

SMALL AND LARGE FARMS IN THE REPUBLIC OF MOLDOVA: TRENDS AND PERSPECTIVES

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In recent years the Republic of Moldova has implemented a set of reforms in order to increase the efficiency of agricultural production. The main purpose of this paper is to highlight economic advantages and disadvantages of large and small scale farms, and also to focus on the multidimensional role of the small scale farming for rural areas. The methodology used in the article is based on analysis of statistical data, as well as on results of relevant qualitative and quantitative surveys. The main expected results of this paper lay in the proposals of ways in which agriculture can make a contribution to the vibrancy of rural communities from the Republic of Moldova.

Keywords: agriculture, development, large farms, modernization, small scale farms.

JEL codes: O13, Q15, Q18.

1. Introduction

Moldova has made some very impressive achievements in land reform since 1998–1999, when the change in the political atmosphere triggered a quantum jump in the intensity of agrarian reform efforts. Private (non-state) land ownership rose from practically zero in 1989 to about 67% of all agricultural land in the beginning of the 21st century (and to an even more impressive 80% of agricultural land used by producers), and land plots were physically distributed to more than one million rural people – 30% of Moldova's population.

In the Republic of Moldova, land reform was based on the fragmentation of land into parcels for all the eligible households (basically the full present and past farm employee cadre at the time of the reform). Land was divided into three categories: arable, vineyards and orchards, with the majority of farms undergoing privatization holding all three categories of land. Under the land distribution process each eligible household received their share of each of the three categories of land type. This led to an extreme fragmentation of land, especially in the case of the vineyards and orchards where it was common for a family to receive a few fruit trees and part of a line of vines. At the same time a few thousands of large farms specialized on extensive crop production have appeared. These farms are renting in land plots of rural

population and have limited number of jobs available (Dudwick, 2007; Deininger, 2011; Linn, 2012).

The main purpose of the paper is to present the separation of the agricultural sector into large and small farms in the Republic of Moldova with the advantages and disadvantages of the large-scale farming and also to focus on the multidimensional role of small farming for rural areas.

The methodology used in the article is based on General Agricultural Census and other relevant statistical data analysis and qualitative surveys. As main data sources have been used statistical reports presented by agricultural enterprises of all forms of ownership, selective statistical surveys of households and small farms and data from the Land Cadastre.

In conditions of small transitional economies the analysis of the agricultural transformations as a rule is based on scarce data and incomplete information. Therefore, the qualitative surveys were used to complement the quantitative research by focusing on the process of change involved in restructuring, the reasons for these changes and peoples' attitudes toward the changes. Several studies where authors participated have been used as reference documents.

The current transformations in rural areas have been conceptualized in connection to migration and depopulation of rural areas of the Republic of Moldova.

2. Results

The history of classical modernization theory can be tracked back to the 1960s, when was proposed the transition from traditional to modern agriculture (Schultz, 1964). Spates of works on agricultural modernization were published in the 1970s and 1980s. The modernization theory assumes a total change of policies intended to raise the standard of living of the poor that often consist of disseminating knowledge and information about more efficient techniques of production. For instance, the agriculture modernization process involves encouraging farmers to try new crops, new production methods and new marketing skills. Since prosperous agriculture is considered to be the most crucial base for economic development particularly in the less developed countries, the only viable option for them is to continue to enhance the productivity of land and labor in agriculture. Increased productivity in agriculture has been achieved in several parts of the world mainly by modernizing agriculture. Modernization consisted largely of using improved seeds, modern farm machinery such as tractors, harvesters, threshers, etc., chemical fertilizers and pesticides in an optimal combination with water. The process of modernization was accompanied by consolidation of agricultural land in the large commercial farms. The emphasis on large farms was reinforced recently by the apparent export competitiveness of corporate farms in Latin America or Eastern Europe and a move of institutional investors into agriculture, according to new paradigm of food security assurance, based on pro-

curement of agricultural land abroad. Such pattern of agricultural development focused on labor – rather than land–saving technologies could make economic sense in relatively land–abundant regions (Deininger, 2011).

In the majority of East European transition economies large farms strategies were associated with significant social and environmental risks. Nowadays, modernization for sustainable development should foreseen three principal dimensions: economic growth, social equity and protection of the environment. Underlying the economic dimension is the principle that society's well being would have to be maximized and poverty eradicated through the optimal and efficient use of the limited natural resources. The social aspect refers to the relationship between nature and human beings, uplifting the welfare of people, improving access to basic health and education services, fulfilling food security needs and respect for human rights. The environmental dimension, on the other hand, is concerned with the conservation and enhancement of the physical and biological resource base and ecosystems.

