



Vocational curriculum of organic medicinal and aromatic plants for Mediterranean Countries

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Abstract

Organic farming of herbs and medicinal and aromatic plants is of major importance for rural economy due to their contribution to agricultural diversification and better use of land. Herbal.Mednet is a project funded by the European Commission's Life Long Learning Program, Transfer of Innovation, with duration of two years (2012-2014) and 7 partners: Sociedad Española de Agricultura Ecológica (Coordinator, Spain), Universidad de Alcalá (Spain), Agro-Know Technologies (Greece), University of Thessaly (Greece), University of Agronomic Sciences and Veterinary Medicine Bucharest (Romania), Associazione Italiana Agricoltura Biologica (Italy), APIVITA Organization (Greece). The papers aims to present e-learning training program for advisors and trainers in the field of organic Medicinal and Aromatic Plants (MAPS) in order to equip them with knowledge, competences, skills and understanding necessary for providing a support and technical and managerial assistance to producers and processors of organic farming of medicinal, aromatic, herbal plants in Mediterranean countries (Spain, Italy, Greece).The vocational curriculum developed by Herbal.Mednet project consists of different training modules: M1 – Pedagogy, M2 – Technology, M3 – Business Ideas, M4 – Principles of organic agriculture and organic MAPS, M5 – Legislation and Standards, EU policies and programs to support organic MAPS, M6 – Organic MAPS cultivation, M7 – Marketing organic MAPS products - Packaging -Trade, where each module consists of various units. The first module is about the pedagogical aspect of the training of trainers and will help the trainers decide the best approach to follow when designing a training program. The second module is about the technological tools used in the training context, while the third one is an introduction to the concept of business ideas and provides the required knowledge for the trainers to be able to develop their own business in organic MAPS. The rest of the modules (4 to 7) are designed by project partners and are related to the training of organic MAPS advisors / trainers, as they include topics on OA and organic MAPS. For developing a complete training module, the trainers should include the basic three modules about pedagogy, technology and training and then include or develop the training modules on organic MAPS according to their interest.

Keywords: organic medicinal and aromatic plants, vocational curriculum, e-learning, training modules.

Introduction

The economic sectors involved in the search for a new balance in this era of globalization and labour market flexibility are crying out for human resources capable of performing job activities at required standards in a variety of contexts and

conditions. Modern firms are therefore applying, or intend to apply, the competency approach to the management of their workers as a means of boosting their productivity and market competitiveness.

Vocational education and training (VET) opportunities are seen more and more as important instruments which in the medium to

longer term are indispensable to contribute significantly to the management of present global crisis. They generate human capital with relevant skills and improve competitiveness and adaptation to new demands. Vocational education and training has a crucial role to play in Europe's efforts to raise the skills of its citizens.

On the other hand, medicinal and aromatic plants have been an important resource for human healthcare from prehistoric times to the present day. According to the World Health Organization, the majority of the world's human population, especially in developing countries, depends on traditional medicine based on organic herbs.

Between 50,000 and 70,000 plant species are known to be used in traditional and modern medicinal systems throughout the world (International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants, 2007).

In this sense, "Herbal.Mednet" is a transfer of innovation project under LLP Leonardo da Vinci Program (TOI) targeting to develop an e-learning training on organic herbal, medicinal and aromatic plants.

The papers aims to present e-learning training program for advisors and trainers in the field of organic Medicinal and Aromatic Plants (MAPS) in order to equip them with knowledge, competences, skills and understanding necessary for providing a support and technical and managerial assistance to producers and processors of organic farming of medicinal, aromatic, herbal plants in Mediterranean countries (Spain, Italy, Greece). Herbal.Mednet is a project funded by the European Commission's Life Long Learning Program, Transfer of Innovation, with duration of two years (2012-2014) and 7 partners: Sociedad Española de Agricultura Ecológica (Coordinator, Spain), Universidad de Alcalá (Spain), Agro-Know Technologies (Greece), University of Thessaly (Greece), University of Agronomic Sciences and Veterinary Medicine Bucharest (Romania), Associazione Italiana Agricoltura Biologica (Italy), APIVITA Organization (Greece).

