



How to become viable? A guidance material for small-scale farmers



Kaustubh Thapa

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What is small scale family farming?

United Nations` initiative to designate 2014 as the International Year of Family Farming was enthusiastically received in the European Union (EU) through the voice of its Commissioner for Agriculture and Rural Development. In his speech, the Commissioner described family farming as “agriculture that feeds the humanity” (Ciolos 2013-11-29), adding that it plays an essential role in food security and the preservation of traditions, local identities and cultural heritage. In the new Member States (MSs) from Eastern Europe, he concluded, family farming is slowly recovering after years of forced collectivization and the new reformed Common Agricultural Policy (CAP) is tailored to support this important segment that is the “foundation of European agriculture”. It is also the case with accession countries from the region, like Serbia.



Figure 1. Core values of small scale family farming

At the EU level, family farming encompasses a broad range of values and characteristics. For one, it is related to fundamental family values such as continuity, commitment and solidarity. In economic terms, it is intrinsically connected to “specific entrepreneurial skills, business ownership and management, choice and risk behaviour, resilience and individual achievement” (EU Commission 2014). Another very frequently used characteristic is that family farming is a lifestyle itself, in which family business is passed down from generation to generation together with knowledge, experience, specific practices and traditions (see FAO 2013a; Matthews 2013; EU Commission 2014). For EU officials, small scale family farmers are also “the most dynamic and most creative in their use of the short supply chain” (Ciolos 2012-04-20), which is something currently encouraged in Brussels (Ciolos 2012-04-20).

76% of the Serbian farms are under 5 hectares and there are an estimated 650,000 family farm households registered in the country and constituting a

fundamental segment of the Serbian society. Half of all farms in Serbia are under 2 hectares but their share of the Utilised Agricultural Area (UAA) is only 10%. On the other hand 32% of the UAA is on farms between 20-50 hectares, which constitute only 0.2% of the total farms. Comparatively, 20% of UAA in Slovakia and 30% in the Czech Republic are farmed by small scale family farmers of under 5 hectares. In Hungary, their share increases to just over a half, while in Poland they account to almost 90% (EU Parliament 2012). At the same time, because of a highly fragmented agricultural landscape, 80% of the UAA in the Czech Republic and 89% in Slovakia is rented from smallholders in order to enhance land consolidation and make farms viable. Here, only one fifth of the standard output from agriculture is produced by family farms (Eurostat 2010). Moreover, in an environment dominated by large farms, smallholders were found to pay more for renting out additional land than corporate entities: 15% more per hectare in Czech and 45% more in Slovakia (EU Parliament 2012). Almost 60% of the small farm owners in Hungary and Slovakia are over 55 years old, while this percentage decreases to 48% in the Czech Republic and 35% in Poland, the latter which has the highest rate of farmers younger than 35 years old in the EU: 12.3% (Bailey and Suta 2014).



Figure 2. Small scale organic family farm in Gyurufu, Hungary (source: Kaustubh Thapa 2014)

Although their number and share in the agricultural sector is varying from country to country, small scale family farmers have common strengths and characteristics:

- Family farms are generally considered **resilient**, because of their capacity to “preserve their structure, functions and identity” (Darnhofer, 2010) despite the fact that they operate under conditions of risk and uncertainties, which are

typical for the agricultural sector. It is argued that family farms are often more resilient than large corporate farms (Council of the EU, 26 July 2013). The flexibility of family labour to changing technological, economic, social and political circumstances, on and off the farm, contributes to their survival. From an economic standpoint, the resilience of family farms also derives from the use of family labour as opposed to hired labour. This is because family has a direct interest in the performance levels of the farm and the end results – they are also called the “residual claimant” (Allen and Lueck 1998). Family farmers use various strategies to increase their resilience and adaptation capacity, in particular:

- diversification to agricultural and/or non-agricultural enterprises and pluriactivity;
- avoiding the commitment of a large share of resources to one activity (EU Parliament 2012)
- **Caution.** Family farmers are **cautious** managers. In order to spread price risk, farmers try to avoid large and risky investment in one activity. Often they adopt the so-called bricolage approach (using what is close to hand), based on detailed knowledge of available resources and tools. Those who have access to external funding still tend to avoid taking out large loans; they try to keep debts at a reasonable level in relation to farm assets (Darnhofer, 2010).

The economic benefits small family farmers provide to society include provision of ecosystem services, food security, high quality agricultural products, employment and family income. In addition, small scale family farmers have traditional farming knowledge and are essential in managing the land in a way that is adapted to local resources and ecological conditions. The knowledge of these farmers is a cultural inheritance for the society as a whole and brings added value to the agriculture and food sector through the preservation of a variety of local or endemic breeds and the production of traditional foods. These are values that are often ignored or underestimated, and that need more support and recognition. It is not only important for Serbia but also for the whole Europe that small scale family farms thrive and contribute to enriching the European cultural heritage, food security and environmental sustainability.

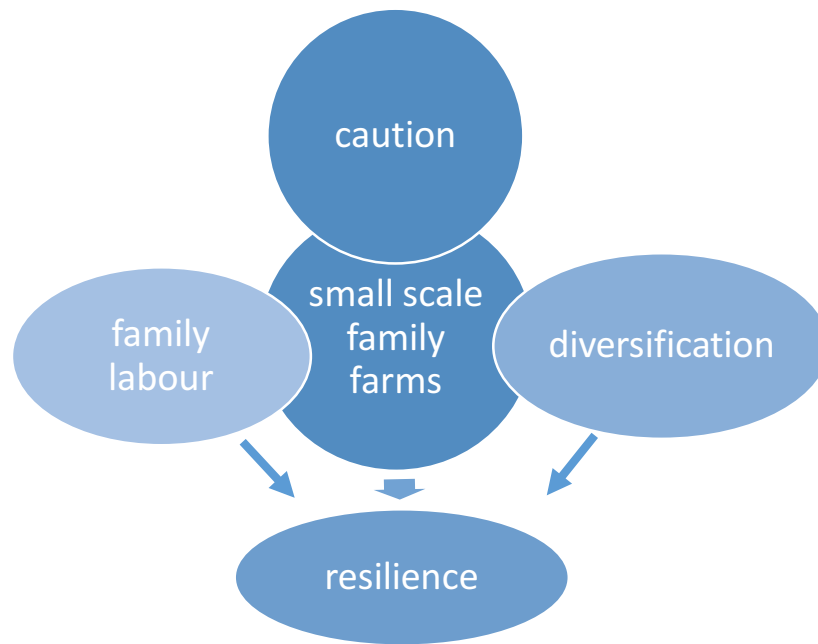


Figure 3. Main aspect of small scale family farm resilience

Challenges for small scale family farmers

Socio-economic

There are many challenges faced by small scale family farmers. In this region, small-scale farmers have difficulty accessing markets, and when they do they lack competitiveness on the European markets. These farms are less resilient to floods and droughts, hence there is a need to strengthen the adaptive capacity of farmers against climate fluctuations. Furthermore, commercial fertilizers are expensive, there is a lack of technical support, limited health care, transport, lack of internet, limited knowledge transfers, and young people migrate out of rural areas because of lack of opportunities.

