



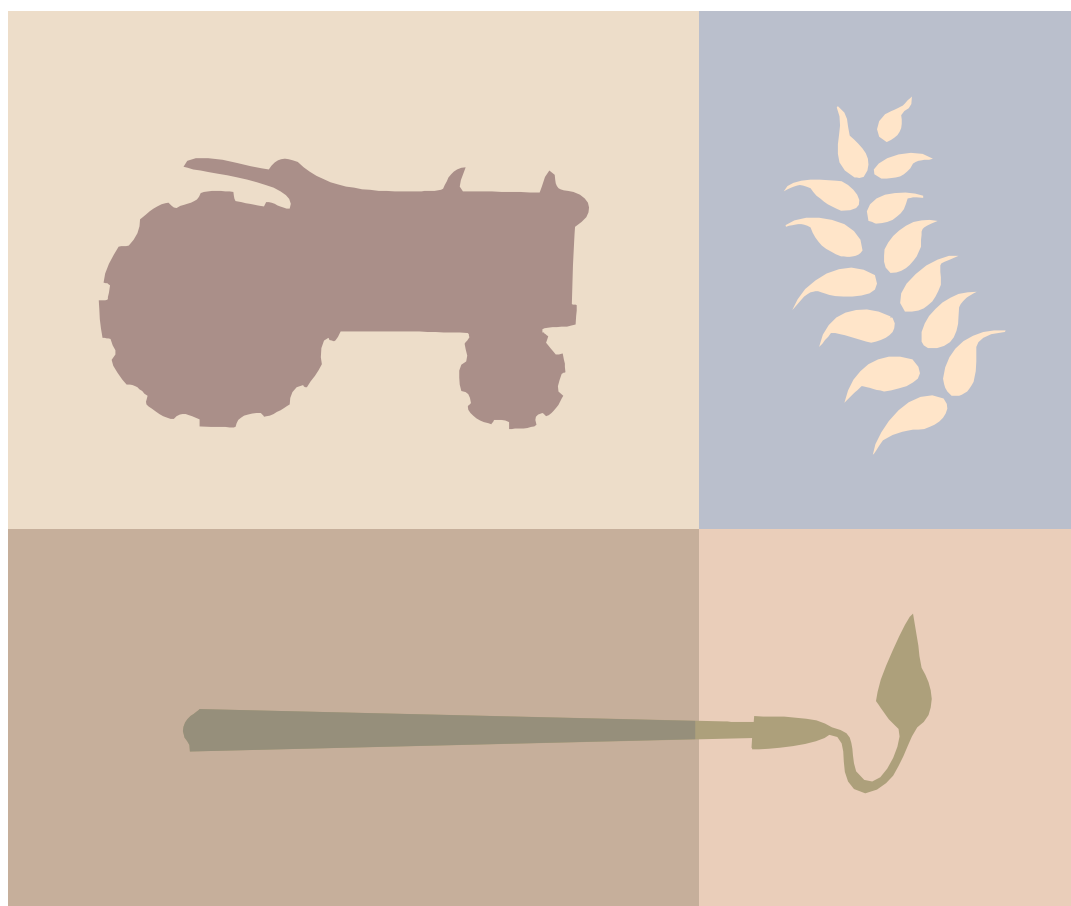
УНИВЕРЗИТЕТ Св. КИРИЛ И МЕТОДИЈ  
ЗЕМЈОДЕЛСКИ ФАКУЛТЕТ - СКОПЈЕ



ST CYRIL AND METHODIJ UNIVERSITY  
FACULTY OF AGRICULTURE - SKOPJE

# Building Capacity for Macedonian Policy Formulation and Economic Analysis Related to the Agricultural Sector

with a focus on trade, marketing,  
production, and processing



Annual Report 2006

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## **Project context**

This annual report focuses on the period between January 1 and December 31, 2006. The project started on July 1, 2004 and is hence entering its third year of activity. This report will consider activities during the whole 2006 and present a description and analysis of each activity of the project, as well as the financial report for 2006 and the plan for the activities in 2007. The activity plan for 2007 is attached as Appendix 2.