As the most of the East–European countries the Republic of Moldova has passed through a process of land reform after the political changes around 1990.

The continuing shift of agricultural land from corporate to individual farms has produced a dramatic change in the structure of land use by agricultural producers. Particularly notable is the shrinking share of former state and collective farms and a corresponding increase in land used by the individual sector. Back in the early 1990s, corporate farms (collective and state farms at that time) controlled about 90% of the agricultural land used by agricultural producers (excluding various components of reserve land). The individual sector, which consisted entirely of household plots at that time, managed the remaining 10% of the agricultural land. Since 1998, the agricultural land resources are evenly divided between individual farms (which now consists of household plots and peasant farms) and large–scale corporate farms, mostly new organizational forms (joint stock companies, limited liability companies, agricultural cooperatives) with private ownership of land and assets.

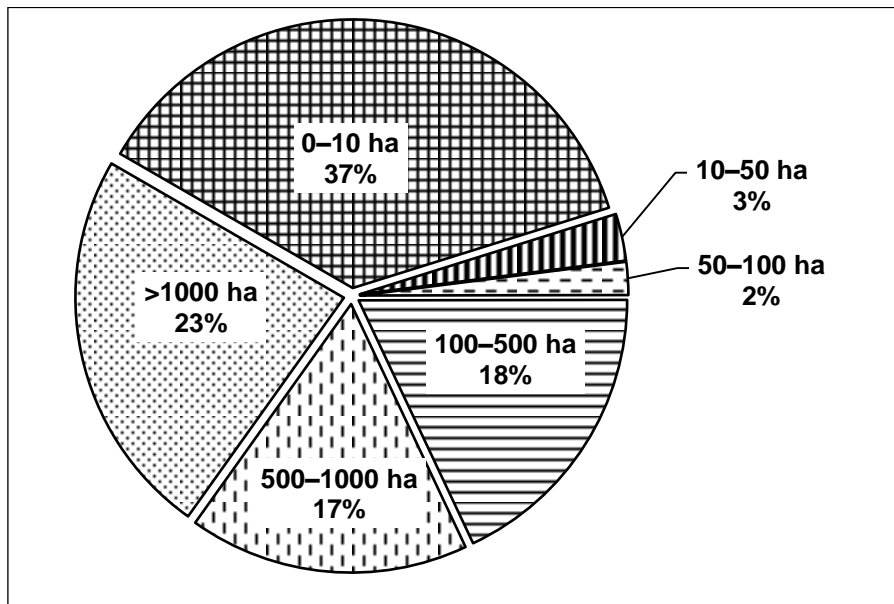
The concept of the land reform was grounded on the assumption that the thriving smallholder rural economy based on small household farms, combined with rapid development of land markets will allow exit from farming of those individuals and households who did not see their future in farming. The resulting fragmented small agricultural farms have proved to be suited for subsistence rural life, excepting those located in peri–urban areas. Moreover the small peasant farms that own the land have neither the financial nor technical means to farm their land, in many cases were abandoned by the most part of the young people opting rather to migrate, either internally to larger urban areas or to seek a job abroad (The Republic..., 2004; 2013).

As a result the number of people employed in agriculture decreased from about 537 thou in 2005 to about 303 thou in 2012. The similar trend can be observed in agricultural enterprises, where the number of employees decreased during the same period from 113,4 thou to 55,6 thou.

At present, the agricultural sector in the Republic of Moldova is based predominantly on extensive farming and is insufficiently adapted to market economy condi-

tions. There is a growing understanding in the country that the rural economy is not confined to the agricultural sector, but embraces the broad spectrum of needs of all rural people including living standards, economic activities and natural resources. The situation is associated with the major risks related to the structural changes that may affect the countryside and the economy as a whole such as: a) migration and uncontrolled urbanization, b) lack of professional qualifications and adaptability of the population in the rural areas, and c) inadequate use of the natural resources.

Analysis of data from the General Agricultural Census, 2011 shows that the major part (about 2/3) of the agricultural land is cultivated by large agricultural farms that hold more than 100 ha of land. Large scale agricultural farms are specialized mainly on cereal and technical crops production oriented towards export markets. Another important share of agricultural land (37%) is cultivated by households and small farms with less than 10 ha of land (see figure below). To mention that data from the General Agricultural Census, 2011 remain valid till present.



Structure of the agricultural land use according to the farm size, 2011
Source: General Agricultural Census, 2011

Small scale peasant farms have a significant share in total agricultural production. Together with population households they deliver essential quantities of agricultural products. A significant part of the production of corn, potatoes, vegetables, fruits and grapes are concentrated in the community of small-scale farmers that supply predominantly the local market.

