



## DEVELOPMENT OF COURSES IN ORGANIC FARMING BY AN EIGHT PARTNER EUROPEAN-WIDE PROJECT TEAM

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### Abstract

Organic farming education does not immediately suggest itself as appropriate for delivery using e learning methods. The approach adopted however established and used logical procedures to identify industry needs, set learning outcomes, establish course structure and provide content which was used and evaluated in each partner country. The project was assembled and managed by Higher School "Agricultural College" - Plovdiv, BG with partners from farming organisations, academic institutions and consultancies in DK, GR, IT, The NL, SK and the UK. The project was funded through the Leonardo da Vinci programme of the EU. Two levels of course (equivalent to EQF Levels 3 and 5) were developed and tested. They were specifically tailored to acquaint the farmers (level 3) with the basic knowledge of organic production and Level 5 was intended to assist those in the role of farm advisors to be able to assist producers to farm and market organic produce. Areas for improvement and further work have been identified.

**Key words:** organic; partnership; trans-national; qualification; learning outcomes; farmer; expert

### INTRODUCTION

The market for organic products in Europe is generally buoyant and expanding. It is considered that many farmers and growers may be missing a good business opportunity if they do not give serious thought to organic production and develop the required business and technical competences. These EcoFarmer and EcoExpert modular courses have been compiled to allow individuals to develop the competences required to produce and market food in accordance with organic standards as laid down in EC Regulation 2092 / 91. In the case of the EcoFarmer modules the content is linked to the competences required by organic farmers to produce in line with standards and principles appropriate to their enterprises. The EcoExpert modules are targeted at extension workers and advisers working to help farmers produce and market organic produce. The content of these modules and courses is based on a comprehensive Needs Analysis undertaken by each of the Partners. The course structure was developed in a way that would provide linkages to existing EU initiatives on qualification levels and frameworks thus ensuring qualification transparency across the different member states. The e learning methodology was chosen because of the flexibility it provides for (i) delivery to

individuals and business dispersed throughout rural regions of the European Union and (ii) facilitating study at times and locations which allow the learner to integrate this with their other commitments.

**Challenges:** The challenges faced by the project included:

- the diverse nature of academic procedures and qualifications in each partner's country;
- lack of expertise in e learning by the participating partners;
- the need to provide courses which met the need of both practicing farmers and commercial or institution based organic farming advisers;
- large differences in farming practices throughout partner's countries – from Greece to Ireland;
- differences in organic standards and their application – although with an overarching EU-wide legislative framework;
- translation and communication complexities.

## **METHODOLOGY**

The approach adopted was based on six interrelated stages –

1. Identifying the needs and IT competence of potential users of the courses in partner countries. This was achieved through developing, testing and using a computerised questionnaire.
2. Identifying suitable education levels and Transnational Frameworks linked to the European Qualifications Framework and Europass procedures.
3. Establishing Learning Outcomes and course structures to meet these needs.
4. Developing course materials and evaluation procedures to deliver the necessary competences.
5. Pilot testing and evaluation of the courses.
6. Identification of lessons learnt and possible future action, based on feedback from users.

## **RESULTS AND DISCUSSION**

### **Needs Analysis ( Stage 1)**

This needs analysis was carried out on line using a structured questionnaire agreed by the Partners but managed and analysed by ComuNET. With 130 questionnaires completed this analysis provides a good indication of the competence requirements for both EcoFarmers and EcoExperts. In addition to the overall analysis, it provides information pertaining to each Partner's Member State. Although the questionnaire was completed on line, in some cases the interviews were carried out over the phone and subsequently entered by the reporter.

### **IT Access and Competence**

Amongst those surveyed throughout all the Partner Countries, 90% of farmers had a computer on the farm and a similar percentage had internet access either at home or on the farm, although slightly lower levels indicated that they were "somewhat comfortable" or "very comfortable" using computers (60 %) and the internet (70%). The Experts confirmed similar levels of access to computers and the internet but as expected reported higher levels of comfort in their use - (89 %

somewhat or very comfortable in the use of computers and the internet). These figures provided confidence that access to facilities and levels of computer and internet competence should not be a major impediment to the use of e learning in the farming community.