Materials and Methods

The general goal of this task is to present the proposed training curriculum for agricultural advisors in topics of cultivation, production and processing the organic herbs, and medicinal and aromatic plants. The training curriculum is designed in a way to ease and enhance the accessibility of targeted Herbal.Mednet advisors in innovative training techniques (use of online platforms, finding out training content based on targeted competences and exercise on online tutoring methods).

Each user organisation from Spain, Greece and Italy, identified topics of interest for all operators (advisors, trainers, farmers, producers, processors) of organic farming of medicinal and aromatic plants (MAPS) in their countries. The training sessions for advisors combine traditional teaching methods with self-paced learning based on the training resources that are published in the Herbal.Mednet courses platform.

The paper defines the structure, processes and content of the training scenarios that produces by Herbal.Mednet project and used to train Herbal.Mednet advisors on topics of training curriculum.

The Romanian contribution is very important for the project progress and success, having in mind the own expertise in medicinal and aromatic species biology and cultivation as well as in education and training based on on-line and digital educational resources.

Results

Organic farming of herbs and medicinal and aromatic plants is of major importance for rural economy due to their contribution to agricultural diversification and better use of land.

The Professional Profile of the advisor in organic MAPS must be defined according to the European Qualification Framework (EQF), which is, indeed, a common reference for all professional qualifications within EU member states. The EQF framework covers both work and study situations, involving all forms of learning (formal, non-formal and informal) and focuses both on specialisations and generalisations, identifying a framework of knowledge, skills and competences acknowledged as the learning outcomes expected from the educational and training process which leads to professional qualification.

During of national meetings in Spain, Italy and Greece, the stakeholders have been required to indicate, for a set of areas of professional development, the knowledge, understanding, skills and abilities that each adviser should have in order to offer a professional and valuable support to the farmers. In particular, they have identified what areas they think to be the most relevant for the professional practice of the adviser and the most characterizing such professional profile.

In our research we identified two types of advisor: one is more specialized (level 6) with a good combination of practical skills and theoretical knowledge; another level is a more practical related advisor for field task (level 5), which can help other operators to advice how to work in specific aspects like wild recollection, and drying herbs for example.

The topics of the training curriculum of the Herbal.Mednet program are specialized according to the needs of each participating user organization. Learning outcomes used in these training courses are based on the definition used in the European Qualifications Framework (EQF).

The proposed vocational curriculum for acquiring the professional competences for organic MAPS operators is based on the fact that “there is a necessity of new knowledge about the requirements, which the agricultural production should meet in order to be certified as “eco-produce”, as well as practical skills for implementation of ecologically - friendly technologies”.

The application of the EU standards of training will contribute to the achievement and recognition of professional competences and transparency of qualifications for user organisation of the Herbal.Mednet project.

Each user organization identified topics of interest for the advisors/trainers farmers in their countries. Effective curriculum requires constant adjustment to meet the changing needs of people and the challenges posed by national and international trends in Organic MAPS sector (figure 1).

Training methods include formal presentations, demonstrations, informal

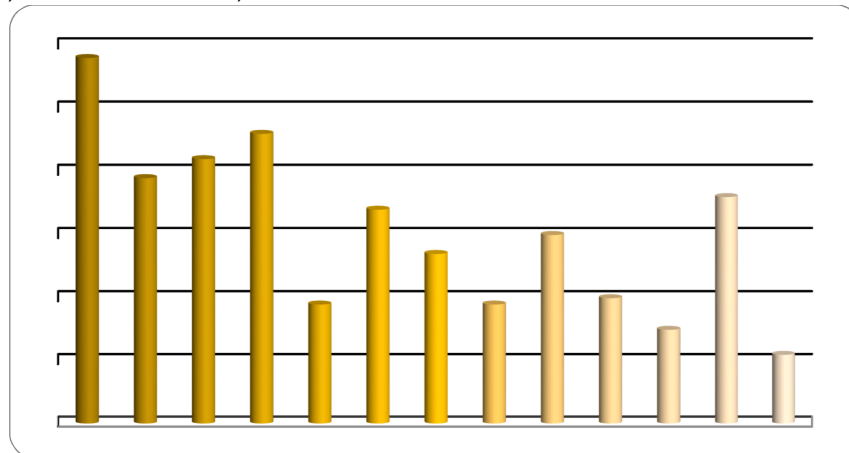


Figure 1. The more relevant topics in the area of herbal, medicinal and aromatic plants especially for organic farming operators in Mediterranean countries