In Moldova, in recent years, has been formed a poorly diversified structure of sown areas. Cereals and technical crops occupy about 90% of the sown area cultivated by large agricultural farms (see table 1).

Table 1. Structure of sown areas for selected agricultural products in different types of agricultural holdings, average for the period 2008–2013, %

Type of crops	Households	Small scale agricultural farms with less than 10 ha of land	Large scale agricultural farms
Cereals and leguminous crops	75.0	69.3	57.8
Sunflower	2.3	15.1	23.4
Sugar beet	0.1	0.4	3.1
Potatoes	7.5	1.0	0.4
Vegetables	8.9	0.9	1.0
Forage plants	4.9	9.8	2.4
Other crops	1.3	3.6	11.9
Total	100.0	100.0	100.0

Source: National Bureau of Statistics, 2014

The predominance of cereals and sunflower sown areas structure occurs also in small scale agricultural holdings that reflect the extensive character of the agricultural production in all types of agricultural holdings.

At the same time a small number of large and small scale agricultural farms practice also the high value agricultural production.

Horticulture as high value sector, including primary production and processing of agricultural products has a multiplier role in the national economy, creating demand and stimulating the creation of added value in other branches of the national economy, such as trade, construction and financial services. The share of horticulture in total agricultural production was approximately 33% during the last few years. Grape and fruits production is mainly export oriented, while vegetables and potatoes are used mostly for local consumption.

Small scale agricultural farms are poorly equipped and lack the experience necessary to penetrate the markets of the EU and other countries. A typical characteristic for this type of agricultural holdings is the small size of cultivated areas, and a large diversity between technological levels, varieties, quality and quantity of products, and access to markets.

Distribution of food products in Moldova still relies on traditional markets, with recent occurred supermarkets in large cities. There are currently about 190 supermarkets and three commercial units like Metro Cash and Carry dealing with trade of food products. According to estimates made by local experts, about 10–20% of Moldova's population buys food in supermarkets. Respectively as higher is the urban center, as greater is the share of supermarkets in food products sales.

According to the interviewed experts, about 20–40% of food purchases are made in about 1,000 of small grocery stores that are located near the place of residence. Many of these stores do not sell a full range of fruits and vegetables that occupy less than 3% of the commercial space. At the retail level foodstuffs are usually procured at open air agricultural markets, seasonal fairs and from the street vendors.

However in rural areas, a considerable part of the food products is used for own consumption.

Currently, the distribution network of fresh products comprises 3 wholesale agricultural markets in Chisinau and one in Balti, 12 retail agricultural markets in Chisinau, plus other 38 regional agricultural markets and more than 100 local agri-food markets.

Overall, wholesale food markets that currently exist in Moldova are poorly equipped and under obsolete standards because they provide just a simple place for sale and have limited storage capacities. In some cases, the sales areas are not covered, only offering parking for means of transport from where sales are operated. As a consequence, the role of these wholesale markets is quite limited.

Global production and average yield per hectare of agricultural crops in the Republic of Moldova, are significantly lower than in neighboring countries. However, while comparing the productivity in different types of agricultural holdings one can state that there is no significant difference among them. The economy of scale is not reflected through the land productivity, and can be observed only for labor productivity (table 2).

Table 2. Comparative yields for selected agricultural products in different types of agricultural holdings, average for the period 2008–2013

Type of crops	Households	Small scale agricultural farms with less than 10 ha of land	Lare scale agricultural farms
Cereals and leguminous crops	2.8	2.5	2.5
Sunflower	1.5	1.3	1.6
Sugar beet	–	23.0	28.5
Potatoes	8.8	11.8	12.7
Vegetables	9.2	8.1	7.5
Fruits and berries	5.6	2.6	4.8
Grape	5.7	3.3	3.3

Source: National Bureau of Statistics, 2014

The small size of farming units and the difficulties they faced in adopting standards of hygiene, environment, plant protection and animal health, accompanied by lack of vocational education in agriculture can be identified as major obstacles in developing the individual farming sector of the Republic of Moldova. An alternative to individual farming in order to increase their bargaining power in relation to the processing industry is creating local associative structures such as marketing and production cooperatives.

The livestock sector suffered the biggest losses during the process of transformations in the agricultural sector. The overwhelming majority of the animals was moved from large to individual farms, where are practiced mostly the extensive production technologies of cattle and poultry, which led to a sharp decline in production

volumes. Recovery of the potential of livestock sector occurs at a much slower rate than the in the plant production sector (see table 3).