### ***Political overview***

Initially, a political overview would be suitable in order to present a fair picture of the activities achieved and, alternatively, ongoing in Macedonia. During year 2006, Macedonia is well on its way to satisfy the political criteria to become an EU member. Being made an official EU candidate in December 2005 the country still awaits an official date to start negotiations on joining, although it is said that this is not likely to become a reality before 2012. The country has pursued distinctive political reforms in 2006 but these are unfortunately seen as performed at a rather slow pace. To some extent, this is regarded as a result of the formation of a new government. An important reform of the judicial system has been initiated and needs to be fulfilled. The decentralisation process has moved forward and the country has continued to play a positive political role in the region.

EU, however, has pointed out the fact that the country should step up its efforts in a number of areas. It is highly requested to build consensus to pursue the implementation of the Ohrid Framework Agreement. A constructive dialogue among all political parties would allow for smooth implementation of reforms such as in the police, the judiciary, and the decentralisation. The fight against corruption needs to show more concrete results requiring strong political will and full implementation of the legal framework. Although large scale changes have indeed been undertaken in the administration the independence and professionalism of the state administration still need to be strengthened not neglecting the administrative capacity.

Regarding the economic criteria Macedonia is well advanced in establishing a functioning market economy. Achievements and constraints are noteworthy. The country has maintained a broad consensus on the essentials of economic policies. Macroeconomic stability and predictability have further increased introducing a more controlled inflation rate. The reduction of market entry and exit barriers has shown a simplification and acceleration of registry and bankruptcy procedures. Institutional weaknesses, such as cumbersome administrative procedures, corruption, as well as a low degree of legal certainty, affect the business climate and a proper functioning of the market economy. Labour and financial markets are functioning dissatisfactory, and the informal sector are still regarded as distorting economy. A continuation of stabilisation and reform efforts are well needed to enable Macedonia to cope with competitive pressure and market forces within the EU.

The country has made some progress concerning the EU legal order. New legislation and establishment of new institutions have shown progress on some areas concerning the internal market. Despite this, the country still faces major challenges in effectively implementing the legislation. It therefore needs to intensify its efforts in areas such as agriculture, food safety, competition, environment, justice, freedom and security. Customs fees, previously in breach of the Stabilisation and Association Agreement (SAA), have been abolished. The telecommunications market has still not yet been liberalised and intellectual property rights not yet adequately protected to allow the country to fully meet its SAA obligations.

Following the National elections of 2006, an agriculture minister with sector experience has been appointed in the agricultural sector. Hopefully, this will clearly put forward the focus on agriculture. The Government is reviewing the distribution of state owned land and on Value Added Tax (VAT) for agricultural products. A Rural Development Programme document is under preparation and the first Agricultural Census since 1969 is planned for 2007. The EU accession progression continues with 200 anticipated law alignments in the agriculture sector and preparations for the introduction of Instrument for Pre-Accession Assistance Rural Development (IPARD). The IPARD payment agency is expected to be administered outside the Ministry of Agriculture, Forestry and Water Development (MAFWE) expected to facilitate introduction of the Common Agriculture Policy (CAP) which in its present form favours broad rural development requiring a setting of food institutions, education and organised farmers for successful implementation. The essential elements for EU supported rural development are currently defined as legal and administrative structure, financing policy and monitoring of agro-environmental issues, less favoured area status and animal welfare.

