# DIVERSIFICATION AS AN ALTERNATIVE STRATEGY FOR SUSTAINABLE FARM DEVELOPMENT

# Radu-Adrian MORARU<sup>1</sup>, Dan BODESCU<sup>1</sup>

e-mail: ramoraru@yahoo.com

#### Abstract

Structural changes in agriculture have drawn attention to new opportunities to use the farm's resources. In order to support rural development, the agricultural policy makers have consistently promoted multifunctionality and diversification of farms by encouraging new types of activities. Farmers get involved in diversification operations and developed on-farm and off-farm activities for various reasons: to face the challenges of the agricultural context, to obtain additional income, continuity of their agricultural activity, to improve their family's quality of life and to reduce the risk of the unstable agricultural market environment. The decision regarding farm diversification depends on a series of factors related to economic, geophysical and socio-demographic farm characteristics or to environmental conservation strategies. The proximity to urban areas fosters the process of farm diversification and it also influences the level of diversification. The sustainability of the farm involves not only economic, but also social and environmental aspects, but most of the farmers are more interested in the economic and social performance and less in the ecological performance. The main forms of farm diversification include: agritourism; non-traditional crops, livestock and practices; added value to existing agricultural products; new marketing and distribution channels; consulting or education service; conservation and restoration of historical buildings, equipment, artifacts from the farm.

Keywords: farm diversification, sustainability, development

Nowadays agricultural sector is faced with numerous and varied challenges and difficulties that deeply affect the sustainability of rural communities. New technological developments in agricultural production, changes in food production techniques and in non-agricultural services and functions have triggered a series of trends that threaten the viability of farm businesses (Vik J., McElwee G., 2011). The aggravation of the climate, environmental and energy crises, the process of globalization and the increasing competition on the world market, urbanization and accelerated industrialization, the reduction or elimination of agricultural subsidy programs, the increase in the prices of agricultural inputs and the decrease in the prices of agricultural goods have pushed farmers to seek for new ways to face the financial instability and to develop alternative operations to ensure their survival (Barbieri C., Mahenga P.M., 2008; Schilling B. et al, 2012; Srisomyong N., Meyer D., 2015). Thus, the structural changes in agriculture in the recent decades have drawn attention to farm diversification activities and to new opportunities for using farm resources (Nickerson N.P. et al., 2001; Barbieri C., 2008), many farmers responding to the unfavorable context by adopting alternative strategies to conventional agricultural production (Yoshida S. *et al*, 2019).

In order to support rural development, the agricultural policy makers have consistently promoted the multifunctionality and diversification of farms (Vik J., McElwee G., 2011; Meraner M. *et al*, 2015) by encouraging new types of on- and off-farm activities and the development of different enterprises to diversify farm incomes (Barbieri C., Mahoney E., 2009; Meraner M. *et al*, 2015).

In the specialized literature, the objectives most frequently associated with farm diversification represent a permanent subject of analysis. Although important progress has been made in this field, assessing the achievement of these objectives is difficult due to various motivations and opportunities for diversification, as well as to differences determined by the regional agricultural and political context.

## MATERIAL AND METHOD

The present paper provides a review of the academic literature focused on the topic of farm diversification. To include relevant and varied information, a series of research and studies

<sup>&</sup>lt;sup>1</sup> Iasi University of Life Sciences, Romania

conducted in various countries in North America and Europe, but also in Japan and New Zealand were analyzed. This paper is structured as follows: clarifying the concept of farm diversification; diversification forms and activities; key factors for the success of diversification; farm sustainability and motivation for diversification.

# **RESULTS AND DISCUSSIONS**

Concept of farm diversification. Presented by scholars and governments as a political and economic solution to the problems of farmers and rural areas, the diversification of agricultural businesses comprises the involvement of the farm in non-agricultural business or the addition of new activities such as direct marketing, processing of agricultural products, niche production or providing various services to local communities (Vik J., McElwee G., 2011). At the beginning, studies about farm diversification defined this process in the form of income-generating activities centered on the farm (Evans N.J., Ilbery B.W., 1992), assuming the extension or transformation of agricultural activities by using the farm's resources in an unconventional way (Fuller A.M., 1990). Ilbery B.W. (1991) describes diversification as a recombination and reallocation of land, labor, capital and other farm resources into nonagricultural enterprises or into new nonconventional crops and/or livestock. This definition is on-farm centered and excludes off-farm employment and other forms of off-farm business created on the basis of farm household resources. (Barbieri C. et al, 2008; Turner M. et al, 2006). Salvioni C. et al (2013) considered that on-farm diversification includes directions: three agricultural output diversification (e.g. selling a mix of products); differentiation of products (products with protected designation of origin, ecological products etc.); diversification of nonagricultural output (e.g. agritourism).

