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DEMOGRAPHIC CHANGE AND LABOUR AVAILABILITY IN AGRICULTURAL FARMS IN NORD-EST REGION OF ROMANIA

ABSTRACT

In recent years, the topic of farm demographics has been a major concern of the EU and continues to be addressed in the proposals for the future Common Agricultural Policy (CAP). In the last three decades, Romania's agriculture went through major structural, social and institutional changes. In the 1990s, there was a reverse migration from urban to rural areas, driven by the restitution of agricultural land and the loss of jobs in urban areas due to closing down of the state-owned industries. Currently, the perception of family farming lacking profitability makes the rural workforce look for jobs elsewhere: in urban economic sectors providing higher remuneration, or abroad, mainly in farming activities in other Member States (Spain, Italy, Germany, United Kingdom). As a consequence, there is a lack of available labour most on small and medium-sized farms that prevail in Romania's agriculture. The present paper explores the drivers of demographic change, consequences and possible solutions to labour unavailability (unskilled, skilled and management-level labour) in the Nord-Est region of Romania, as resulting from a focus group organized on these particular topics, with the participation of various local stakeholders.

Key words: agricultural labour, unskilled and skilled workers, technologization, specialized training and education.

JEL Classification: J01, J08.

1. INTRODUCTION

European agriculture consists of a diverse mosaic of agricultural systems with different specializations, with different specific degrees of technological efficiency and profitability, depending on Member States, different economic development levels, pedo-climatic conditions, environment and, last but not least, traditions and people who make the whole system work.

In recent times, European agriculture has been facing a multitude of economic, environmental, social and institutional challenges, such as: increased product price

volatility, changes in power and competitive hierarchy in liberalized international markets, barriers to free access to markets, increasing frequency of extreme weather events, demographic changes, increasing urbanization and policy changes (Maggio *et al.*, 2014). To these are added changes of market power poles upstream and downstream of farms in the agri-food chains, increasing dependence on financial institutions, changes in consumer preferences and attitudes towards the implementation of new agriculture and food technologies (e.g., the use of genetically modified organisms, synthetic inputs in agriculture and food industry, animal welfare issues, etc.).

The accumulation of these uncertainties and their complex interconnections raise concerns about the viability and sustainability of agri-food production and the sustainable development of rural areas. However, these risks and uncertainties greatly vary in relation to the analysed region, type of agricultural production, farm size and profile; as such, their response will be very different. The answer depends largely on the challenges, the available material and human resources, and can go in two directions: either it tends to reduce or limit the effects of stressors, or it tends to increase the system's ability to adapt to changes in the economic and social environment through various managerial and technological improvement measures, through reorganization or even reorientation.

Resilience theory provides an integrated framework for investigating the ability of complex social, economic, and ecological systems to cope with changing environments (Folke *et al.*, 2010; Bullock *et al.*, 2017), and highlights the uncertainty, interconnectivity and adaptability of complex systems (Holling *et al.*, 2002).

In SURE-Farm project, resilience of European farming systems is assessed and analysed. The resilience framework builds on the concept of adaptive cycles (Holling *et al.*, 2002). Adaptive cycles represent different stages (growth, equilibrium, collapse, reorientation) through which systems pass in response to changing environments and internal dynamics (Fath *et al.*, 2015). According to Meuwissen *et al.* (2018), governance, farm demographics, agricultural production and risk management are the main adaptive cycle processes essential for EU farming systems.

The present paper focuses on farm demographics which regards the provision of labour (both farm population and hired labour force) to farming systems in the Nord-Est (NE) region of Romania (as a case study).

2. STATE OF KNOWLEDGE

Farm demographics can be defined in two ways: (a) through the institutional dimensions of the farm, and (b) through the human resources used in the farm. The institutional dimensions of the farm can be characterized by the legal organization form of the farm, and by its organizational structure which includes property of the land and assets, relationships with the utilised labour, farm management relationships, etc. The human resources used in the farm analyse the gender, age,

qualifications, education and training level of workers used for farming activities and those of the farm manager. Therefore, when discussing the farm demographic changes in the region, one should take into account the changes of the institutional dimensions, as well as the changes in the characteristics of human resources within the whole farming system in the NE region.