## **Sida-projects in Macedonia**

The abovementioned political overview to a great extent contributes towards a better understanding of the relevance of Sida projects in the region. Even more specifically, the relevance and importance of this very project: "Building Capacity for Macedonian Policy Formulation and Economic Analysis Related to the Agricultural Sector". Sida, as being a major contributor to the agriculture sector in Macedonia, is involved in strategically important education, research and capacity building in non-regulatory field services both within the Macedonian Government and the NGO sector. Sida has assisted the agriculture/natural resources sector since 2001, initially through the project Swedish Support to Farmers' Organisations (SFARM) and through support to co-operation between the of St Cyril and Methodius University (UKIM) in Skopje and the Swedish University of Agricultural Sciences (SLU) on education and research in agricultural economics. Currently, Sida is lending assistance to SFARM II, continued university collaboration within the same field, and to the Macedonian Agricultural Advisory Support Programme (MAASP) in the Ministry of Agriculture, Forestry and Water Development (MAFWE) which began in 2004. Investments in the agricultural sector may be expanding and already there are investments in several agricultural sectors.

Following initiated reforms of higher education the adopted "National Strategy for Education 2005-2015" continues its path having recognised the introduction of the European Higher Education Area (EHEA) even before having signed the Bologna Declaration of 2003. Macedonian universities, including "St. Cyril and Methodius University" in Skopje, are actively participating in the regional projects on curriculum development and harmonization, students and staff mobility, multilateral and bilateral cooperation in selected fields of interest within EU programs and other regional projects. As elsewhere in the Europe, the Bologna Process in Macedonia is firmly accepted as a continuous process. The already undertaken steps and reforms undertaken by the Macedonian Ministry of Education and Science indicate that the Bologna process in Macedonia is regarded as progressing smoothly.

In relevance to this report, in the agricultural education sector it is expected that the Department of Agricultural Economics and Organisation (DAEO) will influence the effort within the Faculty of Agriculture and Food (FAF) to conform to the Bologna process by adopting a revised curriculum for the 2007/08 academic year. Achievements such as allocated academic credits to activities and course contents have been consolidated within single semesters, successful revision of work schedules among the permanent teaching staff are all outstanding issues pertaining financing of incremental teaching capacity to conform to the Bologna "density" requirements and additional teaching aids.

### **The Project in short**

In accordance with the project plan, the aim of the project is:

*To contribute to an improved Macedonian policy for, and economic analysis of, the agricultural sector with respect to trade, marketing, production and processing.*

This is planned to be carried out by building up the DAEO teaching and research capabilities, improving the education programmes and by expanding the research activities within the specified areas. Thus the project activities are as follows:

#### **THE PROJECT ACTIVITIES**

1. Sending Macedonian students to MSc-studies in Uppsala.
2. Sending Macedonian students to PhD-studies in Uppsala.
3. Possibility for undergraduate exchange.
4. Staff mobility for curriculum development:
  - a) Swedish teachers will participate in concentrated teaching in Macedonia from seven to ten days at a time.
  - b) Macedonian teachers will visit Uppsala for seven to ten days at a time to work on curriculum development.
  - c) Agricultural economics curriculum improved and prepared for Bologna-model
5. Technical support:

- a) Equipping the Department in Skopje with technical teaching aids and modern means of conducting research and also equipping the said with a modern Computer Lab
  - b) Purchase books and additional literature.
  - c) Organise English language courses in order to allow the Department's students and staff to attend studies abroad and participate in other international projects.
6. Research cooperation:
- a) Modelling and analysis of the agriculture and food production sector in Macedonia
  - b) Models of managing Macedonian farm organisations
7. Annual study visits for Macedonian undergraduate students in Uppsala and advisory system in Macedonia.
8. Educational Research Center

More thorough information on the Relevance of the Project in Agricultural Economics, The Macedonian Agricultural Sector, The Department of Agricultural Economics and Organization (DAEO) in Skopje, the Project Background and the Objectives and Outputs of the project is presented in the project document. The objectives and outputs of the project are summarized, in Appendix 1.

The project consists of the following activities: research cooperation, PhD-programme, MSc-programme, agricultural economics curriculum improved and prepared for Bologna-model, computer lab equipment to the department in Skopje, reference literature to the department in Skopje, English language courses, annual visit to Uppsala for Macedonian undergraduate students and advisory system in Macedonia. The implementation progress of these will be presented below.

