

PRISPEVEK MAJHNIH IN EKOLOŠKIH KMETIJ SAMOOSKRBI S HRANO, VAROVANJU NARAVNE IN KULTURNE DEDIŠČINE TER SOCIALNI VKLJUČENOSTI

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Povzetek: Kljub temu da majhne kmetije globalno prispevajo preko 80% k oskrbi svetovnega prebivalstva s hrano, so v zadnjih desetletjih vse bolj odrinjene iz ukrepov kmetijske politike, ki daje prednost in večino finančnih sredstev velikim kmetijskim gospodarstvom. Prav tako ni prepoznan pomen ekološkega kmetijstva, ki je med vsemi oblikami kmetijstva resnično trajnostno z najmanjšimi negativnimi vplivi na okolje in dobavlja hrano najvišje kakovosti, ki dosega na trgu večjo dodano vrednost. Majhne in ekološke kmetije ohranjajo tradicionalne načine kmetijske pridelave, povečujejo ali ohranjajo biološko raznovrstnost in rodovitnost tal ter skrbijo za dobrobit živali. Etičnost je v ekološkem kmetijstvu pogoj za uvajanje modernih tehnologij in zato je prepovedana uporaba gensko spremenjenih organizmov, ionizirajočega sevanja, kemično sintetičnih pesticidov, dodajanja nano delcev hrani ipd. Na podlagi analize stanja kmetijstva v Sloveniji so predstavljene priložnosti, ki jih lahko ponuja ekološko kmetijstvo tudi za majhne kmetije in za ohranjanje vitalnega podeželja temelječega na socialni vključenosti in ohranjanju regionalnih tradicij.

Ključne besede: ekološko kmetijstvo, majhne kmetije, okolje, trajnost, podeželje, regije

SMALL AND ORGANIC FARMS' CONTRIBUTION TOWARDS FOOD SECURITY, ENVIRONMENT PROTECTION, PRESERVATION OF CULTURAL HERITAGE AND SOCIAL INCLUSION

Abstract: Although smallholders provide over 80% of the food consumed by world population, majority of financial support given by agriculture policy goes to big agricultural enterprises and land owners. Contribution of organic farms to sustainability and delivering the highest food quality with added value is not recognised in the agriculture policy as it is case in Slovenia. Small and organic farms preserve traditional methods of farming, increase and maintain biodiversity, soil fertility and take care of animal welfare. Ethical approach is precondition for using modern technologies and this is also a reason for ban of genetically modified organisms, ionizing radiation for preserving food, chemical pesticides, adding nano particles in foods etc. Based on Slovenian situation in agriculture some opportunities for organic and small farms are presented to preserve vital rural areas based on social inclusion and regional traditions.

Key words: organic agriculture, small farms, environment, sustainability, rural area, region, Slovenia

1. Introduction

Majority of more than 570 million farms in the world are small and family farms. Although the perception of family farming is imprecise, most definitions refer to the type of management or ownership and the labour supply on the farm. More than 90% of farms are run by an individual or a family and rely primarily on family labour. According to these criteria, family farms are by far the most prevalent form of agriculture in the world. Estimates suggest that they occupy around 70–80% of farm land and produce more than 80% percent of the world's food in value terms (SOFA 2014). Also in Slovenia and many other European countries (especially in SEE) situation is similar. There were 74,646 agricultural holdings (family farms and agricultural enterprises and cooperatives) in Slovenia in 2010 or almost 14% less than ten years earlier (there were 86,467 in 2000). An average agricultural holding had 6.4 ha of utilised agricultural area and bred 5.6 livestock units (SURS 2012).

Majority of the world's farms are small or very small, and in many lower income countries farm sizes are becoming even smaller. Worldwide, farms of less than 1 ha account for 72% of all farms, but control only 8% of all agricultural land. Slightly larger farms between 1 and 2 ha account for 12% of all farms and control 4% of the land, while farms in the range of 2 to 5 ha account for 10% of all farms and control 7% of the land. In contrast, only 1% of all farms in the world are larger than 50 ha, but these few farms control 65% of the world's agricultural land. Many of these large, and sometimes very large, farms are family owned and operated (SOFA 2014). In Slovenia less than 2 ha belong to 27% of farms and 2-5 ha 33% of farms, but both groups (60% of all) have only 23% land; but 2% of farms over 20 ha control 20% of agriculture land and only 100 agriculture holdings have over 100 ha. In Slovenia farms over 208,000 family members were in 2010 supporting agriculture activities, but their labour input, including those who worked seasonally or occasionally was 77,012 annual work units (AWU=1,800 hours). Of these, about 32,300 persons belong to the category of persons in the labour input from 0.75 up to 1 AWU per year and agriculture in Slovenia is based on these persons (SURS 2014), but only 6,300 persons were in 2013 insured as farmers which show that majority is not dependent on incomes from agriculture. Due to high age average of farm owners which is in Slovenia 58 years, majority of them are retired and several are employed in other professions (RDP 2014).