3. MATERIAL AND METHOD

The present paper is a summary of discussions that took place during a focus group organized in the framework of the SURE-Farm project. The general objective was to identify the main characteristics of the agricultural labour in the region. In doing so, the discussions went in two directions: (a) identifying the drivers of the farm demographic changes in the region, and (b) revealing the availability and ability of the farming system to retain labour: unskilled, skilled labour and management-level labour.

There were six participants, with various backgrounds, namely: farmers, persons from local action groups, regional statistical office, and public consultants in agriculture.

First, the participants were asked to list drivers / causes of farm demographic change in the region and rank their importance (from 1 – most influential, to 5 – least influential), and then discuss the results.

The second major topic of the focus group regarded the availability and ability to retain labour. The discussions were guided by several questions:

- To what extent the availability of labour affects agriculture in the region?
- How does the availability of labour affect the region and the participant itself – what are the consequences?
- If they believe that the availability of labour affects farming in the region, what is it to be done to address it?
- With support or collaboration from other stakeholders, what are the potential solutions?

The discussions were separated for unskilled, skilled labour and managerial-level of labour.

4. RESULTS AND DISCUSSIONS

4.1. DRIVERS OF FARM DEMOGRAPHIC CHANGE IN THE REGION

The participants mentioned and discussed the following main drivers / causes of the demographic change in the region:

- reconstitution of land ownership right on agricultural land for persons lacking specialized training, without farm equipment and without financial resources to organize the activity of the new farms generated by the agrarian reform after the fall of the communist regime;
- low capacity of small farms to generate satisfactory incomes for farmers;
- public policies and funds destined to agriculture favoured the concentration of land operation into large-sized farms;
- the negative perception of agriculture in terms of social status associated to persons working in this economic sector.

The discussion focused on identifying the links between the factors identified by participants and explaining the mechanisms by which these factors influence the demographic change.

Thus, the discussion followed a historical thread starting with the fall of the communist regime when a large part of the rural population lost their jobs in the state-owned industry. The agrarian reform that started in 1991 led to the creation of *small and very small farms* whose owners did not have the necessary capital to buy farm machinery and equipment. The effect was the emergence of a type of agriculture where the subsistence and semi-subsistence farms prevailed, with rudimentary farming practices. Besides the poor performance of the small farms, the *lack of non-agricultural occupational opportunities* generated a high dependence on agriculture of rural households and *rural poverty increase*. As a result, the social status associated to farming is low. While immediately after the fall of communism the small farms were the *back-up solution to ensure the survival of rural households* in the context of the general restructuring of the economy, the *perpetuation of subsistence farms*, with poor prospects to become profitable, made the rural workforce look for other solutions to reach the expected living standard: urban migration or migration outside the country.

An issue that was brought to discussion several times, as a factor conditioning the farmland transfer, is the *uncertainty regarding the ownership right on agricultural land*. Participants pointed out that many agricultural land parcels are not registered in the Land Register, which makes it impossible to transfer the ownership or operation right of the respective agricultural land areas. The causes are many: the *succession / inheritance system* from the Civil Code (division of property between all successors in equal shares), *high cost of land registration procedure*, *low price of land*. In this context, the participants emphasized that the clarification of the ownership right issue would lead to the acceleration of land consolidation. To highlight the high cost of establishing the ownership rights, one participant gave the example of a land property of 2000 m² for which there were not less than 30 heirs. It was pointed out that the land price will remain low as long as a potential buyer will have to cover not only the price of land itself, but also the costs related to the clarification of ownership rights for that land if not registered in

the Land Register. Thus, in reality, the potential land buyer would have to pay two-three times the price of land just to clarify the ownership right.

