INNOVATIONS BY NETWORKING IN EDUCATIONAL PROJECTS THROUGH AN EXAMPLE OF EDUECO Project

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Abstract
This paper presents an activity of EDUECO: Education of Teachers in the field of Ecological Food Production and Management - a project financed by TEMPUS Program of the European Commission and coordinated by Van Hall Larenstein University of Applied Science, the Netherlands. It presents the program objectives and results from the training week in Bulgaria concerning innovations in organic farming - Bulgarian experience in training, motivation, knowledge transfer, entrepreneurship and networking.

Key words: education, vocational training, ecological food production, management, entrepreneurship, motivation, knowledge, organic farming

Introduction
Seventeen educational and research institutions from seven countries (Netherlands, UK, Hungary, Bulgaria, Serbia, Bosnia and Herzegovina and Montenegro) participate in this project. Project’s general objectives are: capacity building and professional network development among Western Balkan universities; development and implementation of vocational training programs for teachers of secondary agricultural schools; development of vocational training programs for end-users - producers and entrepreneurs of organic food.

The idea of EDUECO project is to meet the expected increase of consumer demands on food produced on ecological principles through improved teaching at non-university educational institutes but starting from the real beginning in the process - university staff training, and then secondary and vocational schools teachers. This project addresses the 'Europe 2020' program priorities, especially the 'Smart growth' (develop educational systems), 'Sustainable growth' (ecological food production) and 'Inclusive growth' (develop strong connection between job market demands and education). The implementation of Bologna process is further elaborated, with specific focus on the Lifelong Learning program. Within the EDUECO project many deliverables will help the universities to develop their life-long-learning programs, as well as for teachers of non-university schools as for other specialists.

Materials and Methods
For the purpose a special training program for the university teachers was prepared. A part of it was the week in Bulgaria. Its objective was to learn from Bulgarian experiences and knowledge in the field of ecologic farm production, specifically in the relation and interaction with and between farmers in the training process using innovative methods and practices. The approach’s objective was to reach high activity of all participants and every one to find the answer for himself/ herself why the connection to and the feedback with end-users is so important, and what does one need to do in her/his position to be effective. The activities were: collection and exchange of information; ask (participants) and provide (organizers) for additional information according to the specific questions rose during the program; make contacts with visited organizations and farmers for future collaboration and initiatives.

Bearing in mind the importance of information exchange, the program was made of several stages:
1. Selection of participants – made by the partners in the project.
2. Workshop for introduction – its objective was to prepare participants for the visits not only by giving preliminary knowledge but mainly by formulation of questions according to the program and if necessary organizing additional individual meetings in accordance to participants’ interest.
4. Participation in the BioAgra Seminar organized by UARD – Innovations in organic farming through networking
5. Excursions (field trips)

Main problem: Sometimes participants think that...
this is just a waste of time and they could do nothing with this experience because the real situation in their own countries is different. But the most important thing is getting the sense of understanding historical reasons for existence of things, institutions and law; modern trends and unavoidable changes; to realize the significance of feedback and main principles of market and entrepreneurship; to learn to be innovative and flexible.

**Excursion – why is it so necessary?**

1. Requirements to training programs in respect to objectives of the project
2. Trainees (end-users) - not only passive listeners but active participators and initiators in the training process participating in preparation of the training program
3. Overall requirements to a training program – to be composed in response to professional interests of the participants – exchange of information
4. Method of work – visited countries and organizations to be treated not as a model of imitation but as an object of investigation
   - Not “we are going after what the others have succeeded in but nothing depends on us”
   - But “how the others seek for or have found a solution (and is it good) to the same problems that we have”
5. Some of the managers and specialists are over-informed in their fields because of the higher level of their work. But the lack of information from the lower levels leads to misunderstanding and mistakes especially when transferring innovations.
6. Effects in respect to the objective – go out of the limitations just of a single specific group, embrace specialists and organizations at the maximum level in the field investigated

