

# The Scale of Farms and Development Perspectives in Georgia

M. Chavleishvili, E. Kharashvili, G. Erkomaishvili

**Abstract**—The article presents the development trends of farms, estimates on the optimal scope of farming, as well as the experience of local and foreign countries in this area. As well, the advantages of small and large farms are discussed; herewith, the scales of farms are compared to the local reality. The study analyzes the results of farm operations and the possibilities of diversification of farms. The indicators of an effective use of land resources and land fragmentation are measured; also, a comparative analysis with other countries is presented, in particular, the measurements of agricultural lands for farming, as well as the indicators of population ensuring. The conducted research shows that most of the farms in Georgia are small and their development is at the initial stage, which outlines that the country has a high resource potential to increase the scale of the farming industry and its full integration into market relations. On the basis of the obtained results, according to the research on the scale of farming in Georgia and the identification of hampering factors of farming development, the conclusions are presented and the relevant recommendations are suggested.

**Keywords**—Farm cooperatives, farms, farm scale, land fragmentation, small and large farms.

## I. INTRODUCTION

EFFECTIVE functioning of farms is very important for the successful development of agriculture. Georgia is a country with a small land area; its geographical location, mountainous landscape, and fragmentation of land areas creates some difficulties for the development of agriculture. Therefore, development of farms in different regions requires differentiated approaches. Accordingly, the scale of farms is different.

Global development provides the necessity to focus on intensive fields in rural areas. Effective functioning of the agricultural sector requires investments, financial support from the government, and improvement of infrastructure, etc. Agriculture is becoming less accessible in the country, where land is divided into unprofitable, small land parcels (farms). Small farmers are threatened by rising security standards of the market and it is difficult for them to enter markets. However, many scholars or experts believe that development of agriculture depends on the successful development of small farmers.

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Assessment of the scale of farm production is important from the point of cost-benefit analysis. Naturally, application of technical and technological means increases the possibility of expanding the scale of production and reduces the cost per product unit; on the other hand, this fact makes the efficiency of functioning of small farms doubtful. However, in contrast to this view, an opposite tendency is observed in small land countries in order to avoid ownership of large areas of land by individual farmers [13].

Liberalization and globalization of trade poses serious problems to farmers. It casts doubt on the concentration, integration, transformation and international competition of small farmers. In these terms, the interests of investors are related to risks; thus, the farmers, who face problems with selling their products and have low level of infrastructure, and have fewer perspectives. Therefore, the opinion that investments should be made in large, market-oriented farms is not groundless. Many researchers share above-mentioned opinion, namely, they think that the country should not build up its agrarian policy just for "saving small-sized farms", although it is also necessary to think about increasing farm's sizes [14].

The scholars who advocate small farms provide such arguments as flexibility of small farms with respect to transaction costs. They argue that the efficiency of small farms is not lower than the efficiency of large farms, which is due to low cost of workforce and externalities [11]. Production of small farms is more effective, but food safety and quality problems, which are very painful for the market, significantly affect the development of small farms [15].

Nowadays, researchers often discuss the advantages of small and large farms. If we do not analyze the opinions of individual experts, most of the researchers will not be able to substantiate the strategic importance of large farms in Georgia. However, it cannot be argued that development of small farms can be a panacea for the development of agriculture without integration of farms and consolidation of value in a single chain [11]. Development of agriculture is possible only in the case of development of other related fields. Historically, the workforce from agriculture has been moving to industry, which is a producer of food products and one of the major areas of employment. It reduces the dependence of the country on imports; in addition, it depends on the development of large farms, as well as on the efficiency of small entrepreneurs.

Formation of farms in Georgia has already begun, and taking the local reality into consideration, the country should use the experience of the world's leading countries in this direction. The objective of the research is to determine the

optimal size of farms, analyze outcomes of functioning of farms and possibilities for farm diversification in Georgia and develop some recommendations based on the results obtained.

