
Visit Report

According to activities of project:

New Professional Diploma in Plant Clinic and Phytosanitary Technologies

"609550-EPP-1-BG-EPPKA2-CBHE-JP"

WP1. Needs Analysis and Transfer of Knowledge

Task.1.2: Staff visit to EU for benchmarking and good practice studies to define gaps in relation
EU education and plant clinic standers

In

Agricultural University- Plovdiv, Bulgaria

During the period from 4th October to 8th October, 2021

Written by

Prof./ Ahmed M. Hassanein

Project coordinator

Sohag University, Egypt

Task Description:

- Upgrade PC institutes standards by adopting a common core of EU and internationally benchmarked standards in Plant Clinic and Phytosanitary arts for graduates and trainees to ensure that students are equipped with the necessary knowledge and skills to be globally competitive.
- Leverage states collective influence to be aligned to internationally benchmarked standards and draw on lessons from high-performing at PC partners as EU standard. Also, to revise state policies for recruiting, preparing, developing, and supporting teachers and academic leaders.
- Measure state-level education performance globally by examining student achievement and attainment in an international context to ensure that, over time, students will receive the education they need to compete in the 21st century.

Introduction:

Benchmarking has been defined as a method of improving performance and practices by measuring the performance of an organization in comparison with more sophisticated peer organizations. It is a process that requires defining the activities that should be carried out, in light of the high-performance institutions in the intended field, in order to ensure the existence of a program with an appropriate structure to graduate a professional individual in the field of plant protection, and ensure continuous development and improvement. In this regard, the visit was to Plovdiv University in Bulgaria to learn about their capabilities and discuss with staff members how to manage their infrastructure and human resources for the purpose of teaching and training of students to prepare them professionally in the field of plant protection.

The activities of the first day (Monday 4 October 2021):

Opening Speeches and Welcome Addresses by Prof./ Vili Harizanova – Project Coordinator as well as Prof./ Hristina Yancheva – Rector of Agriculture University:

Prof./ Hristina Yancheva - Rector of Agriculture university and Prof./ Vili Harizanova – Project Coordinator expressed their greatest pleasure to meet the Egyptian colleagues in Plovdiv University. Prof./ Hristina Yancheva described the structure of Plovdiv university, where the

university has four faculties; they are Faculty of Agronomy, Faculty of Viticulture and Horticulture, Faculty of Plant Protection and Agroecology (established in 1983), and Faculty of Economics.

Meeting's Objectives and Timing (Prof./ Vili Harizanova):

Prof. Harizanova addressed in her speech the importance of the visit because it is an opportunity to deduce the gap between what the Egyptian and European universities in the field of plant diseases and protection. She also talked about the program and purpose of the visit, and that the visit allows to identify the infrastructure available to teach, train and qualify students professionally to work efficiently in the field of plant diseases in the Faculty of Plant Protection and Agroecology. She also explained the visit schedule and how to benefit from each of its stages inside and outside the university.

WP1, Task 1.2 Overview: Objective, Activities, Expected Deliverables (Prof./ M. Elaidey):

Prof./ Elaidey talked about what has been achieved from the project's implementation plan. He also referred to the required achievement of that visit. He also indicated that members of Egyptian universities see that defining the gap between Egyptian and foreign universities is very important for the proposed program. Prof./ Elaidey also indicated that the Egyptian project partners have been doing what they can to achieve the project's outputs in accordance with the set plan, and in light of the teaching and assessment methods at the European Universities. The greatest goal is to launch a program that qualifies postgraduate students to work efficiently in the field of identifying the causes of plant diseases and how to deal with them.

Structure and organization of the Faculty of Plant Protection and Agroecology and Structure of Curriculum of MSc Course in Plant Protection (Prof./ Vili Harizanova):

Also, Prof./ Vili Harizanova described the departments of Faculty of Plant Protection and Agroecology where it has Department of Microbiology and Environmental Biotechnologies, Department of General Chemistry, Department of Phytopathology and Department of Entomology. She

also described that the faculty offers training in the following Master's degree programs: Plant protection, Plant medicine (available also in English), Management in plant protection, Plant protection in organic farming, agroecology and plant protection, information systems and technologies in plant protection, ecology of settlement systems, sustainable use of natural resources and ecological tourism, biodiversity conservation and organic farming.

Her talk was also about the methods of teaching, training and evaluating of postgraduate students in the field of plant diseases and protection. It was also mentioned that the visit schedule includes visits to some experimental farms. She said, the visit program also allows us to know the close cooperation between academics and production sector by visiting some private projects.

Visiting the Department of Plant Pathology; to know and discuss "Teaching and Training Practices in Plant Pathology and Forecast of Diseases (Assoc. Prof./ Dimitriyka sakalieva):

During visiting the Department of Plant Pathology, Assoc. Prof./ Dimitriyka sakalieva – the head of the department explained that the department provides training of undergraduate students enrolled in Bachelor's, Master's and PhD degree programmes. She explained for the Egyptian visitors the infrastructure of the department, courses and training offered by the department. She also explained how the laboratories of the department contain the required equipment and facilities (Fig. 1) that enough to acquire the trained students the intended learning outcomes.