**Excursions:**

1. In principle programs are made by organizers in visited country as much as it is possible to respond to personal development plans of participants and what is in fact the case in that country
2. Visited organizations are not perfect models
3. Visited countries have made a lot in the area studied
4. Organization of various and interesting meetings and visits including different situations and problems

**6. Individual visits**

**7. Additional materials**

**8. Final workshop** - reports outline from participants on the topics of interest followed by discussions

Filling a questionnaire by all participants – estimating the program according to their expectations and final results in the aspects of concepts treatment, knowledge on methods of work, practical aspects, organization of field trips, coordination, exchange of information, documents and materials provided, untouched topics but of great interest, topics to be discussed additionally, recommendations.

**Remarks and conclusions**

**9. Follow up**

Preparation of a paper of reports and results of the questionnaire and its distribution among all the participants in the project.

**Results and Discussion**

Following the Field Research in Western Balkan Countries, Opening Conference and Network meeting in Educons University in Serbia in November 2011, Wageningen week in Van Hall Larenstein University of Applied Science in February 2012, a group of the project partners came to Bulgaria in March 2012.

A special training program was organized bearing in mind the richness in natural resources in Bulgaria which predetermines development of sustainable agriculture. Bulgarian traditions in agriculture, food taste and quality of Bulgarian vegetables and fruits are world-famous and were well-known by all the participants. The country is famous for its rose-growing industry which produces 85% of the world's rose oil. Roses have been cultivated there for centuries. These are very important prerequisites and opportunities for organic farming. Most of Bulgarian organic produce is exported as raw materials. The most important products are fruits, essential oils and some vegetables such as tomatoes and cucumbers. Organic yogurt, white cheese, bread and medicinal herbs are also produced but for the domestic market. Those facts were considered when preparing the program.

The visit was hosted by University of Agribusiness and Rural Development as a partner in the project having a great experience in a number of projects in organic farming considering training and assurance of its quality. The **main focus of the program** was communications with farmers and level and extent of participation in training. The **objective of the program:** to examine Bulgarian experience and knowledge in the field of organic farm production, specifically in the relation and interaction with and between farmers.

Project partners from WBC universities came to do observational research on how networking can help to develop a sector and regarding the teacher training (for teachers from secondary and vocational schools) and vocational courses (for
students and farmers) being developed under the project as a whole and the individual parts in the modules.

The program was based on field trips and observational trainings.

Before going on field trips, participants visited UARD campus in Plovdiv. They were introduced into the processes of innovations, investments, agribusiness, rural development and training and education in the University of Agribusiness and Rural Development. They were also presented an option for analyzing educational systems and accreditation procedures in connection with assuring continuation and sustainability of activities in the project, as well as specific aspects of farmers’ relations in connection to research activities – connections with farmers, consultations and training courses in Technology transfer office of Maritza Vegetable Crops Research Institute in Plovdiv.

The main idea of the subsequent field trips and meetings with farmers was to examine three different situations: absence of knowledge and motivation in farmers, young entrepreneurs and the continuity in farming in a family and a successful cluster.

Some interesting situations were observed and participants collected information about the following points:

The importance of knowledge and motivation
Participants had the opportunity to investigate farmers’ problems on place through a meeting with the trainees in a seminar in organic farming organized by UARD under Rural Development program in Bulgaria. Their main problems: mainly financial and dependence of the support from the state and the EU, unwillingness to make clusters for production, processing or selling, were discussed and the need of a close interaction with universities and students placements in such farms was considered mostly concerning marketing, business planning in farms and transfer of new technologies and innovations.

Dr. Stoylko Apostolov from Bioselena Foundation presented current state of art in organic farming in Bulgaria and the experience of Bioselena foundation during last 15 years.

During the discussion on the topic it was concluded that there is a need of training which uses a different approach changing the way of thinking.