## II. METHODOLOGY

Both general and specific research methods are used in the paper, in particular: economic analysis, synthesis, induction and deduction, scientific abstraction, comparative and statistical (selection, grouping, observation, etc.) methods. Expert assessment was also carried out. Comparative analysis between analytical and statistical data was made. The paper applies desk research method - secondary data were collected and analyzed. In order to identify the patterns between the estimates, the publications of the National Statistics Office of Georgia, Ministry of Agriculture of Georgia, Georgian Farmers Association, Georgian Farmers Association and international organizations are applied.

## III. DISCUSSION

Farm is an agricultural enterprise, which is characterized by size and sustainability, is focused on the market and quickly reacts to any trends of the market. Small farms gradually gain commercial importance on the way of market development. Low technology in agriculture reduces labor productivity and other economic indicators; therefore, the competitiveness of products is low. The research revealed following important challenges for ensuring food security: development of farming and land market, increase in investments targeting agricultural sector, improvement of relevant infrastructure, regulation of prices on agricultural food products, development of value chain, political support of agricultural sector in general [8].

The issue is particularly pressing in Georgia. According to the data of 2015, 52% of the population is employed in agriculture. Agriculture, forestry, hunting and fishing accounted for 9.3% of the GDP [12]. Agriculture produces about 16.7% of products. In agriculture, large enterprises produce 69.3% of the product; medium enterprises produce 15.3% and small enterprises - 15.3%. In agriculture, large private enterprises produce 0.87% of the total goods produced in the country; medium enterprises produce - 1.85% and small enterprises produce 1.72% [9].

According to the 2016 census, there is about 800 thousand hectares of agricultural land in Georgia, out of which 240 thousand hectares is cropped area [12]. In 2016, it reduced by 22% compared to 2015. The area of unused land is large. In these terms, effective use of land as production factor is very important, which (to some extent) is ensured by economies of scale.

The small size of land areas in Georgia provides little opportunity for market oriented production. The share of small land parcels in the total stock of land in Georgia is high. The study of land fragmentation indicator shows that fragmentation of the land areas with perennial and annual plants is almost identical. The average area of the absolute majority of one land parcel is less than 5 hectares, and this applies to meadows and pastures as well [10, p.5-6]. Thus,

possibilities of the efficient use of land resources are still unused in this regard, which hinders the development of agribusiness.

In the modern market environment, countries resolve their problems in different ways; in addition, property relations, farm management, its scale, rent value and forms are experiencing substantial changes. These issues are increasingly becoming a subject of public discussion. In this regard, the study of the size of farms, as well as comparative analysis of the situation in Georgia and in foreign countries is very interesting.

According to the European Union's statistical service (EUROSTAT), the average size of a farm in the EU countries is 17.4 hectares and the number of workers employed in the agricultural sector is 5%. The average size of farmland used by one farmer in Georgia is 1.5-2 hectares and the number of people employed in the agricultural sector is over 50%, while the corresponding figure in the US and Germany does not exceed 2-3%. One farm provides food for 51 people on average in the EU countries, 126 people in the US and 144 people in Germany [1, p. 36]. As for Georgia, the majority of farms mainly focus on the satisfaction of farms or families [7, p. 1376-1379].

The analysis of the land parcels owned by farmers grouped by size shows that [1, p. 36], in developed countries very few farmers own land parcels sized between 1 hectare and 5 hectares; in particular, 31.2% in Germany, 56.4% in the countries of the European Union, 98.4% in Georgia; land parcels sized between 5 hectares to 50 hectares is owned by 60.4% of farmers in the US, 55.7% in Germany, 35.1% in the countries of the European Union and 1.5-2% in Georgia; 39.6% of farmers in the US own land parcels over 50 hectares, corresponding figure in Germany is 12.6%, in the EU countries - 7.9% on average and in Georgia - 0.14% (see Fig. 1). Only 5% of farmers own land up to 100 hectares in Georgia and they mainly focus on the market [5, p. 102].

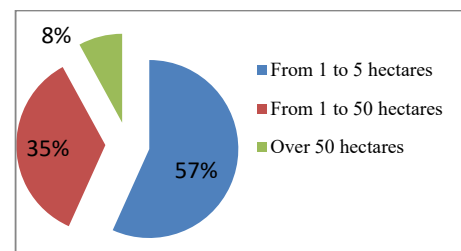


Fig. 1 Land use by farmers in Georgia (2016, %)

The analysis shows that development of farms is at the initial stage in Georgia and they are not fully engaged in market relations. The statistics show that in Georgia, most of the farms are small, and therefore, their further development should focus on cooperation and enlargement of farms. It should be based on the development of the land market, intensification of production and introduction of scientific and technical progress.