## Target Groups

This project has three target groups. The first target group is the Department of Agricultural Economics and Organization at St Cyril and Methodius University in Skopje. The second target group comprises the MAFWE, farmers as well as consumers in Macedonia. The third and final target group is at large the whole of Macedonia which will, hopefully, gain from the achievements of the outcome of the project.

The immediate target group, the Department of Agricultural Economics and Organization, employs eight teachers with PhDdegrees, one teaching assistant (MSc), and one technician engaged in the education and research activities. There are also three postgraduate students involved in teaching. These thirteen people include five women and two persons from an ethnic minority. Moreover, the undergraduate students are an important target group since the higher education in agricultural economics is a significant source of skilled employees for both the private and public sector, e.g. as part of the administration in agricultural enterprises or as farm advisors in the National Extension Agency. Moreover, it is important to secure a re-growth in advanced or expert knowledge in the fields of agromanagement, agromarketing as well as agricultural economics to supply the government with experts, the university and different institutes with researchers, and the private sector with skilful managers.

However, strengthening the knowledge base in a discipline or sector is a task with a long time perspective. Therefore, it will take some years before advisors and managers, experts, researchers, and teachers with "new" knowledge enters the Macedonian labour market and actually visibly start contributing to the development of the agricultural sector. Even research results may take some years before it benefits farmers and food consumers, e.g. through reformed agricultural support. The long run outcome may probably be achieved only at the end of the ten-year period of the project.

# Project Activities – Progress in Implementation

## *General achievements*

This section describes general achievements experienced by the separate partners within the project; the department in Skopje and the department in Uppsala.

According to the department in Macedonia, the project has positive repercussion in the academic society within the Faculty of Agriculture and Food, and it is considered as one of the largest projects the faculty is involved in. All employees, as well as the students are motivated to participate in this project where a direct benefit of the project is the modern computer lab and the new reference literature. The activities concerning curriculum development, the MSc-programme, the language courses and the Study Visit do not show obvious effects in the short-run, but will be noticeable in the forthcoming periods as new experiences and accumulated knowledge, thus strengthening the capacity of the faculty as an educational and scientific institution. It should also be mentioned that the project has a positive influence on the undergraduate students who are well motivated to increase their own participation within the teaching and research activities at the DAEO. This project will contribute to the capacity strengthening of the Department of Economics and Organization in the Agriculture and the new generations of students who are expected to contribute to the process of transformation of the Macedonian Agricultural Policy towards the EU Common Agricultural Policy, as well as the society towards the market economy.

Administratively, the management in Macedonia has undergone a few changes of formal and technical character as an affirmative step towards an intended administrative progress of marketing on behalf of the SLU. Thus, the employed administrative staff member having the title "Project Assistant" has been upgraded to one of "Project Coordinator". This has, furthermore, been accompanied by a technical improvement of equipping the office of the Project Coordinator with computer networking, fax and printing/copying equipment.

For the department in Sweden, the project contributes to positive outcomes. The interest for the project at the department is, as before, growing since its start in 2004. An increased number of teachers, researchers and PhD-students still show special interest in the teacher exchange, but also the research component. The MSc-students and visiting undergraduate students have also increased the awareness and appreciation of the project. Generally, the project opens for a close cooperation with other departments within the Faculty of Natural Resources and Agricultural Sciences at the Swedish University of Agricultural Sciences (SLU). Moreover, it also strengthens the position of foreign students at the department. In addition, the project increases knowledge and experience of the department on a number of issues related to development assistance.

The 2006 administration of the project introduced alternating semi-annual meetings between the Macedonian and Swedish project staff to achieve more efficient management of short term planning and follow up of output achievements. To improve efficiency weekly progress reports from Skopje have been introduced and implemented.

Finally, during part of this year the SLU Project Leader is on maternity leave and is being replaced by an administrative staff member of the SLU.