European agriculture is highly subsidised through Common agriculture policy; as the main cash flow is given to the agriculture surface (per area) managed by agriculture holding it is obvious that majority of finances from the first pillar are going to large scale farms. The only possibilities for small farms are payments in the second pillar as support for rural development by the European Agricultural Fund for Rural Development (EC 1305, 2013) which is discussed in the paper with the case of Slovenia.

2. Sustainability of organic farming and its possibilities for self sufficiency

Today it is a global imperative to meet growing demand for food in a manner that is socially equitable and ecologically sustainable over the long term period. It is possible to design farming systems that are equally productive and that maintain or enhance the provisioning of ecosystem services (ie. biodiversity, soil quality, nutrient management, water-holding capacity, control of weeds, diseases and pests, pollination services, carbon sequestration, energy efficiency and reduction of warming potential, resistance and resilience to climate change and crop productivity) and thus agroecosystem resilience and sustainability (Kremen and Miles, 2012). Organic agriculture refers to a farming system that enhances soil fertility through maximizing the efficient use of local resources, while foregoing the use of agrochemicals, the use of genetically modified organisms as well as that of many synthetic compounds used as food additives (EC 834 2007). High quality of organic food and added value relies on a number of farming practices based on ecological cycles, and aims at minimizing the environmental impact of the food industry, preserving the long term sustainability of soil and reducing to a minimum the use of non-renewable resources (Gomiero et al., 2011).

Beside quantity and quality also stability of food production is an important issue. Connected to the stability in the perspective of future climate change is there more awareness concerning the biodiversity, which is being lost due to industrialised farming practices over last decades? Important role belongs to organic farming as such, but using organic farming method to produce underutilized/rare/neglected crops using local but improved varieties could be a tool to increase food production and reduce poverty in several rural areas (Bavec and Bavec 2006). Around the world, there are generally small farms that practice high-diversity agriculture. Not only do individual small farmers often choose to cultivate several varieties of the same crop, but also, and probably more importantly, different farmers in a given locality often cultivate different varieties. Large farms, in contrast, are more likely to sow a single variety over a wide area (Boyce, 2004). Small farms may have an indirect, positive effect on biodiversity. As, for example, these farms normally have smaller land parcels and thus more field edges, which are relatively species-rich. Although in the EU an average organic farm is bigger than the conventional one (EU organic, 2014) and also in some cases organic farming is "conventionalized", organic farming is usually connected to small farms. The world majority of food is produced by smallholder farmers who grow over 70% of all our food. Organic agriculture practiced by smallholders leads to an increase in food production and to greater benefits for the ecosystem overall: improved soil organic matter, reduced erosion and increased biodiversity. At the same time, organic farming also allows farmers to get a higher price for their produce and tap into niche export markets (IFOAM). Report of a study of the farming systems in Africa showed that it is possible to set broad priorities for agricultural intensification based on the organic principles of health, ecology, fairness and caring for the earth. Ecological principles and technologies can be used to help farmers obtain food security and improve their livelihoods without destroying the local indigenous biodiversity (Berhan et al. 2011).

Family farms are part of the solution for achieving food security and sustainable rural development; the world's food security and environmental sustainability depend on the more than 500 million family farms that form the backbone of agriculture in most countries. Family farms are more than nine out of ten farms in the

world and can serve as a catalyst for sustained rural development. They are the stewards of the world's agricultural resources and the source of more than 80% of the world's food supply, but many of them are poor and food-insecure themselves. Innovation in family farming is urgently needed to lift farmers out of poverty and help the world achieve food security and sustainable agriculture (SOFA 2014).

