

ORGANIC AGRICULTURE – THE FUTURE OPPORTUNITY FOR SMALL PRODUCERS IN POPOVO POLJE VALLEY

EKOLOŠKA POLJOPRIVREDA - MOGUĆNOSTI ZA MALOG PROIZVOĐAČA NA POPOVOM POLJU

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ABSTRACT

Present activities have been implemented under the scope of the “Agricultural Development of Rural Communities in Eastern Herzegovina” project whose main objective is to create appropriate conditions for the integrated reactivation of the agriculture in the Popovo polje valley. Within this framework, two integrated pilot projects for the introduction of organic agriculture have been carried out complemented with a specific research on market possibilities for organic production, in order to contribute to the correct management of the natural resources of the area, as well as to give impulse to productive and commercial capacities of the farmers. One pilot project was production of potato and onion, while the other one was plantation of medicinal and aromatic plants (MAP). Within both pilot projects activities were oriented to provide assistance and technical training for farmers as well as assistance on organic certification procedure and assistance on marketing the production.

Results of both pilot projects proved that organic production was possible from agro-technical and agro-ecological aspects in Popovo polje. Analysis of essential oils of the cultivated MAP showed that quality was good to very good and production was easily marketed with a comparative profitability as against initial investment needs. Among cultivated MAP, dill production came out to be the most attractive taking into consideration money and work invested for production. In case of vegetables, figures related to profitability, if compared with those related to conventional production; confirm the potential of organic

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farming vegetables to provide a slightly higher margin of profitability especially once the initial investment of land conversion is mortgaged. As regards the results of the market research, the analysis of the demand showed the limitations: organic products have higher prices than those conventionally produced, and distrust of the organic products label and the conditions in which these products are actually grown. In any case, they also showed consumers low level of awareness of the importance of organic farming, and the existence of an official certification body.

Considering all the pros and cons, in the present situation of development of agriculture market in Bosnia and Herzegovina, and looking for better opportunities for the Popovo Polje valley small producers who compete in conventional agriculture with bigger farmers and companies, it has been proved that organic agriculture can be a profitable alternative for small producers as well as better long-term choice.

Key words: natural potential, small farmers, comparative competitiveness, pilot experiences, Popovo Polje.

SAŽETAK

Glavna zadaća projekta “Poljoprivredni razvoj ruralnog stanovništva istočne Hercegovine” je stvaranje odgovarajućih uvjeta za integraciju poljoprivrede u dolinu Popovog polja. U tu svrhu provedena su dva integrirana projekta za uvođenje ekološke poljoprivrede, proučena istraživanjima mogućnosti trgovine ekološkim proizvodima, s ciljem ispravnog korištenja prirodnih izvora područja i poticanja proizvodnih i trgovačkih mogućnosti farmera. Jedan pilot project odnosio se na krumpir i luk, a drugi na ljekovito i aromatsko bilje. U okviru oba projekta planirana je pomoć i tehnička obuka farmera, kao i pomoć u organizaciji postupaka certificiranja i marketinga proizvoda.

Rezultati provedbe oba projekta pokazali su da je ekološka proizvodnja na Popovom polju agrotehnički i agroekološki moguća. Analiza ulja dobivenog iz aromatskog i ljekovitog bilja pokazala je da je kakvoća proizvoda dobra do vrlo dobra, a proizvod se lako prodaje s dohodovnošću potrebnom kod početnih ulaganja. Od aromatskog bilja, proizvodnja kopra pokazala se najatraktivnija glede uloženi sredstava i zarade. U slučaju povrća, dohodovnost uspoređena s onom u konvencionalnoj proizvodnji potvrdila je mogućnosti ekoloških farmi

da osiguraju nešto bolji dohodak, posebno nakon što prođu početne investicije u konverziju oranica. Istraživanja tržišta ukazala su na ograničavajući učinak viših cijena ekoloških proizvoda, kao i nepovjerenje u markicu koja garantira ekološki proizvod. Ovo također ukazuje i na nizak stupanj razumijevanja značaja ekološke poljoprivrede i službenog tijela za certifikaciju proizvoda.

Uzevši u razmatranje sve argumente za i protiv, u trenutnoj situaciji razvoja poljoprivrednog tržišta u Bosni i Hercegovini, te mogućnostima Popovog polja, pokazalo se da ekološka poljoprivreda može biti dobar dugoročni izbor i dohodovna alternativa za malog farmera u takmičenju s velikim farmerima konvencionalnog pristupa poljoprivrednoj proizvodnji.

