

GREENPOP: CURRICULA DESIGN FOR ORGANIC AGRICULTURE IN MACEDONIA IN THE EU FRAMEWORK

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Abstract

The lack of organic agriculture vocational training in many countries, including Macedonia, is one of the major obstacles in enabling agriculture producers in these countries to benefit from organic global growth trend. The objective is to create an operational and accredited (verified) vocational education program in terms of lifelong learning modular courses for organic agriculture in Macedonia, implemented by trained and experienced educational staff. The project uses a comparative approaches methodology with each partner testing the approaches to learning and agriculture development based on experiential learning practice. It also takes a social action approach, making use of the input from learners, experts and stakeholders and testing learning competencies and tools in real-life situations. The goal of the GreenPOP Project is to enable VET Providers in Macedonia to deliver innovative training programs and courses for sustainable (organic) agriculture with focus on practical (on-farm) training. The learning program will be delivered and tested and map the content and materials developed to the European Qualifications Framework. Also a modular short-courses training program in organic agriculture will be developed and verified (accredited) in front of the Macedonian authorities. A professionalized set of training curricula/scenarios (for VET Students and Adult Learners) concerning organic agriculture will be completed, with its positive impacts for employment of people that consider training as a vital factor from their professional development, promoting rural development, bio-security, biodiversity, soil and water conservation as well as climate protection quality. The GreenPOP project: Green Program for Organic Production has been financed by the ERASMUS + PROGRAMME – KA2 Strategic Partnerships. The project will be finished in 2017 and will last three years.

Keywords: Innovation, Sustainable Agriculture, Education, labour market.

1 INTRODUCTION

Organic agriculture is 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. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved [1].

The market for organic agricultural products is the fastest growing segment of the European agriculture products market, even in times of economic crisis [2]. Because of the growing environmental consciousness of European consumers this trend is set to continue in the foreseeable future [3]. The European Union has chosen to promote organic agriculture because of its recognized environmental (biodiversity, climate, animal welfare) and social (rural development) benefits [4]. The lack of organic agriculture vocational training in many countries, including Macedonia, is one of the major obstacles in realizing this aim and therefore in enabling agriculture producers in these countries to benefit from this global growth trend.

The needs to be addressed with the GreenPOP Project are defined in the EU policy growing environmental consciousness of European consumers [4]. This trend is to set continuity in the foreseeable future organic agriculture, with its positive impacts for employment of people that consider training as a vital factor from their professional development, promoting rural development, bio-security, biodiversity, soil and water conservation as well as climate protection quality [5].

Also, in Republic of Macedonia, organic agriculture is very much supported by the government measures in terms of promoting the agricultural organic production of food as one of the priorities in the development of agriculture and rural development in Macedonia. The concept for organic agricultural production as well as the creation and implementation of the policy for the organic

agricultural production – in terms of legislative framework, implementing legislation and subsidies – has been defined within the National Strategy for Organic Agricultural Production (2008-2011) [6]. The Strategy has been successfully realized and a great part of the planned measures and activities within the Action Plan for the realization of the Strategy has already been completed. However there is an updated version of a National Strategy for Organic Agricultural Production for the forthcoming period (2012-2017) in order to secure the continuous development of the sector [7].

On the other hand, Macedonia in cooperation with ETF (European Training Foundation) in 2013 prepare the Strategy for Vocational education and Training in a lifelong learning context (2013 - 2020) and Action Plan [8], where Vocational education and training (VET) holds a priority place as contributor to human capital development, to economic growth, to reduction of unemployment, to better employment and social cohesion in the Republic of Macedonia. Such demands on VET policy show no sign of abating as the economic crisis persists and challenges the world and all our policies. At a time when demand for new skills is growing as never before, VET ought to encourage innovation, competitiveness, new partnerships, and prepare citizens for employment in the domestic and global labor markets. The strategy emphasizes development of vocational education and training oriented to the common European goals, the priorities formulated in the Bruges Communiqué (2010) [9] and the strategic framework for European cooperation "Education and Training 2020" [10].

2 OBJECTIVES OF THE GREENPOP PROJECT

The goal of the GreenPOP Project is to enable VET Providers in Macedonia to deliver innovative training programs and courses for sustainable (organic) agriculture with focus on practical (on-farm) training for:

- a) students from agriculture VET schools, from year 2,3 and 4, as future farmers/employees, but also
- b) develop vocational short modular courses for agriculture entrepreneurs/farmers/workers.

The project will enable delivery of the courses through capacity building of the teachers/trainers and potential work-mentors/organic farmers using innovative model of work placements for the learners.

The objective is to create an operational and accredited (verified) vocational education program in terms of lifelong learning modular courses for organic agriculture in Macedonia, implemented by trained and experienced educational staff.

