https://doi.org/10.59277/AERD.2023.1.08

Krisztina Melinda DOBAY

"Gheorghe Zane" Institute for Economic and Social Research, Romanian Academy – Iași Branch
dobaykrisztinamelinda@yahoo.com
dobaykrisztinamelinda@ices.acadiasi.ro

TRANSITION TO SUSTAINABLE VALUE CHAINS AND AGRI-FOOD SYSTEMS THROUGH COLLECTIVE ACTIONS – EVIDENCE FROM ORGANIC BEEKEEPING

ABSTRACT

The European Union has the collective capacity to transform its economy and society to a more sustainable path through the European Green Deal, which is a package of policy initiatives with the ultimate goal of achieving climate neutrality by 2050 and to contribute to the transformation of the EU in a fair and prosperous society with a modern and competitive economy. Agriculture is one of the important sectors in the transformation of the European economy and society towards a sustainable long-term future, and the complexity and diversity of the agri-food system require understanding and collective actions. To this end, past successful experiences can significantly contribute to this transition to sustainability.

In this paper, it is analysed how participatory processes and collective actions can be examples for starting transformative processes aimed at contributing to sustainable agriculture, agri-food systems and rural areas, with the example of the development of ecological beekeeping in several counties in Romania.

Key words: collective actions, sustainable development, rural areas, organic beekeeping.

JEL Classification: Q13, Q01.

1. INTRODUCTION

Sustainable rural development has the people at its core and focuses on improving the quality of life in the countryside, on meeting the economic, social, cultural and environmental needs of the current generations without jeopardizing the chances of future generations to have all these conditions ensured.

The term *sustainable development* was launched in 1980 by the International Union for Conservation of Nature (IUCN) and became known through the report published by the World Commission on Environment and Development in 1987 (Brundtland, 1987).

Sustainable development proposes a number of visions that consider all the component elements of an economy, because the proposed changes in a particular subsystem can create wide-ranging changes at the level of the entire economy.

According to this vision, the economic factors that influence the process of sustainable development are: population, natural resources, natural environment, production from all branches, pollution problems, etc. (Dobay, 2008).

The defining elements of sustainable development are (Vădineanu, 1998): compatibility between the human-made environment and the natural environment; equal opportunities for generations that coexist and succeed each other; interpreting the problems of the present through the prism of the future; moving from profit maximization as centre of actions to human wellbeing; achieving an integration of natural and human capital, within a broad strategy that redefines its economic and social objectives.

In this sense, sustainable rural development is a complex process of constant changes and transformations of rural areas aiming to ensure the wellbeing of current and future generations by: increasing governance at local level establishing links between the private sector, civil society and government agencies; institutional development in the field of education, health, research, marketing, transport, financial-banking services, etc.; development of rural infrastructure, etc. The viability of the rural economy depends on the ability to develop productive, agricultural and non-agricultural activities. Thus, a necessary condition for the sustainable development of agriculture, as a primary activity carried out in the countryside, is that a large number of farmers and small households coordinate in resource management. Therefore, the success of sustainable agriculture and rural development depends not only on the motivations, skills, and individual knowledge of farmers, but also on the actions undertaken as a group or community (Dobay, 2008).

It is known that sustainable rural development is very important in reducing poverty, due to the holistic, interdisciplinary and participatory approach. Thus, the sustainable development strategy aims to find the best ways to optimise all the factors that interact in an economy. The 2030 Agenda for Sustainable Development, proposed by the United Nations in 2015, is a "plan of action for people, planet and prosperity, which seeks to strengthen universal peace and ensure larger freedom, which recognises that eradicating poverty, in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development" (UN, 2015).

The agricultural sector is one of the areas where sustainability must be approached from the perspective of the diversity of natural resources, the way they are used, the requirements for meeting human nutritional needs and the survival of food-dependent communities, and knowing that many of the current production methods are harmful to the environment and that is a major source of greenhouse gas emissions.

The European Commission's *'From Farm to Fork'* strategy contributes to achieving the desired climate neutrality by: orienting towards a sustainable agri-food system, characterised by ensuring a supply of sustainable, sufficient, affordable and nutritious agri-food products; supporting sustainable food

production. The implementation of the European Green Deal involves transformative actions in which processes of system innovation take place. It targets a whole set of causal chains, groups and individual actors that are mobilised to achieve changes in practices or outcomes (Gløersen *et al*., 2022).

In this study, it is analysed how collective actions can be examples for starting transformative processes aimed at contributing to the sustainable development of agriculture, agri-food systems and rural areas. To illustrate how collective actions influence the dynamics of certain processes and phenomena in agriculture, the development of conventional and ecological beekeeping in several counties in Romania was studied.

2. STATE OF KNOWLEDGE

The concept of sustainable agricultural development has been interpreted in many ways over the years. Thus, starting from the Brundtland report by which sustainable development is defined as "a development that meets the current needs of society without reducing the ability of future generations to meet their own needs" (Brundtland, 1987), it was initially considered that sustainable agriculture means the ability of agriculture to maintain the productivity of the system as long as possible. Subsequently, sustainable agriculture was considered a management strategy to address the main issues of food quality and environmental protection. In general, sustainability is related to flexibility and ability, namely the ability of agriculture to adapt to future changes (Ramanauskas *et al*., 2021).

Sustainable agriculture is often addressed through individual elements such as: organic farming, food quality and safety, rational use of natural resources and environmentally friendly practices.

It is recognized that sustainable agriculture combines three essential aspects: economic, social and environmental. The economic component refers to achieving and maintaining financial wellbeing through an economic activity that uses resources efficiently, reduces waste and costs, while ensuring high productivity and consumer satisfaction, and for farmers, incomes that allow a satisfactory quality of life, recovering the capital used during production and keeping the business on the long run. The social component is related to the commitment to meet the needs of society by ensuring a better quality of life. The environmental aspect means avoiding activities that harm the environment, food quality or farmers' and consumers' health.

