


THE ROLE OF COOPERATIVES IN THE PROCESS OF DEVELOPMENT OF AGRICULTURE AND INTEGRATION INTO TRADE AREA OF THE EUROPEAN UNION CASE OF GEORGIA

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Abstract. In terms of agricultural development, Georgia, taking into account its biodiversity and soil and climatic conditions, is a country with significant potential in the Caucasus region. Despite the mentioned natural advantages, Georgia's agriculture has been facing significant challenges, in particular local production is underdeveloped, food safety is not protected and the food self-sufficiency ratio is low.

In the context of agricultural development support programs, legislative regulation of cooperative activities and an association agreement signed with the European Union, the development and revival of agriculture was expected, which should have been a prerequisite for the possibility of opening the European Union market for Georgian agricultural products; however, in the context of land fragmentation, it's still not possible to stimulate the production and export of agricultural products.

The aim of the article is to assess the role of cooperatives in the process of development of agriculture and integration into the trade area of the European Union.

The main reason for the failure of ongoing reforms in the field of agriculture is its inconsistency and imperfect laws, which leads to the inability of individual state programs to support agricultural value chain.

Thus, in order to ensure the success of the reform, it is necessary to stimulate cooperatives using systematic and integrated approaches, which means, first of all, increasing the access of cooperatives to land, providing training services, technological, marketing support, providing preferences in public procurement, ensuring compliance with the conditions of product standardization and continuity of supply to enter the EU market.

Key words: agriculture, cooperatives, development of agriculture.

JEL code: Q15, P13

Introduction

In order to ensure food security in Georgia and increase the export of agro-food products, it's important effectively use the potential of agricultural development, which is impossible without the union of material, labor, and intellectual resources of business entities in the mentioned field and state support. In order to support the development of agriculture and agricultural cooperatives, the Law "On Agricultural Cooperatives" was adopted. State programs supporting cooperatives were also approved; however, it was found that the majority of cooperatives, including those supported by state funding, have lost their status and the vast majority of cooperatives listed in the register are not economically active. This shows that the reform was not consistent, it failed to ensure cooperation in the field of agriculture and accordingly to promote development.

In the research process, the following hypothesis is put forward: the existence of programs supporting agricultural cooperatives and tax privileges for them doesn't uniquely determine their development and increase in the production of agricultural products.

The aim of the article is to assess the role of cooperatives in the process of development of agriculture and integration into the trade area of the European Union.

The tasks are formulated as follows:

- analysis and evaluation of the reform after the adoption of the Law on Agricultural Cooperatives;
- determination of the impact of state financing of agricultural cooperatives on their incomes and the number of employees;

- determination of the role of agricultural cooperatives in the export of agro-food products;
- determination of the correlation between income, assets and employees in different groups of cooperatives;
- determination of the correlation between the plots of land owned by cooperatives with an active status and their exports;
- to investigate if total output of agribusiness products has a significant impact on amount of exported products to the European Union;
- development of proposals to overcome existing challenges.

The following methods are used in the research process: review of scientific literature, statistical and comparative analysis, correlation-regression analysis.

Novelty and topicality of the research: state support programs and law regulations for agricultural cooperatives are not result-oriented, accordingly they failed to ensure significant increase in the export of agro-food products to the EU markets.

The main problematic questions of the research are as follows.

- 1) What was the main reason for the failure of the reform?
- 2) What are the recommended ways to correct the current situation?

The following information sources were used in the research process: scientific articles, official information published by the National Statistical Service of Georgia, reports of the Ministry of Environment Protection and Agriculture of Georgia, information provided by the Rural Development Agency, Revenue Service and Service for Accounting, Reporting and Auditing Supervision, Legislative and sub-legal normative acts of Georgia about agricultural cooperatives.