3 METHODOLOGY

The project uses a comparative approaches methodology with each partner testing the approaches to learning and agriculture development based on experiential learning practice. It also takes a social action approach, making use of the input from learners, experts and stakeholders and testing learning competencies and tools in real-life situations. This is an innovative methodology to develop an educational program.

The methodology includes five phases: i) diagnosis, ii) design, iii) implementation, iv) piloting and v) verification (Fig. 1).

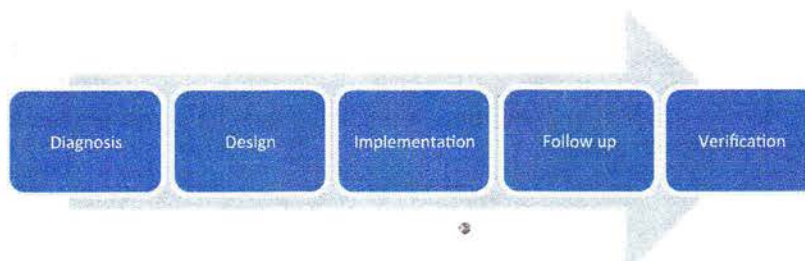


Figure 1. Phases of the Educational Program Developed for Organic Agriculture in Republic of Macedonia.

The methods to identify the learning needs combined a research of the student's training needs for organic farming through focus group method, a survey to teachers through questionnaire and discussions with potential and certified organic farmers were developed.

3.1 Stakeholders/Project partners

The project partner's activities are the key to design, implement and the verification a successful learning program. The **project partners** were chosen:

- a) to provide a diversity of locations and situations where different approaches can be researched and tested and with different cultural and methodological approaches to agricultural and economic development; and
- b) to provide the necessary range of competencies through academic and curriculum development, organic agriculture development, agricultural educational, scientific and marketing expertise, and expertise in entrepreneurship and farm development, including Universities.

3.2 Number and profile of participants

Another important issue for success is the participants. The participants selected to be involved in this learning approach were:

- Students in the selected agriculture VET schools (from year 2, 3 and 4) as future farmers/ employees,
- Agriculture Entrepreneurs/ Farmers (future or existing farmers),
- Workers (employees at existing companies),
- Teachers and school students may also become involved.

The project involves 50 - 60 participants directly, together with around 20 members of staff of the partners and around 70-100 people taking part in seminars, conferences or workshops.

Fig. 2 shows the deadline of activities developed to design, implement and verification of the curricula in organic production in Macedonia.

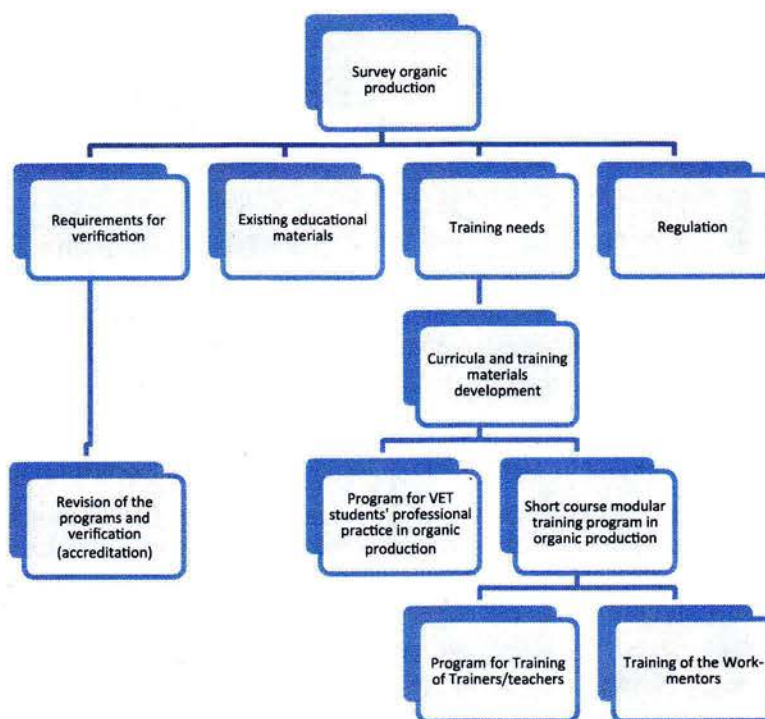


Figure 2. Timeline of activities to develop the comparative approaches methodology with each partner testing the approaches to learning and agriculture development based on experiential learning practice.

4 RESULTS

The diagnosis revealed that, making its first steps in 1997, organic farming in Macedonia had always been considered as something 'easy to be achieved'. First certified organic products were several

kinds of tea from indigenous herbs, prepared and produced by the largest pharmaceutical factory in Macedonia. The next year, 4-5 farmers from Ohrid, Strumica and Kumanovo initiated the first organic activities on farm level. By the end of 2000 with assistance of EU experts on organic practice National framework for development of organic agriculture was developed. In 2001, The Law on Organic agriculture was adopted and first national associations were established [11].