Ključne riječi: prirodne mogućnosti, mali farmeri, usporedno nadmetanje, pilot iskustvo, Popovo polje.

INTRODUCTION

The Movement for Peace-MPDL Program for the stabilization and consolidation of the Balkan region, with the aim of consolidating the process of effective return of the displaced and refugee population and the social and economic stabilization of the region, has included in Trebinje a specific project in the Popovo Polje area to ensure the recovery of one of the most fertile lands in Bosnia and Herzegovina.

The Popovo Polje valley is a 4.500 ha karst valley of cultivable land located in southwest Bosnia and Herzegovina among the municipalities of Ravno and Neum (belonging to the Federation of Bosnia and Herzegovina Entity) and Trebinje (belonging to the Srpska Republic of Bosnia and Herzegovina Entity).

Before the war, it counted as an important and prospered agricultural area, which was paralyzed during the war. The valley was the front line during the conflict and therefore the area was seriously affected, local communities were abandoned and plantations and previous irrigation system were destroyed, making useless all agricultural and productive land.

The post-conflict situation, the privatization process, and the complex property and tenancy arrangements have rendered very difficult the restoration of the productive and agricultural process.



Figure 1. Popovo Polje region

Under this context, Movement for Peace-MPDL, in collaboration with AECID's (Spanish Agency for International Development Cooperation) Technical Office in Sarajevo, has supported establishing preconditions for the integrated revitalization of agriculture in the Popovo Polje valley, as a base is for the return and stabilization of the refugee and displaced population. It has also contributed to the incorporation of the small producers of rural communities in to the economic development of the region and to the strengthening of the political and commercial relations of Ravno and Trebinje, two municipalities separated by the Inter-entity Boundary Line.

Since 2005, through the "Agricultural Development of Rural Communities in Eastern Herzegovina" project, MPDL activities have been orientated to two different but complementary aspects: optimization of the use of resources

through the support of the Water Users Association of Popovo Polje, and elaboration of studies and systematization of the information linking the different resources for a sustainable use of the land.

The support of the Water Users Association, has contemplated the construction of efficient irrigation infrastructure to guarantee the irrigation water supply to the rural communities in the valley, as well as legal and management assistance. Simultaneously, assessment and training of future and present producers has been taking place in order to improve their skills in sustainable use of natural resources.

The physical and socioeconomic characteristics of the area have been quantified, analyzed and introduced into the basic Geographical Information System, which will allow a coherent and sustainable planning for the future development of the valley.

Within this integrated framework, after a round table that gathered different activists in agricultural development in Bosnia and Herzegovina (B&H), where the positive role that organic farming could play in rural development was highlighted, two pilot projects have been implemented to introduce organic farming in the valley, production of organic vegetables and organic medicinal and aromatic plants, complemented with a research on market possibilities of fresh fruits and vegetables from the Popovo Polje area, within which the market for organic production was specifically studied. These experiences aimed at examining the potentialities of organic production as a profitable activity for small farmers, while contributing to the correct management of the natural resources of the area, as well as improving productive and commercial capacities of the farmers.

MATERIAL AND METHODS

Introduction of organic agriculture in the Popovo polje valley took place through two pilot projects, one for organic production of vegetables in cooperation with CEFA (European Committee for Agricultural Education), an Italian NGO, working on the promotion of sustainable agricultural systems with low environmental impact in Bosnia and Herzegovina, and second one for organic production of medicinal and aromatic plants (MAP) in cooperation with the Agricultural Institute of Banja Luka. In parallel, market potentialities and

constraints were studied within the scope of a market research for fruits and vegetables from Popovo polje.

Pilot projects started with a first phase of identification of farmers and cultures through several presentations and meetings with farmers of Popovo polje, NGOs working on agricultural issues, and agro-companies, led and assisted by MPDL and CEFA agronomists. Evaluation of cultures to be cultivated under organic standards was done upon the following criteria: interest of beneficiaries, agro-ecological possibilities for organic production in Popovo polje, cost-benefit analysis and market potentialities.

Within both pilot projects activities were oriented to provide assistance and technical training for farmers, in order to start up the production and to develop farmers' skills for future development. Pilot projects included provision of seeds and seedlings, provision and distribution of animal manure and bio-protection means, follow up and individual consultations, outlining crop plans, rotations and production schemes, theoretical training on organic agriculture cultivation, certification and commercialization, assistance on certification procedure under the OK (Organska Kontrola) standards, and assistance on marketing the production, in the case of MAP, linking producers with a MAP processing company, and for vegetables, through the integration of the farmers in the new created centre "Eco-line" (Service Center for Agriculture and Farms). Additionally, MAP pilot comprised the definition and monitoring of biometrical indicators to measure quality of the production.