Research results and discussion

Agriculture is considered one of the strategic sectors in Georgia, however, its potential is not properly utilized, due to which the country cannot meet its own needs for wheat, corn, vegetables, meat, milk and milk products, accordingly, food imports have been increasing recently, which are approximately three times higher than exports (Agriculture and Food..., 2014-2021). Exports are dominated by: wine, non-alcoholic drinks, mineral waters and fruits, and in imports - wheat, bread flour, sugar, meat, fish, condensed milk, milk powder, vegetable oil and vegetables. In this situation, it is noteworthy that the country has both the natural-climatic conditions and the resources to completely replace the largest part of the imported product and increase the export.

In Georgia, agriculture is represented by 40% of the population, and 43.4% of the total area of the country's territory is occupied by agricultural fields and amounts to 3 million 30 thousand hectares (Georgia Agriculture and..., 2019). From this, according to the 2014 agricultural census, about a quarter (787.7 thousand hectares) is privatized, i.e. owned by farms. Among them 86.5% (681.1 thousand hectares) are used by households and 13.5% (106.6 thousand hectares) by legal entities (Agricultural Census 2014). Agricultural census has not been conducted in Georgia since 2014, although the reform of agricultural land in Georgia started in 1992, but it is still unfinished. On 1 August 2016, the State Program of Land Registration was divided into two stages. Stage 1, comprising sporadic registration of land titles based on the citizens' applications. Systemic registration included in Stage 2 envisages the registration of land plots based on the systemically collected and processed data (Verulidze V., 2022). The reform has been extended and it is planned to be completed by 2024.

Despite significant advances in property registration systems and simplification of procedures, 28 percent of land nationwide, predominantly agricultural, is yet to be registered. Weak rural land markets create endogenous limitations to both growth and entry (AGRICULTURE, WATER, AND..., 2022).

Small and medium-sized farms find it difficult to compete with the competition (large farms), so the only solution is to join forces (Dumitru E. A. et al., 2022). In Georgia, it's necessary to unite forces not only to overcome competition, but also because, it's impossible increase the production of agricultural products without the encouragement and motivation of the cooperation of farmers engaged in small land and natural farming (which involves the pooling of labor resources and assets). As experience shows, Agricultural Cooperatives (ACs) have empowered farmers to develop resources sustainably. They transfer traditional subsistence agriculture to diversify crops and develop a value chain (Chhinh N. et al., 2022).

Agricultural land in Georgia is characterized by highly fragmented, small-scale plots in private ownership (36 percent of all agricultural registered land) and agricultural plots of larger sizes in State ownership and management (64 percent of all registered agricultural land). The average agricultural land area operated by an agricultural holding is 1.37 hectares. Most of the agricultural holdings are small-scale family farms under 1.37 hectares, which is the country's average (AGRICULTURE, WATER, AND..., 2022).

In order to stimulate the development of agriculture, the Law "On Agricultural Cooperatives" was adopted in Georgia in 2013, the main purpose of its adoption was to promote the development and revival of agriculture in the country, which should have become the most important factor both in terms of ensuring food security and employment of the population living in rural areas. The introduction of the law should also be facilitated in order to harmonize it with the legislation of the European Union, in the conditions of divided agricultural land plots, for the expansion and development of the entities employed in the field of weakened Georgian agriculture, which should have become an opportunity to increase the export of Georgian agricultural products to the European Union market.

The aforementioned law together with the legal issues of the functioning of the agricultural cooperative determined the state supporting measures, including: development and implementation of projects and programs for the development of agricultural cooperatives, provision of the possibility of receiving preferential credit resources and grants, training of personnel, promotion of qualification improvement of the heads of cooperatives, etc. In addition, agricultural cooperatives were also given tax benefits in accordance with Tax Code of Georgia, namely, until 1 January 2026, they are exempted from profit tax and property tax.

In order to promote the development of agricultural cooperatives, the state programs were approved by the Ordinance of the Government of Georgia in 2015-2022, which provides co-financing for the purchase of machinery for grape processing, beekeeping equipment, tractors, raw milk processing enterprises, new, dry and refrigerating storage enterprises main means.