Figure 1: Educational boards for some plant diseases

Visiting the Department of Entomology; for the purpose of getting to know and discuss "Teaching and Training Control, and Quarantine pests (Prof./ Radoslav Andreev):

Prof./ Radoslav Andreev- head of Entomology Department described that the department submit several basic subjects including general entomology, agricultural entomology, plant quarantine, biological control, integrated Pest Management ...etc. Prof./ Andreev showed us the insect collections and plant parts damaged by pests. He explained that these materials are used as teaching material. He explained how they teach and train the students (Fig. 2) as well as how they control and quarantine pests. Also, he explained biological control of invasive weeds.

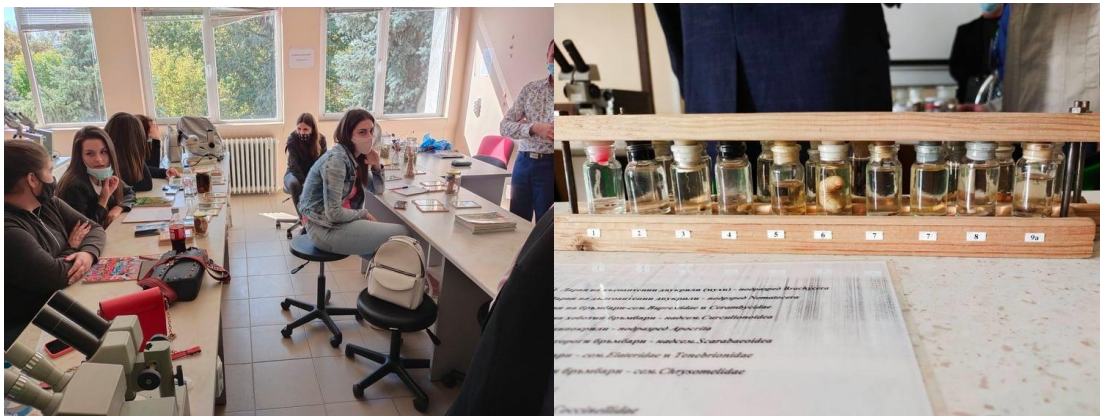


Figure 2: Practical class and example of its contents

The activities of the second day (Tuesday 5 October 2021):

Visiting of the Center of Integrated Disease Management, to know and discuss "Organization of Integrated Pest and Disease Management in Cereal Crop (Dr./ Zvezdomir Zhelev):

During our visit to the Center of Integrated Disease Management (Fig. 3), we see how the members of the visited university apply IPM as an ecosystem-based strategy that focuses on long-term prevention of pests to avoid their damage in grape and apple fields. It is fulfilled through a combination of several tools including biological control, cultural practices modification and use of resistant varieties. They rarely used pesticides after monitoring to

remove only the target organism, and minimize risks to human health and environment. The center is used for research, and training of undergraduate and postgraduate students.



Figure 3: Center of Integrated Disease Management includes maize, grapes and apple.

Visiting the Agroecological Center for the purpose of getting to know and discuss " Agroecological Practices and Organic Farming" (Prof./ Vladislav Popov):

During our visit Organic farm of the university which contain tomato, pepper and apples, we see and discuss with Prof./ Vladislav Popov how they avoid conventional chemical as fertilizers and pesticides. Their strategy in this farm is focused on preventative practices that limits the need these synthetic chemicals. Also, they focused on some cultural practices including crop rotation between plant species, adding compost and selecting disease tolerant plants.

Visiting the Department of Microbiology and Ecological Bbiotechnological, for the purpose of getting to know and discuss "Teaching and Laboratory Training in Mycotoxins and Food Safety" (Assoc. Prof./ Yordanka Kartalska):

Prof./ Yordanka Kartalska and Prof. Mladen Naydenov explained for us, how they teach and train their students in according to department curriculum that includes, for example, isolation and characterization of microorganisms and their application in agriculture, microbial control on diseases, bioremediation of heavy metal contaminated soils; pesticide and fertilizer effect on soil

microorganisms and .. etc. Also, they teach and train students on mycotoxins and food safety. Then the students know how they can avoid toxins by different methodology.

Visiting the Department of Chemistry and Phytopharmacy, for the purpose of getting to know and discuss "Ecotoxicology of Heavy Metal and Phytoremediation" (Prof./ Violina Angelova):

Prof./ Violina Angelova explained that their training laboratories supplied with modern equipment and facilities necessary for practical work and training of students as well as research in several fields including ecology, environmental protection and heavy Metal chemistry. These facilities available for master and PhD students. She explained for us (Fig. 4) the importance to teach and train the students to avoid ecotoxicology of heavy metal and the importance of phytoremediation.