Other challenges that Serbian small-scale farms face are underused export potential, and an unstable supply. On the other hand, certain farmers also face the problem of over production and often feed their produce to livestock. Oftentimes farmers have no access to the right seeds, which need to be imported from the EU. For producers who have a more stable supply of produce to sell they can begin to consider organic certification. However, prices of organic certification translate to higher prices at the market and without the proper consumer this can create losses for producers (in some instances organic produce can be up to 5 times more expensive than conventional).

There is a wide lack of environmental awareness and a common perception that only protected areas are to be preserved. It is important to raise awareness regarding the preservation of natural resources.

Climate change

According to a 2014 report by the World Bank (WB), the Western Balkans and Central Asia will experience water stress due to the expected temperature rise of 4°C. The International Panel on Climate Change (IPCC) predicts an average annual temperature rise in southern Europe of 2.2-5.1 °C until 2100. Heat-waves, droughts and extreme precipitation events are likely to become more frequent (WB 2014).

Since the 1990s, few scientific studies exist of regional impacts on water resources and river runoff levels for the Western Balkan countries. Most projections are done on a broader European level. Nevertheless, water availability over summer months in the Balkans is assumed to decrease considerably until the end of the century (WB 2014). The high temperatures will increase the evapotranspiration rate, which will amplify the effects of decreased precipitation and lead to reduced water availability. Run-off could decrease by up to 25% in some areas by 2100 with the east of the country experiencing the greatest likelihood of water stress.

The Western Balkans are robustly projected to suffer from an increase in drought conditions based on global analysis (Dai 2012; Orłowsky and Seneviratne 2013; Prudhomme *et al.* 2013; Sillmann *et al.* 2013). One study predicts a 20 percent increase in the number of drought days in a 4°C world (Prudhomme *et al.* 2013).

Solutions

The potential of organic farming for small-scale family farms

Organic Farming is a type of sustainable agriculture method, defined as “a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects” (IFOAM 2009).

Organic farming does not represent solely environmental-friendly agricultural techniques but it also encompasses a larger supply chain controlled by national and international regulations on certification, trade and distribution. The main principles of organic farming are health, ecology, fairness and care (IFOAM, 2009). EU has one of the most developed organic sectors worldwide, although its share in the national agriculture sector varies greatly across Member States and the Visegrad countries are no exception. For instance, UAA under organic production covers 13.1% in the Czech Republic, followed by Slovakia with a little over 8%, Poland with 4% and Hungary with just over 2% (EU Commission 2013). The number of organic farmers has been growing steadily over recent years and, furthermore, organic farmholders are younger than conventional farmholders. The regional average for organic farm managers younger than 55 was of 65.7% in 2010, while this number drops to 44.2% for the conventional section (EU Commission 2013).

Financing organic production

Organic production involves a number of setting up costs such as the costs for conversion, training and developing of market skills. At the same time, small scale family farmers should be aware of ongoing costs, such as soil management, record keeping or marketing management – a more complete list is summarized in table 1 below. For instance, it is estimated that visits and inspection costs vary from 2.5% of the ongoing costs in the Czech Republic to four percent in the Hungary.

	Setting-up costs	Ongoing costs
At production	Costs of conversion Production losses Investment in infrastructure	Pest management and control Soil management
At certification	Establishing farmer groups ICS establishment Record keeping/ accounting systems Training and meeting	Record keeping/ accounting systems Ongoing training and meeting Visits and inspection
At marketing	Investment in facilities Developing market skills	Marketing management Ongoing development of market skills

Table 1) Setting-up and ongoing costs in organic production (source: FAO, 2007)

Nevertheless, organic production brings a number of non-financial benefits, some of which cannot be quantifiable but are nevertheless very important for the resilience of small scale family farms (see table 2 below). Organic farming provides for a better food product quality and an increase of farm resources, both which contribute to the long term sustainability of the farm itself. Soil improvement is a particularly important benefitting element, as it provides a better nutrient balance and a higher plant and animal on-farm diversity – however this is difficult to quantify and can only be observed after a few years. On the other hand, developing the knowledge and skills base and improving farm management plans are important elements, which not only make the small scale farms more resilient but also positively contribute to boosting small scale farmers' self-confidence and improve their negotiation and marketing skills.

	Quantifiable benefits	Non-quantifiable benefits
At the organization level	Knowledge and skills in ICS management Knowledge in organic production technology	Improvement in general planning (supply chain)
At the farm level	Add-value to farmer's products (premium price) Food security Reduced input costs	Soil improvement Plant and animal species diversity Improved farm resource management Self-confidence Social networking Food sovereignty

Table 2) Non-financial benefits of organic farming for small scale family farmers (source: FAO, 2007)

Many organic farmers rely on creditors or personal contacts to provide them with personal loans, which often have little or no interest. For smaller and poorer enterprises, the short-term loans provided by intermediaries are important, since these are paid back after the harvest and no instalments are made during production season. To acquire new machinery, leasing is often a preferred solution, because no collateral is required and loan approval is obtained in 2-3 days. In most cases, the trader provides a guarantee to buy back the equipment. The producer benefits by paying only a proportion (10-30%) of the price for the equipment, so is able to renew farm machinery, pay a monthly fee and increase competitiveness.