The state support programs, on the one hand, provided for co-financing in the part of providing agricultural cooperatives with fixed assets, but it was not determined how the state would support the sale of manufactured products, including export, except for the benefits established by the tax code, which also did not have a stimulating effect. During the research process, it became clear that only the provision of the material and technical base, without the support of the appropriate technological processes, cannot ensure the high quality of the manufactured products and accordingly compliance with the standards for entering and establishing the EU market.

Based on the analysis of the state programs for the development of cooperatives, the inconsistency and inefficiency of the co-financing process was revealed, which is confirmed by the following circumstances.

1) Within the framework of the "State Program for the Rational Use of Mowing and Pastures in the Mountainous Regions", a milk processing plant equipped with advanced technological equipment was built in the village of Shuafkho, Dusheti Municipality, which was supposed to receive milk from the population of the villages of Aksapshavi, Barisakho and Magharoskar, but unfortunately the enterprise was not put into operation, and in the municipalities of Tsalki, Dmanis and Akhalkalaki, where there is a real potential to increase the incomes of the population involved in the cooperative process through livestock development, the construction of milk processing enterprises was not started at all (Koghuashvili P., 2022).

2) Part of the farmers benefited from co-financing only in 2017-2019, with that, within the framework of state programs supporting agricultural cooperatives, 3 372 964 EUR of financing was granted to a total of 130 cooperatives for the purchase of various equipment, 47 of them or 36.15% (whose total amount of financing in the same years was 251 669 EUR) today it no longer has the status of an agricultural cooperative.

3) The Law "On Agricultural Cooperatives" was adopted in 2013, and the "State Program for the Rational Use of Mowing and Pastures in the Mountainous Regions" was approved only after four years in 2017, the purpose of which was to help the selection of agricultural land for leasing to cooperatives.

As of 26 February 2023, according to the data of the Rural Development Agency, a total of 644 cooperatives are included in the register of agricultural cooperatives. According to the data of the search system of economic entities of the National Statistics Service of Georgia, only 91 cooperatives are engaged in agricultural activities as active economic entities, of which 21 are not included in the register of agricultural cooperatives. Based on the information requested from the accounting, reporting and audit supervision service, active economic subjects were grouped, presented in the form of tables and used for correlation-regression analysis. In addition, only 12 of the 21 cooperatives non-included in the register of agricultural cooperatives have submitted financial statements for 2021, 42 of the 70 included in the register, and only 21 of the cooperatives financed by state programs in 2017-2019.

Based on the presented data (Table 1, 2, 3) all of cooperatives we separated in 3 groups: 1 group, which are registered in the register of agricultural cooperatives, 2 group which aren't registered and 3 group, which are financed by government. We want to know has a significant influence or not cooperative's difference status on main indicators, such as INCOME, ASSETS and NUMBER OF EMPLOYEES. To analyze the cooperative's data, we used the correlation analysis within the groups and regression analysis by the ANOVA method. The results of the correlation analyses are presented in the table 4, where indexed (1, 2, 3) values of Income, Assets and Employees denotes their values for three groups of cooperatives respectively.

Table 1

2021 data of agricultural cooperatives with an active economic status, which are not included in the register of agricultural cooperatives

N	Cooperatives	Income (EUR)	Assets (EUR)	Employees
1	A	47620.62	78422.97	1
2	B	2036.55	3061.09	3
3	C	0	0	0
4	D	99404.17	408959.26	7
5	E	13580.9	10520.88	6
6	F	1810.96	2556.13	0
7	G	6832.63	34520.1	4
8	H	35848.56	243177.28	5
9	I	0	442927.93	0
10	J	0	40831.07	1
11	K	20081.98	31509.39	3
12	L	1675.19	0	1

Source: author's calculations based on data provided by the Service for Accounting, Reporting and Audit Supervision

Table 2

2021 data of active economic status agricultural cooperatives included in the register of cooperatives

