should be longer, in order to favour land consolidation.

The creation of non-agricultural jobs:

It is well known that land consolidation leads to an increase in people leaving farming. This imposes the necessity of the creation of non-agricultural jobs, as farmers adapt more readily to changing their profession if they do not have to leave their native region. In the less-favoured zones, the development of dual-activity employment is absolutely vital.

The promotion and diversification of economic activities can be achieved by the following strategies:

The completion and implementation of the legal framework, in order to increase economic competitiveness through:

- Encouraging private investment.
 - The efficient local utilization of materials and human resources.
 - Facilitating access to market information.
 - The development and promotion of a financial market system that should stimulate profit and savings turning them into productive investments.
 - The build up of human capital in the spirit of a market economy.
 - The strengthening of the institutional framework for integrated rural development.
 - The stimulation of existing profitable economic activities, through offering facilities for:
 - Employing staff living close to their workplace, with bonuses for young employees.
 - Obtaining advantageous short and, or, medium-term credit with continuity.
 - The performance of non-polluting activities.
- Advertising the elements for significant economic and social results through:
- Publicity in local/national mass media and the relevant business environment.
 - Publicity in community organisations (schools and religious institutions).
 - The organisation of fairs and exhibitions.

Stimulating the development of traditional activities through:

- Providing direct incentives for the preservation and passing on of traditional trades.
- Facilities for obtaining new materials.
- Operating an advantageous price system for the utilization of various raw materials, plus energy, transport, etc.
- Rewards at local level
- The stimulation of enterprises that create jobs in non-agricultural activities through:
- Facilities, such as concessions, reduced rents, preferential sales, etc for acquiring the necessary premises for the performance of certain activities
- Facilities and priorities in obtaining certain documents, such as approvals certificates, etc.
- Direct financial aid for start ups (e.g. installation bonuses)
- Creating an adequate legal framework for promoting a partnership system between local organizations, the State and private entrepreneurs in non-agricultural sectors.

Land inheritance:

Certain legislation is needed, to provide for farm survival by making it possible for the landowner to leave the farm to only one heir, with the others receiving different compensation (cash, access to education, etc.), thus avoiding farm fragmentation.

Retirement from activity:

Old people's retirement from work, leaving the farm to younger farmers could be achieved by various means i.e.:

- Farmers older than 65 who commit to leaving their farm to younger farmers would receive a complementary income equivalent to partial unemployment public support;
- An anticipated retirement pension.

The development of human potential:

A. Actions related to young people:

I. Vocational guidance of young people in necessary activities in rural areas, through:

- The establishment of post-gymnasium schooling for pupils in zone - specific occupations (agriculture, animal husbandry, handicraft, etc.);
- The creation of favourable local conditions for the organisation of basic courses in the use of information technology;

II. Programmes for stimulating people under 30 to enter self-employment (e.g. in agricultural and non-agricultural activities);

- Free technical assistance and consultancy for young people who set up their own commercial companies in agriculture and agricultural-related services as well as other activities such as tourism, handicrafts, etc.

III. Support for young farmers to increase farm efficiency and quality through the following:

- The organisation of methods for the teaching of basic skills in farm management and administration;
- The setting up of a system of banking and fiscal facilities for young people who begin performing agricultural activities.

B. Actions related to the active population:

Ensuring conditions for qualification and re-qualification for the performance of certain new agricultural and non-agricultural activities, through:

- Social protection for unemployed people seeking work;
- Encouraging traditional trades in areas with tourism potential;
- Stimulating the transfer of farm management from people over 65, to young people, through the creation of a system of life annuities or other forms of alternative income that should provide them with a decent standard of living;
- Advertising and encouraging the active population to join the private pension system.

Legal framework

The promotion of a law that provides for a set of coherent and unitary measures regarding farm consolidation. This should provide the following mechanisms:

- An institutional framework, appointing the body responsible for land consolidation;
- Financing methods and sources;
- The establishment of minimum dimensions in land fragmentation;
- A procedure for registration in the Land Book of modifications resulting from land consolidation, for property guarantee;
- Incentives to farmers with a view to increasing their farm area.

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8 Annexes

8.1 Annex 1: Abbreviations

ARD	- Rural Development Agency
BCF	- Land Registration Office (Ministry of Justice)
CAP	- former Agricultural Production Cooperatives
DUATLP	- Direction of Urbanism, Territory Organisation [H3]and Public Works (MAA)
IAS	- former Agricultural State Farms
ICOTA	- Institute of Cadastre and Agricultural Land Organization (MAA)
ICPA	- Pedological and Agrochemical Research Institute (MAA)
IGFCOT	- former Institute of Geodesy, Photogrammetry, Cadastre and Land Organization (MAA)- now ICOTA
ISPIF	- Study and Design Institute for Land Improvement (MAA)- now ISPIF SA
MAA	- Ministry of Agriculture and Alimentation
MAPP	- Ministry of The Environment, for Forest Land and Water Resources
MLPAT	- Ministry of Public Works and Territory Organisation
OCAOTA	- Agricultural Cadastral Office for Agricultural Land Organization (MAA)
OCOT	- former OCAOTA
OCPA	- Pedological and Agro-chemical Research Office (MAA)
OGA	- Water Resource Office
OJCGC	- County Offices of Cadastre, Geodesy and Cartography
ONCGC	- National Office for Cadastre, Geodesy and Cartography
RAIF	- Land Improvement National Company