The sustainable development of agriculture and rural space depends not only on people's aspirations, individual skills and knowledge, but above all on collective actions, which facilitate the exchange of information and knowledge, joint learning and finding new, more integrated solutions.

Cooperation has always been fundamental to human society and plays an important role in rural development programmes. Social networks are powerful

means of sharing knowledge and increasing access to different types of resources. Moreover, knowledge-based networks have an important role as factors of territorial cohesion because: innovation is a localised process, and innovation systems tend to be limited within functional systems; sharing complex knowledge requires face-to-face interaction; people interacting in close geographic proximity, and geographic proximity strongly influence the durability of interaction by reducing their maintenance costs (Dobay, 2011).

In recent years, the number of studies on the role of social innovation in building territorial capital and improving sustainable development has grown exponentially (Dobay, 2021). The authors who studied social innovation in relation to the LEADER initiative (Liaison Entre Actions pour le Development de l'Economie Rurale – Links between Actions for the Development of the Rural Economy), one of the community initiatives that considers innovative rural development undertaken by Local Action Groups, believes that it is easier to stimulate social innovation in communities where participatory processes or collective actions have already taken place (Dargan & Shucksmith, 2008; Bock, 2012; Dax T. & Oedl-Wieser T., 2016; Bosworth *et al*., 2020).

Collective actions have become increasingly important in recent times, especially in agriculture, natural resource management and rural development. However, there is little research on the factors that influence its occurrence, dynamics and performance (Meinzen-Dick *et al*., 2004).

3. MATERIAL AND METHOD

In order to conduct this study, the method of longitudinal studies was used, which consists in measuring a phenomenon in a certain time interval, allowing the analysis and sequential observation of its evolution and its elements. At the same time, some relevant works for the topic addressed were consulted.

Descriptive research methods (observation, case study) and information processing were used. Through the descriptive research carried out, a limited number of case studies were investigated. The action-research method was used as well, a comparative research technique of the conditions and consequences of various social actions, which leads to the implementation of new social actions, generated by research (Băban, 2002).

Data were consulted, extracted and processed from the databases of the National Institute of Statistics, Ministry of Agriculture and Rural Development, Ministry of Public Finance, National Trade Register Office and Eurostat, the Statistical Office of the European Union.

This work is a continuation of previous efforts, by the same author, on topics complementary to the theme addressed: association, cooperation, agricultural cooperatives (2021, 2022), sustainable development (2008, 2011), partnerships,

social networks, social capital, social innovation (2008, 2011, 2020, 2021), organic agriculture (2005).

4. RESULTS AND DISCUSSIONS

In general, agriculture is considered to be sustainable when it is able to remain economically viable, ecologically sound and socially equitable over a long period of time. It follows that the sustainable development of agriculture, value chains and agri-food systems must be the responsibility of all participants in the agricultural system: farmers, processors, traders, government representatives, consumers, etc. Thus, there is a need for active collaboration between farmers, between all actors from the agri-food system, but also with the scientific community from the university and academic system, in order to adopt realistic objectives.

Case studies regarding the promotion of organic agriculture in Romania

An example of effective collaboration, in the sense previously specified, was the project *Promoting organic agriculture in the Nord-Est Development Region of Romania*, implemented between October 2002 and November 2005, financed by the Competitive Grants Scheme (SCG), the Services Support Project from Agriculture, by the Ministry of Agriculture, Forestry and Rural Development and the World Bank (Dobay, 2005) and in which scientific researchers, university professors, experts, public consultants, agricultural producers and representatives of animal breeders' associations collaborated. The main goal of the project was the dissemination of information and results from scientific research, as well as from the practical experience of agricultural producers, in the field of organic agriculture. Among the results of the project, should be mentioned:

- establishment of an office for documentation and dissemination of information in the field of organic agriculture, where a database on organic agriculture was created;
- development of two guides ('Management of organic farms and marketing of organic products'; 'Ecological technologies for plant production and animal husbandry') and six issues of the magazine "Ecological agriculture – steps towards the future" (beekeeping, cultivation of vegetables, fruit trees, potatoes, legislation and market study);
- dissemination of materials to agricultural specialists and producers from Iaşi, Bacău and Neamţ counties (500 copies of each publication distributed through the County Agricultural Consultancy Offices);
- organisation of training cycles for agricultural producers and public consultants (108 participants in total);
- organising 3 demonstration plots and monitoring the conversion to organic farming in these holdings (1.2 ha of vegetables in Iași County; 0.3 ha of potatoes in Neamț County; 10 beehives in Bacău County);

- organisation of visits to the demonstration plots for interested agricultural producers from the counties targeted by the project (on-farm demonstrations – vegetable cultivation and fodder base – with the presentation of cultivated varieties, applied technology, advantages of practicing organic farming; 6 visits were organised with a total number of 179 people); facilitating the specialisation of consultants from the 3 OJCA centres (Iasi, Bacău and Neamț) in ecological agriculture;
- organisation of an experience exchange between vegetable growers from various communes of Iaşi County;
- free distribution of informative materials produced within the project in order to disseminate them to specialists and producers (Apetroaie & Dobay, 2020).

Together with the demonstration apiary and the training courses, 30 beekeepers from Bacău County converted to the organic system in 2002, and at the end of the SCG project in 2005, there were 70 people with around 2000 certified bee families and 800 in conversion (Dobay, 2011).