## *Constraints*

The geographical distance between the departments obviously limits the methods of communication, especially the direct contact. This demands intensive Internet communication through e-mail. IN addition, meetings of general project issues have been constrained to occasions when the administrators have met as part of other activities. However, as previously stated in the 2005 report, it is not to be neglected that the limited number of staff at the department in Skopje still affects the ambitious, but necessary, activities planned as part of the project. Something previously underlined in the report of 2005.

The report of 2005 emphasised the fact that in order to facilitate the communication between the Project Leader and the Project Coordinator, but also to improve the cooperation between the two project groups in Skopje and Uppsala, a virtual workspace was established. This workspace would allow for sharing of documents and message boards on the Internet for a restricted group of users. However, due to technical problems the workspace has never become accessible. Having in mind the costs of a technical utility which does not contribute to an improved communication, and instead compensating with usual electronic mail, the SLU has decided to put the workspace possibility to an

end temporarily. If and when the technical obstacles are improving it is highly possible that the workspace will be initiated again.

The departments of SLU and DAEO need to strengthen their contacts. An important factor affecting an efficient administrative cooperation between the two departments is the level of respect towards administrative work itself, particularly for the Macedonian administration. Throughout the project there has been ongoing administrative delays, poor long term planning of tasks and insufficient information resulting in inefficiency and consequently also affects other subprojects and the very communication. Again, we may be well reminded that in 2005 Sida ordered an evaluation of the current organisation of the project administration, to determine whether it would be preferable to re-locate the project administrator to Skopje but has not been possible to discuss further with Skopje. However, it is the opinion of the SLU that, although fruitful a re-location of the project administrator in Skopje would be with the goal of a major change in the administrative project organisation, existent obstacles are rather of an administratively structural and socio-cultural matter and should indeed urge to increased introspective and active structural alterations to achieve better efficiency and goodwill. Moreover, SLU strongly recommends an increased understanding of the importance of information, administration and marketing work in all directions springing from the DAEO administrative management.

As a primary goal to further strengthen the contacts between the departments should preferably include regular visits to Skopje throughout the year by the administrator. It is not a neglectable fact that the mere presence of SLU in Skopje would contribute to a more concrete awareness of the cooperation between the two departments.

Finally, being a part of an ever-changing global world means handy accessible information to reach target groups to the project. Thus, various additional marketing activities, eg. the development of a homepage and also newsletter/bulletin should be materialized and has been urged by SLU throughout the year to be produced and disseminated about the ongoing project and cooperation between the departments. In this way making it more accessible to interested parties and target groups even outside the DAEO. To improve efficiency weekly progress reports from Skopje have been introduced and implemented, but for the largest part of 2006 this has been done irregularly and mainly to inform the Swedish administration. It is highly recommended to focus on information dissemination for 2007.

## ***Research Cooperation***

### ***Background***

The research topics in the project document involve some of the most urgent issues on the agenda for the agricultural sector in Macedonia, and aims at strengthening the Macedonian expertise on sector analysis and modelling while at the same time increasing the Swedish researchers' experience of international cooperation and knowledge of e.g. the specific problems facing an economy in transition.

## ***Sector Analysis Study***

### ***Background***

The focus of the Sector Analysis Study is analyzing the competitiveness of 19 agricultural products on a sector level. These products are: wheat, maize, barley, rice, tobacco, potatoes, tomatoes, papaya, melon and watermelon, cucumbers, alpha-alpha, apples, grapes, beef meat, sheep meat, pig meat, eggs, and milk. The analysis constitutes the basis for a sector model as a crucial tool in the subsequent analysis of implications of different policy suggestions, mainly the rapprochement to the EU and its Common Agricultural Policy (CAP). By this report the Project contributes through the Faculty of Agriculture and Food to MAFWE to more successful process negotiations towards the aspiring EU accession. Hence, it can be mentioned that the study is intended for the needs of the Ministry and will be submitted to the Ministry. However, beside MAFWE, the affected entities like farmers, farm association and others will also benefit from the study.