The off-farm diversification approach is based on pluriactivity, i.e. the potential of farmers to generate additional income from nonagricultural sectors (Blad M., 2010), and came later, being mentioned in research which were carried out both in the USA (Barbieri C. *et al.*, 2008) and in Europe (Turner M. *et al.*, 2003). At the same time, it was specified that the purpose of this entrepreneurial development was of an utilitarian nature, represented by maximizing the use of resources, increasing income, reducing risks or adding value to the farm's assets (Valdivia C., Konduru S., 2004).

Farms diversification is related to the concept of multifunctional agriculture, which also considers the production of products and services

other than the agricultural ones (Renting H. et al, 2009), including a wide variety of types of additional activities such as: rental/contracting of agricultural machines and equipment to agricultural and non-agricultural operators (Vik J., McElwee G., 2011; Meraner M. et al., 2015); providing hunting/fishing rights and facilities; farm-based tourist services (Haugen M., Vik J., 2008; Vik J., McElwee G., 2011); green care (Hassink J., van Dijk M., 2006; Vik J., Farstad M., 2009; Meraner M. et al., 2015); consulting, accounting and other services (Vik J., McElwee G., 2011; Meraner M. et al., 2015).

Types of farm diversification. The differences between off-farm and on-farm diversification (Salvioni et al, 2013; Meraner M. et al., 2015) was preceded by the classification made by Ilbery B.W. (1991), who considers that farm diversification can be of two types: "structural diversification" (public oriented) and "agricultural diversification" (oriented towards agriculture and different types of agricultural work). Also, based on the farmer's entrepreneurial attributes, Yoshida S. et al (2019) established that they can adopt one of two forms of farm diversification: conventional or advanced.

Diversification activities were classified by Van der Ploeg J.D., Roep D. (2003) according to three dimensions of farming (*figure 1*): *deeping* (the agricultural side – refers to agricultural production processing activities and direct marketing); *broadening* (the rural side – implies non-agricultural activities that ensure new sources of income (agritourism, care farming); *regrounding* (the mobilisation of resources involves low-external input farming or off-farm labor).



### Figure 1 Classification of diversification activities. (Meraner M. *et al*, 2015)

*Table 1* shows the main groups of diversification activities defined according to the classification proposed by Van Der Ploeg, J.D., Roep, D. (2003).

A study conducted in Texas (USA) by Barbieri C., Mahoney E. (2009) highlights that the vast majority of diversified farms are involved in new marketing and distribution activities (88.2%) or obtain income based on non-traditional livestock, crops and practices (68.9%) (*table* 2). Another category of diversification activities preferred by Texan farmers is agritourism (64.6%), while the consultancy and education services, the lease, rental, easements and timeshares of the farm and its resources (e.g. rental of vineyards for weddings) or the provision of contractual services (e.g. farm management, plowing, caring for horses, planting) are less used diversification types.

Table 1

#### Definition of diversification activities (Meraner M. *et al*, 2015)

Deepening On-farm sale	Adding value to farm enterprises by direct marketing of agricultural products. This can be for example in the form of farm gate sales, farm shops, roadside stands, pick-your-own fruit and berry operations, or cut-your-own Christmas trees (Ilbery B.W., 1991) Adding value to farm enterprises by
processing	processing cheese, butter, yoghurt, cider/wine, jam/preserves, or craft activities (Ilbery B.W., 1991)
Broadening	
Agro-tourism	Farms that include a tourism component next to their faming activity. This includes the provision of accommodation and/or recreation in the form of campsites, renting covered wagons, cycling, water sports, catering, pet animals, or horse riding/stables (Dernoi L.A., 1983)
Care farming	Farming practices aiming at promoting the rehabilitation of disadvantaged people, education and care and/or towards the integration of people with 'low contractual capacity', but also practices that support services in rural areas for specific target groups such as children and the elderly (Di lacovo F. <i>et al</i> , 2009)
Nature conservation	Support granted by agri-environmental schemes with the goal to adapt the management on farms to the benefit of biodiversity, environment or landscape. They are mainly aiming at nature conservation, landscape maintenance and wildlife habitat creation including activities such as meadow-bird protection, delayed grass harvest and saving of landscape elements (Kleijn D. <i>et al</i> , 2001)

The study also shows that about 71% of the diversified farms are involved in at least three categories of diversification.

