



Case name and name of contact person/leader

A multi-actor approach to sustainable food innovation

University of Oradea, Romania

Contact person: Adrian Timar

Brief description of the case

The case consists of a practice-oriented course in food innovation including all the steps necessary to bring a new product to the market; market analysis for demands, product development, finding sustainable and technical solutions, promotion and marketing. This case study will provide a new approach that establishes strong connection among high schools and universities on one hand and the staff of the entities/organization involved in the food processing on the other hand.

The evolution of the course is based on previous experiences in projects in the field of Long Life Learning ("Food industries and agriculture prospective in the 3rd Millennium", Researches regarding the influence of some technological elements over the wheat and corn grains quality stored in Bihor and Hajdu Bihar counties, Green cultivation Actions, etc).

The core in the training is the production of food products that are both sustainable and potentially successful on the market.

Sustainability will be ensured by raising the awareness of the actors from the foodstuff sector about innovative health and safe food, also half of the innovative products legal rights will be surrendered to the University of Oradea under the mention that they will be used for promoting active learning system. Other strong component of sustainability is the links that are created between schools, university and foodstuff entities. It will be of a great interest to monitor if the participants will later implement these ideas and even a crowd-founding system applied later will increase the sustainability of the idea.

The course will be running in eight months modules (2 calendaristic years due to holidays) but the participatory elements in the learning methods are still in an early phase. Guided by the action research cycle developed in NEXTFOOD, the case will be improved in a cyclical way throughout the duration of the project.

The course aims at strengthening the links between research, high school education, university education and companies or institutions related to foodstuff, including farmers. The course will provide to the involved partners the technical skills to innovate and take new food products to market as well as the soft skills needed for working together in co-creation and even co-evolution. By applying action learning, the case is continuously exploring theory and methods for fostering these skills.

The target groups will be youth from high schools, university students and staff of companies or institutions related to foodstuff. They will act together in multi-actor stakeholder groups and gain the skills needed for acting responsible with respect to the complexity of sustainable food production and processing.

Their families and social networks will also act as a multiplying factor for the dissemination of the project outcomes. The final evaluation of the participants will be done in a workshop.

There will be a challenge for everyone to promote a better and a safer product. In this way the workshop will be open for public, we expect a large number of assistance. Also the evaluation process will include a chapter about how the food is perceived in the network of each participant. The presentation of the products will be first presented with a focus on the sensible aspects. There is also important to emphasize that the participants will discuss their actions in their own social network wherein, because of the new knowledge and skills acquired, they will be leaders of the discussions and will act as trainers; later for the staff under their coordination also will act as trainers and also increase the project sustainability.

All the activities are designed for 6 teams and a number of maximum 24 participants. The following activities are undertaken in the course:

1. Theoretical and practical training.
2. Proposing, realizing and promoting an innovative food product for each team involved in the training; all the teams will present their products in a final workshop.
3. The course will include practical workshops wherein joint team formed by youth from high schools, university students and companies or institutions' staff work together in an innovation process.
4. After the workshops, the courses outcomes and the skills acquired are evaluated.
5. Creating a forum section where the issues about new trends in foodstuff will be discussed under the guidance of the specialists from University of Oradea.

The objectives are the following:

(O1) identify the skills needed for a transition to more sustainable farming and food systems,

The main skills that are more and more required are the following:

- recognizing raw materials in physical form,
- handling raw materials in proper way,
- having knowledge about actual machineries and maintenance,
- knowing new trends in agrifood sector,
- reinforcing foodstuff properties with bioactive compounds capabilities,
- sensory analysis high capabilities,
- food safety capabilities,
- business plan developing capabilities.

(O2) develop relevant curricula and training methods,

Curricula will be focused on following topics:

- raw materials recognition
 - grains
 - vegetables
 - spices
 - animal origin
 - miscellanies
- raw materials understanding
 - composition and properties of grains
 - composition and properties of vegetables
 - composition and properties of spices
 - composition and properties of animal origin
 - composition and properties of miscellanies
- handling equipment and infrastructure
 - loading, uploading, downloading,
 - handling equipment,

- storage systems.
- machinery used in agrifood sector
- washing equipment,
- handling equipment,
- sorting equipment,
- cleaning equipment,
- mincing equipment,
- mixing equipment,
- filling equipment,
- packing equipment,
- delivering equipment.
- new foodstuff in the global market
- meat stuff,
- bakery products,
- dairy product,
- cans,
- drinks,
- sweets,
- food supplements.
- natural bioactive compounds
- producing natural extracts
- advanced sensory analysis for raw materials
- advanced sensory analysis for foodstuff
- sensory analysis for animal origin foodstuff,
- sensory analysis for plant origin foodstuff.
- food safety implementation
- projecting new foodstuff
- economical assessment of the new foodstuff
- Soft skills courses

Training method are the following:

For each topic there will be 2 hours theoretical classes (on-line) and 4 hour practical activities (face-to-face) having the view the previously mentioned topics. There will be an abstract/quizz presented by each beneficiary after each topic.