The importance of entrepreneurship encouragement
Among the great number of students and trainees in vocational courses and seminars organized by UARD in the field of Organic Farming and Environmental Protection a boy from Sopot was selected for a visit. Hristo and his father Krum Nedkov have lived in Spain for many years and they had a great success there. But they came back to Bulgaria because they wished to continue what was begun by the grand-father in the family and his experience in farming. They decided to start growing organic vegetables, fruits and roses. They invested own money and they applied for subsidies from state and EU too. Hristo has elaborated a strategy by his own. He has just started but he will continue developing the farm including processing and selling – all was planned and is now going on according to the plan and even better.

Organic roses are not the only one in the farm of the father and the son but they are the most attractive and profitable in it. But this is not the only one reason and it is not the most important for them. They care of them as of babies. Hristo explains all the processes in planting of young plants with so much concern. The young roses were sown in November. Very soon all of them will be cultivated by hand because they are easy to break. Next to the rose field he has bought 3 hectares and a half and sowed wheat because he didn’t want anyone to sow there and to put some chemicals and preparations. And according to the requirements of the certification company which will give the certificate of organic farming he will put trees all over around, not fruit-bearing, about 10 meters.

The interaction between the continuity of traditions and the entrepreneurial behavior is amazing in this family. The other reason is the man from whom they bought the young organic seedlings and who shares his knowledge and experience with readiness and satisfaction – Ivan Chikov from Bio Bulgaria Oil.

The power of a cooperative
Bio Bulgaria Oil Cooperative started activities in 1999 under a project for Sustainable agricultural development in Central Stara planina supported by Swiss agency for development and cooperation and Bioselena Foundation. In fact the consultations have begun since 1996 yet. Since the beginning of 2001 it has been an independent organization. Since 2004 the cooperative has had its own small distillation installation for essential oils.

Ivan Chikov explained that the idea of the people from the Switzerland was not providing financial support but training in organic farming, the way of thinking. There had been a big disappointment...
then because some people thought that there would be money in cash and they would work with that. Bit the idea was not such. The idea was to have the basis from which to start. In 2000 they planted the first roses and lavender, about 1 to 2 decares. In 2003 they got the first certificate for organic produce – the first rose and lavender oil which were certified – 9 grams totally.

The co-operative members are farmers with rich and many-year experience in organic produce. Following changes in the country in 1989, and entering the EU later, the necessity of being competitive on the international market pushed the farmers who were motivated and wishing to be organic, to provide products of best quality and enough quantity to unite in a co-operative which got popularity and certification as organic.

It is more a marketing than a production cooperative. The farmers are responsible for their production (which does not exclude help to each other), but the sale of the production is a responsibility of the cooperative. The cooperative facilities and equipment mainly provide processing of the products and support of the members in the terms of: control and certification, marketing, business planning and other organizational activities.

Now they have more than 20 hectares roses and more than 30 hectares lavender which was equal to the produce of 10 kilogram rose oil, 20 tons rose water and 1200 kilograms lavender oil last year.

The installation could not be used all over the year. It works only during the season – 20 days for the roses and 20 days for the lavender. These are 40 days maximum. During the other 320 days it is free. This means that it is expensive equipment which could not be used permanently.

Of course, they are thinking of other ways of using this, but those are connected to additional polluting of the distillery because they make there only organic rose and lavender oil and water and these are not compatible to chamomile and peppermint ones. These last products even following boiling and cleaning the distillery installation stay and spoil the quality of the next produce. If they want to process other raw materials they should have another distillery.

The production of organic rose oil is harder and very specific process compared with the distillation of other oils. Rose petals are collected early in the morning. In this installation 3 to 4 tons are processed per day which gives 1 kilogram rose oil. The residual is used for compost.

The difference in price of organic comparing to conventional production is not more than 30%.

This is much more a way of thinking not seeking after the maximum profit.

Those farmers do not rely on subsidies from the state or the EU. They are working really hard, they are thinking about the future and they do not forget the experience in the past.