3. Short food supply chains (SFSC) as a possibility for small holders

SFSC started to be investigated after increased public interest and emerging number of producers. They offer great range of positive impacts on surrounding environment: positive social effects on local environment (Evans et al., 2012; Hendrickson and Heffernan 2002); willingness of consumers to pay more (Khan and Prior, 2010; Seyfang, 2008); consumer health benefits (Ahern et al., 2011; Lee 2012); consumer economic benefits (Cooley and Lass, 1998); positive regional economic impacts and multiplier effects frequently supported with input/output models (Brown et al., 2013; Feenstra et al., 2003; Henneberry et al. 2009).

On the other hands SFSC offer also advantages for farmers. From social inclusion, better risk management and positive economic effects on farm holdings that are discussed below. Govindasamy et al. (2003) revealed majority of farmers (61%) are satisfied with returns they generate when using short food supply chains as marketing channel, especially those who sell organic produce. Also Kambara and Shelley (2002) indicate that direct marketing could positively affect farm viability. Twenty-eight percent of producers decided to use SFSC to capture higher profits and 63% identified those channels as more profitable. In addition Stephenson's and Lev (2004) research draw similar conclusions that direct marketing can be used to earn higher prices for producers.

Park and Lohr (2001) included different marketing channels in their study. Research of organic producers' choice of diversifying marketing outlets revealed significant difference of incomes when diversifying marketing strategy. Producers who use more marketing channels (not necessarily just SFSC) tend to achieve higher gross farm income than farms using just one.

4. Organic farming in Slovenia and its position in a new Rural development program 2020

After 1995, the group of experts for organic farming, in the framework of Ministry of Agriculture, Forestry and Food (MAFF), prepared "Guidelines for Organic Farming in Slovenia", but as a legally non-binding document. These standards have been adopted by all organic farmers' associations that have emerged since 1997. The first certifications took place in 1998 on the basis of these standards. In 2000 the first certified organic products from Slovenian farms were produced. In 1999 the first organic market was opened in Ljubljana and the second one in 2000 in Maribor. The first payments under national agrienvironmental program were given in 2000. Activities to regulate organic farming at the state level started in 1997. The "Slovenian Regulation on Organic Farming" was adopted in 2001. The MAFF made this commitment in the context of EU pre-accession negotiations. The proposal for this regulation was prepared in accordance with Council Regulation (EEC) No. 2092/91. The Council Regulation (EEC) No. 2091/92 came in force in 2004 when Slovenia joined the EU. In 2006 the revision of the "Slovenian Regulation on Organic Farming" was made. After the 1st of January 2009 new EU organic farming regulations came in force (834/2007) and in this year also the new national legislation was prepared (Bavec and Bavec, 2009).

Slovenian Action Plan for Organic Farming (APOF 2006) was accepted by Slovene Government in November, 2005. Some goals of APOF until 2015 were defined, as: 15% of all farms organic, 20% of utilized agricultural area organic, 10% share of organic food on market and increasing the organic tourist farms. This goals were not realised due to several reasons, e.g. not organised marketing chain and several organic farmers are still selling their products as conventional especially in milk and meat sector, advisory system is not well organised for supporting conversion and for knowledge transfer, weak collaboration among organic farmers, their voice is not heard in policy making. In 2013 Slovenia had 72.176 family farms and area of 450.946 ha (SURS, 2013). There were 3,049 organic farms and agriculture area of 38,664 ha which represents 4,1% of all agricultural holdings that were included in control system and it represents 8,4% of total utilized agricultural area. In 2010 the share of organic produced food in sales was only 1%, although the plan was 10% share till 2015. The share of organic food Slovenian origin is only 20% of total turnover of organic food (or 0,2% of all food). Number of holdings with organic farming is slowly increasing, every year there are more and more new registered agricultural holdings in conversion. However, growth and dynamics in organic production are not satisfactory, despite financial support for the establishment of producer groups and their own promotion and marketing as well as the support by the direct payments per hectare for different production cultures (Ministry of

Agriculture and Environment and Agricultural Institute of Slovenia 2013). But organic farms are on average twice bigger than others (12.7 ha per farm), have twice more animals units per farm (10.2), average age of owner is lower compared to conventional farmers and their education level is higher (Bavec, 2015).