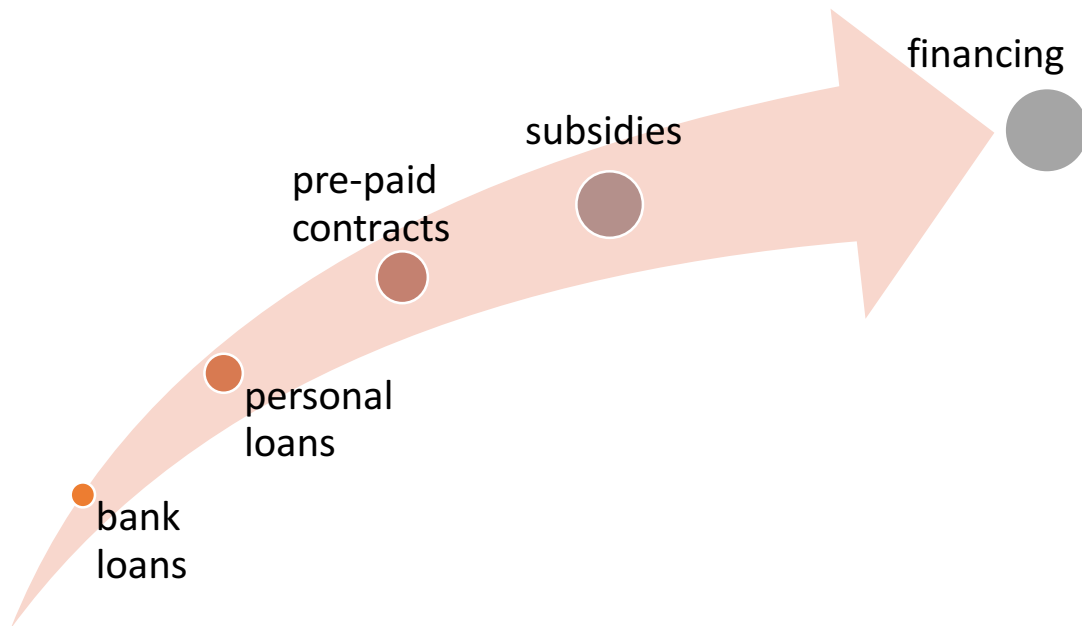


Figure 4. Financing methods for small scale organic farmers, in the order of preference

Marketing organic products

Marketing organic products is the most important element of economic resilience for a small scale family organic farm, but at the same time one of the most challenging. This is because marketing requires knowledge, information, creativity and perseverance. Through marketing, organic producers are making their products visible and are earning the necessary money to run the business. Due to lack of resources, marketing for small scale family farmers is often difficult in the beginning and requires them to show a lot of adaptation and flexibility. As experience from Visegrad countries show, it is usually the case that marketing will be a mix of various techniques such as farm gate sales, contracts with retailers, participation in food sale events or direct sale in food markets.

For instance, in Hungary, the smaller organic farms produce a variety of crops including fruits and vegetables, which are marketed directly to consumers through organic fairs, home delivery and at farms. The organic market segment in Hungary is driven by the urban educated class and those who can afford the organic price premiums. Organic shops and markets are predominant. However, with the expanding organic market, Hungary is experiencing a great increase in the retail sector share. This is also the case in the Czech Republic where spending and demand is increasing,



Figure 5. A stand with organic products in a Czech supermarket (source: radio.cz 2015)

although starting from a small baseline; this trend is being fuelled by information and economic growth. Multiple retailers have over two-thirds of the domestic organic market share. Farmers are responsible for cultivating crops according to organic procedures that can be certified by the appropriate authority. They are also responsible for transporting their products to organic marketplaces in urban areas where they sell directly to consumers. The absence of farmer

organization has been mentioned as a limiting factor in the development of the organic sector for small scale farmers.

However, small scale farmer in Hungary are generally limited in their marketing because they produce a wide range of farm products but in small volumes. While this is their philosophy and choice, it does limit their potential for supplying conventional markets such as supermarkets, wholesalers or processors. On the other hand, consumer confusion about the characteristics of organic products in Hungary has limited development of domestic demand. Lack of identity and appreciation of the value of organic products in health food shop sin Hungary limits market growth and explains why it is estimated that 90% of organic fruit and vegetables are exported. Farmers in Hungary need to tackle confusion by promoting their products and clearly describing the values and attributes of organic farming. This can be done through alliances with relevant government agencies and private sector partners (FAO 2013).

On the other hand, the Czech Republic only exports ten percent of its organic produce, but strong government support is encouraging an increase in the sector. The ability to clearly communicate the advantages of organic production to the market was recognised here, as Czech farmers were not used to “promoting” their products under the old regime: the government simply bought them. The situation has completely changed today; the communication skills and marketing savvy are now extremely important, particularly in the organic business (FAO 2007). The pressure from conventional marketing structures, putting price before quality, is enormous.

Successfully competing in this environment requires farmers, particularly smallholders, to have the will and desire to learn new skills, try untried steps and be courageous.



Agroecology

Agroecology is a model of production that mimics the nature rather than the industry. It is comprised of science and a set of practices, based on enhancing favourable soil for plant growth by managing organic matter and increasing biotic activity in the soils. Agroecology decouples food production from fossil fuels and provides an ecosystem approach to sustainable crop production intensification, which provides opportunities for optimizing crop production per unit area, taking into consideration the range of

sustainability aspects including potential and/or real social, political, economic and environmental impacts (FAO 2016).

Agroecology has four main pillars:

- **Recycling** energy and nutrients
- **integrating** crops and livestock
- **diversifying** species and genetic resources
- interaction and productivity across the **whole agricultural system**

For instance, in **agroforestry**, combinations of trees, crop and livestock are intentionally designed and managed as a whole unit. The biological and physical interaction between the crop and the livestock components are manipulated to enhance the agricultural production of the land base. Potential **benefits** from properly designed and managed agroforestry practices include:

- increased crop production and economic gain
- soil conservation and increased soil quality
- sequestration of atmospheric carbon
- increased biodiversity

