

LOCAL PRODUCER GROUPS IN ROMANIA: AN EUROPEAN CONTEXTUAL ANALYSIS

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Abstract

In the European Union, numerous small family farms are operated by over 11 million farmers, who often work independently. The highest concentration of small farms is in Romania. Due to this fragmentation, small agricultural producers can be disadvantaged in contracts with the processing and retail sectors, where there is a greater consolidation. To strengthen the negotiating power of small farms, the EU supports the formation of producer organizations (POs) and interprofessional organizations, allowing collaboration with other actors in the supply chain. This trend is currently most common in the fruit, vegetable, and dairy sectors. EU funding and support measures are available, but POs must meet strict criteria regarding membership numbers and production volume. At the local level, producer groups (LPGs) help supply markets and adapt agriculture to climate change. In this context, the aim of this paper is to analyse the territorial distribution and typology of local producer groups in Romania. The study relies on secondary data collected from European and national authorities, complemented by information from scientific databases. Statistical methods, including hierarchical clustering and Pearson correlation analysis, were applied to identify relevant territorial patterns. The results have shown that Romanian POs are concentrated in counties with well-developed agriculture and a tradition of cooperation, while their uneven distribution reflects economic, social, and cultural factors. Public policies tailored to regional needs can stimulate associations, supporting sustainable agricultural development and enhancing the competitiveness of Romanian products. The proposed analysis provides an overview of the territorial and sectoral distribution of producer groups, highlighting regional clusters useful for shaping future agricultural policies.

Key words: local groups, producers, agriculture, Romania

INTRODUCTION

Increasing the competitiveness of the agri-food sector is a priority for European authorities. Reducing the European Union (EU) market's dependence on certain imports of food/feed for animals/other inputs needed in agriculture can enhance the food security of the European area. At the European level, the creation of producer organizations (POs) and their associations (APOs) represents a priority, facilitated through various support measures. Forms of association can represent opportunities to optimize production costs for local farmers, means of collaboration in harvesting/storage/processing, or marketing of products.

The development of large food retail chains requires large batches of agricultural products (especially fruits and vegetables), and producer

association facilitates the delivery of such volumes, strengthening the collective bargaining power of local farmers. These negotiations also apply to agricultural inputs, and discounts for purchasing larger quantities of fertilizers, fuel, or plant protection treatments can be substantial.

EU recognizes the important role of these associative forms, with the possibility of legal registration/official recognition. This status offers these associative forms several advantages, such as exemption from certain competition regulations and easier access to European funds for collective investments, particularly in the fruit and vegetable sector. These associative organizations can adopt various legal forms, including agricultural cooperatives. The establishment of transnational producer associations is carried

out through the affiliation of members from two or more EU member states.

Official recognition is granted by the competent authority of the member state where the established organization has its main headquarters, provided that certain conditions are met regarding the existence of a significant number of members or a relevant volume of marketable production achieved within that state's territory [3].

According to the research conducted by Schin, Vîrlănuță, and Stanciu (2027), associative forms in agriculture can play an essential role both in the national and European economic context. The study highlights the importance of strengthening farmers' organizational capacity, considered a resilience tool against economic fluctuations and international competition. Agricultural association and cooperation can represent strategic advantages in accessing new markets, securing raw materials and resources, negotiating commercial contracts, or attracting European funding. In the Central and Eastern European countries, including Romania, the sustainable development of associative structures can be affected by legislative, economic, and cultural barriers. Unlike in Western Europe, where these forms of organization are well represented, in the eastern part of the continent they are present in a reduced or moderate proportion. Active support measures from public authorities, a predictable legislative framework, and the development of entrepreneurial and cooperative spirit among local farmers are needed [11].

The role and importance of producer associations is a subject of interest in the scientific literature. The bibliometric study conducted by Bhunia and Singh (2025) shows that there is a series of articles addressing this topic. The authors mention that association in the form of producer groups presents both the advantages of a cooperative structure (facilitating access to credit, training programs, enhanced negotiation capacity, technical facilities) and the dynamism and efficiency of private companies [1].