8.2 Annex 2: Procedures for processing Land Consolidation Projects

1. The institutional framework:

A Governmental Agency charged with Land Consolidation, according to the law, will coordinate and supervise the accomplishment of land consolidation projects in 2 to 4-year programs. These could be either the existing Directorate within in the Ministry of Agriculture in charge of Rural Land Administration or the Rural Development Agency (RDA), by extending their current responsibilities to land consolidation, supplemented by a special department.

The above will have its headquarters in Bucharest and local offices in each major town of a district, where land consolidation (LC) activities are intended. Such local offices could be the existing District Rural Land Administration Offices - *OCAOTAs*.

2. A public awareness campaign aimed at informing the public of the benefits of land consolidation and of the land consolidation procedures at a national, district and local (project) level.

3. Processing procedures to Land Consolidation Projects⁶ (LCP)

The Initiative to start an LCP could arise from the following:

- A local level agency in its own competence.
- Local government (commune/municipality).
- Land owners.
- Agencies interested in rural areas (for general and special purposes).
- Agricultural administration.
- Farmers' associations.

Submission of proposal from outside by the Initiators to the Local RDA Office

An evaluation of the proposal by the Local RDA Office, based on the priorities, available funding, local policies and legal framework and expected cost-benefit.

The inclusion of a proposal in the RDA Action Plan (2 to 4-year programs) for Land Consolidation

Preparation of LCP's

A pre-feasibility study, i.e. basic research prepared by RDA specialists based on the collected information from the project site (existing maps, cadastre and land registration status, specific technical information, etc.) for reaching a conclusion on the project requirements and on the potential benefits.

Approval from the RDA for extending the study.

The establishment of a Project Steering Committee comprising approximately 6 to 7 members of which about a half would be assigned official representatives of the State Authorities with main competence and the other half being elected representatives of an Owners' Association. The Committee should elect a Chairman. He/she should have an adequate professional background and act independently of his own responsibility within the frame of the relevant law.

A feasibility study, i.e. research carried out by a contracted private company to establish the project's objectives (e.g. large plots, regular forms, a better road network, soil amelioration, environmental protection, settlement development, etc), to establish a project area (this is needed to meet the proposed objectives), a cost evaluation based on certain indicators (the reduction of costs and time for work and transport, better marketing, higher crop yields⁷, etc.), the necessary work, training, technical assistance, budgets and a proposed timeframe and the necessary resources.

Advertising the LCP by informing the land owners on one hand, and, on the other hand the interested agencies, municipalities and potential donors which are invited to discuss the project in a meeting (advertised a month in advance).

⁶ Land Consolidation Projects are related to limited and precisely defined area, from possibly very few (15-20) up to several thousands hectares.

⁷ Only in the regional and national deficits

An analysis of comments from the farmers/ landowners and official institutions and from the stakeholders to improve and complete the project's purpose and area. This acts as a test of the final level of agreement.

The identification of the necessary budget for the project (international loans, grants, bilateral funding, State central/local budgets and private funding).

The execution of the LCP

The official start, i.e. approval from the Government (the Ministry of Agriculture) of the Project Implementation Plan and its financing. The Decision is published on the panels in the project-related Commune Halls, in the District Hall and in the local newspapers.

Establishing the Project Management Team in charge of the project's implementation. The Project Manager and relevant specialists are assigned to implement the LCP based on the Business Plan and allocated budgets.

Conducting research on the current inventory of owners, their property and others rights and assets (which are the subject of changes), including evaluation to create the 'input' basis for compensation, in the later LC plan, in land and rights of equal value.

Conducting a land survey by ortophoto mapping and local measurements (only if the accuracy of the current mapping is under standard), for the real estate in the LCP area.

Organizing a meeting with the representatives of the interested parties engaged in the LCP (invitations sent 1 month in advance) to solve any problems arising and to inform them of the results of the work and of the next developments.

The preparing of the infrastructure planning:

To identify and evaluate the existing infrastructure (roads, irrigation network, drainage, land use, permanent plantations, etc).

To design the proposed infrastructure (adapt the block shape for better land use, convert the land use, etc.).

To analyse how the existing infrastructure matches the requirements and what needs to be changed.

To identify the required improvements.

To establish the priorities for road construction (what is indispensable and what is affordable).

To evaluate the detailed costs and timetable.