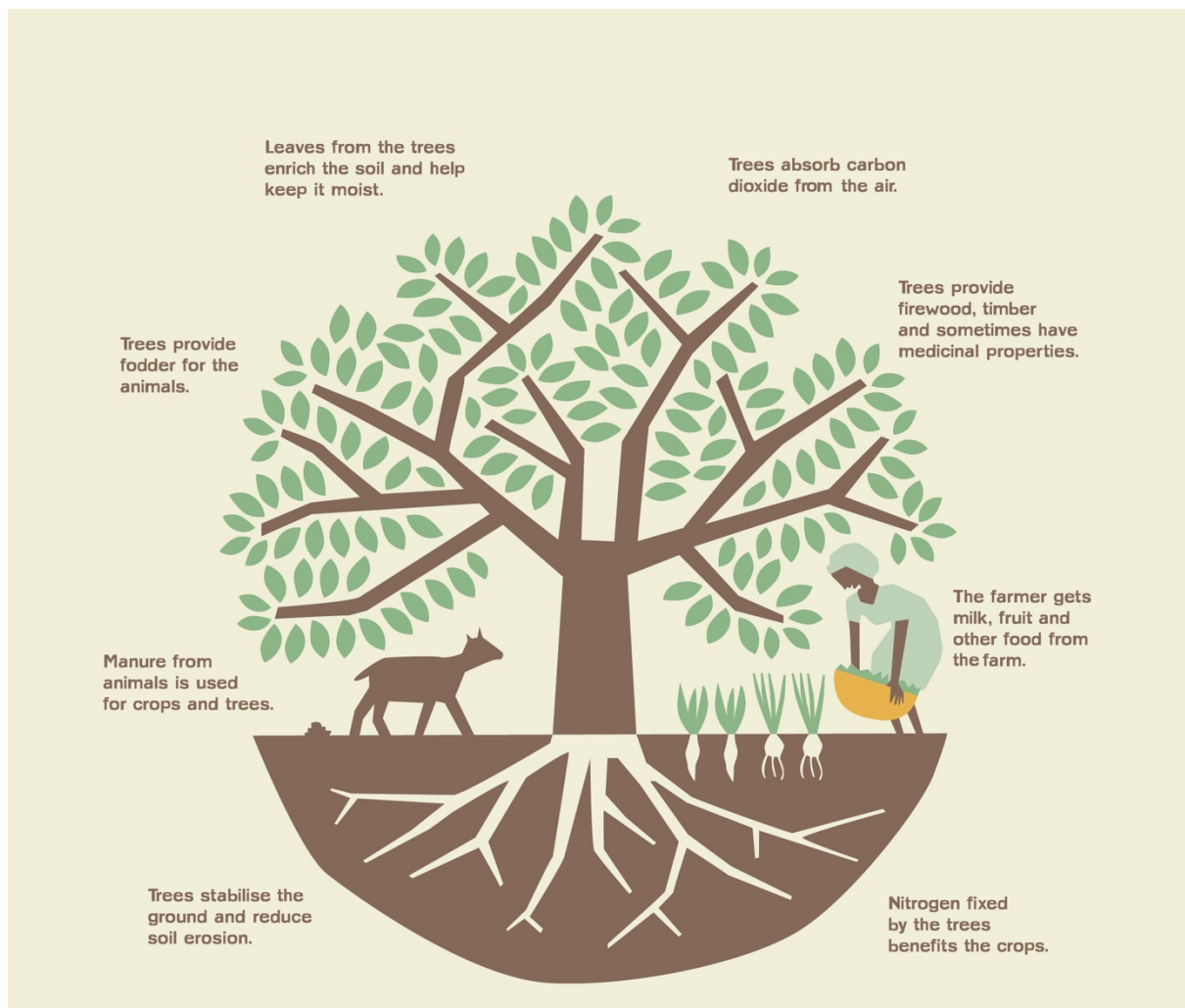


Figure 6. Simplified functions of agroforestry (source: viagroforestry 2016)

Crop yield increases in fields adjacent to shelterbelts have been reported in many studies. These increases occur because of improved microclimates and better snow (moisture) retention, reduced wind speeds and thus reduced wind erosion and damage to crops. Well planned shelterbelts can provide many benefits to livestock in both, winter and summer as well as screening noises, dust and odours that can be associated with livestock operations. Field shelterbelts can be highly effective for preventing and controlling soil erosion by wind. Shelterbelt plantings on agricultural land to protect crops and soil, catch and distribute snow, and improve the micro-climate for crops growing in their shelter.

Crop rotation

Crop rotation is a farming practice in which different crops are grown in the same field at different times over several years, and which can have positive or negative impacts on the environment and the economy. Crop rotation aims to ensure conditions which are conducive for the development of crops, by promoting soil fertility and minimising the development of pests and weeds, and also by ensuring better nutrient management (EU Commission 2010). To achieve this, a balance between the combination of crops and the sequence in which they are cultivated is sought.

Often, the first sequence in a rotation is used to prepare and regenerate the soil — using crops such as legumes and grasslands — while the second sequence takes advantage of the increased fertility of the regenerated soil, ideally leading to a farming practice which is economically more sustainable (EU Commission 2010). Successful crop rotation involves the implementation of a variety of criteria and requires solid knowledge of crop management and agronomy (see table 2). For conventional European agriculture, crop rotation usually takes between 3 to 5 years, while for organic farming this number increases to 5-10 years.

Crop rotation has a number of essential environmental benefits. It reduces soil erosion, decreases dependence on agro-chemical inputs, reduces vulnerability to pests, improves soil fertility and constitutes an optimal adaptation and mitigation measure in the context of climatic changes (EU Commission 2013). On the other hand, this farming technique requires knowledge of building a crop rotation, which as seen from table 2 is not a simple task. At the same time, it further necessitates a good farming knowledge of a range of crops and the impacts of crop rotation at any given location will depend on how farming practices are carried out and how the crops are adapting to the local conditions. Last but not least, crop rotation poses risks in relation to the management of new crops and leads to a decreasing profitability during implementation.

	Criteria	Consequences
1	List of the species most adapted to the area(s)	higher or better development of the crop due to the adaptation to local pedo-climatic conditions and problems related to local pests and diseases
2	Introduction of a maximum number of different families and species in the rotation	The more genetically unconnected the species are, the fewer the common parasites they will have
3	Introduction of at least one legume in the rotation	Free nitrogen (nitrogen fixation) for the following crop and a high protein rate content
4	At least 1/3 of cereal straw content	If straw is not burnt or exported, it maintains soil organic matter
5	At least every three years, introduction, of a long intercrop (e.g. a spring crop) integrating winter crops and spring crops	Stale seedbed technique in the intercrop favours the germination of weed seeds, mechanically eliminated later
6	Sow nitrogen demanding winter crops after annual legumes as peas or a legume cover crop	After their harvest some crops unload a large amount of nitrogen (as peas), which will be used by nitrogen demanding crops such as wheat
7	Alternate phosphorus and potash demanding crops with crops with a small demand of these elements	Same as in nitrogen demanding crops

Table 3) *Hierarchy of agronomical criteria necessary to build a crop rotation (source: Viaux P 1999)*

According to the European Commission (2013), there are a number of barriers that are currently preventing farmer from adopting crop rotation:

- lack of knowledge of farmers on the importance of ground cover, residue management and other agronomic benefits influencing land management and yields (e.g. soil structure, erosion, water retention, etc)
- Need for a learning period after the implementation of a new crop rotation to learn on risk management of new crops and related farming practices: yields and work efficacy can be reduced during this period, as timings and products management change according to crop rotations (e.g. nitrogen management is modified when inserting legumes in the rotation).
- New knowledge and practices may be needed: Choosing and implementing a crop rotation may require acquiring new knowledge, and may meet resistance to change from farmers who master their agricultural practices.
- Benefits are most obvious at the large-scale. Environmental impacts are seen at the landscape level, and not particularly in the farmer's fields.
- Incentives may be misaligned: Farmers have little decision-power on regional specialisation of agricultural production and local market opportunities, which both need to be taken into account in the decision-making regarding crops and crop rotations choice.