One of the main reasons for the development of organic beekeeping in Bacău County was the fact that several projects financed by different international donors were implemented, which allowed an integrated development through a series of complementary interventions and through collective actions of beekeepers. Thus, after the establishment of the demonstration plot for organic beehives and the organisation of training courses in organic beekeeping through the SCG project, a small honey processing and wax production factory was established (financed by the World Bank through the Romanian Social Development Fund, Generating Activities of Revenue – FRDS project), followed by a project regarding the umbrella certification of beekeepers who are members of the Bacău Beekeepers Association (ACA) and provision of technical assistance (project financed by the United States Agency for International Development – USAID). The Association of Beekeepers of Romania (Apicola) is a professional organization of beekeepers, non-governmental, autonomous and apolitical, founded in 1958, with a structure that covers the whole country, through county branches and APICOLA stores.

Within the project financed by USAID through the Romanian Agribusiness Development Programme (RADP), the activity started with Apicola Bacău (2,500 beekeepers) and Apicola Deva (3,000 beekeepers), and later on two other economic units were co-opted (Apicola Iași and Apicola Arad), with 3,000 beekeepers. To increase value, RADP assistance targeted organic production, downstream processing and direct exports (USAID, 2007). In addition to organic certification, RADP also helped finance two pilot processing units, at Apicola Bacău and Apicola Deva, to increase the value added for small beekeepers. There was high demand for both organic and conventional honey on the foreign markets, but most importers wanted the honey to be processed. Small processing units with the ability to filter, homogenize, heat treat for de-crystallization and pack into a variety of wholesale and retail containers give beekeepers greater flexibility to serve domestic and export markets. The last area of RADP assistance was the marketing of obtained products. As with

other sectors, the state had previously (until 1989) handled domestic and export marketing in the honey sector. After 1989, several large processors, mainly from Bucharest, started processing and marketing. Although small quantities were processed by hand and sold in local shops, beekeepers lacked experience in identifying markets, demand, negotiating with potential buyers and exporting. Individual beekeepers had less power to negotiate better prices with local processors and therefore earned less than half of the world market price (USAID, 2007). Better merchandising, identifying new buyers and markets and testing the export market were all intended to add value to the producer. A study by RADP of the major European markets for honey and other beehive products provided information on importers and processors in France, Germany, the UK and Italy, their contacts, the state of processing required and the quantities purchased; in order to see how companies packaged, displayed and marketed their bee products, USAID organised a trip for 10 beekeepers and two managers to the 2006 Biofach trade fair in Nuremberg, Germany (USAID, 2007).

As it resulted from this example from Bacău County, through collective actions aimed at attracting various financing, the development of organic beekeeping was stimulated, from approximately 30 beekeepers to 2,500 beekeepers in less than 5 years, all producers, members of the Bacău Beekeepers Association (ACA Bacău), benefiting from umbrella type certification (through another project financed by USAID and MASHAW – the International Development Agency of the State of Israel), as well as the possibility of exporting bottled and labelled organic honey.

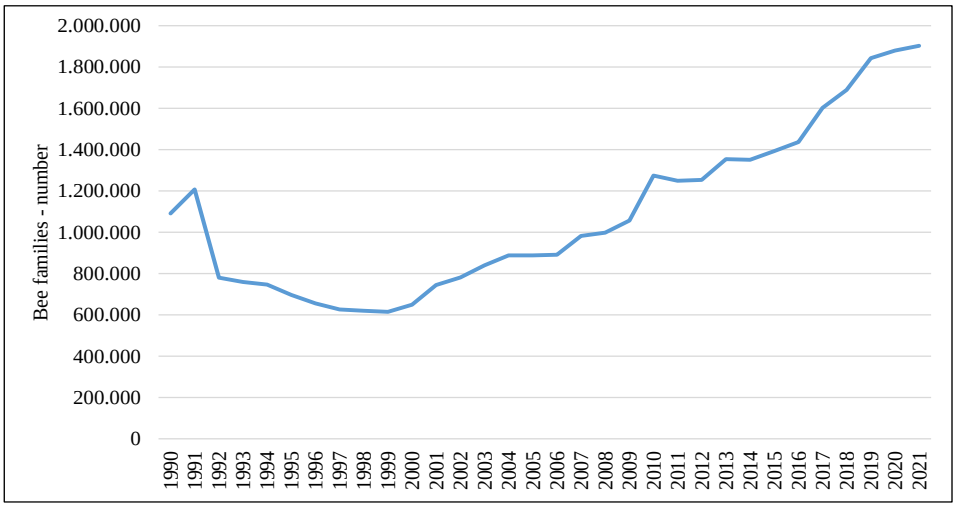
Impact of funding actions and collective actions

The statistical data for Romania (Figure 1) show that in the first years after 1990, with the restructuring of the honey value chains, the number of bee families had a decreasing trend. Starting with the year 2000, one can see a change in the trend, due to the increasing demand for Romanian bee products and the appearance of various programmes for financing and supporting beekeeping (Special Accession Programme for Agricultural and Rural Development – SAPARD, National Rural Development Plan 2007–2013, National Beekeeping Programme etc.), so that in 2010 the number of bee families from 1990 was reached (1.2 million); then their number continued to grow gradually up to 1.9 million bee families in 2021.

The impact of the aforementioned interventions, in the case of Bacău County, can be seen in the significant increase in the number of bee families in 2002 (Figure 2). Unfortunately, factors such as prolonged drought, various bee diseases, etc. led to a decrease in numbers in the next years. A constant evolution can be noticed after 2015, with annual increases in the bee families owned mainly by individual farms.