According to the vocational training programmes in Macedonia was concluded that can include students that obtained elementary education as well as those who have not obtained, but with an obligation, in parallel with the vocational training, to finish their elementary education.

Vocational training, depending on the complexity of the occupation, can last up to two years. After the students have finished the vocational training, they acquire I level of vocational qualifications.

The students that have graduated vocational training which lasted minimum one year can continue their education into the second year of the appropriate vocational training for occupation. The two year education in Macedonia did not arouse much interest and very few students decided on education for occupation with two years duration.

The greatest need for such qualifications exists in vocations like machinery, electro-technics, chemistry and technology, construction and geodesy, catering and tourism. The total number of education profiles in short –term education component is 45. Students that have graduated in vocational training which lasted minimum one year can continue their education into the second year of the appropriate vocational training for occupation.

Moreover for adult education, in 2005 a Program for the development of education in the Republic of Macedonia 2005 – 2015 [12], in which a chapter is devoted to the development of adult education in the context of lifelong learning, was adopted.

In January 2008 the Law on Adult Education was accepted. As a result of the Law, in November 2008 the Government of the Republic Macedonia founded the Centre for Adult Education (CAE) [13].

In order to complete the legal framework, several by-laws of the Law on Adult Education was adopted:

- Regulation for the content, form and procedure of signing an agreement for monitoring the program for the adult education;
- Regulation for standards for space, equipment of facilities and institutions for adult education;
- Regulation for the title, content and form of the certificate of knowledge, skills, abilities and competencies acquired by special programs for adult education;
- Regulation for the content and form of the documentation and records run by the institutions and institutions for adult education;
- Regulation on the form, content and manner of keeping the central registry and the registry of municipal institutions and institutions that implement publicly recognized educational programs for adults;
- Regulation for the manner for verification of special programs for adult education;
- Regulation for the manner for verification of facilities and institutions for adult education.

According to the compilation of educational existing materials in organic production was obtained that in the last period, the development of the education material for organic production in Macedonia, was provided through certain projects for development of the organic production financially supported by the international funds and the Ministry of Agriculture, Forestry and Water Economy (MAFWE).

The Ministry of Agriculture, Forestry and Water Economy delivered around twenty guidelines (manuals) for organic production. This literature is available on line, but hard copies are difficult to find. The guidelines provide some theoretical information on the production of the certain cultures like tomato, cabbage, paprika, plum, etc. These guidelines provide very little practical techniques of organic production of certain cultures, livestock types' production and some of the technologically advanced organic production is neglected. No developed techniques of organic production are created.

The Swiss Agency for Development and Cooperation (SDC), and consulting company Probio participated in the preparation of the manuals along with the Ministry of Agriculture, Forestry and Water Economy. These guidelines are designed for all categories of stakeholders. The contents are not sufficiently accessible and understandable for the organic producers without a technical or advisory support.

Regarding the available literature in the agricultural schools, a Guideline for organic agricultural production is offered, adapted (modified) to the curriculum for the optional subject -facultative subject- realized in the fourth year of the agricultural and veterinary schools. The guide is adapted according to the manual for organic produce used in secondary agricultural schools in Switzerland and has been developed by Research Institute of Organic Agriculture (FiBL) and provides sufficient theoretical information on organic crop and livestock production and the principles of organic production.

In cooperation with the Centre for Vocational Education and Training, a curriculum for organic production (as elective subject) is introduced in the agricultural and veterinary schools. There is no literature for this curriculum and teachers use the above mentioned Manual/Guide or other kind of similar literature.

4.1 Curricula design and implementation

To determine the training needs of the students for organic farming, two focus groups were organized. The students needed i) Certification in organic production, ii) Production (cattle, sheep, fruits, cereals, beekeeping and gardening) and iii) Marketing and sale placement. From the work of focus groups emerged the training needs showed in table 1.

In order to determine the needs of the teachers, the selected teachers who realized or have been teaching organic production were surveyed. The survey resulted that the teachers were unfamiliar with the modular educational concept and they do not practice it in the teaching process, because the teaching has to be done in accordance with the proposed curricula by the MoES. The concept of competence was completely unknown by the teachers. The working program concept was also not enough understandable. The teachers were familiar with the prospect to verify programs for training through the Centre for adult education.

One of the teachers was involved in curricula development including the program for the optional subject Organic Agricultural Production. The teaching curriculum was a framework which includes the goals that need to be achieved with realization of the teaching process for the individual subjects. The teachers were not completely familiar with the EQF and ECVET models (Table 1).

Table 1. Training needs from students and teachers for organic farming obtained from focus groups and surveys, year 2014.