(EU Commission 2013)

However, a combination between crop rotation and other sustainable agriculture techniques can yield significant environmental and economic benefits. For instance in Spain, experimental studies showed that soil water stored at sowing was 10% higher under barley-fallow rotation than under barley monoculture. The research concluded that in areas with high evaporation the benefit of soil water storage was only possible with a combination of NT and a fallow management system (Arrue et al. 2007). In Moldova, 232 tons of tomatoes, sweet pepper and other superior vegetable varieties were produced in Anenii Noi on 4.5 ha by using drip irrigation, crop rotation and foliar fertilization. The project, implemented through CAPMU, brought a 10.5 times return: an investment of 86,000 MLD resulted in a turnover of 900,000 MLD (UNEP 2013).

Mulching

Mulching is simple, cost-efficient and effective way to reduce or, in some cases, halt soil erosion and runoff. Table 1 summarizes the effectiveness of different types of mulch in relation to runoff and soil erosion reduction. The data was compiled from a number of experimental studies carried out in Southern Europe and shows that chopped vine shoots are the least effective type of mulch, while straw is extremely efficient, at least in the first year. In the context of drought and decrease in precipitation rates, mulching can be a better option than cover crops, as the latter will compete for water with perennial crops.

More than often, achieving rapid and tangible results from the implementation of sustainable agriculture techniques means that a combination of such techniques must be applied. For example, Bely Most, which is a predominantly women farmer association from Transnistria, Moldova, adopted mulching and drip irrigation for a 2.5 ha strawberry plantation. This increased production by 50% compared to previous results. The success of Bely Most and their expertise gained from ACED trainings lead to a 50% increase in the number of its paying members, which has now topped 57 (UNEP 2013).

Duration after use	Type of mulch	Run-off	Erosion
	Naked soil	100	100
Several months after (<1 year)	Chopped vine shoots	100	100
	Grape marc (80 t/ha)	20	1,4
	Compost (80 t/ha)	25	2,7
	Straw (8 t/ha)	21	0,6
1 year after	Grape marc (80 t/ha)	54	16
	Compost (80 t/ha)	25	13,5
	Straw (8 t/ha)	46	8,9

Table 4) Effects of different types of mulch on run-off and erosion (source: SOLAGRO 2008)

Resilience to climate change

An exhaustive report of the World Bank studied in detail the vulnerability of Balkan countries agriculture in the context of climate change. The report provided a consistent number of adaptation measures for consideration, divided in four main categories: I) infrastructural; II) programmatic; III) farm management; and IV) indirect. While some of these measures would require substantial investment, others are more accessible to small-scale farmers – those are highlighted in table 2. At the same time, those techniques mostly rely on sustainable resource use at the farm and local level, some of which were briefly explained in the above section.

Category	Measure
Infrastructural	<ol style="list-style-type: none"> 1. Vegetative barriers, snow fences, windbreaks 2. Build or rehabilitate forest belts 3. Increase shelter and water points for animals 4. Enhance flood plain management (for example, wetland management) 5. Irrigation systems: new, rehabilitated, or modernized, including drip irrigation 6. Water harvesting and efficiency improvements
Farm Management	<ol style="list-style-type: none"> 1. Change fallow and mulching practices to retain moisture and organic matter, including the use of polyethylene sheets 2. Conservation tillage 3. Crop diversification 4. Crop rotation 5. Heat- and drought-resistant crops/varieties/hybrids 6. Increased input of agro-chemicals and/or organic matter to maintain yield 7. Manual weeding 8. More turning over of the soil 9. Strip cropping, contour bunding (or plowing) and farming 10. Switch to crops, varieties appropriate to temp, precipitation 11. Optimize timing of operations (planting, inputs, irrigation, harvest) 12. Mixed farming systems (crops, livestock, and trees) 13. Switch from field to tree crops (agro-forestry) 14. Livestock management (including animal breed choice, heat tolerant, change shearing patterns, change breeding patterns) 15. Match stocking densities to forage production 16. Pasture management (rotational grazing, etc.) and improvement 17. Integrated pest management 18. Introduce natural predators 19. Intercropping to maximize use of moisture 20. Optimize use of irrigation water (e.g., irrigation at critical stages of crop growth, irrigating at night)

Table 5) Available mitigation measures for small scale farmers (World Bank 2013)

Novel approaches to the supply chain

Innovative approaches are needed for effective marketing by small scale family farmers. One such approach is the community-support agriculture (CSA). CSA models vary from location to location, depending on socio-economic conditions or the type of agricultural system in place. However, there are four main principles to which all CSA adhere: partnership, relocalisation of economy, solidarity and the producer/consumer tandem (Urgenci 2015). Partnership means that the producer and consumer engage themselves in a formal or informal agreement for a determined period of time, during which the producer will meet the consumer's demand and the consumer commits to pay for those services according to the agreement. The idea of relocalising economy does not mean CSAs are geographically limited but rather that local producers are well integrated into the local economy and they benefit the local communities that support their activity. In terms of solidarity, producers and consumers engaged themselves into an act of shared risk – agriculture is well dependent on a number of unpredictable natural phenomena and this is taken into account in a CSA model. Also, consumers ensure that the price (usually up-front) they pay is a fair one, which will enable producers to sustain their activity and live in a dignified manner. On the other hand, the producer is committed to provide very good customer service and healthy, high quality products. Finally, the consumer/producer tandem is linked to the direct, face-to-face relationship between consumer and producer, a relationship based on mutual respect, trust and understanding. In this way, there is no need for intermediaries (Urgenci 2015). CSA bring a number of benefits for both consumers and farmers and address numerous social, economic and environmental issues at a local level, such as community cohesion, environmental protection, fair incomes for farmers, nutrient-rich products, etc (see table 3).

CSA benefits for consumers	CSA benefits for farmers
Fresh food from a known source	More secure income, which improves business planning and allows for more time to focus on farming activities
Fewer 'food miles', less packaging, ecologically sensitive farming with improved animal welfare	Higher and fairer prices for products
Support to local economy by higher employment, more local processing, local consumption and a re-circulation of money through 'local spend'	Increased involvement in the local community and an opportunity to respond directly to consumer demands
Education to people on food variety and production methods	Help with labour and planning initiatives for the future
An influence on the local landscape and encouraging sustainable farming	

Table 6) CSA benefits for consumers and producers (data from Urgenci 2015)

In Poland, the first CSA was created in 2012 in Warsaw, and in 2015 six such schemes are operational in the country. The CSA model is based on the idea that consumers share risks with the farmers: consumers enter the scheme agreeing to take whatever vegetables the farmer is able to produce given weather conditions. They are also able to volunteer on the farm, which provides an understanding of seasonality and farm

work that few city inhabitants have. More schemes are expected to be launched next year, given the warm welcome the model has received from city consumers and the farming community. Cooperatives and vegetable box schemes exist in most big Polish cities and are even developing at the level of neighbourhoods. At least 15 CSA initiatives exist in the Czech Republic and, in addition, vegetable box schemes and urban gardens are continually appearing (IPS, 2015). A recent success story of a small scale family farmer was that of Slawek Dobrodziej and his wife Malgosia.