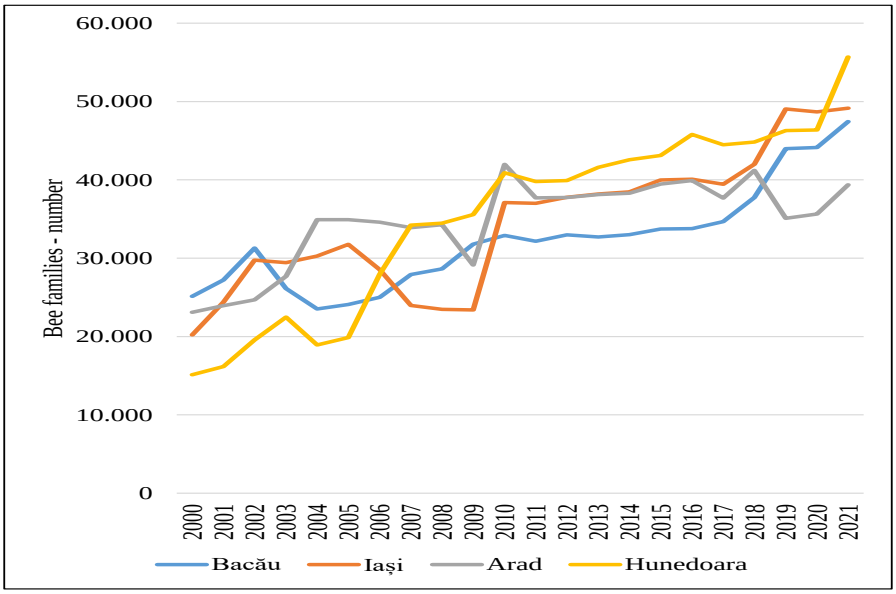
If we analyse the evolution of beekeeping comparatively in all four counties where USAID's RADP project was implemented (Figure 2), one will notice that the highest impact of the intervention in marketing beekeeping products can be found in the case of Hunedoara County. Although the impact was visible in all counties, at least through the lens of the increase in the number of bee families, in some counties the trend was not constantly increasing, being influenced by a series of other phenomena.

After 2010, the development of beekeeping became evident in all the analysed counties, so that in 2021, there were 55,677 bee families in Hunedoara County, 49,150 in Iași County, 47,428 in Bacău County and 39,356 in Arad County.



Source: Tempo Online, National Institute of Statistics (NIS)

Figure 1. Evolution of bee families in Romania, in the period 1990–2021



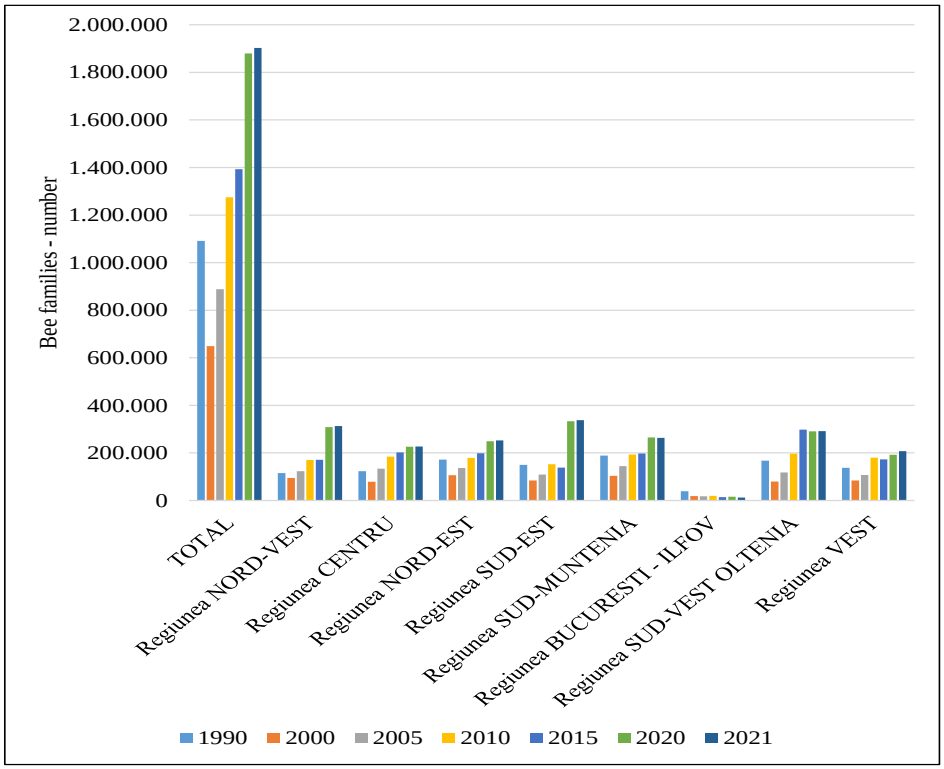
Source: Tempo Online, National Institute of Statistics

Figure 2. Evolution of bee families in the Bacău, Iași, Arad and Hunedoara counties, in the period 1990–2021

The development regions with the most accelerated increase in the number of bee families are Sud-Est and Nord-Vest (Figure 3). In 2021, the two regions hold 34.18% of the total bee families in Romania, followed by Sud-Vest Oltenia and Sud-Muntenia regions, with over 250,000 bee families each.

The first regulations on obtaining organic agri-food products in the European Union appeared in 1999, and in the year 2000 the Emergency Ordinance of the Government of Romania no. 34/2000 established the legal framework that ensured that the organic products can be also accepted on foreign markets.