Discussion

The best solution was to design a course with a modular architecture, so that the first modules (focused on aspects connected with field tasks) has been suitable for an advisor at level 5th of specialisation, while the second step of modules was suitable for an advisor at level 6th of specialisation. Because of its new dynamic asset

discussions and opportunities to try out new knowledge and skills in the field. identification of training needs. “Training need is a condition where there is a gap between “what is” and “what should be” in terms of incumbents’ knowledge, skills, attitudes and behaviour for a particular situation of one point in time. The gap usually occurs when a difference exists between “desired performance” and “actual performance”. The identification of training needs makes it possible to design a training programme that will address the identified training problem or need.

These issues were debated during the National Workshop in user countries: Spain, Italy and Greece. After summarizing the results of the three national meetings we consider that following topics are of future interest:

- Principles of organic agriculture and organic MAPS;
- Standards and regulation of organic MAPS;
- Main species and varieties of MAPS and their cultivation techniques;
- Soil management and fertilization;
- Marketing organic MAPS products - Packaging - Trade;
- MAPS harvesting and processing.

the organic herbal sector has a huge open need of professional training.

The present training offer (mainly coming from University courses) is particularly focused on botanics, pharmacology, herbal finished products and health issues, leaving some wide blank areas for the professional consultancy activity.

According to the analysis developed in the research, the professional profile is positioned at a

medium/high level within the EQF, as it involves both 'specialised knowledge' in the sector as well as a complex of transversal key competences (such as communicating, management, planning, prevision making, problem posing, problem solving, risk taking, team working) at different levels together with a more general set of competences such as 'learning to learn' or 'ethical competence' (which is connected with ethical positioning) considering that these have not been explicitly included in the EQF since they are considered as meta-competences, which cannot be seen independently from other knowledge, skills and competences, but are an integral part of those. Design and development of training scenarios mined with the acquired competences and/or the achieved learning outcomes will potentially benefit all the actors who are involved in the vocational education and training procedure of advisors on Organic MAPS topics.

For the use of Herbal.Mednet project we have considered two main professional profiles as primary stakeholders:

1) Advisers and Extension Officers - individuals and organizations that are directly involved in the management of medicinal and aromatic plants concerning cultivation, processing and marketing.

More specifically we have considered as primary stakeholders within the advising area:

- Advisors, extension officers and contractors providing solutions, services and expertise in the field of organic medicinal and aromatic herbs.
- Agriculture owners and managers (producers and growers);
- Responsible workers and project managers and in larger agriculture enterprises (i.e. responsible for an entire production unit).

2) Trainers - specifically addressed to the VET systems and their representatives, concerning the general agricultural area and particularly the Organic MAPS area, as the main target for promoting a new effectual training offer.

We have definitely included in the training area the e-learning platforms and their providers, considering on-line training as an effectual method for the promotion of a widely accessible flexible and updated training offer.

Considering its long term relevance, this project is actually directed to and intends to involve as secondary stakeholders:

1. Sectoral representatives: representatives of organic farmer associations, ministries, officials, agricultural and enterprise chambers, policy making organizations, governmental agencies.

2. Future professionals (as students and trainees in the above described VET) in the organic sector.

3. All entities involved in vocational education (formal or informal, school or workplace learning for qualification) and training (on-line courses for specific skills/competences) for advisers and extension officers.

4. Teaching and research professionals working in the field of on the organic medicinal and aromatic plants.

Because of their strategic role, as tertiary stakeholders we have addressed to public and private entities that are involved in the safeguard and promotion of local flora, organic cultivation and ecological and environmental issues.