The study is conducted by professors as researchers from both the Department of Economics, SLU and the Department of Economics, Faculty of Agriculture and Food, Skopje. Beside these, the MSc students doing their master thesis at SLU as well as the PhD students from both departments are involved as researchers in the preparation of the study. In addition, the Macedonian undergraduate students are involved in the data collection.

### *Achievements*

The Sector Analysis Study consists of 8 divisions according to the outline of "Macedonian Agriculture in EU – Pre-accession Sector Analysis Study" presented in Appendix 2. This study has undergone several structural changes of which SLU unfortunately has not been informed about in detail. The preparation of the study involves all counterparts and thus the complete study is divided among researchers from Macedonia, Sweden and Slovenia. The Macedonian contribution is mainly focused on the sector analysis for 19 products. For the needs of the study a data collection team was established. Actually, most data is collected from the State Statistical Office, the Custom Office, some of the institutions and field work, but it should be noted that the team lead by professor Gjosevski has additionally prepared a data base of unified and harmonized collected data. This very database has become a main source for the researchers.

For the aim of harmonization of the reports for each study item prepared by the researchers in particular a workshop was organized with participants such as Macedonian researchers, representatives from the State Statistical office, the MAFWE and the MAASP project. This workshop clarified several unclear issues and identified missing data, in particular the data for supply – demand balance sheet preparation. The methodology for their preparation was identified and adapted by the researchers in their own reports. During 2006 the blocks A and B have been finished, and this part of the study should be consolidated and harmonized. Block C is done by the Department at SLU, while Block D is planned to be a joint preparation based on the three previous blocks.

### *Constraints*

It was anticipated that the Analysis Study should be finished and submitted in June 2006, but due to obstacles in the data collection process it has been postponed to the end of 2006. There were difficulties for this study as there was no specific data available in the Statistical Office and other related institutions as well. Those data referred especially to the balance sheets preparation and were necessary for the study. Besides this, the data received was not consolidated and harmonized, so the department was to prepare a separate data base where some of the data will be additionally calculated for the project purposes. All of this has taken time, and therefore this activity has been postponed. These obstacles are said to have been exceeded in Macedonia with the organization of workshop where most of the unclear issues were clarified.

### *Farm models*

#### *Background*

This research focuses on the establishment of appropriate models for managing Macedonian farm organizations. The research will be conducted by Professor Bo Öhlmér and Professor Dragi Dimitrievski. Activities for the realization of the research will start in December 2006.

### **The PhD-programme**

#### *Background*

The PhD-programme aims at recruiting Macedonian students to participate in PhD-studies in agricultural economics and business administration. The data collection will be concentrated to the department in Skopje, while many of the courses will be attended in Uppsala, where the degree will be awarded. The PhD-students will have supervisors from both departments. The students will be financed by scholarships through the project.

### *Achievements*

The PhD program activities have started with the obtaining of the first Master degree received at the Department of Economics at SLU. Those students are Gordana Tasevska Manevska and Emelj Tuna. According to outlined conditions for initialization of PhD studies both students were to identify research topics as basis for their studies. After the opened discussion between both departments it was agreed upon that Gordana Tasevska Manevska will work on the topic of "Analysis of Farm Efficiency and Management Practice – A Study of Viticulture Family Farms in the Tikves Region of Republic of Macedonia", while the research topic for Emelj Tuna is "Institutional Analysis of the Macedonian Agro – Food Marketing System". As identified with the project document both students have supervisors from both departments. Consequently, Gordana Tasevska Manevska will be supervised by Professor Bo Öhlmer from the Department in Uppsala and by Professor Dragi Dimitrievski from the Department in Skopje, and Emelj Tuna will be supervised by Professor Petri Ollila and Professor Nenad Georgiev. With their supervisors they have prepared their individual study plans and procedures for receiving

residence permits have started, as well as procedures for their acceptance at the Department at SLU. As a result, they are expected to initiate their PhD studies in January 2007.