By determining the optimal scale of farms in Georgia,

farmers will be able to get into the sectors, with which they do not have any direct production or functional ties. The expansion of products and proposed services will result in the spread of their activities to new areas. Increasing the scale of farms will lead to improving the self-sufficiency rate for agricultural products and provide a solid basis for entering international markets. In addition, it will play an important role in stimulating the development of rural areas [6]. The program of preferential loans is very important for supporting the development of agriculture. In 2012, the government initiated establishment of the Rural and Agricultural Development Fund. The Fund planned implementation of Small Land Owner Farmers Supporting Project and Preferential Agro-loan Project. The Fund aims at supporting development of agriculture [4].

Based on expert analysis, enlargement of existing farms will lead to the reduction of their number six times. Naturally, this amount is general. Taking into consideration the country's natural and climatic conditions, final determination of this amount requires additional analysis with the active participation of the specialists and scientists of the relevant fields.

As we have already mentioned, on average, 98.4% of the farms (about 64860 farms) in Georgia are estimated to own land between 1 hectare and 5 hectares. Thus, their number should reduce 11 times. The number of farmers owning land over 50 hectares might increase to 7.9% [1, p. 38]. Enlargement of farms is important in the regions, where over 80% of the country's arable land and perennials are concentrated.

For improving the situation in agriculture and achieving the food security of the country, it is very important to determine properly organizational and legal forms in rural areas. Enterprises of different forms of ownership operate in rural areas in Georgia. As of June 1, 2016, 638,555 enterprises are registered, with 98.4% of these enterprises in private ownership, and 46.6% of the enterprises are located in Tbilisi, the capital of the country. There are 5542 enterprises in agriculture, hunting and forestry, which is 0.99% of the total enterprises [9]. Agricultural enterprises in Georgia have different organizational and legal status. Many of them are actually farms but they do not have the relevant legal status. The issue is also important from the point that in the leading countries, where farms are legally registered and functioning, they get certain preferences from the state.

The reforms being implemented in the country in recent years have provided some results. In fact, agricultural farms have developed in regions of the country, but sometimes they cannot show the potential opportunities. However, it is important that the class of private entrepreneurs has been established in rural areas, and cooperation was achieved based on various organizational and legal forms and new farming structures are created. Nowadays, it is important to determine their optimal size.

According to the types of farms, different size is considered to be optimal for agricultural enterprises. For example, 200-250 hectares of land for crop producing farms, 20-25 hectares

for fruit producing farms; 30-35 hectares for tea growing; pig farms with 10-15 sows should own at least 15 hectares of arable land to produce the needed food, while 50 hectares of arable land is suitable for cattle farms (with 45-50 cows) [1, p. 41-42].

Effective use of land still remains a great problem in Georgia. Due to the country's mountainous terrain, significant parts of land are fragmented, which creates some difficulties with regard to its usage. According to the current statistics, there are 700,000 agricultural parcels of land in Georgia, 99% of them are classified as family farms. Small private farms are dominant. In particular, 93% of farmers own less than 2 hectares of land. As the statistics shows, currently, most products are produced on family farms; 97.3% of cropped land belongs to family farms and they account for 93% of total production. Naturally, the small scale of farms in Georgia significantly increases the price of agricultural products, hinders investments and the introduction of new technologies.

Development of successful farms requires the provision of agro-services and material and technical support, improvement of infrastructure and solving of other important issues. It is important to establish agricultural equipment renting services, as well as to determine specialization of production for farms properly. Diversification and cooperation between sectors are also major issues. Farmers should focus on producing economically efficient products.

Currently, most of the farmlands in Georgia are small, which hinders delivery of products to the market. For increasing the scale of production, it is necessary to implement the economic policy, which supports development of agricultural sector and especially development of farm cooperatives. This will lead to focusing on the market with united forces, which is very important for maintaining sustainability on the market.