The role of producer associations in Czech agriculture is analysed by Lista (2012), who mentions that especially in organic production,

there is a higher appetite among farmers for associative forms. Compared to other activity sectors, the involvement of farmers in Local Action Groups is lower [5].

In the horticultural sector in Romania, producer association may be the only way to ensure production success, fair incomes for farmers correlated with the volume of labour performed, and significant added value for the national economy. To join an associative form, Romanian farmers must be convinced that association does not affect their property rights over land and that producer groups represent a chance to increase the sector's competitiveness on a free European market [6].

The analysis based on fuzzy-set Qualitative Comparative Analysis (fsQCA) can be used to evaluate the performance of agricultural cooperatives in Romania. The success of agricultural producer associations depends on the combined action of multiple factors. From this perspective, it is necessary to achieve a harmonization between the support provided by public institutions, the leadership capacity at the organizational level, and the social capital of the organizations [4].

The growth of associative forms in Romanian agriculture, particularly cooperatives, has been substantial in recent years, driven by favourable legislative frameworks and the availability of European funding opportunities. Despite these advantages, many producer groups still face issues of trust, internal governance deficiencies, low professionalism, or difficulties in marketing production. The potential for cooperative development in Romania is high but insufficiently exploited. A strategic and coherent approach is needed for the sustainable development of the national agri-food sector [7].

A qualitative survey, based on interviews, among agricultural producers in Călărași County, shows that their participation in associative forms can offer them significant advantages, related to negotiation capacity, optimization of production costs, and application of technological advances in agriculture. The cohesion of associated members is, however, an important factor for the success of economic activity [2].

The aim of this paper is to analyse the distribution and specialization of local producer groups in Romania within the broader European context. The specific objectives are to identify territorial clusters of producer organizations and to explore regional factors influencing their development.

MATERIALS AND METHODS

Open access sources were used for documentation, available through databases such as Google Scholar, Clarivate, or ResearchGate. The information was supplemented with reports from European and national authorities, producer associations, and relevant online media publications.

The data used in this research were retrieved from official online sources, specifically from the websites of the Ministry of Agriculture and Rural Development, the National Institute of Statistics, and the European Commission.

Artificial intelligence tools were used for data ordering, technical editing, and improving the English language used in the article. The data were statistically processed, graphically represented, and interpreted.

The hierarchical analysis of counties, carried out based on the distribution of producer groups by field of activity, was performed using Ward's method and the Euclidean distance measure.

Pearson analysis was applied to evaluate Pearson correlation coefficients between county pairs, based on the structure of producer groups according to the fields for which they were officially recognized.

Certain parts of the data analysis (e.g., correlation matrix calculation, dendrogram generation, and visual formatting) were supported with the assistance of ChatGPT, a large language model developed by OpenAI (version GPT-4, 2025), used for programming guidance and figure optimization.

The results obtained were compared with other relevant information from the scientific literature for validation.

RESULTS AND DISCUSSIONS

European context

Within the EU, forms of association among agricultural producers are mainly found in the fruit and vegetable production sector, as well as in the dairy sector (Figure 1).

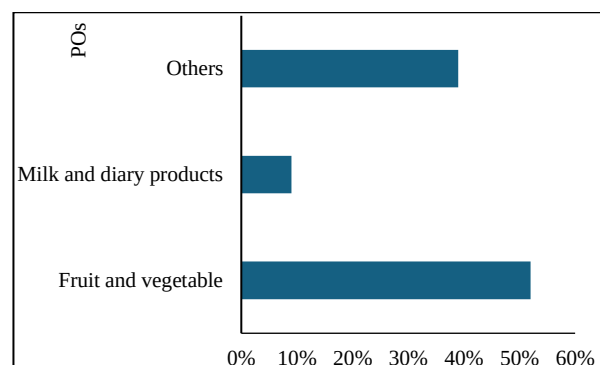


Fig. 1. POs distribution in EU, by activity
Source: Authors, by using [3].

The data made available by the European Commission in this field is not up to date, with the latest data having been published in 2018 [3].