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The participants of Herbal.Mednet learning program have access to a Web page specially built for this course with the aim of contributing to the learning process by creating a virtual meeting place one month before, respectively agriMoodle platform. AgriMoodle is an extension of Moodle platform that offers additional themes and tools specialized for educational content in the area of agriculture.

The information flow from the Web page help participants to play an active role in their own learning and in the group process as a whole.

Group learning during the course combine lectures by specialists on the set topics with small group tasks.

Individual learning focus on designing a training curriculum based on competences while the content matter is being dealt with. This design will also be used for course evaluation. The main part of the training program offered in English, thus the participating should have a working knowledge of the English language.

Additional parts of the training session will be also offered separately for the trainees of each different country. Each country's candidate advisors will attend a specialized session to finalize their already customized curriculum. At the end of this session the advisors should gain a level of comfort and proficiency in executing the curriculum that will be given to farmers.

During the Herbal.Mednet project, three different instances of the platform will be used for providing educational content in the thematic area of organic agriculture of MAPs. These different instances will be interconnected through the agriMoodle Hub, a hub that stores and advertise metadata information of the courses available in agriMoodle instances in order to facilitate the search and access to the content.

More specifically, three different installations of the agriMoodle platform are being developed. These installations are:

- A general Herbal.Mednet agriMoodle instance, which can be used by all partners. This is the initial agriMoodle platform and the Herbal.Mednet instance is integrated with existing instances. This is available at <http://agrimoodle.agroknow.gr/>.
- A SEAE specific Herbal.Mednet agriMoodle installation that provides a graphical interface available in English and Spanish and will be used by SEAE for uploading training materials and courses. The SEAE instance is available at <http://seae.agrimoodle.org>.
- An APIVITA specific Herbal.Mednet agriMoodle installation that provides a graphical interface available in English and Greek and will be used by APIVITA for uploading training materials and courses. The APIVITA instance is available at <http://apivita.agrimoodle.org>.

Conclusion

Each user organization identified topics of interest for the advisors/trainers farmers in their countries.

Effective curriculum requires constant adjustment to meet the changing needs of people and the challenges posed by national and international trends in Organic MAPS sector.

The vocational curriculum developed by Herbal.Mednet project consists of different training modules: M1 – Pedagogy, M2 – Technology, M3 – Business Ideas, M4 – Principles of organic agriculture and organic MAPS, M5 – Legislation and Standards, EU policies and programs to support organic MAPS, M6 – Organic MAPS cultivation, M7 – Marketing organic MAPS products - Packaging -Trade, where each module consists of various units.



Figure 2. The main Herbal.Mednet agriMoodle instance



Figure 3. The SEAE Herbal.Mednet agriMoodle instance

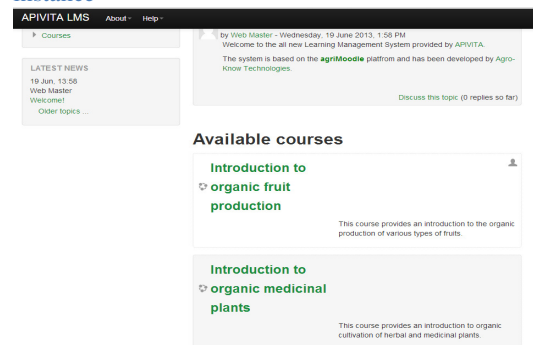


Figure 4. The APIVITA Herbal.Mednet agriMoodle instance

The existing training resources on organic MAPS topics will be selected, translated, adapted and published online and used to train Herbal.Mednet advisors / trainers on the topics of the training curriculum.

The participants of Herbal.Mednet learning program have access to a Web page specially built for this course with the aim of contributing to the

learning process by creating a virtual meeting place platform. AgriMoodle is an extension of Moodle platform that offers additional themes and tools specialized for educational content in the area of agriculture, specifically organic MAPS.

Additional parts of the training session will be also offered separately for the trainees of each different country. Each country's candidate advisors will attend a specialized session to finalize their already customized curriculum. At the end of this session the advisors should gain a level of

one month before, respectively agriMoodle comfort and proficiency in executing the curriculum that will be given to farmers.

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