Nine beneficiaries participated in the production of Medicinal and Aromatic Plants for organic pilot project cultivating 4 different cultures on 2.4 ha: Coriander, *Coriandrum sativum* (3 dunum); Dill, *Anethum graveolens* (7.5 dunum); Parsley, *Petroselinum sativum* (1 dunum); Lavender, unknown species (12.5 dunum). Fennel, *Foeniculum vulgare*, (4 dunums) were also supposed to be cultivated, but they could not be sown because of technical problems. The experience took place between February and December 2007.

Seven beneficiaries participated in the organic vegetable production pilot project, cultivating 2.51 ha with onion (1.06 ha) and potato (1.45 ha). The experience took place between October 2006 and December 2007.

Parallel to the pilot projects, a market research was defined to analyze status, limitations and potentialities of the commercialisation of agricultural production of fresh fruits and vegetables from the Popovo Polje valley. The study was implemented between October 2006 and January 2008, and consisted of several field surveys among producers, retail shops and consumers, and a second phase of compilation of the results of the field surveys and integration into context of Bosnia and Herzegovina.

Questionnaires for the field surveys were drafted through a workshop where different NGOs working on rural development issues participated. Final definition of the questionnaires and methodology for the research were developed by MPDL in coordination with Prisma Research, agency specialized in marketing, media and social research, which afterwards implemented and analyzed the field surveys.

The field surveys included two quantitative and two qualitative researches. Quantitative researches consisted of face-to-face interviews with 75 retail shops managers, and 500 consumers. Both surveys covered Bileca, Capljina, Ljubinje, Neum, Stolac and Trebinje municipalities in Bosnia and Herzegovina, and Dubrovnik in Croatia and the results were processed and analyzed by SPSS program (Software Program for Social Sciences). Qualitative researches consisted of 2 focus groups with 8 consumers each from Capljina and Trebinje municipalities and 10 in-depth interviews with small and big producers of the Popovo polje area. Consumers in both cases, quantitative and qualitative surveys, were chosen as being responsible for food purchases for their households.

In different surveys, the topic of organic agriculture was specifically studied addressed to gather information on general knowledge about organic agriculture production and certification, purchase and interest on organic production and commercialization of organically produced fresh fruits and vegetables.

Compilation of the partial reports and integration of the results in Bosnia and Herzegovina context was carried out by Professor Bajramović, agro-economy expert of Sarajevo University. The information contained in the reports was joint in a systematic way and was linked with the general agricultural market status and trends in B&H, taking into consideration institutional, legal, socioeconomic and agro-economic aspects.



Figure 2. A potato producer



Figure 3. A lavender producer

RESULTS

Thanks to the above mentioned activities organic production has been introduced and promoted in Popovo polje. Although modest in its scope, this production presents the first steps in this kind of production in the area.

Organic production in Popovo Polje is possible from agro-technical and agro-ecological aspects, as effective cultivation, plant growth and harvesting. Generally, yields were satisfactory taking into consideration the summer drought conditions in the region, and for the MAP cultivation, the fact that farmers did this type of production for the first time. Nevertheless, fennel seeds could not be sown because of technical problems and parsley seeds did not emerge because of the mentioned drought period. Coriander production, being a sensitive species in time of sowing, registered lower results than expected because of too late sowing and lavender crop was excellent just in those plots where farmers did one to two weeding. These facts will have to be considered in future: adequate use of irrigation system, availability of adequate technology for different cultures, adaptation of sowing time (Coriander in Popovo Polje has to be sown before 15th of March) and appropriate weeding.

Producers of MAP either sold the production to ELMAR a processing company in Trebinje, or kept the seedlings for the next season. Analysis of essential oils in the cultivated MAP showed that quality was good to very good and production was easily marketed with a comparative profitability as regards initial investment needs. Among cultivated MAP, dill production came out to be the most attractive considering money and work invested in the production. On the basis of pre-arranged sales, production on 0,5-1 ha per one household could be easy and profitable. Lavender has to be monitored in the next period to allow to give conclusions regarding profitability, although considering previous plantation of lavender by one of the beneficiaries, lavender can be considered the most profitable crops among the monitored in the pilot project.