Only in Lithuania, Estonia, and Luxembourg there were no recognised agricultural POs. According to the cited source, at the European level, around 3,681 recognised POs were active in 2018, more than 50% of them being in France, Germany, and Italy (Figure 2).

Only in 7 member states are there more than 100 POs. Among these, 80 transnational associations were recognised in 2017 [3].

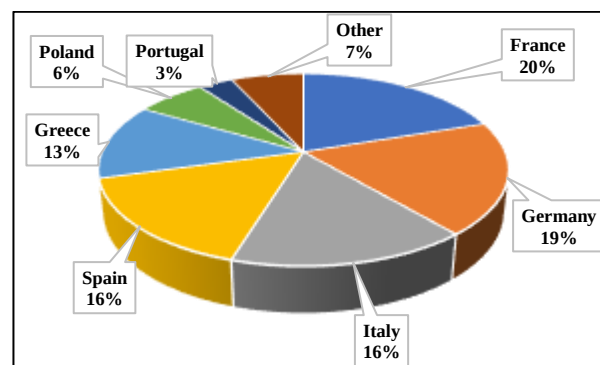


Fig. 2. POs distribution in EU, by countries
Source: Authors, by using [3].

Producers' organisations in Romania

The information updated in March 2025, presented by the Ministry of Agriculture and Rural Development, shows that 402 POs were registered in Romania.

The distribution of associative forms by fields of activity is presented in Figure 3.

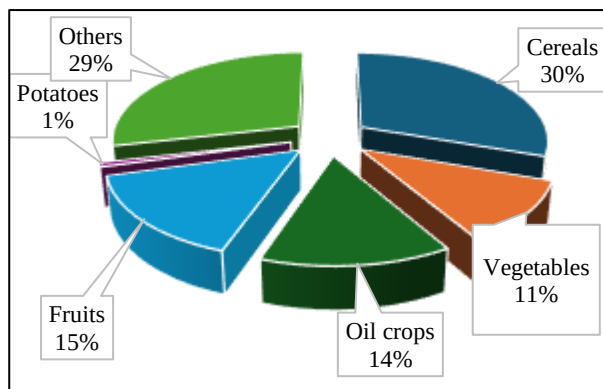


Fig. 3. POs distribution in Romania, by activity
Source: Authors, by using [8].

The data presented in Figure 3 show an uneven distribution of association by field of activity, due to tradition, the specific characteristics of farms, and natural conditions.

Cereal cultivation accounts for around 30% of producer groups, making it the best-represented sector in Romania. This distribution is practically in line with the specific nature of Romanian agriculture, which is dominated by large agricultural holdings in the traditional cereal-growing areas of the Bărăgan Plain, the Western Plain, and Dobrogea.

The fruit sector (15%) and the oil crops sector (14%) together account for 29%, which indicates a significant orientation of agricultural producer groups towards specialized crops whose industrial processing results in products with high added value. Vegetable production, with 11% of producer groups, holds a significant share, with associations located especially in the southern part of the country (Olt, Dâmbovița, Ialomița counties), where there is a tradition and development of greenhouse/tunnel infrastructure, and the demand from large urban markets such as Bucharest, Craiova, and Brasov stimulate producer organization.

Other categories are represented by producer groups and recognised organisations from the milk and dairy products sector (approx. 6%), pork meat (2.72%), sheep and goat farming, beekeeping (bee products), poultry/eggs, potatoes, medicinal and aromatic plants, or multiple combinations. Many of these areas involve combinations of products or niche

sectors, which justifies grouping them under the general title "Others."

The distribution of producer groups and recognised organisations at county level is presented in Figure 4. According to the data presented, there is an uneven distribution of these associative forms across counties and development regions of Romania.

There is no county in Romania where at least one agricultural producer association is not registered. Counties with only 1–2 associative groups (Caraș-Severin, Vaslui, Olt, Bacău, Gorj) should benefit from increased attention from the authorities to encourage the association of agricultural producers (promotion actions, entrepreneurship training, dedicated funding, etc.).