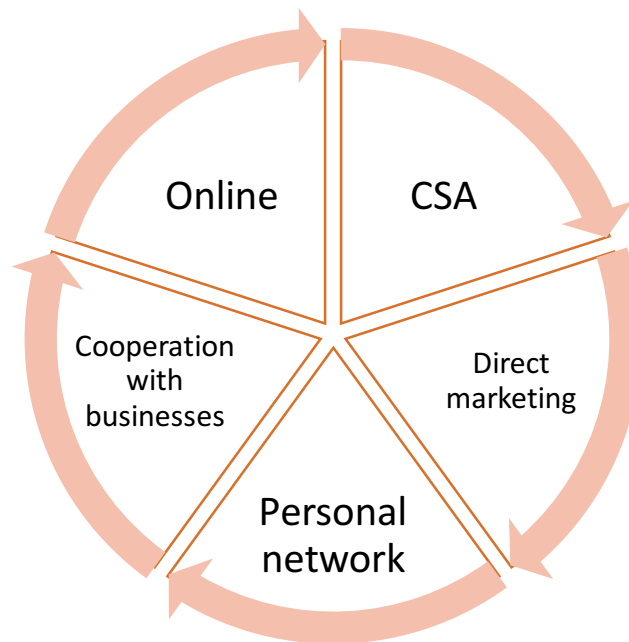


Figure 7. Main marketing tools for small scale family farmers engaged in organic production

Over the past eight years, the couple have managed to build up a successful organic farm in the village of Zeliszewo, near the western city of Szczecin. They sell some 100 types of fruit and vegetables to consumers in several Polish major cities, including the capital Warsaw. Additionally, for the first time this year, they started selling to consumers via two community-supported agriculture CSA schemes in the cities of Szczecin and Poznan, through which the roughly 30 consumers in each scheme pay them in advance for vegetables they will receive weekly throughout the summer and autumn months. Malgosia says that CSA is an excellent way of offering financial stability to a small farm (IPS, 2015).

Czech Republic

- Supermarket/hypermarkets (65%)
- Specialised shops with health and organic food (20%)
- Direct Marketing (5%)
- Pharmacies (5%)
- Drugstores (5%)
- Independent small food shops (1%)
- Gastronomy (1%)

Poland	Specialised retail trade (73%) General retail trade (20%) Online sales (4%) Bakery/butchers (3%)
Hungary	Supermarkets (60%) Specialized shops (20%) Events (6-10%) Online sales (6-7%) Direct farm sales (2-3%)
Slovakia	General retail trade (40%) Specialised retail trade (40%) Other (farm gate sales, online, 20%)

Table 7) Main marketing methods for organic farmers in the Visegrad countries
(data from OMKI 2013, IFOAM 2012)

Starting a CSA step-by-step

There are five main elements required to start a CSA: land, a skilled farmer, organized consumers, a vision/motivation and a process/plan to bring people and resourced together. From the European experience, CSAs are not necessarily started by farmers – they have also been started by consumers or landowners. The table below summarizes the activities required when first setting up a CSA but one should bear in mind that CSAs vary from case to case, even when they are active in the same region. Also, the legal status of CSAs vary from country to country – while usually it can be only an informal agreement between producer and consumer, it should be verified if CSAs are legally recognized in Serbia or not.

Key activity	Details
<i>Finding or forming a group of consumers</i>	<ul style="list-style-type: none"> • Approach existing local community groups and any existing environmental organization. You should find a partner such as school or community centre • Hold a friendly public meeting to discuss the idea and get support • Organise social meetings and discussions to develop a group of people and the idea
<i>Making a clear and sensible plan</i>	<ul style="list-style-type: none"> • Find someone with skills to include everyone and get on with making clear decisions. They might have consultation meetings and run discussions • Make a structure for the group and allocate roles – this could be done by dividing the group into working groups for holding community events, business planning, etc. • Identify each stakeholder's needs: farmers need more labour, cash at the start of the season and a reliable market. Consumers need affordable and easily accessible organic food. Funders need evidence of environmental benefits.

<i>Find or expand your land</i>	<ul style="list-style-type: none"> • Draw up a statement about your values. Once you agree on values, bring examples of successful CSAs and choose a model that would fit. • Set some objectives and goals and agree who needs to do what.
<i>Get support</i>	<ul style="list-style-type: none"> • Be clear what you are trying to achieve and therefore what land you really need. Is it important to be certified organic? Do you need to be near a town? Will you have animals? As a farmer, will you collaborate with other farmers to have a larger cultivation area? • Be inventive and persistent. There are CSAs on land owned by schools, local governments, churches, railways, gardens, parks, universities and farms. There are also CSAs on roofs and in car parks! • Identify how much land you need: for vegetables, one person can be fed for a year from 100m² of intensely cultivated land with moderate fertility. For cereals the number increases to 300m², while for meat it would take roughly 2 hectares to feed 4 people with various meat all year round. For cow milk consumption, it is estimated that 2 hectares would ensure milk for 97 people all year round.
<i>Review, evaluate, celebrate and make improved plans</i>	<ul style="list-style-type: none"> • Be clear what your message is. What do you exactly want people to do to help? What is great about your proposal? • Find a volunteer who is keen on marketing • Spend money and time on publicity • Get out and talk to as many different groups as possible, not just your friends • Notice what people contribute and say thank you • Establishing a new CSA can take time – keep people motivated by organizing practical small projects quickly

Table 8) Establishing a CSA step-by-step (data from Urgenci 2015)

Therefore, marketing organic or environment-friendly products takes many forms and it is advisable that farmers also embark on a number of different marketing techniques in order to have a steady sales flow. One such technique is the participation in organic fairs – this is particularly important for business growth and the build-up of a wider contact network to potentially support future sales on new markets (e.g. in another country). The table below summarizes some of Europe’s main organic fairs – dates change each year.