### **Competence Development needs**

#### **Farmers**

Farmers identified a wide range of competence development which they felt was important to them and while there was considerable variation between countries the common themes which emerged related to –

**Production Methods** - Organic Farming methods, Organic Standards, Good farming (environmental) Practice; Use of computers; Soil Management and Weed Control, and Introduction to Organic Production.

**Other Subjects** - Compliance with Organic Standards, Marketing Produce, Market trends; Sources of Funding / Schemes; Business Planning.

#### **EcoExperts**

EcoExperts identified the following areas of competence development as important to them in the next 5 years.

**Production Methods** - Organic Farming Methods, Organic Standards, Food Hygiene and Safety, Good Farming (environmental) Practice, Waste Treatment and Introduction to Organic production.

**Other Subjects** - Compliance with Quality Assurance Schemes, Satisfying Environmental Obligations, Compliance with Organic Standards, Compliance with Legislative Requirements, Funding Sources / Schemes and Identifying Market Trends and Requirements.

**Individual Countries** - The competence requirement relating to each Partner country were summarised and made available to each Partner.

#### **Application of the Information from these Questionnaires (Stage 2)**

This information was invaluable in compiling the Aims and Learning Outcomes of the individual Modules and in determining the composition of the EcoFarmer and EcoExpert Courses in order to ensure maximise the benefit to potential users of the programme. In addition, the responses indicated that while the vast majority of farmers (over 80%) saw training as important, over 70% did not have enough time to attend formal courses and over 60% would be interested in doing a course through the internet.

**Trans National Qualifications Framework – EcoJob** - The Trans National qualifications Framework (TNQF) for EcoJob-AP is achieved through the adoption of a number of new and existing European education and training initiatives.

**European Qualification Framework** - One of the requirements of this Leonardo da Vinci project was to provide transparency and a common understanding of any qualifications awarded through the introduction of a Trans National Qualification Framework for EcoJob-AP. The EQF was subsequently adopted by the European Council on 14 February 2008, following acceptance by the European Parliament in October 2007.

#### **Shifting the focus to learning outcomes:**

- supports a better match between the needs of the labour market (for knowledge, skills and competences) and education and training provisions;

- facilitates the validation of non-formal and informal learning;
- facilitates the transfer and use of qualifications across different countries and education and training systems.

The learning outcomes used to describe the eight reference levels of the EQF are defined under the headings -- Knowledge, Skills and Competence.

In this context --

**Knowledge** means the outcomes of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of study or work. In the EQF, knowledge is described as theoretical or factual.

**Skills** mean the ability to apply knowledge and use know-how to complete tasks and solve problems. In the EQF skills are cognitive (use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).

**Competence** means the proven ability to use knowledge, skills and personal, social and/or methodological abilities in work and study situations and in professional and/or personal development. In the EQF, competence is described in terms of responsibility and autonomy.

**Having carefully considered the eight levels of EQF the Partners concluded that the levels appropriate for EcoFarmer and EcoExpert were EQF Levels 3 and 5 respectively.**

The generic descriptors for these levels are --

Level	Knowledge	Skills	Competence
<b>Level 3</b> The learning outcomes relevant to Level 3 are - -	Knowledge of facts, principles, processes and general concepts, in a field of work or study.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	Take responsibility for completion of tasks in work or study. Adapt own behaviour to circumstances in solving problems.
<b>Level 5</b> The learning outcomes relevant to Level 5 are - -	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge.	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems.	Exercise management and supervision in contexts of work or study activities where there is unpredictable change. Review and develop performance of self and others

### **Course Structure and Learning Outcomes. (Stage 3)**

Having agreed that the EcoFarmer course modules should be at EQM Level 3 and the EcoExpert modules at level 5, the Course Structure and Learning Outcomes were established on the basis of the information provided by the Needs Analysis questionnaires.