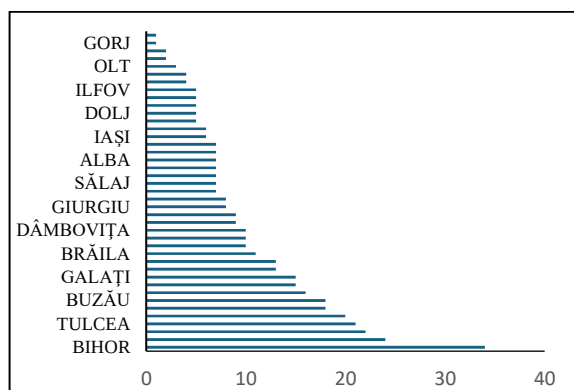


Fig. 4. POs distribution in Romania, by counties
Source: Authors, by using [8].

Under represented counties, with fewer than 5 groups (Caraș-Severin, Vaslui, Olt, Bacău, Botoșani), where farmers probably lacked local institutional support, show a weak culture of cooperation, or face administrative barriers. The counties that register a medium level of association, with 10–20 producer groups, show a positive evolution of the association phenomenon, representing evidence of a significant development potential that can be strengthened through the implementation of tailored public policies (Ialomița, Brăila, Prahova, Cluj, Giurgiu, Maramureș, Teleorman). Meanwhile, counties with more than 20 recognised producer groups (Covasna, Suceava, Buzău, Satu Mare) should benefit from an adequate infrastructure for collecting and processing agricultural raw materials or from the development of important local markets nearby.

The leader of the ranking is Bihor County, where 36 producer groups are officially recognised. It can thus be concluded that this county has a well-developed associative agricultural structure, most likely based on a cooperative tradition and regional support measures.

Figure 5 presents a dendrogram (hierarchical tree) generated through hierarchical clustering (Ward's method), which classifies Romanian counties according to the similarity of the structure of activity fields of the officially recognised producer groups as of March 2025. For each county, the name coding used complies with the current legislation and is represented by a county code [10].

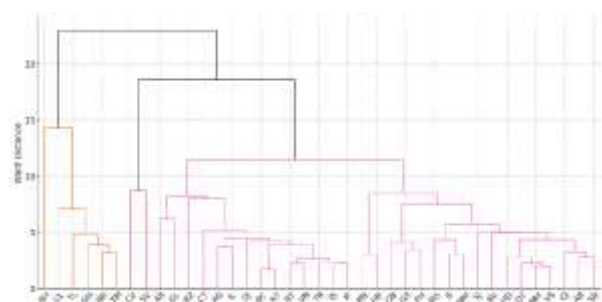


Fig. 5. Dendrogram Analysis – Clustering of Romanian Counties by Producer Group Structure
Source: Authors, by using [8] and AI instruments [9].

The analysis based on hierarchical clustering proposes a grouping of counties according to how similar they are in terms of organisational structure (e.g., the proportion of groups in cereals, vegetables, dairy, etc.).

The clustering process creates natural clusters (groups of counties with similar association patterns), using an algorithm that first "joins" the most similar counties, then merges them into increasingly larger groups. The dendrogram in Figure 5 is a visual map of the similarities between the analysed counties, from the perspective of the association profile of agricultural producers (i.e., what types of products are associated and in what proportions). The counties, represented on the x-axis, are identified by their official codes (BH, CJ, IS, etc.), and the y-axis represents the Ward distance – a measure of the difference between profiles.

Based on the analysis, the counties were grouped into four clusters:

- *Cluster 1: Cereal and oilseed profile*
Counties BR, CL, IL, TR, GR, BZ, located in the southeast and south of the country, are characterised by extensive agriculture dominated by field crops. Producer groups are focused on cereal and oilseed cultivation, and sometimes vegetables.
- *Cluster 2: Mixed model with dairy, sheep, and fruit.*

Counties BN, SJ, MS, AB, SV, located in Transylvania and northern Moldova, are characterised by a diversity of agricultural activities, with a focus on dairy products, sheep farming, orchards, and processing of plant-based products.