N	Cooperatives	Income (EUR)	Assets (EUR)	Employees	N	Cooperatives	Income (EUR)	Assets (EUR)	Employees
1	A	127352.48	1276343.9	15	23	W	0	253036.81	2
2-3-4	B, C, D	0	0	0	24	X	0	35856.39	1
5	E	62771.01	445534.2	2	25	Y	207791.12	36137.33	6
6	F	7223.75	122965.79	1	26	Z	16101.82	304833.68	6
7	G	0	65577.02	3	27	AA	0	0	2
8	H	0	209447.25	2	28	CC	0	1005.22	0
9	I	0	5500.78	0	29	DD	130548.3	184422.19	5
10	J	908.61	17498.43	3	30	EE	8390.07	38499.47	0
11	K	783.28	117063.96	4	31	FF	66415.14	202704.43	1
12	L	109288.51	169707.04	6	32	GG	6024.8	103683.81	0
13	M	0	123742.81	2	33	HH	5688.51	4877.28	4
14	N	0	18163.18	0	34	II	9161.35	178806.52	2
15	O	55391.9	42355.09	5	35	JJ	681.46	358039.94	5
16	P	8532.63	20965.27	1	36	KK	24378.06	82098.69	5
17	Q	0	78792.16	2	37	LL	316904.96	267824.02	7
18	R	218850.65	182767.62	4	38	MM	44193.73	42725.84	12
19	S	0	65426.89	4	39	NN	816023.23	924631.85	2
20	T	73495.82	221591.9	5	40	OO	6527.41	11749.34	0
21	U	51525.84	197521.93	0	41	PP	0	360436.03	4
22	V	5613.57	66109.92	1	42	QQ	0	69713.05	0

Source: author's calculations based on data from the Service for Accounting, Reporting and Audit Supervision

Table 3

2021 data of agricultural cooperatives financed within the framework of state programs in 2017-2019

N	Cooperatives	Amount of financing (EUR)	Year of financing	Income (EUR)	Assets (EUR)	Employees
1	A	5400	2017	0	5731.59	0
2	B	139805.65	2017	97061.61	399796.34	3
3	C	159127.09	2018	0	182512.53	0
4	D	159127.09	2018	66625.06	244985.11	3
5	E	157123.74	2018	335286.42	352316.71	1
6	F	159113.71	2018	2721.67	544360.31	8
7	G	157123.74	2018	23036.55	166372.32	20
8	H	159113.71	2018	0	177069.45	2
9	I	157123.74	2018	49273.62	34773.62	3
10	J	157123.74	2018	0	764643.86	1
11	K	139805.65	2017	6527.41	11749.34	0
12	L	931.8	2017	0	123742.81	2
13	M	931.8	2017	63728.45	93848.04	5
14	N	931.8	2017	25501.04	61443.34	5
15	O	34701.76	2017	0	118818.27	1
16	P	34701.76	2017	64748.3	108463.18	6
17	Q	56586.92	2017	87201.3	139403.13	8
18	R	40893.99	2017	0	16845.95	1
19	S	40893.99	2017	0	0	2
20	T	40893.99	2017	0	58348.3	5
21	U	38705.68	2018-2019	0	0	0

Source: author's calculations based on data provided by the Service for Accounting, Reporting and Audit Supervision and from <http://cooperatives.rda.gov.ge/registry>.

Table 4

Coefficients of correlation

Pairs	Coefficient of Correlation	Strength and direction of a relationship	Pairs	Coefficient of Correlation	Strength and direction of a relationship
Income1-Assets1	0.55	Moderate positive	Income1-employees1	0.63	Moderate positive
Income2-Assets2	0.57	Moderate positive	Income2-employees2	0.22	Weak positive
Income3-Assets3	0.22	Weak positive	Income3-employees3	0.002	Weak positive

Source: calculated by authors in SPSS

We calculated the coefficients of correlation between amount of financing and main indicators for third group of cooperatives.