**Study Credits** - These are based on the European Credit Transfer System (ECTS). Credits can only be awarded after successful achievement of the learning outcomes. In drawing up the Learning Outcomes, it was considered that Modules 1 and 2 were mandatory and must be passed before the other modules can be studied. In addition Module 1 must be completed before Module 2 can be studied. The Module Description was built on the headings: Module Title and Number; Module size (SLH); Module level (EQF reference); Module aims and Description; Recommended Prior Knowledge and Skills; Core Competences and Learning Outcomes; Content Outline; Guidance – relevant information on delivery methods, resources required, assessment methods; Bibliography if any; Glossary if required.

**Learning Outcome Assessment** - In view of the difficulties of achieving effective quality assurance across a number of different countries/organisations it was agreed that assessment methods should, in the first instance, **identify only pass levels of competence** for each of the learning outcomes, as defined in the Module Outline tables already produced.

**Pilot Testing and Evaluation of the Courses** - A critical part of the evaluation process was the training of the Evaluation Coordinators in each country in the use of the platform and the tools available on that platform. This was carried out remotely under ComuNet direction using a tailored e learning package. Following this the Evaluation Coordinators in each country supervised, monitored and assisted the participants as they evaluated the two mandatory modules (1 and 2) plus one of the optional modules. The optional modules were assigned to the partner countries as indicated below: Bulgaria: M1,M2 and M6; Greece - M1,M2 and M5; Italy - M1,M2 and M3; Netherlands - M1,M2 and M3; United Kingdom - M1,M2 and M7; Slovakia - M1,M2 and M4

On completion of the courses the participants used a common on-line report form to evaluate the content and presentation of the courses.

### **Summary of Achievements and Lessons Learnt from the Programme.**

**Personal Development** - Participants on the Project Team and associated staff, significantly increased their understanding in relation to e learning in general, including -

- Understanding how e learning can be successfully used for courses to deliver quite high level education programmes (EQF 3 and 5).
- Appreciating the huge amount of work involved in preparing material for modules and how this can be shared out through effective partnerships.
- Discovering the excellent learning platforms now available to support e learning programmes.
- Experiencing how it is possible to support such programmes from a remote location.
- Understanding the importance of effective training in the use of the e-learning platform for participants.

## **EcoFarmer and EcoExpert Course - development and use**

The course development and pilot trial emphasised;

- the importance of building the course on the real needs of the potential users -- as determined by factual analysis.
- the importance of setting and agreeing learning objectives based closely on this industry needs analysis.
- that course material must be rigorously linked to the learning objectives.
- that linkage of content and assessment to practical applications in participant's own business or work situation is essential.
- The importance of assessment methods and content must be tightly linked to learning objectives and course material.
- that self assessment (closed questions) are not sufficient for complex issues requiring integration of multiple factors (business or enterprise management)
- how good learning platforms allow student progress to be easily followed and exams and assignments to be marked and corrected by a remote assessor.
- how Europass can provide a method for international transparency of any qualifications awarded.
- The importance of taking time to train users in the effective use of the learning platform and associated communication tools.

## **CONCLUSIONS**

### **Future Actions to improve the product**

The following are some actions which could be taken to improve the products following the completion of the pilot exercise -

- Review and agree the specified learning outcomes; in the light of feedback analysis.
- Review and adjust module content to better meet regional needs; make any changes required to the learning objectives and take on board pilot evaluation results.
- Add more assignments to cater for local conditions and variations.
- Review and improve self-assessment questions against the agreed learning objectives
- Add open question exams to cater for more discussion and analytical response to questions, especially at EcoExpert (EQF Level 5).
- In the longer term establish external assessor type quality assurance arrangements to validate common standards of any award granted by different organisations.

### **References**

1. Commission of the European Communities. (2006) Recommendation of the European Parliament and Communities on the establishment of the European Qualifications Framework for lifelong learning. 2006/0163(COD)
2. Decision of the European parliament and the Council on a single Community framework for the transparency of qualifications and competences (Europass).