Organizing an infrastructure acceptance meeting (a presentation of the project, a collection of the critics, proposals, adjustments and reaching the acceptance of the different administrations) in order to decide on the traffic flow and alignment of public roads and farm roads.

.The implementation of the Infrastructure Plan and survey of the structure of several blocks. The Project Management Team, reporting to the Project Steering Committee,

processes the LCP according to the Project Implementation Plan by spending the related budgets.

The preparation of the LC plan (for Parcel Exchange Plan/arrangement of new properties)

- Listening to land owners to establish their own ideas about compensation.
- Drafting a Parcel Exchange Plan (PEP).
- Monitoring and approval of the (PEP).
- Informing the landowners in order to get their opinions. This is an opportunity for the landowners to complain.
- Address the complaints.
- Final approval of the RP.

Physical execution

6.5.1. Processing of re-allotment by surveying and delimitation of boundaries according to the RP.

6.5.2. Physical restitution of ownership.

6.5.3. Concluding the financial balance, covering all open financial compensation claims (debts, credits, invoices, etc.).

1. Updating the public registers (Land Book registration) according to the RP.
2. The official closing of the Land Consolidation Project.

Specific requirements and proposals for implementing the above system:

- To prepare and promote a proper legal framework for LC;
- To establish/ define specific tasks for the Lead Governmental Agency and specific regulations for procedures;
- A selection of specialists coming from various fields with broad experience in land management (e.g. economists, land planners, surveyors, evaluators, agronomists, technicians, etc.);
- The organization of training courses, workshops and seminars for complementary training. In this respect, it would be advisable to make use of the best experience worldwide and to train further trainers abroad where there is already existing, expertise. Such expertise is available in Portugal, where engineers/ technicians/operators could learn the effective procedures and establish practices, in order to be able to disseminate and implement this expertise in Romania;
- The organization of study tours for the Romanian decision makers in one or two foreign countries having favourable past results in LC (this could be Germany or Portugal), in order to study their procedures and to support the implementation of similar procedures and a legal framework in Romania;
- To carry out LC pilot projects in Romania with foreign technical assistance, in order to gain experience for further developments. Such pilot projects could be proposed for co-funding to the international community under The EU SAPARD Program, The World Bank or other donors. In this respect there is a good opportunity to extend the current project for developing a Land Administration System in two Romanian Municipalities (Sighisoara and Odorheiul Secuiesc), which is funded by GTZ, Germany, by including a

land consolidation component. This is because the project provides ortophotographic data of the rural areas surrounding the two municipalities. These data could be used for preparing new plans for further implementation;

- To prepare an action plan to integrate the LC projects within the general framework of the land administration projects in progress, or proposed for implementation with domestic or foreign funding. It is very important to harmonize the objectives and works accomplished under International Agreements, especially those under the Cadastre and Land Registration Projects financed by the World Bank;
- To build teams of LC specialists at district level to strengthen the local capabilities for implementing LC projects;
- The preparation of quality standards for LC works (i.e. technical and processing rules);
- The purchase of special software for land consolidation to automate data processing in preparing LC Plans (Mapping management/ CP-aided compensation planning/ LIS, GIS for land-use planning, etc.), and the related computing equipment;
- The development of methodologies for land evaluation;
- The training and licensing of land evaluators, surveyors, technicians, etc.

8.3 Annex 3: Mechanization services used by household type

Use of mechanization services provided by others	Agricultural Households	Pluriactive households	Non-agric'l households	Inactive Households
Ploughing	10.5	21.6	22.2	14.0
Planting	12.3	18.9	22.2	14.0
Maintenance work (weeding, weed, disease and pest control)	8.8	10.8	22.2	11.6
Irrigation	7.0	2.7	-	2.3
Harvesting	7.0	18.9	11.1	7.0
Transport	5.3	13.5	11.1	7.0
Hiring/contracting mechanization services from:				
<i>Ploughing:</i>				
State company	-	2.7	-	2.3
Legal association	3.5	5.4	-	4.7
Family association	3.5	8.1	-	4.7
Private people	-	-	22.2	-
<i>Planting:</i>				
State company	-	2.7	-	2.3
Legal association	3.5	5.4	-	4.7
Family association	3.5	5.4	-	4.7
Private people	-	-	22.2	-
<i>Maintenance work:</i>				
State company	-	2.7	-	-
Legal association	1.8	5.4	-	4.7
Family association	1.8	-	-	4.7
Private firm	-	-	11.1	-
Private people	1.8	-	11.1	-
Family association	-	2.7	-	-
State company	-	2.7	-	-
Legal association	1.8	5.4	-	2.3
Family association	1.8	5.4	-	2.3
Private firm	-	-	11.1	-
<i>Transport</i>				
State company	-	2.7	-	-
Legal association	-	2.7	-	2.3
Family association	1.8	2.7	-	2.3
Private people	-	-	11.1	-