<i>Organic fair name</i>	<i>Country</i>	<i>Website/additional info</i>
<i>Biostyl</i>	Czech Republic	http://www.festivalevolution.cz/en/
<i>Bioost</i>	Germany	http://www.bioost.info/
<i>Biowest</i>	Germany	http://www.biowest.info/
<i>Next organic Berlin</i>	Germany	http://www.nextorganic-berlin.de/
<i>AgroExpo</i>	Ukraine	http://agroexpo.com.ua/Eng/Main.php
<i>Biostyl</i>	Slovakia	http://www.incheba.sk/vystavy/esoterika-1.html?page_id=9002
<i>Anuga</i>	Germany	http://www.anuga.de/anuga/index.php
<i>Nature-Health Fair</i>	Slovenia	http://www.nature-health.si/for-visitors/home/
<i>Biofach</i>	Germany	https://www.biofach.de/en/default.ashx largest organic fair trade in Europe (and global)
<i>SIAL</i>	France	http://www.sial.fr/ (international food exhibition, including organic)
<i>Fair of ethnic food and drinks</i>	Serbia	http://www.etnohip.rs/
<i>Bio Balkan Expo</i>	Serbia	http://www.ntradeshows.com/bio-balkan-expo/ (not a dedicated website, to be checked yearly)
<i>Natura food and beEco</i>	Poland	http://www.naturafood.pl/
<i>Vinex</i>	Czech Republic	http://www.bvv.cz/salima/ (International wine fair)

Table 9) Some of the main organic/environment-friendly food and wine fairs in Central and Eastern Europe

Sustainable tourism

As mentioned in previous sections, a key to increasing resilience of small scale family farms is diversification. Diversification does not only refer to the diversification of the range of primary and secondary food products but, more importantly to diversification of on-farm activities. In this perspective, sustainable tourism is a promising income source for small scale farmers, especially for those located inside or within proximity of protected areas. Agri-tourism is widespread in the Visegrad countries and there are numerous success stories from the four countries, which point to some general factors that guaranteed success.



Figure 8. Jánův dvůr farmstead, a good example of agro-tourism (photos from januvdvur.cz 2015)

Sustainable local tourism should also be fostered through regional or trans-border initiatives. An example is the Gorn-Torna festival, which takes place for 10 days in 12 villages on both sides of the Hungarian-Slovakian border. Visitors can choose from more than 100 events, including jazz and rock concerts, national dances and songs, street comedies, handicraft markets, guided tours in nature and art exhibitions. Locals are also organizing workshops to teach tourists how to dance, make handicrafts or cook traditional food according to ancient recipes. The organization of the festival is supported by a project

devoted to tourism development in biosphere reserves and apart from providing quality entertainment to tourists, the festival aims at bringing income to local people, preserving traditions and enhancing co-operation between the bordering regions.

For instance, Januv Dvur is a traditional farmstead in the Czech part of the Carpathians, developed into a sustainable tourism centre, featuring a guest house, a camp site and an organic farm. Tourism activities here are diversified into several interconnected sectors: accommodation in the guest house and on a camp site, food prepared from local, homemade, organic products and horse riding. Visitors can enjoy the landscape during the horse riding trips along nearby hills and vineyards. The owners also make bicycles available to guest so visitors can make use of the many cycleways crossing the area (CEEweb 2014).

In Slovakia, two volunteers from Hodrusa-Hamre village began to mark and signpost mountain biking trails in the wider area of the village with some support from the local administration. Initially, a 100km trail network was formed and this was extended to 200km once two more villages joined the initiative. The number of bikers using the trail is growing each year and has had an indisputable benefit for the local economy. This example shows that community initiatives can be successful in developing small scale tourism and as a way to support the local economy (CEEweb 2014).

Conclusions

Best practices must be encouraged within all farm lands. There is a need to convert to new practices which would benefit agriculture, people and nature. Rural ecotourism, custody over nature, renewable energy, provision and payment of ecosystem services (e.g. flood protection), good quality organic food and labelling schemes all provide alternatives for small-scale farmers, ultimately helping to sustain this heritage.

Small-scale farmers need to cooperate and unite vertically (by connecting producers to the market) and horizontally (by connecting producers together). In 2010, an Organic Production Law was adopted in compliance with equivalent EU regulations, which renders Serbian organic food in compliance with EU standards and enables its export.

There are 5 steps for organic conversion and certification, these include:

1. Contact with an authorised certification body
2. Small-scale farmer authorises certification body to incorporate his/her farm into organic system
3. Certified body drafts action plan and verifies submitted registration data
4. Undersigning a contract for organic production
5. Control and reporting

Furthermore, the Instrument for Pre-Accession Assistance in Rural Development, IPARD Program in Serbia was introduced to provide assistance for the implementation of the Common Agricultural Policy, and to contribute to the sustainable adaptation of the agricultural sector. These initiatives include:

1. Improving Market Efficiency and Implementing Community Standards Measures
2. Investments in agricultural holdings to restructure and upgrade to the EU standards
3. Investments in processing and marketing of agriculture and fishery products to restructure and upgrade to the EU standards
4. Supporting the setting up of producer groups
5. Preparatory actions for implementation of the agri-environmental measures and LEADER Measures
6. Preparation for implementation of actions relating to environment and the countryside
7. Preparation and implementation of local rural development strategies
8. Development of the Rural Economy Measures
9. Improvement and development of rural infrastructure
10. Development and diversification of rural economic activities
11. Training
12. Technical assistance

The National Strategy on the Preservation and Sustainable Use of Natural Resources in Serbia defines the ecosystem services as goods and benefits provided by the natural systems. Because the functionality of natural systems cannot be protected by isolated reserves, they have to be connected by corridors into ecological network. The ecological network in Serbia is based on the obligations from the Bern Convention on the Conservation of European Wildlife and Natural Habitats, which the national Law on Nature Conservation and the Bylaw on the Serbian ecological network support. Integrating more small scale farmers to become a part of the ecological corridors that are key for preservation of ecosystem services will be crucial.

The previous sections showed that small scale farmers need to apply a number of diverse activities in order to develop and prosper. There is no one success model, as the key factors to guarantee success vary from place to place and farmer to farmer. There are, however, some basic factors which will work everywhere and will enable farmers to make the right initial steps in this direction. First and foremost, small scale family farms need a variety of income, hence farmers should look for income diversification at a farm level. Thus, they will decrease the risk factor in their business and will be more resilient to poor performances in one sector – for instance harvest for one year is below expectations but the farmer can offset the losses through tourism, offering horse riding lessons, renting out bicycles, etc. Second, an open dialogue with an open mind for collaboration is vital. Farmers should look for collaboration with local authorities, local NGOs, schools, churches, local retailers, volunteers – in short, all local stakeholders and even beyond (e.g. a nearby city for establishing a CSA). Third, farmers should always stay informed and never stop marketing and advertising their products – a website, participation in a fair, even an app for smart phones will give small scale farmers an upper hand in the market. Last but not least, perseverance, patience and providing great customer services are a must. By producing organic or environment-friendly products, small scale local farmers have an advantage over traditional retailers or large, intensive farms.