The project also employs a Swedish PhD-student, whose research is focused on issues relevant to the Macedonian agricultural sector. It should be noted that the student is on maternity leave from October 2006 until May 2007.

## ***The MSc-programme***

### ***Background***

The MSc-programme aims at educating at least seven Macedonian students within the internationally acknowledged MSc-degree in agricultural economics at the Department of Economics, SLU. The programme comprises two years studies and research on a topic chosen within the issues in the research cooperation. The students are financed by scholarships. The education enhances the competitiveness of the graduates on the labour market as well as increases the number of competent persons eligible to work at the department in Skopje or other qualified positions in the Macedonian economy especially in the agriculture sector. Additionally, the programme aims at preparing the students for PhD-studies.

Studies begin with a part-time introduction course to familiarise the students with the academic environment at SLU. The course includes computer instructions and exercises; library orientation; using the Internet as a research tool; how to write a scientific thesis in English; how to use other researchers' results, including principles on referencing and quoting; and defence of a thesis. Simultaneously, the students take one of the other parttime courses given by the Department in the first period of the autumn semester. For the rest of the academic year, the students follow the advanced courses in economics according to their field of specialisation: business administration, agricultural or environmental economics. The project lends each student a portable computer for study and research purposes. The first nine months of study is followed by one year of work on the thesis. It starts with about 12 weeks of preparations in Sweden, whereafter the student will do most of the research and writing in Macedonia, with access to both supervisors.

The supervision of the students is shared between the two departments ensuring a stable exchange of experiences and ideas between the departments, as well as benefit the students in the form of different views on their subject. The MSc-programme is thereafter concluded in Uppsala with an eight-week final preparation of the thesis for the defence seminar and the subsequent modifications before the thesis is published.

### ***Achievements***

During 2006 two Macedonian students, Emelj Tuna and Gordana Tasevska Manevska, have acquired a Master degree at the Department at SLU. Their Master thesis referred to the sector analysis study and they were subsequently involved in the sector analysis study preparation. Emelj Tuna was working on the tobacco sector choosing her Master thesis topic of "The Tobacco Sector in Macedonia: Market and Competitiveness Analysis", while Gordana Tasevska Manevska was working on the competitiveness of the wine and grape sector comprised with the topic of "An Economic Analysis of the Macedonian Viticulture - A Competitiveness View of the Grape and Wine Sectors". According to the MSc program conditions both of them have been supervised by supervisors from the both Departments. Supervisors for Emelj Tuna were Professor Yves Surry and Professor Nenad Georgiev, while supervisors for Gordana Tasevska Manevska were Professor Yves Surry and Professor Dragi Dimitrievski. The seminar for their final presentation was held on June 19, 2006. It is well worth mentioning that Emelj Tuna and Gordana Tasevska Manevska are the first Macedonian candidates for PhD studies at SLU.

Within the Master program, three more students are enabled to attend their Master courses at SLU. Two of them, Ana Krstevska and Blagoja Tosevski, have started their courses in the spring semester (March 2006). A third student, Elena Simonovska, has started with courses in the autumn semester (November 2006). In the process of application several criteria were identified, such as IELTS language test with a score of 5.5 credits, test of their professional skills in regard to the economics, business administration, mathematics and statistics, as well as certificate of the passed exams.

### ***Constraints***

To be able to study and live in Uppsala students must have residence permits. Residence permits and applications have been a repetitive obstacle throughout the whole cooperation of the two departments as several problems with visa procedures have appeared. Thus, for Ana Krstevska and Blagoja

Tosevski the visa procedure took more than 8 weeks, while for the application of Elena Simonovska after long waiting resulted in loss of registry in the embassy system. Obstacles like these are finally always overcome, but nevertheless present unnecessary administrative work and result in late course enrollments. Therefore, it has been agreed that the procedure for applying should start six months in advance to avoid visa procedure problems.