In 2010 Ministry of agriculture, food and forestry stated that Slovene rural development policy after 2013 should continue to be aimed at:

- a) competitiveness of agriculture and related branches, particularly by boosting investment in new technologies, transferring research and innovation and increasing knowledge potential;
- b) delivering agriculture-related public goods, especially maintaining agricultural activity in less favoured areas (LFA), tending rural landscape, preserving biodiversity, good status of waters, drinking water sources, soil protection, ensuring animal welfare, adapting to climate change and maintaining the viability of rural areas;
- c) enhancing the vitality of rural communities, in particular by enforcing the principles of sustainable local food supply and promoting diversification of economic activities (MAFF 2010).

Organic farming contributes to the development of a Union in the agricultural sector that is more territorially and environmentally balanced, climate-friendly and resilient and competitive and innovative; it contributes to the development of rural territories. Organic agriculture contributes to achieving the following objectives:

- (a) fostering the competitiveness of agriculture;
- (b) ensuring the sustainable management of natural resources, and climate action;
- (c) achieving a balanced territorial development of rural economies and communities including the creation and maintenance of employment (EC 1305 2013).

All these evident strengths of organic agriculture are decreased from action plan from 20% (APOF 2006) to 12% in the new Slovene Rural development program 2020 for Slovenia goals for organic agriculture (table 1). This is very un-ambitious compared to neighbouring Austria (Bavec, 2015). Rural development program 2014-2020 assures money for payments per ha only for three to four years out of seven (RDP 2014-2020).

Table 1: Situation in organic farming and goals for organic farming in Slovenia with comparison to neighbouring Austria

	All in 2010	Organic 2013	Goals in APOF by 2015	Goal in RDP 2020	Organic in Austria 2010
No. of farms	74,646	3,049	15,000		
Share (%)	100	4.1	15		16.4
Area (ha)	482,650	38,665	96,000	55,000	
Share (%)	100	8.4	20	12.0	20.0

5. The case of cooperative Dobrina

The Dobrina cooperative was established on the principle of social entrepreneurship in the end of 2011, when the project group Urban Furrows began integrating the growers of vegetables and fruits in the area of Jurovski Dol, and then the wider area of Slovenske Gorice. Establishment was a part of international project Maribor - Cultural capital of Europe 2012. The basic purpose of the cooperative is not profit, but the development of small family farms, fair trade, and to connect rural environment to urban centres.

Sustainable local supply is currently endangered by price competition of imported mass-produced food. Due to this reason, the purpose of cooperative was and still is to expand sustainable local supply encouraging the small family farmers to the area of Maribor and its surroundings. One should use various educations about the importance of organic farming, local food supply, especially to strengthen the local market in the field of rural development and to make people aware of the importance of strengthening the system of local economy. The work and actions of cooperative provide professional help and education for small farmers at their inclusion in one of the control schemes, the production of higher quality (organic production) and marketing, is also solving needs and problems of the lack of local crops and products, and distributes them in some kindergartens and schools.

Over three years of activities the cooperative Dobrina includes 51 members and cooperates with approximately 35 schools, kindergartens, nursing homes and 90 citizens (boxes with local products). In addition to supplying institutions and citizens with high-quality food, the Dobrina cooperative offers products on its

internet site (www.zadruga-dobrina.si) and has a small grocery store in city centre. This way, it promotes local, traditional delicacies from Slovenske Gorice, made by diligent hands of housewives and family farms from that area. The basic objective of the work with small family farmers was to establish the overall attempt for self-organization of small traditional growers, who used to be excluded from the global market. With the project of sustainable local food supply we are economically, socially and culturally strengthening the rural population on one hand, and on the other hand we are encouraging maintenance of agricultural and cultural activities.

6. Conclusions and challenges

- i. Slovenia has a very attractive and well-preserved natural environment. Organic farming should be the main way of agriculture on underground water protected areas, in Nature 2000 regions, national and regional nature parks.
- ii. Slovenian agriculture based on small and mainly family farms is unable to compete with cheaper production from other countries due to natural conditions and the agricultural structure; therefore organic farming may be an important opportunity to produce high-quality food products with added value primarily for the domestic market and for tourist consumption.
- iii. Short food supply chains could deliver several opportunities for better incomes and also for societal inclusion of rural and urban areas through direct selling and new initiatives including box schemes or community supported agriculture.
- iv. New ways of collaborations among small scale farmers are needed and those established on the principle of social entrepreneurship could be a model for further development of rural areas providing also new working places for young people.

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