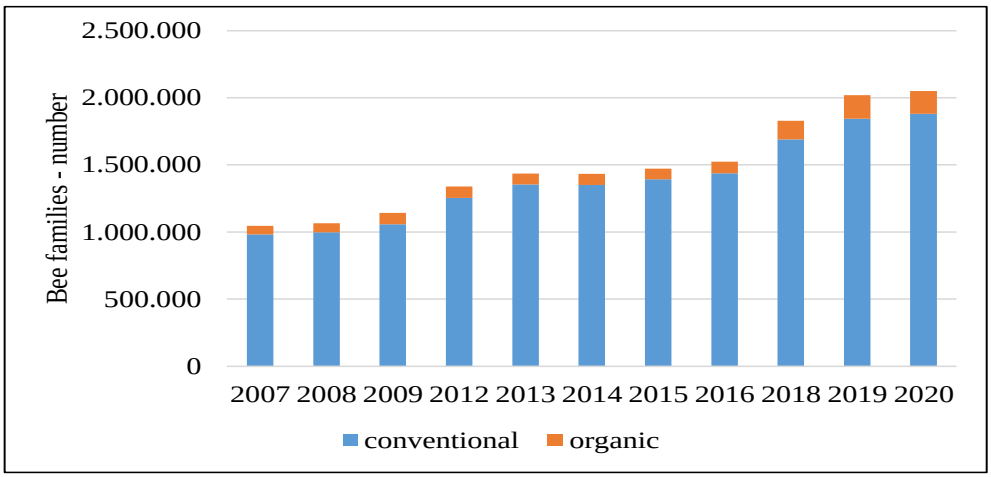
The first certified producers in organic beekeeping in Romania were registered in 2000. The number of producers in this sector increased each year, so that in 2005 there were 132 certified producers in organic beekeeping, in 2006 there were 335 certified producers in organic beekeeping, plus 9 processors and 2 exporters, in 2008 there were 584 registered producers, 15 processors, 22 traders, 1 importer and 8 exporters; in 2009, the number of operators engaged in organic beekeeping increased to 1018 (MARD, 2010). The number of certified operators in organic farming increased between 2008 and 2012 from 2,901 to 15,544, to decrease afterwards, and in 2020 there were 10,210 registered operators (NIS).



Source: Tempo Online, National Institute of Statistics

Figure 3. Evolution of bee families, by regions, in the period 1990–2021

As regards the evolution of organic beekeeping, the data indicate that the share of the number of bee families in the organic system generally oscillated from 5.7% to 10% in the period 2007–2020 (Figure 4).



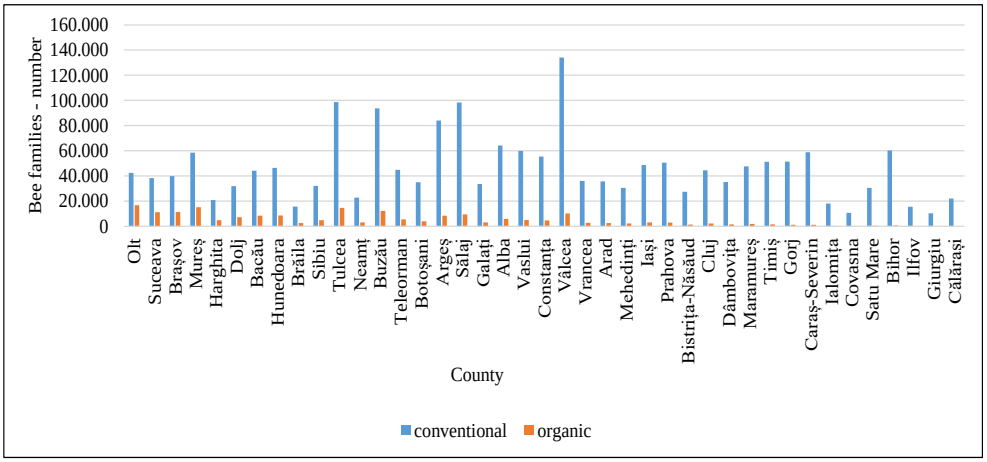
Note: data are missing for the years 2010, 2011 and 2017
Source: Author's processing based on Tempo Online data, National Institute of Statistics, EUROSTAT and Ministry of Agriculture and Rural Development

Figure 4. Evolution of bee families in conventional and organic systems, in the period 2007–2020

According to the calculations based on the data of the Ministry of Agriculture and Rural Development and the National Institute of Statistics, in 2020, the counties with a higher share than the national average of organic beekeeping compared to conventional beekeeping (by the number of bee families) were: Olt (39.43%), Suceava (29.13%), Brașov (28.35%), Mureș (25.86%), Harghita (23.26%), Dolj (22.56%), Bacău (19.12%), Hunedoara (18.70%), Brăila (16.35%), Sibiu (15.12%), Tulcea (14.81%), Neamț (13.22%), Buzău (13.04%), Teleorman (12.36%) and Botoșani (11.19%). At the opposite pole are the counties of Călărași (0%), Giurgiu (0.87%), Ilfov (0.90%), Bihor (1.16%), Satu Mare (1.44%), Covasna (1.63 %), Ialomita (1.95%) and Caraș Severin (1.98%) (Figure 5).

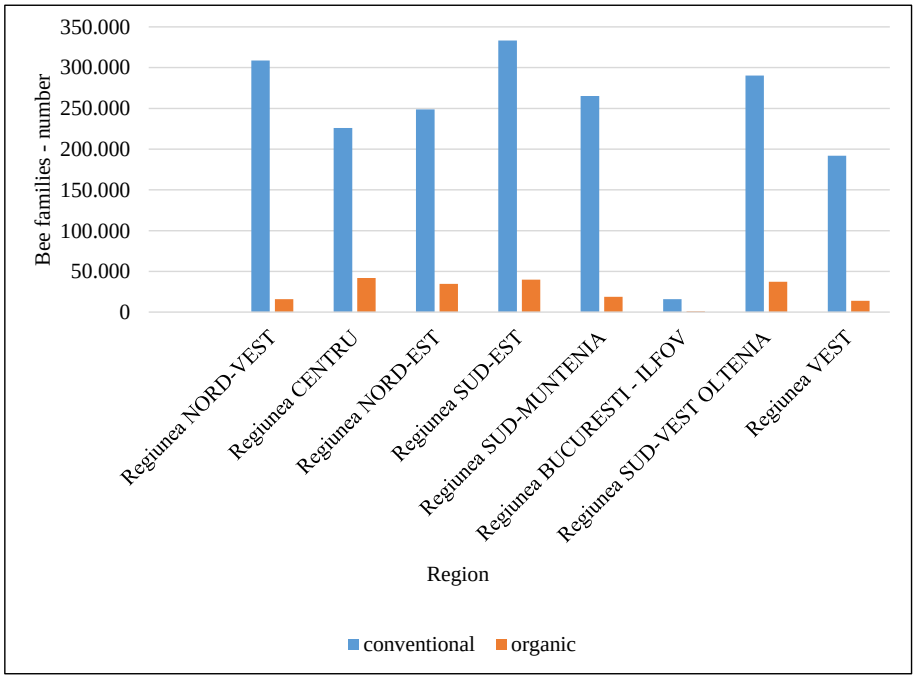
In absolute terms, the most bee families registered in organic agriculture, certified or undergoing conversion, in 2020, were in the counties: Olt (16,731), Mureș (15,109), Tulcea (14,614), Buzău (12,226), Brașov (11,271), Suceava (11,152), Vâlcea (10,091).