An important point in the discussion was the change of farm structure in the NE region through the *land consolidation process* (land transfer through land lease or land sale-purchase from the small farms to the corporate farms). Although the ownership rights on agricultural land have not been clarified, in the region, large land estates (*latifundia*) were created and developed (counting thousands of hectares), established on the basis of land lease contracts between the small landowners (who transferred land operation due to the lack of necessary equipment to farm the land) and the large-sized commercial farms, which had the necessary resources to buy farm equipment. It was estimated that 60% of the area operated by the large farms is leased in from the small landowners, sometimes even without the consent of the rightful owners. This generates a difficult situation in the context of direct payments from the CAP. The agricultural subsidies determined the increase of the rent value, in the sense that landowners choose to lease out the land to whoever offers a higher rent, which leads to permanent changes in the structure of farms.

Nonetheless, land operation consolidation has increased in the region since EU accession in 2007 and the implementation of the CAP direct payment system. Land consolidation was positively perceived by most participants because: it enables the use of modern technologies in agriculture (precision farming included), it facilitates access to markets, and brings profit. On the other hand, the land consolidation tendency has also negative consequences: it may deepen rural poverty, due to the lack of employment opportunities, since the large-sized farms create only few jobs for the rural people because they use labour-saving technologies requiring low labour input. Consequently, migration and emigration increase, this accelerating village depopulation. It was also mentioned that the land consolidation for operation purposes is mainly characteristic for the plain areas of the NE region, while in the mountain areas the land consolidation process is much slower.

Participants pointed out the importance of small farms in the *creation and maintenance of jobs/employment* in the rural area and the fact that this category of farms does not benefit from support through public policies.

An interesting point of discussion was the *perception of land* (“feeling for land”) by different generations: a participant said that three generations before him, himself as well, were very attached to land and farming, unlike his children who do not even want to hear about land and farming.

Lack of specialized training in agriculture of most landowners was underlined by several participants as a cause of the poor performance in the farming activity and consequently, as a driver for exit from farming.

Another discussed topic was about the prospects of small farms in the plain areas, mainly if they are not supported through policies and instruments like those

included in Cioloş reform. An essential problem for the survival of these farms is the *lack of their market integration*, which could be facilitated through the *association* of small farms, but the reluctance of small farmers to form associations or cooperatives is still very high.

Small farms do not benefit from support and lobby from the government, unlike the large farms that are permanently present at the negotiation table in the Ministry of Agriculture, which drives the course of interventions through public policies and the targeting of funds to support large farms.

LAGs (local action groups) are perceived as territorial structures that can influence the demographic change of farms by providing support for small farm integration in marketing chains, support to the development of alternative non-agricultural and off-farm activities.

During the discussions, it was appreciated that small farms in the plain areas will likely disappear in NE region in about 20 years if they do not receive any support through public programs, while in the mountain and hilly areas of the region, the small farms are more likely to resist over time as they can more easily get oriented towards alternative activities.

A factor impacting positively the prospects for the small farms in the region is the phenomenon of return to Romania of those who have worked in the Western European countries in recent years, investing in agriculture and agro-tourism boarding houses. This coming back phenomenon is accompanied by the expertise and know-how transfer from Western Europe to Romania, which offers better premises for business viability in the long term.

4.2. UNSKILLED LABOUR – AVAILABILITY, CONSEQUENCES AND POSSIBLE SOLUTIONS

Unskilled labour is used to refer to a segment of the workforce associated with a limited skill set or minimal economic value for the work performed. It is generally associated with lack of formal and/or technical training. Referring to agricultural employment, unskilled workers are expected to perform simple operations such as feeding animals, basic manual maintenance operations in crops such as manual weeding, manual harvesting, etc. These are associated to the dayworkers used, in a large part, for seasonal activities.

The participants pointed out that to make the difference between “skilled” and “unskilled” worker, graduating an agricultural school or having a diploma is not a sufficient criterion. For a worker to be considered a skilled worker he must perform complex farming activities, with specific equipment. Continuing the rationale, one must distinguish between the unskilled and the inexperienced worker. This pointed out that although some agricultural workers have a diploma (and might be formally referred to as skilled workers), they do not have the necessary professional skills.

The participants pointed out that the availability of unskilled labour largely affects the system of farms from NE region.