By determining the optimal scale of farms in Georgia, farmers will be able to get into sectors, with which they do not have any direct production or functional ties. Increasing the scale of farms will lead to improving the self-sufficiency rate for agricultural products and provide a solid basis for entering international markets. In addition, it will play an important role in stimulating the development of rural areas [6].

Based on the study of the formation of sector structure in agriculture and the ways for improving this structure, it is concluded that the reforms implemented at an early stage had a negative impact on the socialization of agricultural production. These negative trends hindered the development of various organizational and legal forms in rural areas. As a result, existing agricultural farms mainly belong to the crops, vegetables or livestock producing farms. The production process in farms is carried out under weak management, as entrepreneurs suffer from the lack of knowledge and information necessary for the business; as well, they do not have complete information on the institutions that provide loans, grants, etc. For this purpose, it is necessary to establish a united service for managing the agrarian sector in a coordinated way. Based on the above-mentioned, we can conclude that in case the existing economic, material and

financial resources are properly used, the Georgian agricultural sector can achieve economic recovery in future.

Proceeding from the current situation in Georgia, from the expert analysis and the recommendations issued by the European Union, one of the important decisions is to create conditions for the development of farming. For this purpose, Law of Georgia on Agricultural Cooperatives (2013) were adopted. Creation of cooperatives will encourage enlargement of agricultural business. Preferences provided by the government for farm cooperatives are very important. In particular, the property of the farmers involved in the cooperative will be exempt from property tax until January 1, 2017; in addition, income from agricultural activities will not be subject to profit tax. If a cooperative receives a grant, these financial resources will not be taxed [3, p. 548]. The intensive process of creating agricultural cooperatives in Georgia has started. At present, 1600 agricultural cooperatives have been created. For Georgia, where more than half of the population is self-employed in agriculture, modernization of this field is of special importance [2].

Funding of 40 million Euros has been allocated for Georgia in the framework of the European Neighborhood Program for Agriculture and Rural Development (ENPARD) 2013-2016. Of this, 18 million Euros is provided as a budget support for the government of Georgia, 15 million Euros is issued as grants for creating the organizations oriented on small farm business and 3 million is the EU's participation in the development of agricultural sector in the Ajara region through the joint management with the UNDP.

The ENPARD program determines the agricultural strategy of Georgia, which includes achieving the following main objectives [16]: stronger cooperation between small entrepreneurs; providing more accessible service to farmers; regulating and improvement of geographical names; better functioning of institutions engaged in agriculture.

The goal of the agricultural policy implemented in 2013-2015 and on the current stage within the frames of the agricultural program is to encourage those farmers who own small land parcels. The aim of the program was to revitalize Georgian villages, increase the number of cultivated parcels and increase production in the agricultural sector.

#### IV. CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis and study of the size of farms, the following main conclusions and recommendations have been identified:

- Functioning of farms should become a strategic direction of the development of the sector. Therefore, for countries with small land area, it provides a possibility for the rational use of land and labor, when the labor of the family members can be effectively be used together with the hired labor;
- Increasing the scale of farms will lead to improving the self-sufficiency rate for agricultural products and provide a solid basis for entering international markets. In addition, it will play an important role in stimulating development of rural areas;
- For increasing production of agricultural farms, implementation of the relevant supporting economic policy is essential. The government should help the development of farm cooperatives, as well as the implementation of local and international programs in agriculture, etc. This process will facilitate the expansion of farmers' activities and development of market-oriented farms;
- Development of successful farms requires provision of agro-services and material and technical support, improvement of infrastructure and solving of other important issues. In addition, proper determination of specialization of production for farms, diversification and cooperation between sectors are also major issues. Farmers should focus on producing economically efficient products;
- Fragmentation of land negatively affects the efficiency of production. The formation of a land market can play a significant role in the settlement of the issue of fragmentation and the increase in the scale of farms;
- Further development of the sector should focus on cooperation and enlargement of farms. It should be based on the development of the land market, intensification of production and introduction of scientific and technical progress. In addition, proceeding from the specificity of the country, small farms should be maintained and developed to a certain extent.

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