(O3) assess existing policy instruments for the training and education sector,

The actual policy instruments for the training and education sector because is under equal chance access for beneficiaries is suffering by wrong career orientation based on lack of inputs regarding the beneficiaries concerns and abilities. Therefore a career plan will be conducted for each beneficiary.

(O4) develop solutions for quality assurance of the training and education sector,

By using questionnaires/quizzes there is a real time feed-back about the course content understanding. Comparing with classical exams proposed evaluation form by a workshop competition is a real competitive way of evaluation.

(O5) develop a knowledge sharing platform.

The results, training materials and implementing team contact data will be uploaded on a web page to be accessible for everyone in Romanian and English.

How will the case contribute to achievement of the NEXTFOOD objectives by action research as the main strategy?

The case will be an arena for achievement of

O1 through the on-going action research described above on key competences needed by all stakeholders in the agrifood chain with an aim of facilitating a transition to more sustainable agrifood systems.

Key competence will be acquire at the labour market and foodstuff market demands due to involving of stakeholders.

O2 through the participatory exploration of theory and methods for fostering these skills and evaluating success.

Practical approach will enhance the skills acquirer because of the well tested learning by doing and competition system.

O3 through the gaining of experience of being pioneers in using action learning this region and context

There are just scattered concerns similar with our proposal and there are not institutionalised.

How will the case study provide evidence to answer the NEXTFOOD research questions?

1. How can education and training focus on participatory, experiential and action-oriented learning in agrifood systems?

The case will develop the collaboration process where the different stakeholders come together and solve complex and practice-oriented real issues where solutions are ought to be successful on the market as well as being in the front when it comes to ecological and social sustainability. The case includes empirical material collected during almost two decades. This includes student's report of the innovation process, an evaluation of the acquired skills.

2. What are supporting and hindering forces for achieving such alternatives?

The case will generate experience from introducing systemically oriented experiential and action-oriented learning in an academic environment the connections between education, research and businesses are weak and under developed. Data will be gathered on what it takes for the involved partners to go in a more collaborative and participatory direction when it comes to learning. The main supporting force of the case is the demands for new, innovative and safe foodstuff. In this way the use of local resources, local raw materials and also using the short supply chain will be the second supporting element. The people that are involved in the project, well known for their visibility, notoriety and career in local community will be an example of successful cases and will lead to rise the interest of the participants in the active learning techniques. There are of course some risks because of the old generation from the field that is enslaved by the old fashion processing techniques and also did not understand the changes from the foodstuff market and also educational sector.

The final aim is to organise an Innovation Summer School in the field of foodstuff where the teams at the end of the project compete together.

When do you plan to run the first cycle (starting and ending dates) of the educational activities (courses, seminars etc.)?

2018

July 16 (already done) presentation of the project to the target groups,

September - October selection and registration of the participants,

September - December preparing training materials of the modules.

2019

January - April preparing the training materials of the modules.

May 2 meetings, June 2 meetings, September 2 meetings, November 2 meetings, December 2 meetings.

2020

January 2 meetings, February 2 meetings and March 2 meetings.

What is the planned (expected) number of learners (students, farmers, etc.)?

All the activities are designed for 6 teams and a number of maximum 24 participants.

What is the level of the course(s)? (BSc, MSc, other)

Other

Who will be the teachers/learning facilitators?

Timar Adrian

Supuran Anamaria

A description of the 'learning arenas':***Where will the activities take place, what will be the processes to enable co-learning between teachers, learners (students, farmers, etc.) and research persons in society (farmers and others)?***

The main activities will take place in the laboratories and other facilities of the University of Oradea, Faculty of Environmental Protection.

According to the topic chosen there will be some field trips/meetings at the companies and institutions (stakeholders) that are acting in the field.

Some of examples of companies are: SC Andromi SA, SC Agroind Cauaceu SA, SC SaintAgro SRL Bors,

and institutions: Agency for Payments and Intervention in Agriculture, Bihor; Bihor Regional Council; Regional Authority for Agriculture, Bihor, Authority for Consumer Protection Bihor