Table 5

Coefficients of correlations for sponsored cooperatives

Pairs	Coefficient of Correlation	Strength and direction of a relationship
financing- Income3	0.25	Weak positive
financing- Assets3	0.57	Moderate positive
financing- Employees3	0.13	Weak positive

Source: estimated by the author in SPSS

According to the results of correlation analyses, we can conclude the following.

- Financing doesn't impact on income and number of employees, rather it is more directed on purchase of assets and not on production. Therefore, quite a large number of cooperatives have assets, but no income, because they do not carry out economic activities.
- For registered and non-registered cooperatives income and assets are moderately correlated, which means that the assets are partly directed on producing process. Therefore, the motivation to be included in the register of agricultural cooperatives is weak for cooperatives which do not have this status.

We have also presented information on the area of agricultural land declared by cooperatives implementing agricultural activities with an active economic status and exports (Table 6), as well as on the total output of agribusiness products, exports of agro-food products, including exports to the European Union (in percentage) (Table 7).

Table 6

Aggregate indicators of 91 cooperatives with active economic status

Year	Declared agricultural land (Hectare)	Declared value of exported goods (EUR)
2017	490.78	2107.68
2018	1386.84	1090.92
2019	2370.50	29609.57
2020	2392.36	119366.43
2021	1011.44	63851.79

Source: author's calculations based on data provided by the Revenue Service

Table 7

Indicators of the agro sector

Year	Total output of agribusiness products (million EUR)	Export of agro-food products (million EUR)	Share of agricultural products exported to the EU (%)
2017	3033.21	690.02	15
2018	3279.26	817.38	15
2019	3351.74	795.87	15
2020	3327.32	825.24	17
2021	3466.92	960.589	16

Source: compiled by authors based on data from <https://mepa.gov.ge/Ge/Reports?page=2&pageSize=9>

For evaluating of international trade activities of agribusiness enterprises we estimated the following aspects.

- 1) The correlation between land areas owned by active cooperatives and exports (including export to the European Union), which indicates on moderately correlation (=0,55). It should be noted that the

share of agricultural product exports to the European Union increased insignificantly - from 15% to 17% in 2020-2021 compared to 2017-2019.

2) The simple linear regression model was used to investigate if total output of agribusiness products has a significant impact on amount of exported products to the European Union (Table 8).

Table 8

Results of regression analysis (for 2017-2021 years' data)

ANOVA						
Variables	Coeff.	Stand. Error	t-stat	p-value	R ²	Significance F
Intercept	-219.5	114.68	-1.91	0.152	0.75	0.056
Total_Product	0.105	0.03	3.03	0.056		

Source: estimated by the authors in SPSS

The estimated simple regression model with R²=0.75 is not statistically significant at the 5% level (p-value of F-statistics >0,05) with no statistically significant export factor (p-value of t-statistics > 0.05). The null hypothesis H₀: there is no significant impact of total output on export. So, we can conclude that the total output of agribusiness products does not fully affect the export of these products to the EU. This is explained by the fact that agricultural products do not meet the requirements of the European Union.

Thus, the linear regression model is expressed as:

$$y = 219.5 + 0.1 * x \quad (1)$$

where the dependent variable is Export and explanatory variable is Total Product.

The results clearly direct the positive affect, that every unit increase in the total output of agricultural products (by one million EUR) will leads to increase of their export to the European Union about by 105529 EUR.

Georgia turned out to be a country where some of the problems faced by agricultural cooperatives have been, among others, unclear and inadequate government policies on the development of agricultural cooperatives, high fragmentation of land holdings, and weak linkages among the activities of the cooperatives e.g., production, credit, marketing etc. (FAO. 2010; Chiyoge B. S., 2010).

According to the information provided by the Rural Development Agency, it is clear that the owners of agricultural cooperatives own about 8 thousand hectares of agricultural land, and cooperative activities involve up to 3500 hectares of land, including 1500 hectares of perennial crops. Therefore, more than half of the land owned by the cooperatives is not used as intended, which is a significant obstacle to the development of the sector. This is in the conditions when the said cooperatives own 0.26% of the country's total agricultural land, and 1.01% of the privatized agricultural land.