- *Cluster 3: Underdeveloped groups or isolated profiles*

Includes VS, OT, MH, CS – counties with few producer groups, often with only one domain represented. These may face administrative restrictions or lack a cooperative tradition.

- *Cluster 4: Peri-urban and diversified areas*
Includes counties AG, PH, DB, CJ, IS, characterised by a diversified product portfolio and better market access. Producer groups in these counties may combine crop production with horticulture and primary processing of agricultural raw materials.

Figure 6 presents the Pearson correlation coefficients between pairs of counties, based on the structure of producer groups according to the sectors in which they were officially recognised. The correlations quantify the similarity of the associative agricultural profile between counties.

Values close to 1 are characteristic of counties with a very similar associative agricultural profile, while those close to 0 describe counties with no obvious similarities. If negative values had been recorded (none were identified in this analysis), they would be due to opposite structures.

Identified regional trends

Clear clusters of high correlation were highlighted. The counties of Argeş, Dâmboviţa, Ialomiţa, Teleorman, and Călăraşi (South-Muntenia region) show correlations >0.8 between them, which likely indicates an associative model focused on vegetables, fruits, and dairy — a pattern

characteristic of the southern region and peri-urban areas.

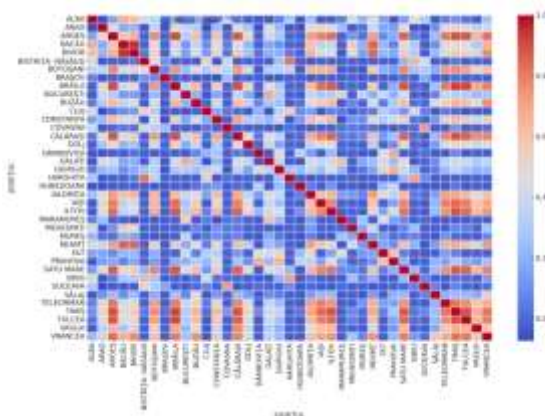


Fig. 6. Pearson Correlation Between Counties.
Source: Authors, by using [8], and [9].

Counties such as Brăila, Galați, Constanța, and Buzău (South-East) are part of similar groups in cereals and oilseeds, characterised by an extensive model of commercial agriculture, while Cluj, Alba, and Mureș reflect associations in dairy, sheep, and fruit production, based on the cooperative tradition of Transylvania. Moderate but significant correlations were identified among counties such as Timiș, Arad, and Satu Mare, which are characterised by a mixed profile, lower specialization, but a relatively homogeneous structure.

Correlations identified between Bacău, Suceava, and Neamț are modest in intensity but indicate a shared direction in producer association, especially in dairy production. Some isolated or weakly correlated counties (Bucharest, Ilfov) do not show relevant correlations (atypical profile, lack of agricultural land).

Counties such as Mehedinți, Gorj, and Caraș-Severin are characterised by a low presence of producer groups, and therefore weak correlations with other counties, while Vaslui and Vrancea, positioned more marginally, may suggest a lack of organisation or a unique profile.

From a practical perspective, the chart can serve as the foundation for developing regional cooperation and marketing support programs, providing a way to identify model regions with potential for replicating associative structures. The analysis of the chart may contribute to

agri-food clustering strategies or the development of regional centres of excellence. In regions with high correlations, it is recommended to promote inter-county partnerships and common short supply chains, while in counties with a unique profile, customised assistance and incentives for diversifying association domains could be targeted. In weakly correlated counties, it is necessary to strengthen entrepreneurial and technical training programs for farmers, as well as to recognize community-level leadership capable of facilitating the establishment of producer organisations or groups.

CONCLUSIONS

The research results highlight the existence of regional disparities in Romania regarding the development of producer groups as associative working structures. To address these disparities, adequate support policies and action strategies tailored to the specific characteristics of each region or county are needed. The modern data analysis methods used in the study—such as Pearson correlations and AI-assisted statistical processing techniques—enabled the identification of significant patterns that can serve as a solid foundation for strategic decision-making at the national level.

The cooperation of agricultural producers through the development of associative forms is essential for increasing the competitiveness and resilience of Romanian agriculture.

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