By regions, organic beekeeping has a higher share than the national average of 10% in the regions: Centre (18.6%), Nord-Est (13.91%), Sud-Vest Oltenia (12.86%) and Sud-Est (11.93%) (Figure 6).



Source: Author's processing based on Tempo Online data, National Institute of Statistics and Ministry of Agriculture and Rural Development

Figure 5. Bee families in organic and conventional systems, in 2020, by counties

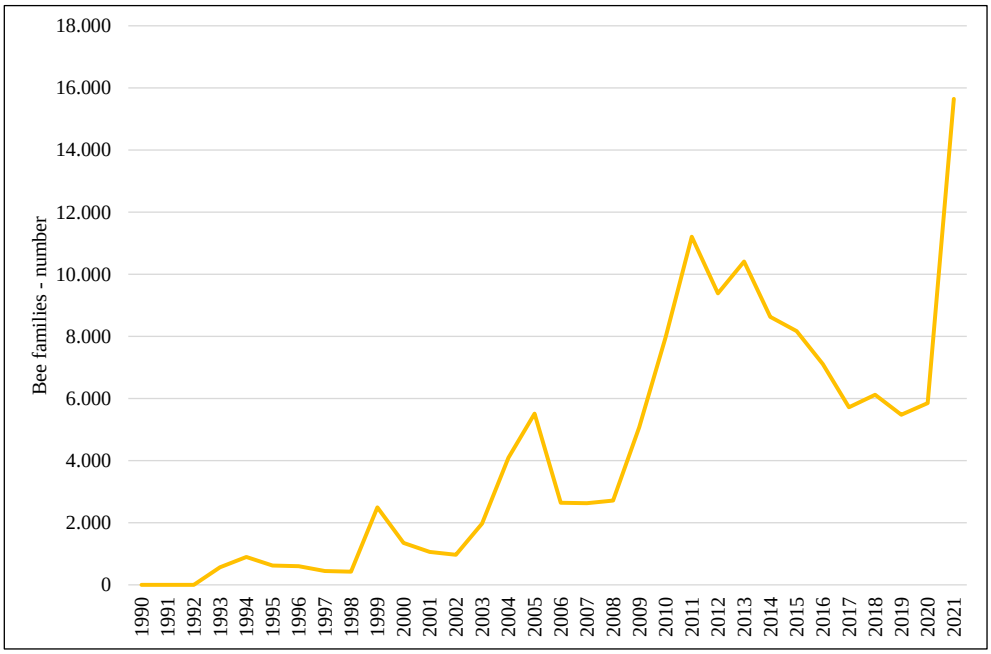


Source: Author's processing based on Tempo Online data, National Institute of Statistics and Ministry of Agriculture and Rural Development

Figure 6. Number of bee families in organic and conventional systems, by evelopment regions, in the year 2020

The National Beekeeping Programme for the period 2020–2022 (MARD) aimed to improve the production and marketing of beekeeping products by providing financial support to beekeepers for the settlement of physical-chemical analyses to certify the quality of honey, the purchase of medicines and beekeeping inventory, beekeeping trailers, cranes for loading-unloading hives, forklifts for loading-unloading hives, queens and/or families of bees, as well as providing financial support to legally established beekeeping associations for beekeeping consultancy, promoting beekeeping and beekeeping products, organising training courses in beekeeping, the procurement of equipment for wax processing by associative forms, as well as equipment for packaging honey. The positive impact of this national programme, as well as of European funding, was mainly reflected by the increase in honey production, Romania being among the EU member states that produce over 20,000 tonnes of honey annually (Raicov *et al*., 2023).

At the same time, there is a significant increase in the number of bee families owned by legally constituted associative forms, which reached 15,647 bee families in 2021 (Figure 7).



Source: Author's processing of Tempo Online data, National Institute of Statistics

Figure 7. Evolution of bee families owned by associations and cooperatives, in the period 1990–2021

This evolution is consistent with the development of the cooperative system in Romania, especially through the establishment of a record number of agricultural

cooperatives, in the same reference year – 737 (Dobay, 2022). The causes we have identified are multiple: European and national funds that cooperatives can benefit from; international projects aimed at stimulating the establishment of agricultural cooperatives in Romania in recent years: CoopNet, New Crops, AGRICOP, etc.; Law no. 265/2020 for the amendment and completion of the Agricultural Cooperation Law no. 566/2004 with the new provisions (inclusion of new NACE fields, widening the range of activities, the possibility of the peasant household entering as a member, the clear definition of the active agricultural cooperative – turnover and employees at any time during the reference periods, the period of concluding contracts between cooperative and members for at least 3 years, fiscal facilities, etc.); support provided by Local Action Groups for the establishment of cooperatives, especially in areas with significant value added: horticulture, animal husbandry, beekeeping, etc.; greater transparency in the cooperative system ensured through the National Register of Agricultural Cooperatives, which is created, updated, administered and published by the Ministry of Agriculture and Rural Development on the institution's website, based on the data provided by the National Trade Register Office, etc. (Dobay&Apetroaie, 2021; Dobay, 2022).