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Categories of on-farm diversification in Texas, US	3A
(Barbieri C. Mahonev F. 2009)	

Diversification categories	Respondents (%)
New marketing and distribution	88.2
Non-traditional crops, livestock	68.9
and practices	
Recreation, tourism and	64.6
hospitality	
Historic preservation and	42.9
adaptive re-use	
Value-added to existing	34.4
products	
Education, expertise and	31.1
consulting	
Leases, easements and	13.2
timeshares	
Contract services	6.1

According to the results of research carried out in Norway by Vik J., McElwee G. (2011), most farmers have diversified their activities (58.7%), the preferred additional activities being those through which they can maximize the use of available resources on the farm, like as: contracting agricultural equipment and machinery in agricultural activities or outside the agricultural sector (snow clearing, haymaking etc.); fire wood and bioenergy production etc.; hiring out hunting and/or fishing rights as well as premises and storeroom. Vik J., McElwee G. (2011) proposed a classification of diversification activities in 4 different types depending on two dimensions: onfarm vs. off-farm activities, on the one hand, and farm-related activities vs. farm-diverse activities. on the other hand (figure 2).

	On-farm div	ersification				
	On-farm and farm -related	Tourism				
Farm related activities	<ul> <li>Fire wood, bioenergy production, etc.</li> <li>Farm based saw mill</li> <li>Hiring out of hunting and/or fishing rights</li> <li>Hiring out of premises and storeroom</li> </ul>	Lodging or accommodation     Adventures, tours, guiding, etc. (tourism)     Serving of food on or by the farm     Local food     Social farming     Green care, reliefing, etc.     Courses and pedagogic services	Farm Diverse activities			
Ē	Off-farm and farm- related	Off-farm and farm- diverse (+misc.)	ivitie			
	Machine contracting, haymaking, snow clearing, etc.     Construction work     Organized rural service     Husbandry on other farms	Consulting and accounting services     Fishery     Aquaculture     Miscellaneous	U.S.			
	Off-farm diversification					

Figure 2 Forms of farm diversification in Norway (Vik J., McElwee G., 2011)

A study carried out in Canada and the USA by Barbieri C. (2009) revealed that, compared to other diversified farms, agritourism enterprises have more managerial capabilities and marketing strategies and, at the same time, agritourism entrepreneurs are more motivated by the company's profitability, family activities and market opportunities than other farmers. Among the farm diversification strategies, according to the results of the research conducted in the USA by Barbieri C (2012), agritourism seems to be the most sustainable, determining positive impacts on the environment (especially through water conservation and wildlife habitat improvement), producing higher income and profit and generate more jobs and socio-cultural benefits for the farm and the rural community.

Key factors for diversification success. Some scholars argue that for farmers who choose to diversify, innovation and entrepreneurship are important factors that contribute to farm economic development (Clark J., 2009; Mc Fadden T., Gorman M., 2016). Besides these, there are other determinants that belong to the internal or external environment of the farm: collaboration with stakeholders (Fotiadis A. *et al*, 2016), regional agricultural policies (Barnes A.P. *et al*, 2015), marketing activities (Veeck G. *et al*, 2006) or farm size (Schilling B.J. *et al*, 2014; Hung W.T. *et al*, 2016).

According to the results of research from different areas of the world, there are farm's sociodemographic characteristics that support the adoption of the decision to diversify: younger farmers (Barbieri C., Mahoney E., 2009), larger farmer families (Mishra A.K. *et al*, 2004), the availability of older children and female on-farm workforce (Nilsson P.A., 2002; Benjamin C., Kimhi A., 2006).

Various studies carried out in Western European countries (Ilbery B.W., 1991; Lange A. et al, 2013; Meraner M. et al, 2015; Pölling B. et al, 2017; Boncinelli F. et al, 2018) and Japan (Yoshida S. et al, 2019) have shown that proximity to urban areas fosters the diversification process of farms and it also influences the level of diversification. Bryant C.R., Johnston T.R.R. (1992) believe that this is due to the lower transport costs on the farm-city route, the better access to the market, but also to the pressure of urbanization (vandalism, high taxation, low-quality agricultural infrastructure). But other researchers have concluded that the proximity to urban centers negatively influences the decision to diversify farms. Mishra A.K. et al (2004) and Barbieri C., Mahoney E. (2009) are of the opinion that farmers in the vicinity of urban areas are more tempted to seek non-agricultural jobs, which bring higher incomes than agricultural ones.