Table 3. Structure of the livestock according to the farm size classes, 2011

Size classes of area, ha	Cattle		Sheep		Goats		Pigs	
	No	%	No	%	No	%	No	%
0–10	193034	93.7	616319	94.6	116373	98.7	301185	68.4
10–50	1777	0.9	10974	1.7	1296	1.1	103432	23.5
50–100	303	0.1	2188	0.3	53	0.0	1942	0.4
100–500	2233	1.1	4295	0.7	50	0.0	10694	2.4
500–1000	1701	0.8	2830	0.4	84	0.1	4988	1.1
>1000	7047	3.4	14836	2.3	57	0.0	18408	4.2
Total	206095	100.0	651442	100.0	117913	100.0	440649	100.0

Source: General Agricultural Census, 2011

In the current period of economic transition, the agricultural sector fulfills an important role of social support due to the fact that a large mass of migrants may return to agriculture because of the lack of better employment opportunities. In addition, agriculture further provides jobs and livelihoods for rural residents, thus mitigating considerably the adverse consequences of the aging population. Also the agriculture fulfills an important social function by reducing the danger of increasing poverty and social exclusion in rural areas of Moldova.

Farm structure is dominated by small farms, which have a significant share in agriculture of the Republic of Moldova. Land resources and business activities of most small farms cannot provide sufficient income. Small-scale production also prevents development of the technological progress due to both technical and financial reasons. Currently the number of small scale commercial farms that produce for the market is limited by underdeveloped agricultural infrastructure and limited access to finance.

We can assume that access to investment support programs could stimulate processes of modernization in agriculture of the Republic of Moldova.

Agrarian and non-agrarian economy can be directly linked through production activities, or indirectly through income or investments. Production linkages can be either ascending or descending: ascending links either occur when agricultural sector grows and there is induced a growth upstream in the supply of inputs and services, or when the increase of local manufacturing and services reduces the price and increases the availability of increase in inputs; decreasing connections can occur when activities such as manufacturing and distribution, based on the means of agricultural production are increased and thus increase the demand for agricultural products. Links with revenues arise when a sector income is spent on results elsewhere, and investment linkages occur when a sector profit are invested elsewhere. All these links are important in the development of non-agricultural enterprises in developing countries and economies in transition. However, the links may be weak and the power of dif-

ferent linkages is specific in a context and depends on a number of factors (Davis, 2004).

The multidimensional role of small farming for rural areas in the Republic of Moldova is demonstrated also by active involvement in different non-agricultural activities. The major part of these activities are oriented to the adding value to the agricultural raw material, but also to related services such as trade, transport and agro-tourism (see table 4).

Table 4. Non-agricultural activities in different types of agricultural holdings, 2011

Type of non-agricultural activities	Small scale agricultural farms and households	Large scale agricultural holdings	Total agricultural holdings
Total agricultural holdings with non-agricultural activities	10617	67	10684
Meat processing	7847	51	7898
Dairy production	132	1	133
Fruit and vegetable processing	274	6	280
Wine production	6137	22	6159
Forage production	82	1	83
Milling	170	6	176
Carpentry and other wood processing	114	0	114
Agro-tourism	47	0	47
Trade	3157	30	3187
Transport	603	3	606
Handicraft	81	0	81
Pisciculture	95	4	99
Other activities	3967	14	3981

Source: General Agricultural Census, 2011

In agro-food systems, many international companies have organized their production in developing and transition countries in order to be more competitive on the global market. This process is accompanied by positive and negative effects which can influence the welfare of the local population and the sustainability of the national agro-food sector. At the same time, local production systems are competing on the external and internal markets by producing specific quality goods, through a more efficient use of local resources and rapid adjustment to changing market requirements.

As a result, a wide range of local agro-food systems has occurred in the Republic of Moldova, ranging from simple local food suppliers to more export oriented food industries. Often these systems integrate both large and small scale agricultural farms, providing a viable solution for organization of the value chains in rural areas.

The fundamental issue for agriculture is its declining competitiveness relative to other countries in the region and the serious consequences that it has over farmer incomes and the level of private investments in the sector.

The data on Moldova's FDI inflows and stock suggest that the country has only been partly successful in attracting foreign investors. The level of foreign capital in-

vested per capita lags behind other peer economies and the structure of FDI is biased towards services. Manufacturing industries – which are usually more capital intensive and require thus a higher commitment from investors – are yet underrepresented and agriculture almost completely failed to attract FDI (Giucci, 2012).