Regarding the prospects for the evolution of organic agriculture, some of the economic problems that hindered its development in Romania, identified within the SCG project, are still valid today (Dobay, 2005): low purchasing power of potential buyers; there is no market segment large enough for producers to adopt niche strategies on the domestic market; there are too few specialized chains and stores for these products; lack of organization of agricultural producers in order to ensure a uniform and constant supply in large quantities to arouse the interest of large traders; clear ignorance of requirements regarding the inspection and certification of these products, etc.

Characteristics and trends of the consumption of organic products in Romania

Studies carried out by several authors (Dobay, 2005; Istudor *et al*., 2010; Rakic & Rakic, 2015; Voinea *et al*., 2015; Bojnec *et al*., 2019; Pocol *et al*., 2021) highlighted various characteristics of the organic food consumption in Romania.

According to the market study developed within the SCG project, based on a sociological research carried out in September 2005 on 295 subjects from the municipalities of Iași, Bacău and Piatra Neamț, it resulted that:

- the willingness to purchase organic products was not specific to a certain gender (male or female);
- the average age of potential consumers of organic food products was 42 years;
- the tendency to buy organic products was higher among young families;
- incomes were particularly important in terms of subjects' willingness to purchase organic food products;
- the majority of subjects (approx. 54%) declared that they were willing to pay 25% more for an organic product than for a conventional product, compared to 7% who would be willing to pay twice as much for organic products (Dobay, 2005).

The current trends regarding the consumption of organic products were highlighted in an exploratory study carried out on young Romanian consumers, which showed that their most important motivations for buying organic food were safety, good price-quality ratio and high nutritional value (Voinea *et al*., 2015). Other studies suggested that organic food is consumed out of a desire to have a healthy diet and lifestyle (Istudor *et al*., 2010; Rakic&Rakic, 2015).

Consumers' perception of organic food differs. Thus, according to EU legislation, for a product to be classified as "organic", it is mandatory to carry an organic label, while for consumers in Romania, this certification stage is not an absolutely necessary criterion to consider food as organic and usually these consumers trust their own assessment (Bojnec *et al*., 2019). Moreover, in Romania, consumers are attracted by local sources of organic food, as most of them (65%) prefer local organic food to other national sources and would choose a domestic product (77%) instead of those imported from other countries EU (Bojnec *et al*., 2019).

The pandemic crisis had a negative impact on the activities of beekeepers due to travel restrictions and reduced sales in the first months of the crisis, but positive effects such as increased health concerns and demand for health-related products were also found (Pocol *et al*., 2021). From this point of view, organic beekeeping has benefited from certain advantages, especially when stationary beekeeping has been associated more with organic beekeeping and with a smaller number of bees (11–50 bee families per farm), but with orientation towards obtaining high quality products, beneficial for producers, consumers and environment (Pocol *et al*., 2021).

A study carried out in Lithuania (Ramanauskas *et al*., 2021) highlighted that a more active collaboration of farmers requires a more active exchange of experience, knowledge and information through meetings or seminars and through the creation of a portal or platforms of information. These measures could lead to better communication, more open exchange of information, mutual trust and risk reduction, which would ensure the development of sustainable agriculture (Ramanauskas *et al*., 2021).

5. CONCLUSIONS

In the countryside, there have been numerous voluntary actions taken by groups of people in pursuit of common interests, generally in the fight against the uncertainty of agricultural production. Moreover, collective action can manifest and be understood as an event, in the form of a unique occurrence, as an institution (e.g. cooperative) or as a process (social innovation, if the transformation is permanent).

Due to the multitude of forms of manifestation, collective actions are difficult to study and analyse. From this point of view, we believe that a longitudinal approach can be beneficial. And in this case, the elements investigated depend on

the field considered. Well, from an economic point of view, it is the bargaining power of group members that matters, as well as their economic interests, performance at institution level; from a sociological point of view, it is the behaviour of the group that matters, the motivation for action through the lens of social networks, organizations and ideology.

If the research method used was action-research, the most important question that arises is whether the collective action can be replicated elsewhere, by different communities, with the same results, without the intervention of the researcher.

Unfortunately, not all collective actions have lasted over time, although they may have been successful in the short term, at least through the lens of social learning events.

Although the present analysis is not a typical one in the absence of concrete information regarding the evolution of the analysed group (umbrella-type certified beekeepers from Bacău county 20 years ago), through the adjacent information presented, we consider that we have reached the assumed objective. Thus, one can affirm with certainty that the development of conventional and organic beekeeping was boosted, at least in the counties where there were collective actions presented in the form of projects and programmes (Bacău, Hunedoara, Iași and Arad) and they can be examples for starting transformation processes intended to contribute to the sustainable development of agriculture, agri-food systems and rural areas.