Also the size of the farm is an important element for the farmer's decision to choose diversification. Part of the specialized literature claims that large farms are more suitable for diversification because they can allocate more resources for this, which are used more efficiently (Ilbery B.W., 1991; McNally S., 2001), being focused on specialization, in order to obtain the benefits derived from economies of scale (Mishra A.K. *et al*, 2004; Vik J., McElwee G., 2011). On the other hand, farm diversification represents a typical strategy for small European farmers to adapt to economic and ecological trends in the agricultural sector, as highlighted by the research carried out by Czekaj M. *et al* (2020) in Poland and Latvia and De Roest K. *et al* (2018) in various other EU states and Israel.

Farm sustainability and motivation for farm diversification. The sustainability of farms is based on the performance achieved in three directions: economic, social (internal or external) and ecological. External social performance refers to public issues (animal welfare, landscape conservation, food security and job creation), while internal social performance is related to employees (work environment, motivation, training programs) (Yoshida S. et al, 2019). Farm performances are related to the nature and intensity of farmers' motivations for diversification. The diversification decision can be determined either on the basis of the agricultural market environment or of the multifunctional characteristics of agriculture (Meraner M. et al, 2015).

Most of the research on this subject reveal the dominance of economic factors, such as: *"additional income"* P.L., (Pearce 1990; Nickerson N.P. et al, 2001; Sharpley R., Vass A., 2006; Barbieri C., Mahoney E., 2009; Amanor-Boadu V., 2013; Moraru R.A., 2019; Tew C., Barbieri C., 2021); "market opportunity" (Nickerson N.P. et al, 2001; Barbieri C., Mahoney E., 2009; Tew C., Barbieri C., 2021); "resource utilization" (Pearce P.L., 1990; Nickerson N.P. et al, 2001; McGehee N.G. et al, 2007; Hansson H. et al, 2013); "uncertainty and risk reduction" (Barbieri C., Mahoney E., 2009; Flanigan S. et al, 2015; Tew C., Barbieri C., 2021); "enhanced financial conditions" (Sharpley R., Vass A., 2006; Hansson H. et al, 2013; Tew C., Barbieri C., 2021); "economic survival" (Amanor-Boadu V., 2013); "losing government support" and "other farm successes" (Nickerson N.P. et al, 2001).

"Family involvement" (Nickerson N.P. et al, 2001; McGehee N.G. et al, 2007; Barbieri C., Mahoney E., 2009; Vik J., McElwee G., 2011; Hansson H. et al, 2013; Cassia F. et al, 2015; Flanigan S. et al, 2015; Tew C., Barbieri C., 2021) and "farm succession" (Tew C., Barbieri C., 2021) are the main internal social determinants mentioned by the specialized literature, while external social motivations refer to: "customer interaction" (Pearce P.L., 1990; Nickerson N.P. et al, 2001; Barbieri C., Mahoney E., 2009; Amanor-Boadu V., 2013); "education" (McGehee N.G. et al, 2007; Tew C., Barbieri C., 2021); "preserve culture" (Amanor-Boadu V., 2013; Cassia F. et al. 2015; Flanigan S. et al, 2015); "community survival" (Amanor-Boadu V., 2013) and "food supply" (Sharpley R., Vass A., 2006).

The motivation of environmental protection in diversified farms is low, both in the USA and in Europe, being more significant in the case of agroforestry farms (Barbieri C., Valdivia, C., 2010; Rois-Díaz M. *et al*, 2018) or organic ones (Läpple D. *et al*, 2015). Barbieri C. (2012) concluded that farmers who chose to diversify their farm activities are less interested in environmental performance, while the researches of Ollenburg C., Buckley R. (2007) also showed that Western European farms diversified through agritourism are motivated mainly by economic and social benefits.

## CONCLUSIONS

Farm diversification can take many forms involves various on-farm and off-farm and activities; its success depends on several factors: innovation and entrepreneurship, collaboration with stakeholders, regional agricultural policies, marketing activities, farm size. Some farm's sociodemographic characteristics support the adoption of the decision to diversify: younger farmers, larger farmer families, availability of female onfarm workforce. Proximity to urban areas favors the process of farm diversification and influences the level of diversification. Compared to other diversified farms, agritourism enterprises have more managerial capabilities and marketing strategies. Although improving environmental performance is particularly important for sustainability, various studies have shown that, in the case of farm diversification, it is an inferior motivation compared to the economic and social ones.

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