The innovations

The control is bigger in organic production. These are 4 farmers in cooperation and they have a strong system of internal control established. Every year during collection of rose petals they get a probe from every one field and then send a mixed probe to Germany for making analyses. The analyses cost 270 euro – that’s why they unite. If everything is ok, then they go ahead. If not – separate probes from the fields are analyzed and who has made the violation pays for all. They have had no problems since the beginning till now. At the end the oil is analyzed too in order to be sure before the client that they offer the real best.

The control of the fields is very efficient too. They have special working instructions for the seasonable workers on the fields – from 400 to 500 per a season. For the distillery they are only 5 or 6.

Organic rose oil does not contain any conservants. The only one stabilizer is the rose oil but there are some problems with the microbiology. They have an elaboration in this equipment by their own called fast heat treatment. In this part of the equipment the heating is to 100 degrees Celsius and then all is fast cooled and filtrated. So this fast changing in heating and cooling make the microorganisms to die and then all is going to the filter. That way the rose water at the end is completely clean.

The majority of the products are for export. The cooperative has customers in Switzerland, France, England and Germany. The oil is kept in glass vessels because it is very concentrated and destroying. Before going for sale it is analyzed. The cooperative members want to be sure in what they sell. The transportation to the customers is very important point.

The vessels for transportation and export of the rose oil they use are Bulgarian, they are called “concum”. The others are French, very nice but not so strong. The Bulgarian vessels sustain to 20 tons pressure. Ivan explained that when transporting in a plane and the plane crashes, two things are sought for – the black box and those vessels – these are the things remaining from the plane – they will be found for sure.

At first sight the cooperative has closed the cycle: production – processing – conservation and
distribution, but there are some problems:
In Bulgaria they sell the raw materials (oils or dried herbs) for industry at very prices. Then Bulgarian customers pay for imported very expensive products – cosmetics or ready tea bags for example.
In the future the cooperative intends to develop its activities so that they could satisfy the needs of their customers as much as possible. They are planning to create new organic fields with plants and expand the certified area as a total.
The problem is that the land in Bulgaria is cut in small pieces (very fragmented) having different owners. For example if they wish to bye 1 decare they should go to the notary with more than 30 different owners. It is a very complicated process.
They would like to fully load their distillery and make it efficient distilling not only for them, but also providing services to other farmers.
The cooperative members have got a dream – they strongly want to develop the so-called country tourism. There are so many interesting historical sights and traditions in culture that they could show to the guests too.

The story of the man of guns and roses
Among the most interesting questions were the following: ‘Before starting this business what were you doing? What education and training do you have? How did the idea to do that arise?’
The history of Ivan was very interesting. He was given the name “Guns and Roses”. He has been in sports for many years, national competitor in wrestling. Then he started work in the factory of guns in Sopot. He has been a technologist in special production for 20 years. But he saw the real damages of guns on the people. He understood that things he has made with so much love kills people. Then he decided that he want to make something that creates love, feelings between people instead of war. A group coming from England, gave him the name ‘Guns and Roses’. So, he has been a sportsman, a technologist and now an organic farmer. That’s why this is a belief. Every one must do the things and his innovative way of thinking.
Ivan Chikov showed that often the theory is not in the textbooks. This could not be described in the textbooks. This must be felt. This is the problem – there is no manual saying what exactly to do. This is the way of work.
Ivan Chikov showed that often the theory is different of practice. He has a valuable know-how based on his own observations and experience through years thanks to his amazing ability to feel the things and his innovative way of thinking.

What are the reasons of the great success: the way of thinking, the knowledge, the skills and the competences, the innovations, the quality of the produce, the control in the cooperative or something else? We should think more about that!

To be or not to be “organic” farmer
Are Bulgarian farmers well informed about the advantages of organic farming and the ways of financing?
Organic farming has a great potential for rural development as a whole and for the farmers not only in respect to environmental issues but also in
NEW KNOWLEDGE

respect to economic and social sustainability. Communication between the stakeholders in the sector, encouraging initiatives, applied research activities according to the needs of end users, joint efforts for development of agribusiness and tourism are among the most important points. In these processes local authorities, NGOs, secondary and vocational schools and university are playing the main role because of making the way of thinking and working.