The main causes identified for the shortage of unskilled labour were:

- The perception of family farming lacking profitability makes the rural workforce look for jobs elsewhere:
 - Outside agriculture in urban areas – there is a competition on the labour market from other economic sectors providing higher remuneration for work.
 - Abroad, mainly in farming activities in other Member States (Spain, Italy, Germany, United Kingdom).
- Local competition on the labour market from large-sized farms that are more likely to attract unskilled labour as they have greater financial force and can support higher wages and at the same time can offer seasonal occupational arrangements that cover longer periods of time. There was an example of an integrated farm that operates about 5000 ha (producing seeds, cereals, wine) and is also involved in livestock production activities, in agro-processing and provides agro-tourism services. This corporate farm offers work contracts for 150 days/year for the dayworkers in the locality where it is based.

The shortage of unskilled labour has important consequences on the farming activities, such as:

- *Impossibility to perform the agricultural works in due time* – a farmer participant said that this situation resulted in the loss of 35% of the grape production on this farm. The participants unanimously agreed that the shortage of dayworkers affects mostly the small farms. Consequently, part of the small farms leased out their land to corporate farms.
- *Higher costs* since farmers are obliged to ask for labour input from relatives, neighbours, friends, in order to cover labour shortages in times of high demand for manual operations (harvesting).
- *Change of crop structure*, resulting in orientation towards field crops with high mechanization level (cereals, oilseeds), while reducing areas under labour intensive crops (potatoes, vegetables).
- *Change in the livestock production* depending on the available labour in the family. Many small farms restructured or reduced the animal husbandry activities down to the available labour input for agriculture existing in their own family. An example was of a dairy farm that was transformed into a poultry farm due to the lack of workforce to look after the grazing cattle herd and to carry out the other manual works (such as milking).
- *Increasing climate risks and exposure to pests and diseases* due to the delay in performing farm operations in due time.

Some solutions were identified to address the unskilled shortage problem:

- *Increase financial motivation* by granting additional bonuses, such as additional payment in kind for the harvesting farm works (as share of harvested products).
- *Cooperation between farmers in sharing the unskilled workforce* may be a functional solution to address the shortage of seasonal workers in the periods when their intensive use is required.
- *Changes in the current regulations regarding the use of immigrant labour.* The immigrants from the neighbouring Republic of Moldova participating in the seasonal farming activities in the Nord–Est region represent a solution to the crisis on the regional labour market. An important advantage of using immigrant workers is their stability throughout the seasonal activity for which they were hired, since they receive accommodation on the farm where they are hired and thus there is a low risk for them to leave to another farm, as it happens with the local workers. Yet, currently, the import of agricultural labour from other countries is done mostly on informal basis. Their actual payment is equal to that of the Romanians working in agriculture. If they were offered formal working contracts, there would be a legal obligation to pay them the average salary per economy; but immigrants are involved in harvesting activities that do not need specialization and thus the payment of average salary per economy is seen by farmers as unjustified and unfair.
- *Changes in the regulations regarding the social aid.* The population able to work benefitting from the minimum guaranteed income is not allowed to accept any fixed-term employment because it would lose the social aid. Therefore, they prefer a long-time fixed income (although extremely low) rather than higher payment on uncertain and short periods of daily works (linked to the seasonality of farming operations).
- *Creation of a virtual labour market for dayworkers* - LAGs could play an important role here if they were to constantly publish job offers for dayworkers.

4.3. SKILLED LABOUR – AVAILABILITY, CONSEQUENCES AND POSSIBLE SOLUTIONS

In terms of agricultural employment, skilled labour is used to refer to a segment of the workforce associated with a set of basic skills, obtained by formal education (vocational schools, specialized high-schools) or adult training (specialized courses). Skilled workers are expected to perform more specialized activities in animal husbandry (such as artificial insemination), or performing special operations (grafting, pruning in orchards and vineyards, etc.).