The sectorial structure of the foreign direct investment holdings suggests a bias of investors towards the services sector. Agriculture has been widely shunned by foreign investors. Given the sector's contribution to the economy and potential of the industry as a driver of future growth and exports, identifying what inhibits foreign investments here is important. According to the data provided by the National Bank of the Republic of Moldova the share of FDI attracted in the sector of "Agriculture, hunting and forestry" in the year 2012, was of only 1,4% of total FDI, amounting far less comparing with other sectors of the national economy.

Moldova is likely to discourage two important groups of investors – small and medium sized companies from agri-food sector. The structure of FDI in Moldova has a significant bias towards large agri-food companies and towards investments by already established companies. Thus, among the most important destinations of FDI in agri-food sector one can mention such companies as Efes Vitanta Moldova Brewery, Südzucker Moldova and Tutun-CTC.

As an opportunity for investment in small and medium sized companies from agri-food sector can be seen remittances coming from abroad. However, remittances are too limited in scale and too fragmented to remove more general development constraints of this sector. Furthermore, unattractive economic and political conditions might prevent migrants from investing.

Nevertheless, in different rural areas, predominantly in suburbs have appeared an impressive number of small and medium scale food business operators dealing with a wide range of food products starting with meat, fish and dairy processing and ending with cool fruit and vegetable storage and processing. As a rule the majority of interviewed owners of food enterprises represent new companies created on the basis of own financial savings. Often these companies have used bank credits and remittances as starting capital for their businesses. Despite of the lack of supportive food legislation several food processing companies have developed a successful export of their products to EU countries. However the large majority of small scale food processing companies are oriented towards local markets.

In order to meet economic, environmental and social challenges which are currently facing the agri-food and rural development sectors the Ministry of Agriculture and Food Industry with a large participation of representatives of civil society and academic institutions has elaborated the National Strategy for Agricultural and Rural Development of the Republic of Moldova for 2014–2020, that later was approved by the Government of the Republic of Moldova.

It provides modern agricultural policies that deal not only with food production, but also with many other objectives. Thus, it covers environmental issues and also has strong links with development of rural areas, so having a strong social and environmental role besides economics.

3. Conclusions

1. The agricultural sector in the Republic of Moldova is based predominantly on the extensive farming and is insufficiently adapted to market economy conditions.

2. The major part of the agricultural land is cultivated by large agricultural farms with more than 100 ha of land, that are specialized mainly on cereal and technical crops production oriented towards export markets. Another important share of agricultural land is cultivated by households and small farms with less than 10 ha of land, that supply a significant part of the production of corn, potatoes, vegetables, fruits and grapes for the local market.

3. The multidimensional role of small farming for rural areas in the Republic of Moldova is demonstrated by active involvement in different non-agricultural activities that are oriented towards the adding value to the agricultural raw material, but also to related services such as trade, transport and agro-tourism.

4. The structure of FDI in Moldova has a significant bias towards large agri-food companies and investments by already established companies. Remittances coming from abroad can be seen as an opportunity for investment in small and medium sized companies despite of their limited scale.

5. A wide range of local agro-food systems that integrate both large and small scale agricultural farms occurred in the Republic of Moldova. These systems range from simple local food suppliers to more export oriented food industries offering a viable solution for organization of the value chains in rural areas. Specific government policies are needed to scale up local agro-food systems.

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MOLDOVOS RESPUBLIKOS SMULKIŲ IR STAMBIŲ ŪKIŲ TENDENCIJOS IR PERSPEKTYVOS

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Santrauka

Pastaraisiais metais Moldovos Respublika įgyvendino eilę reformų, kuriomis siekiama didinti žemės ūkio gamybos efektyvumą. Šio tyrimo pagrindinis tikslas – pristatyti Moldovos Respublikos žemės ūkyje egzistuojančių smulkių ir stambių ūkių skirtumus, išryškinant stambaus ūkio pranašumus ir trūkumus bei atskleisti smulkaus ūkio daugiafunkcinį vaidmenį kaimo vietovėms. Šiame straipsnyje analizuojami skirtingi kiekybiniai ir kokybiniai duomenys iš įvairių pastarųjų dešimties metų laikotarpio tyrimų, vertinami visuotinio žemės ūkio surašymo ir kiti statistiniai duomenys. Šio tyrimo pagrindiniai laukiami rezultatai – pasiūlymai, koku būdu žemės ūkis galėtų prisidėti prie gyvybingesnių Moldovos Respublikos kaimo bendruomenių plėtros.

Raktiniai žodžiai: žemės ūkis, plėtra, stambūs ūkiai, smulkūs ūkiai, modernizavimas.

JEL kodai: O13, Q15, Q18.