But what are the reasons of the good motivation – beliefs, money, way of life or something else?

The good examples of a Bulgarian region

Back to the history – the connection between organic agriculture and Bulgarian villages

The role of schools in developing personalities, saving traditions and transferring innovations was known many centuries ago. An amazing place is the Sopot monastery and its school built in 1665, survived in a fire in 1877 and then restored. Now the monastery is still functioning and it is an attractive place for specialists and tourists not only because the rich history but also because preserved traditions in ecological food production and the 3-century old “fully organic” vine in the inner yard which is the oldest one in South East Europe and maybe in Europe too.

Typical Bulgarian Renaissance houses make the Sopot region a remarkable place. Traditions in caring of and protecting environment and producing healthy food give an insight into the reasons of historical development and the interest towards organic. The association of Sopot masters, arts and crafts has a special ceremony for introducing its guests into the power of networking. The good sense of making art and good in all the craftsmen is one of the reasons for the great success of such an unusual and very strange for some people initiative. The leading point is “friendly to people and nature” and that way of thinking is not new at all. Its importance was realized many many years ago and put into practice. Its significance for future sustainable development was considered by the contemporary decadents and a project based on the history and traditions established that structure - now a model for pupils, students, farmers, processors and retailers.

Members of that crafts association showed the connection between Tourism, Crafts, Food, Organic Farming and Rural Development combining traditions and entrepreneurship behavior assuring the continuity. Their innovative ideas put into practice prove that “ecologic” is not just a dream – it’s a way of living.

Bulgarian hospitality and customs

Bulgarians are famous for their hospitality and interesting customs. The month of March, according to Bulgarian folklore, marks the beginning of springtime. The visit coincided with preparations for spring coming and making wishes for health, luck and success. Bulgarian customs in their essence are deeply connected to the nature and its protection. “Organic” is just a new modern word, but the process is not.

That way participants were prepared for the next point in the program:

Meeting stakeholders in the organic sector

At AGRA International Agricultural Exhibition at the International Plovdiv Fair there were lots of opportunities of exchanging information with farmers, producers, dealers, certification and other organizations. The key point was organic sales and realizing the importance of marketing. Discussions on these problems will continue with farmers and other organizations contacted at BioAgra interested and involved in training in and development of organic farming through networking and joint projects initiatives.

Innovations in organic farming through networking

That was the topic of the Workshop organized by the University of Agribusiness and Rural Development under the project at on 8th March 2012 at the International Plovdiv Fair. Innovations in organic farming - aspects in management, entrepreneurship, farmers’ communications and networking in respect to different subjects and activities of specialists in Bulgaria were presented.

The position that above all other things organic farming is a guarantee of environmental protection and strict adherence to certain requirement and standards and gives lots of opportunities for development of farms on the Balkans was the basis of the presentations given. The importance of the feedback with farmers, processors, dealers and consumers and knowledge transfer was underlined as well.

The role of trainers and teachers is of great importance in all these processes. Ways should be found to put knowledge into practice when developing training programs and to compare and present the advantages of organic agriculture through really good examples. There is no doubt in the importance of starting to change minds, to care about organic and marketing. Networking, making clusters is the right way of work.
Conclusion
During the implementation of this program with the main focus on farmers' communications and level and extent of participation in training in higher educational institutions in Bulgaria regarding the quality assurance there were really very interesting situations and the participants were very conscious and active in own opinions and statements.

The main idea was that the most important is not just visiting farms and seeing plants and animals, talking about breeding technologies and farmers' problem but meeting farmers in their environment, predispose them to be honest in answering questions, reduce the distance and making observations and own conclusions on the situations examined.

The program was made and focused on:
- presenting imperfect situations;
- meeting different stakeholders in informal environment and participation of local authorities and teachers as they have a tremendous impact on local community;
- how to stimulate the conversion in mind through informal group meetings according to the interests of target groups.