The discussion pointed out that the availability of skilled labour is a theme which affects agriculture in the Nord-Est region. The main causes identified were:

- *Lack of specialized agricultural education.* The reforms implemented in the last three decades in the educational system have had a very unwanted consequence regarding agricultural training: many agricultural vocational schools and high-schools disappeared, increasing the deficit on the agricultural labour market.
- *Lack of correlation between the farm qualification needs and the vocational training* provided by the public system. The current vocational school system does not offer enough practical education complementary to the theoretical one.
- The ways in which skilled agricultural workers acquire professional skills. There was a generalized opinion that there is no correlation between formal professional training (from agricultural universities) and the labour market requirements.
- In compensation, lately, there is a practice of large companies manufacturing agricultural equipment to organize intensive vocational training courses for the workers that will operate their equipment. Small and medium-size farms in NE region started sending some of their workers to get specialized, benefitting from this offer from farm equipment suppliers.

The shortage of unskilled labour has important consequences on the farming activities, such as:

- Lack of skilled labour results in *changes of crop structure* on the (large) farms, as well as in more specialized ones (vegetable growing, orchards, vineyards).
- There is a negative influence on larger farm performance, such as the risk of farm *operations not matching the technological upgrades*, which generates additional costs for the remediation of poorly executed farm works and lowers incomes implicitly.
- *Poor quality of agricultural products* obtained by the farms confronted with the shortage of agricultural specialists and deficiencies in selling the farm production generated by the lack of marketing abilities at farm level.
- Unexperienced employees can make technological errors resulting in significant costs for remediation of mistakes or significant production losses, even risking total production loss. Such technological errors can also generate serious *environmental problems*.
- *The “mechanization acceleration” problem.* The current skilled labour shortage pushes the large farms to restructure production, so as to be able to use equipment that require lower labour input than that used at present. Thus, in the future, only super skilled workers will be needed. An example was given: in some large livestock farms in the region, IT systems have already been implemented in production, for monitoring the animal herds, thus significantly lowering production costs. The expert managing the IT

system, although receiving a higher salary, replaced a many unskilled workers. As a participant stated, ... “a super skilled person can replace ten unskilled persons. On a farm of 5–600 cows you need 3 people. This is a man worth 1000 euro per month”.

Several possible solutions were discussed to face the lack of skilled labour:

- Organization (as collective solution) and participation in (as individual solution) *vocational training / qualification programs*. It would also include motivation and qualification for young people in agriculture by the organization of agricultural apprentice schools.
- *Reorientation of qualification/training courses towards farmers’ real needs*. The providers of training courses in agriculture organized the curricula from the office, according to the specialization of available teachers, and were not based on the farmers’ real needs. These training courses in (rural) communities should be organized on demand from local farmers.
- Given the low willingness of farmers to increase the wages of skilled workers and the labour shortage on the NE region market, a solution might be setting up *a system of bonuses for the farms that use skilled labour*. This system of bonuses can take the form of tax facilities to stimulate farmers to hire skilled labour and even to provide higher wages.
- The need for farms to *have specialists in marketing and promotion*, not only technicians whose professional skills are intended for effective production.
- Organization of skilled labour market, even a virtual one - LAGs could play an important role here if they were to constantly publish job offers.
- *Participation in specialized agricultural fairs* is a good modality for agricultural specialists to come into contact with the new technologies, to exchange experience and upgrade their knowledge; on this occasion, the agricultural equipment manufacturers display and provide for testing the new equipment.

4.4. MANAGERIAL LEVEL – AVAILABILITY, CONSEQUENCES AND POSSIBLE SOLUTIONS

The participants appreciated that the quality of management on the farms in NE region is a similar problem to that of the available skilled labour. The most important consequence is the poor performance of farms, of small farms in particular.

During the discussion, it was pointed out that the farm manager must be an expert in farming activity. For most large-sized farms in the NE region, this principle is respected. Not the same can be said about the public management of the agricultural system in Romania that has not been managed by agricultural experts, which resulted in a whole set of incoherent decisions.

In general, farm managers in NE region do not have well-developed managerial abilities. In most cases the small and medium-sized farming businesses are managed by the persons who are also the business owners. These do not always have adequate managerial skills. There was a consensus that at the level of small family farms, the decision is collective, being influenced by all family members. As not all family members have managerial skills, there is the risk that decisions on farm activity are not the proper decisions.