Producers of vegetables joined the Association of Citizens for Rural Development and Environment Protection 'ECO-LINE', recently established by the Italian NGO CEFA, that provided support in commercialization of part of the production. In future the Association will provide further assistance to farmers in marketing their certified production. Estimation of profitability based on average production costs and on average purchasing price obtained by

producers operating in similar conditions in the previous year provides a potential net margin on the investment done of 50-70% for organic potatoes and 70-90% for organic onions. Figures related to profitability, if compared with those related to conventional production, confirm the potential of organic farming to provide a slightly higher margin of profitability especially once the initial investment of land conversion is mortgaged.

On the other side, there were some difficulties in the delivery of bio-protection material for onion and potato due to the fact that this material is not available in the B&H market, and therefore not easy to obtain in small quantities, exposing farmers to producing a bigger risk that is not considered in this economic estimation. In this regard, it is important to remark that by the end of 2008 the law on organic agriculture is expected that would contribute to reducing this problem. In addition ECO-LINE should soon be able to start importing directly or become a representative for bio protection materials for B&H and thus manage this risk.

All plots received the approval related to the first year of the conversion period. If farmers proceed respecting organic procedures, next year crop will be certified as organic, and will be more valuable and therefore more profitable.

The results of market research, the analysis of the demand, show that organic products have a higher price than those conventionally produced, and distrust of organic products label and the conditions in which these products are actually grown. It also shows consumers' low level of awareness of the importance of organic farming, and the existence of an official certification body. In focus groups consumers recognize the potential of organic production if they guarantee quality and are free of agro-chemicals. Another factor favorable for the organic production which appears as a constant in the research is the local consumers' preference for local varieties of fresh fruits and vegetables.

Complementary to above mentioned results, is the readiness of farmers to continue organic production based on the good experience, to increase the number of farmers and plots, with a proposal for establishing an association of producers of typical MAP of the Herzegovina region (*Salvia officinalis*, *Helychrysum arenarium*, *Callunae vulgaris* flos, *Vitex Agnus Castus*, *Lavandula officinalis* and *Rosmarinus officinalis*).

DISCUSSION AND CONCLUSION

Bosnia and Herzegovina has a great potential for agricultural development, where thanks to the low cultivation rate during the post-conflict years, in most of the cases, soil provides optimal conditions for organic agriculture.

However, these potentialities are barely used and the sector is undeveloped. It can be said that B&H organic production is in an early development stage, the share of organic production in total B&H food market is estimated at just 0.4%. Main constraints on the development of the sector are lack of coordination in the organic production market chain, scarce support from agricultural development institutions, lack of technical skills in sustainable agriculture, difficulties to find inputs for this type of agricultural production, and general unawareness of organic principles, benefits and certification.

With its particularities, organic production constraints are just the reflecting of the general difficulties that agricultural sector is facing in Bosnia and Herzegovina, and it is clear that organic production growth cannot be sustainable without domestic market growth.

Overcoming these constraints, through the experiences here related it has been proved that organic agriculture can be a profitable alternative for small producers who have difficulties competing in conventional agriculture with bigger farmers and companies. Organic production of vegetables and MAP has a very good perspective and numerous comparative advantages, like lower investment and safe placement, and at the same time, the willingness of some consumers to pay more for a guaranteed healthier and of higher quality product, and the possibility of group organic certification that the B&H organic certification house, OK, offers; it is an opportunity for small holders to take in order to develop this type of agriculture, which through organized groups can better deal with the constraints faced by the sector, as well as to develop specialized market chain to get to those consumers worried about what they eat. In any case, a basic condition to access the B&H market for this kind of production, and to get to those consumers, is to gain consumers trust, raising awareness of general understanding of organic production as well as B&H certification, so promotion of organic production, has to be accompanied with promotion of the benefits and certification.

Just to finalize, to mention one more potentiality for the development of organic production, the fact that B&H organic certification is accredited by IFOAM (International Federation of Organic Agriculture Movements), which can serve as an opportunity to access international markets, which, also is difficult at the present moment, for B&H conventional agricultural production as quality standardisation and control mechanisms are not yet well developed in the country.

Map1: Geographic Distribution of Organic Production in Bosnia and Herzegovina



Source: Domazet, A., Nikolić Aleksandra, Trivun, V., Velagić-Habil Esma, Kurtović (2007): Production of Organic Food - Initiator of Rural Development in BiH (orig. Proizvodnja organske hrane - pokretač ruralnog razvoja u BiH).

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