REFERENCES

1. Adelman, C., (1993), *Kurt Lewin and the Origins of Action Research*, in: Educational Action Research, 1:1, 7–24, DOI: 10.1080/0965079930010102.
2. Apetroaie, C. & Dobay, K. M., (2020), *Rolul parteneriatelor în dezvoltarea spațiului rural – 20 de ani de colaborare între consultanța publică ieșeană și cercetarea științifică*, in: Alexandri, C., Alboiu, C., Kruzslicika, M., Rusali, M., Tudor, M. (coord.), Dezvoltarea Durabilă a Agriculturii și a Spațiului Rural din Perspectiva Politicii Agricole Comune, Editura Academiei Române, București.
3. Băban, A., (2002), *Metodologia cercetării calitative,* Editura Presa Universitară Clujeană, Cluj-Napoca.
4. Bojnec, Š., Petrescu, D.C., Petrescu-Mag, R.M. & Rădulescu, C.V., (2019), *Alimentele ecologice locale: preferințele consumatorilor*, in: Amfiteatru Economic, 21(50), 161–180.
5. Bock B. B., (2012), *Social innovation and sustainability; how to disentangle the buzzword and its application in the field of agriculture and rural development*, in: Studies in agricultural economics, 114(2), 57–63.
6. Bosworth G., Price L., Hakulinen V. & Marango S., (2020), *Rural social innovation and neo-endogenous rural* development, in: Neoendogenous development in European rural areas, 21–32, Springer, Cham.
7. Brundtland, G. H., (1987), *Our common future—Call for action*, in: Environmental Conservation, 14(4), 291–294.
8. European Commission, (2019), *The European Green Deal*, Communication from the Commission to the European Parliament, the European Council, the Council, the European Social and Economic Committee and the Committee of the Regions, Brussels, 11.12.2019, COM(2019) 640.
9. Dargan, L. & Shucksmith M., (2008), *LEADER and innovation*, in: Sociologia ruralis, 48(3), 274–291.
10. Dax, T. & Oedl-Wieser T., (2016), *Rural innovation activities as a means for changing development perspectives – An assessment of more than two decades of promoting LEADER*

initiatives across the European Union, in: Studies in Agricultural Economics, 118(1316–2016–102857), 30–37.
11. Dobay, K. M., (2005), *Managementul ecofermelor şi marketingul produselor ecologice*, Editura Terra Nostra, Iași.
12. Dobay, K. M., (2008), *Rolul serviciilor de extensie şi consultanţă în dezvoltarea rurală durabilă*, in: Studii şi cercetări de economie rurală, Tomul VII, Academia Română, ICES "Gh. Zane", CER, Tomul VII, Editura „Terra Nostra", Iaşi, 21–26.
13. Dobay, K. M. (2011), *The role of knowledge-based networks in the sustainable development of the rural space*, in: Agricultural Economics and Rural Development, 2, 213–220.
14. Dobay, K. M. (2021), *Social innovation and rural development. Two longitudinal case studies from the North-East Romania*, in: Agricultural Economics and Rural Development, 18(1), 109–129.
15. Dobay, K. M. & Apetroaie, C. (2021), *Association and Cooperation in Agriculture in Romania – Regional Analysis*, in: Agricultural Economics and Rural Development, 18 (2), 207–216.
16. Dobay, K. M. (2022), *The Resilience of Agricultural Cooperatives in the COVID-19 Pandemic Time. Evidence from Romania*, in: Agricultural Economics and Rural Development, 19(1), 13–30.
17. European Commission, Scientific Advice Mechanism (SAM), (2020), *Towards a Sustainable Food System*, Group of Chief Scientific Advisors, Scientific Opinion, No. 8, Luxembourg.
18. EUROSTAT, (2022), *Sustainable development in the European Union. Overview of progress towards the SDGs in an EU context*, European Union, Eurostat, Unit E2 — Environmental statistics and accounts; sustainable development.
19. Gløersen, E., Mäder Furtado, M., Gorny, H., Münch, A., Alessandrini, M., Bettini, C. (2022), *Implementing the European Green Deal: Handbook for Local and Regional Governments*, European Committee of the Regions, Commission for the Environment, Climate Change and Energy.
20. Istudor, N., Ion, R.A. & Petrescu, I.E. (2010), Research on consumers' self-protection through a healthy diet, in: Amfiteatru Economic, 12(28), 436–443.
21. Meinzen-Dick, R., DiGregorio, M., & McCarthy, N. (2004), *Methods for studying collective action in rural* development, în: Agricultural systems, 82, 3, 197–214.
22. United Nations (2015), *Transforming our World: the 2030 Agenda for Sustainable Development*, A/RES/70/1.
23. Pocol, C. B., Šedík, P., Brumă, I. S., Amuza, A., & Chirsanova, A. (2021*), Organic beekeeping practices in Romania: status and perspectives towards a sustainable development*, in: Agriculture, 11(4), 281.
24. Raicov, M., Peev-Otiman, P. D., Gavrilescu, C., & Mateoc-Sirb, N. (2023), *Honey-a prospective product for Romanian international trade*, in: Lucrări Științifice Management Agricol, 24(3), 369.
25. Rakic, M. & Rakic, B., (2015), Sustainable lifestyle marketing of individuals: the base of sustainability, in: Amfiteatru Economic, 2015, 17(40), pp. 891–908.
26. Ramanauskas, J., Vienažindienė, M., Rauluškevičienė, J., & Žukovskis, J. (2021), *Collaboration perspectives developing sustainable agriculture: the case of Lithuanian farmers*, in: European Countryside, 13(4), 697–714.
27. Vădineanu, A. (1998), *Dezvoltarea durabilă. Teorie şi practică*, Editura Universităţii, Bucureşti.
28. Voinea, L., Popescu, D.V. & Negrea, M.T., (2015), *Good practices in educating and informing the new generation of consumers on organic foodstuffs*, in: Amfiteatru Economic, 17(38), 488–515.
29. Willer, H., Schlatter, B. & Trávníček, J. (Eds.), (2023), *The World of Organic Agriculture. Statistics and Emerging Trends 2023*, Research Institute of Organic Agriculture FiBL, Frick, and IFOAM – Organics International, Bonn.
30. XXX (2010), *Programul Naţional Apicol din România. Situaţia sectorului apicol din România*, Studiu, Ministerul Agriculturii și Dezvoltării Rurale.
31. XXX, *Programul național apicol pentru perioada 2020–2022*, Ministerul Agriculturii și Dezvoltării Rurale, link: https://www.madr.ro/programul-national-apicol/ [last accessed April 30th 2023].
32. ***, Romania Agribusiness Development Program, Final Raport, Chemonics International inc., USAID, 2007.