The introduction of the law on cooperatives, the implementation of relevant programs and tax privileges did not ensure the development of the cooperative and its proper place in the EU market. The share of products exported by cooperatives with an active economic status in the total export of agro-food products is insignificant (0.01%). Therefore, the role of agricultural cooperatives in the European integration process is virtually zero (does not exist). The total output of agribusiness products grows by only 3.45% on average in 2017-2021, which is insufficient even to meet domestic consumer demands (especially in the food sector), and thus the country remains import-dependent. Based on this, the role of agricultural cooperatives in the development of agriculture is insignificant. In addition, cooperatives do not fully use their agricultural land and agricultural equipment in their agricultural activities, which indicates the ineffectiveness of state programs. The failure of the reforms is confirmed by the draft submitted to the Parliament of Georgia on

the amendment of the Law of Georgia "On Agricultural Cooperatives", where the main reason for the change is the fact that the implemented reform was unsustainable and most of the cooperatives did not actually serve the purpose for which the relevant laws were created. Statistical information is provided as proof of this, according to which, from 2013 to November 2022, the status of agricultural cooperatives was terminated for 1605 out of 2274 cooperatives, or 70%.

Since the food value chain is an organized connection of groups of manufacturer, intermediaries, processors and suppliers of raw materials (services), it is appropriate to unite these groups in a consumer cooperative. Cooperatives can form larger cooperatives linking one to the other for the purpose of supply, distribution, and credit, for example, to capture economies of scale (Altman M., 2015).

It should be noted that Service cooperatives in many countries account for a large share of transactions, particularly in agriculture. For instance, agricultural marketing, processing, and supply cooperatives are major players in markets for farm products and farm inputs in North America, Western Europe, Japan, and South-East Asia (Lerman Z., 2014). Besides, an inadequate marketing facility by the state is another challenge to entering the national and international market (Dhungana J., 2022).

The analysis of the current situation reveals that the food value chain development in all spheres of agriculture (primary production, processing and storage infrastructure, marketing and sales) was the weakest link and it could not react to intense competition, so it can be said that Georgia does not have a unified and coherent vision of rural development at this stage. There is no state marketing. The effect of scale, state support, access to credits and subsidies in the case of cooperation is not properly understood by the farmers. This continuous process can be ensured only by using complex approaches and not by fragmented support, which is mainly aimed at creating a material-technical base.

Conclusions, proposals, recommendations

- 1) Financing cooperatives has no impact on income and number of employees, rather it is more directed on purchase of assets and not on production. That's why most of cooperatives have assets, but no income, and they are stopped their economic activities.
- 2) For registered and non-registered cooperatives income and assets are moderately correlated, which means that the assets are partly directed on producing process. Therefore, the motivation to be included in the register of agricultural cooperatives is weak for cooperatives which do not have this status.
- 3) The total output of agribusiness products does not fully affect the export of these products to the EU. This is explained by the fact that agricultural products do not meet the requirements of the European Union.
- 4) In the absence of a correct strategy and coherent vision for the development of agriculture, including agricultural cooperatives, cooperative co-financing programs, tax privileges or certain types of regulatory normative acts become ineffective.
- 5) The undeveloped food value chain, in all branches of agriculture creates an important barrier in the process of stimulating farmers' cooperation and integration into the European Union trade space, for the production of products of the appropriate standard and quality.
- 6) In order to promote the development of agricultural cooperatives, it is particularly important to complete the land registration process.
- 7) An organized connection of all links of the food value chain, manufacturers, intermediaries, processors and groups of raw material (service) suppliers can be achieved by uniting them in a consumer cooperative. It is necessary to stimulate this process from the state.

8) It is necessary to develop a state support policy for the sale of products produced by agricultural cooperatives in the domestic and foreign markets.

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