In the agriculture of NE region, there is not a lack of persons invested with the quality of farm manager, but rather of those persons with real management skills. These managerial skills make the difference between a prosperous farming business and a farming business going bankrupt.

The greatest problem of farm managers in the opinion of participants is the poor awareness/understanding of their business needs. The development of managerial skills is a stringent need for small and medium-sized farms. The exchange of good practice, the experience exchanges or employment of qualified persons in management are solutions that can attenuate the shortage of managerial skills in the agriculture of NE region.

Besides the development of managerial skills through training courses, experience exchange, etc., a good manager must get permanently informed, from all available sources, on different contextual aspects (technology, fuel oil, financing) of his business. The permanent information helps the manager to make decisions adequate to his business goal.

Some solutions to the problem of managerial-level labour were identified during the discussions:

- There is a poor awareness/understanding of their business needs, so the *development of managerial skills* is a stringent need for small and medium-sized farms.
- *The exchange of good practice, the experience exchanges or employment of qualified persons in management* are solutions that can attenuate the shortage of managerial skills in the agriculture of NE region.
- *Creating national and international partnerships*. Asked by the moderator to present further details, the farmer said that these partnerships target the establishment of direct linkages with other farmers for: exchange of inputs, seeds, technologies, good practices.
- *Need of highly qualified consultancy* for the sale of production, new and modern agricultural technologies, management and economic and financial issues.
- *Need for business and development plans on medium and long term*. The market operation mechanisms should be properly understood, with clear evidence of resources, production and sales cycles.
- Need for specialized courses and schools, as well as adapted university curricula.

5. CONCLUSIONS

Several important main drivers/causes for the demographic change in the region were identified. First, the agrarian reform that started in 1991 led to the creation of a huge number of small and very small farms whose owners did not have the necessary capital to buy farm machinery and equipment. The effect was the emergence of a type of agriculture where the subsistence and semi-subsistence farms prevailed, with rudimentary farming practices. Three decades later, despite a visible trend in land concentration, the overall picture of the Romanian agricultural system did not change significantly.

Land consolidation (operational or in terms of ownership) increased in the region since the accession to the EU in 2007 and the implementation of the CAP direct payment system. Land consolidation is positively perceived as having positive consequences: it enables the use of modern technologies in agriculture, facilitates access to markets, and brings profit. On the other hand, there are also negative consequences: it may deepen rural poverty, due to the lack of employment opportunities, since the large-sized farms create only few jobs for the rural people as they use labour-saving technologies requiring low labour input. Consequently, migration and emigration increase, this accelerating village depopulation.

Some common solutions for the lack of availability of unskilled, skilled and managerial-level labour were identified. The main one is the need for specialized training in agriculture of most landowners since the lack of this seems to be the cause of the poor performance in the farming activity and consequently, a driver for exit from farming. Formal education in specialized agricultural schools should be reimplemented and/or extended (apprentice schools were dismantled, there are very few vocational schools and high-schools), and the existing ones are totally insufficient to cover the needs of the agricultural labour market. In terms of curricula, the lack of correlation between the farm qualification needs and the vocational training provided by the public system should be remedied. There is also a need for the current vocational school system to offer much more practical education complementary to the theoretical one.

Association/cooperation of small farms (despite the current reluctance to it) is an important solution to the major problem of their poor insertion in the agri-food supply chains.

Changes in the regulations on the social aid and those on the use of immigrant labour would most probably help increase the labour availability (especially for unskilled labour).

Creation of a virtual labour market for all types of labour, but particularly for dayworkers and skilled labour would significantly improve the availability of information in real time for potential employment in agriculture. In this sense, LAGs could play an important role here if they were to constantly publish job offers for all types of agricultural labour.

6. ACKNOWLEDGEMENTS

This research has been carried out within the framework of the SURE-Farm Project – Towards SUsustainable and REsilient EU FARMing systems, a H2020 project funded by the European Commission (no.727520).

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