References

- Allen, D and Lueck, D. 1998. The Nature of the Farm, *Journal of Law and Economics*, 41(2):343-386.
- Bailey, A. and Suta, C. 2014. *Parlons Graphiques: Small Farming across the EU-27*. EuroChoices, 13 (1). pp. 26-27.
- CEEweb for Biodiversity 2014. *Good practices of sustainable tourism in the Carpathians* (online), available at http://www.ceeweb.org/wp-content/uploads/2012/02/good_tourism_Carpathians.pdf, last retrieved 12.03.2015.
- CEEweb for Biodiversity 2006. *Sustainable tourism now and in the future* (online), available at http://www.ceeweb.org/wp-content/uploads/2012/02/tourism_brochure_EN.pdf, last retrieved 14.03.2015.
- CEEweb for Biodiversity 2013. *Rural Development Programmes performance in Central and Eastern Europe: Lessons learnt and policy recommendations* (online), available at <http://www.ceeweb.org/wp-content/uploads/2013/12/RDP-performance-in-CEE.pdf>, last retrieved 20.03.2015.
- Ciolos, D. 2012. *Local farming and short supply chains: enhancing the local dimension of the common agricultural policy*. Speech 12/283, 20/04/2012
- Ciolos, D. 2013. *L'agriculture familiale : pour une agriculture plus durable et plus compétitive en Europe et dans le monde*. European Commission: speech 13/998, 29/11/2013.
- Council of the European Union (26 July 2013). Family farming prospects in the context of globalization, Discussion paper. 12786/13, AGRI516. Available at: http://static.eu2013.lt/uploads/documents/Programos/Discussion%20documents/Infomal_AGRI_DP.PDF., last retrieved 24.03.2015
- Darnhofer, I. 2010. Strategies of family farms to strengthen their resilience. *Environmental Policy and Governance*, 20, 212-222.
- European Commission 2013. *Facts and figures on organic agriculture in the European Union*. Brussels: European Commission.
- European Commission, 2014. *Family farming* (online), available at http://ec.europa.eu/agriculture/events/familyfarming-conference-2013_en.htm, last retrieved 21.03.2015.
- European Parliament 2012. *Family Farming in Europe: Challenges and Prospects*. Brussels: European Parliament.
- Food and Agriculture Organisation (FAO) 2007. *Organic certification schemes: managerial skills and associated costs*. Rome: FAO.

Food and Agriculture Organisation (FAO) 2013a. *2014 International Year of Family Farming - Main Message* (online) available at <http://www.fao.org/family-farming-2014/about/main-messages/en/>, 05.03.2015.

Food and Agriculture Organization (FAO) 2013b. Organic supply chains for small farmer income generation in developing countries. Case studies in Indian, Thailand, Brazil, Hungary and Africa. Rome: FAO

Halada, L., D. Evans, C. Romão, and J.-E. Petersen. 2011. Which habitats of European importance depend on agricultural practices? *Biodiversity and Conservation* 20:2365-2378.

International Federation of Organic Agriculture Movements (IFOAM) 2012. *Czech Republic – country profile* (online), available at <http://www.ifoam-eu.org/en/czech-republic>, last retrieved 24.03.2015

International Federation of Organic Agriculture Movements (IFOAM) 2009. *Definition of organic farming* (online), available at <http://www.ifoam.bio/en/organic-landmarks/definition-organic-agriculture>, last retrieved 22.03.2015.

Inter Press Service News Agency (IPS) 2015. Organic farming taking off in Poland...slowly (online), available from <http://www.ipsnews.net/2014/08/organic-farming-taking-off-in-poland-slowly-2/>, last retrieved 28.03.2015.

Keenleyside, C., Beaufoy, G., Tucker, G. and Jones, G. 2014. *High Nature Value farming throughout EU-27 and its financial support under the CAP*. Report for the European Commission. Institute for European Environmental Policy: London, UK.

Kristensen, S.P. 2003. Multivariate analysis of landscape changes and farm characteristics in a study area in central Jutland, Denmark. *Ecological Modelling* 168(3):303–318.

Matthews, A. 2013. Promoting family farming: The European Union. *GREAT Insights*, 3(1) December 2013-January 2014.

Hungarian Research Institute of Organic Agriculture (OMKI) 2013. *Organic Agriculture and Research in Hungary*. ISOFAR newsletter no.17 (online), available from <http://omki.org/wp-content/uploads/2013/12/isofar1.pdf>, last retrieved 25.03.2015.

Oppermann, R., G. Beaufoy, and G. Jones, editors. 2012. *High nature value farming in Europe – 35 European countries, experiences and perspectives*. Verlag Regionalkultur, Ubstadt-Weiher, Germany.

Pawlaczyk, P. 2015. Landscape and biodiversity as farming products: some Polish examples and experiences with agri-environmental schemes, theory and practice. Presentation for “Sharing experiences on small scale farming between Visegrad countries and Serbia” 3-4.02.2015, Szeget, Hungary.

Plachter, H. 1996. A central European approach for the protection of biodiversity. *Nature Conservation outside Protected Areas* ed.D.Ogrin, pp. 91–118. Conference Proceedings, Ministry of Environment and Physical Planning, Ljubljana.

Szabados, K. 2015. *National regulation on agriculture and nature conservation in Serbia with special focus on the Emerald network and protected areas*. Presentation for “Sharing experiences on small scale farming between Visegrad countries and Serbia” 3-4.02.2015, Szeget, Hungary.

Tubbs, C. 1997. A vision for rural Europe. *British Wildlife* 9:79–85.

Urgenci, 2015. European handbook on Community Supported Agriculture – Shared experiences [online], available at http://urgenci.net/wp-content/uploads/2015/03/CSA4EUrope_Handbook.pdf , last retrieved 24.08.2015.

Veronica Centre Hostetin (VCH). 2015. Eco-village [online], available at <http://hostetin.veronica.cz/en/model-projects>, last retrieved 24.08.2015.

Viestova, E. 2015. *Showing the results and potentials of the agri-environmental schemes in Slovakia through some cases*. Presentation for “Sharing experiences on small scale farming between Visegrad countries and Serbia” 3-4.02.2015, Szeget, Hungary.