Students	Teachers
- Organic Gardening	- Manage courses verification
- Principles, certification and control	- Unfamiliar Modular courses
- Organic Fruit production	- Unfamiliar EQF and ECVET models
- Organic crop production	- Understanding of the working program
- Organic cattle, sheep and beekeeping	
- Placement and sales of organic products	

In order to determine the training needs of the farming community, several meetings were organized with representatives of the certified organic producers and potential producers. It must be emphasized that training needs were different in the two groups: a) for the already certified organic producers and b) for potential organic producers (Table 2).

Table 2. Training needs identified by the certified agricultural organic producers and potential agricultural organic producers.

Agricultural organic producers	Potential agricultural organic producers
– Placement and sales of organic products	– Principles in organic production
– Protection in the organic production	– Certification and control
– New technologies in organic production	– Organic Fruit production
	– Organic Horticulture
	– Organic Beekeeping
	– Organic Livestock

Then, a curricula for lifelong learning purposes for organic production modular courses was developed following the diagnosis. The document consists on a description of the curriculum matching the national educational requirements with possible variations and specializations.

This program (curricula) will be tested before the application for valorisation and accreditation procedure starts. The result is an operational and accredited (verified) vocational education program in terms of lifelong learning modular courses for organic agriculture in Macedonia, implemented by trained and experienced educational staff.

In this sense, trainings for teachers/trainers and work-mentors is developed and implemented. Two types of short term trainings, teaching activities, have been put in place.

First, Training of Trainers (teachers) for training methodologies in organic production consisting participative training techniques, facilitating models, portfolio of evidence, work-mentor model and adult learning methodologies. This training was proposed to last 5-day for 8 teachers/trainers, 2 from each of 4 Macedonian partners of the project.

Second training will be hold for Work-Mentors, selected prospective organic farmers/managers, taking the role of mentors for future learners. This short term training was also proposed as a 5-day event. 6 farmers, future work-mentors, will be trained by the trained trainers from Macedonian Partners in the Project from the first Train of Trainers (ToT) training in the Portfolio of evidence and Work-mentor model in Macedonia.

Then, the developed curriculum is proposed to be tested for the two target groups: Students and Entrepreneurs:

- Testing the model for students from the partner VET Schools in Macedonia through placement of students at workplace (on organic Farm),
- Testing the short-courses modular training Program for existing and future organic farmers in Macedonia through implementation of at least 7 before the valorisation and accreditation procedure starts.

From the testing will be obtained: a) an evaluation report and presentation of all piloting activities; b) valorisation (accreditation) of the short courses program in organic production.

The goal of the GreenPOP Project is to enable VET Providers in Macedonia to deliver innovative training programs and courses for sustainable (organic) agriculture with focus on practical (on-farm) training.

5 CONCLUSIONS AND IMPACT

1. An innovative methodology for an operational and accredited (verified) education program for organic agriculture in blended format in Macedonia, and implemented by trained and experienced educational staff have been developed.
2. An interest and knowledge-sharing around this topic and develop organic agriculture as business have been stimulated.
3. The program (curricula) developed by the GreenPOP Project will be verified (certified) by the Macedonian authorities as verified vocational training program in organic agriculture.

4. The project will share experience and undertake further research (survey/inventories) as part of continuing professional development and vocational training in to the feasibility and development issues surrounding organic agriculture development in a variety of settings.
5. For the development and implementation of the learning program two types of trainings are proposed: i) Trainings for Teachers/Trainers (ToT) in organic production using participative training techniques and ii) Training of future Work-mentors in portfolio of evidence and work-mentor model.
6. The programs need also to be piloting for a) VET students and b) Entrepreneurs/Farmers.
7. The learning program will be delivered and tested and map the content and materials developed to the European Qualifications Framework.
8. The modular short-courses training program in organic agriculture will be verified (accredited) in front of the Macedonian authorities.

5.1 Impact

A professionalized set of training curricula/scenarios (for VET Students and Adult Learners) concerning organic agriculture will be completed, with its positive impacts for employment of people that consider training as a vital factor from their professional development, promoting rural development, bio-security, biodiversity, soil and water conservation as well as climate protection quality.

GreenPOP will feedback on the developments in the partner organizations and the possibilities to introduce the innovation and changes in the agricultural VET schools;

The impact on learners will be measured during the piloting phase of the GreenPOP Project. The best indicator will be the number of students enrolling the programs that the project has developed.

The Project web-site publishes the outcomes of the project and the results in order to inform stakeholders and the wider public.

Two presentation conferences/ events will be hold, in order to present to professionals, practitioners, local and central authorities, academics and students the role and developmental processes involved in creating the training program in the sector and entities in the field of organic agriculture.

Promotional and dissemination materials have been designed and published to communicate to the general audience.

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