Figure 4: Discussion between staff members of both sides how they used lab facilities for teaching and training.

Visiting the Department of Chemistry and Phytopharmacy, for the purpose of getting to know and discuss "Teaching and Training Practices and Plant Protection Products" (Assoc Prof./ Donyo Ganchev):

Prof./ Violina Angelova explained for us how staff members and their assistants as well as the students can use the laboratory equipment, especially the sophisticated equipment to analyze

their sample. She explained that sophisticated equipment save time and effort, and result in high quality and quantity data.

Visiting the Department of Agroecology and Environmental Protection, to know and discuss "Teaching and training Practices" (Assoc. Prof./ Ekaterina Valcheva):

Prof./ Ekaterina Valcheva discussed with us that the students give knowledge, experience and training on agrolgy and environmental protection through several items including improving efficiency the natural resource, ensure protection and enhancing natural ecosystems, which grantee sustainable use of natural resources and biodiversity conservation.

The activities of the third day (Tuesday 6 October 2021):

Visit to Private Greenhouse of Visser Opora; for the purpose of getting to know and discuss "IMP and innovation in greenhouse vegetable growing" (Boril Nikolov):

We visited two greenhouses for vegetable production, one of which was based on hydroponics, and the other was a ordinary greenhouse. The first is based on high technologies as a closed water system that contains all plant needs. Second, it is an ordinary greenhouse but uses advanced methods to combat pests (Fig. 5). Both greenhouses can be used for training for undergraduate and postgraduate students. Greenhouses are also a suitable place for students to work after graduation. It is clear that these private projects strength the link between the academic and investment communities for the benefits of both sides.



Figure 5: private farm with greenhouse contains some facilities to control pests.

Visit to Fruit Orchard in Novo Selo for the purpose of getting to know and discuss "Fruit Varieties, Resistant to Disease" Assoc. Prof./ Sava Tabakov):

During this visit, we saw hydroponic culture as well as farm with different apple cultivars (Fig. 6). In addition, Prof./ Sava Tabakov explained for us the importance of avoidance of climate changes by choosing certain cultivars or using certain means such as net-covers up apple trees. These farms can be used to train students on the importance of using disease-resistant strains to avoid the excessive application of pesticides. The students can also see the necessity of having sufficient distance between the lines so as not to hinder the mechanical removal of weeds. Students are also trained on the optimal way to prune some of the branches in order to increase production, pruning the tree. The graduate students can get job in these private farms.



Figure 6: Hydroponic culture (left) and farm with different apple varieties (right).

The activities of the fourth day (Tuesday 7 October 2021):

Visiting the Experimental Field of the Department of Fruit Growing and Viticulture; for the purpose of getting to know and discuss "Teaching and training Practices" (Assoc. Prof./ Anton Yordanov):

The last visit to the experimental fields of the Department of Fruit Growing and Viticulture (Fig. 7) was interesting, where collection of grape varieties was observed. They told us that faculty collection is considered the second in terms of containing a large number of grape varieties after

its French counterpart. We also watched how wines are produced from the faculty grape farm. In addition, we saw a plum plantation and other trees that depend on the grafting process. All these materials are used to teach and train students how to increase plant production and avoid plant diseases.



Figure 7: great collection of grape varieties.

Visit to the Museum of Natural History and Butterfly House " (Dr./ Ognyan Todorov):

The last visit was to the Museum of Natural Sciences in the city (Fig.8). The museum contains a large collection of live and mummified insects. The museum also contains many live and mummified pubs. In addition, the museum contains many types of birds. Hence, museums are a source of students' knowledge and a means of self-learning outside the classroom



Figure 8: City museum for Natural History and Butterfly House.

The activities of the fifth day (Tuesday 8 October 2021):**Overview of the performed activities and closing meeting (All participants):**

A final meeting was held for all project participants from European and Egyptian universities to review the visit schedule. Where it was confirmed that the activities of the visit took place according to the announced schedule. It was also confirmed that the visits carried out by the team to the scientific departments of the faculty and its laboratories, as well as the farms that were visited (university and private farms), were useful. The Egyptian staff members also knew the capabilities, courses and training means that are used by Bulgarian University to achieve the intended learning outcomes. Egyptian staff members were also assured that the information they had after the visit would help them to identify the gap between Egyptian and European universities. The information obtained from the visit qualified the Egyptian side to launch a program in the field of plant protection, similar to what exists in European countries. Everyone also admitted that the discussions that took place during those visits between the Bulgarian side and the members of Egyptian universities fulfilled the mission's requirements in accordance with the project plan (Task.1.2: Staff visit to EU for benchmarking and good practice studies to define gaps in relation EU education and plant clinic standers).

Prof./ Ahmed M. Hassanein

Sohag University Coordinator