Participants were motivated and very interested in farmers' problems, they asked lots of questions formulated by their own, they discussed all that they saw and heard and they made general conclusions about teacher training programs and subsequent vocational training, and especially the importance of the integrated approach.

The program started with a presentation of UARD's and Bulgarian experience in innovations, investments, agribusiness, rural development and farmers' training in respect to networking and the importance of the feedback; of objectives and activities in the program; and giving directions of thinking and questions. An option for analyzing educational systems and accreditation procedures in connection with assuring continuation and sustainability of activities was presented too. The subsequent visit in the Technology Transfer Center in Maritza Vegetable Crops Research Institute in Plovdiv underlined the importance of the feedback with farmers, processors, traders and consumers and knowledge transfer.

The program continued by a comparison of 3 different situations. Working with non-motivated farmers just starting a seminar in organic agriculture – in order to investigate farmers’ problems. The conclusion made was that there is a need of training to use a different approach and changing the way of thinking. The next situations explored the reasons of the good motivation – beliefs, money, way of living or something else – by visiting a young entrepreneur and his father and a cooperative underscoring the power of networking (making clusters) especially in respect to marketing and realization of produce. The importance of starting to change minds, to care about organic was realized; of training curricula development and presenting the opportunities of combining organic agriculture and tourism and marketing skills in them.

Formal or informal meetings in respect to motivation and knowledge transfer were organized too making contacts with the stakeholders in the sector and exchanging information. Presenting the importance of effective connections and communication underlined the importance of motivation to develop and to participate in the training process.

One of the main problems seen on the background of the examples of establishing feedback with the end users in respect to directions of work were connected to some omissions and lack of connection between researchers and end-users in terms of using results of research activities. The conclusion drawn was to find the ways in teacher training and vocational training programs to put knowledge into practice.

Acknowledgements:
Mr. Ben Rankenberg & Mr. Bernard Gildemacher, Van Hall Larenstein University of Applied Sciences; Dr. Stoylko Apostolov, Bioselena Foundation; International Fair – Plovdiv; Municipality of Sopot; Anevo Cooperative; Mr. Vesselin Lichev, Mayor of Sopot; Mr. Ivan Tachev, Mayor of Belozem; Mr. Nikolay Koprinkov, Mayor of Trud; Mr. Nikolay Nikolov, Mayor of Anevo; Mr. Rumen Stoyanov, Mayor of Kalof; Mrs. Darina Shishkova, Association of sheep local varieties breeders in Bulgaria, Kalof; Ivan Chikov, BioBulgaria Oil; Hristo Nedkov & Krum Nedkov, Sopot; Association of Sopot masters, arts and crafts ‘Sopotski Esnaff”; Dimitar Petrov, Belozem; Assoc. Prof. Stoyka Masheva, Ph.D.; Chief. Asssit. V. Yankova, Ph.D.; Assoc. Prof. Galya Antonova, Ph.D., Maritza Vegetable Crops Research Institute, Plovdiv; Mrs. Vanya Stanева, Technology Transfer Center of Maritza Vegetable Crops Research Institute, Plovdiv; Prof. Plamen Mishev, University of National and World Economy, Sofia; Prof. Maria Popova, UARD, Plovdiv; Prof. Eng. Dimitar Dimitrov, Ph.D., Rector of UARD; Assoc. Prof. Mariyana Ivanova, Ph.D., Vice Rector of UARD; Assoc. Prof. Pavlinka Paraskova, Ph.D., Food Development and Research Institute, Plovdiv; Assoc. Prof. Penka Kostadinova, Ph.D., Agricultural University, Plovdiv; Assoc. Prof. Veneta Kanazirska, Ph.D., Maritza Vegetable Crops Research Institute, Plovdiv; Assoc. Prof. Goryana Yonkova, Ph.D., UARD, Plovdiv; Assist. Prof. Zlatka Grigorova, Ph.D., UARD, Plovdiv; Park Hotel Imperial Plovdiv; Classic Restaurant Plovdiv

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