## **The Curriculum Development Programme**

### *Background*

The DAEO in Skopje has already started with the reforms in the BSc program in agricultural economics according to the Bologna Declaration and consequently the first class of students have finished this year. One of the objectives of the project is the intention of making the BSc program more competitive on the labor market, among students and further preparation of the students for postgraduate studies. However, the Department of economics at SLU is assisting in the further strengthening of the curriculum and with the preparation for an adaptation according to the Bologna Declaration. Thus, Swedish teachers participate as guest lecturers on selected topics and study visits to Uppsala are organized for Macedonian professors with the aim of discussing appropriate courses, attending lectures of appropriate courses, notes writing and overviewing appropriate materials applied in the teaching processes for Macedonian students at DAEO in Skopje. As the development of a curriculum is a continuous process this subproject is expected to continue in 2007 having the teacher exchange as core activity.

### *Achievements*

During 2006 several teacher exchanges were organized. During the period from January to May six Swedish teachers have provided lectures at the DAEO in Skopje. As a result, Cecilia Mark Herbert delivered lectures in Agro-Management course for the students of second year of studies; Karin Hakelius provided lectures in Farm Management and Cooperatives, both for third year students. Additionally, Monica Campos participated in the Mathematical-Statistical Methods course for the second year students, and finally Bo Öhlmer and Thord Karlsson took part in the Financial Management course.

During the autumn semester two Swedish teachers participated in the teacher exchange program. Those are Professor Olof Bolin, providing lectures in Agriculture Policy, and Professor Bo Öhlmer, teaching at the Agro-Business Management course. All Swedish professors have prepared and delivered lecture notes for the Macedonian students. According to the curriculum development program all the Swedish teachers are evaluated by the students. The students' evaluation form is enclosed as Appendix 3.

Within the curriculum development program Macedonian teachers are also involved in the teacher exchanges. Hence, three Macedonian teachers have visited Uppsala. All of them have taken part in the courses provided on English Language at the Department in Uppsala, establishing contacts with the Swedish teachers at the Department and reviewing literature possible for application at the DAEO in Skopje. Similarly to Swedish teachers, Macedonian teachers also fill out an evaluation form for their stay in Sweden. The evaluation form template is attached as Appendix 4.

The visits have been organized in a period from three to ten days. The teacher exchange plan for the spring 2007 is already prepared. It should be mentioned that the graduated students at the DAEO in Skopje have evaluated the existing curricula according to the adapted questionnaire provided by the Department at SLU.

## **The Computer Lab**

### *Achievements*

The DAEO in Skopje has been equipped with a Computer Lab as a technical aid for conducting research and teaching processes. Thus it is intended for teachers and students from the DAEO. The Computer Lab has been equipped according to the document agreed upon during the workshop of June 2004 tackling purchased equipment, solutions for Internet access, network administration, issues concerning budget, securities and so forth.

Since the Computer Lab has been equipped within the DAEO in Skopje, some technical changes have occurred during the construction process and include the installation of a network connecting the

Computer Lab to the faculty network and to some necessary construction activities. The equipping of the lab followed the time plan set out on the beforementioned workshop.

The Computer Laboratory is equipped with 21 computers (20 student computers and 1 teacher computer), scanner, projector, high-quality printer, server, air conditioners, white board, and screen. Needs resulted in purchasing a server monitor, a UPS and external file back-up. Since the faculty network was improved during 2005, it is connected to it, while for the Internet access the ADSL line is used so far. The Computer Lab is fully utilized for the teaching processes and individual needs of the students. The DAEO students have their own accounts for access to the computers. The Lab is used for teaching from 8h until 12h, being open for students from 12h until 16h. Concerning the maintaining of the Lab there are two persons in charge; a system administrator for the system maintenance (network, computers, students' accounts, etc.) and an assistant maintaining the Lab during opening hours for students.

There is a need of purchasing statistical software so as a result, a group discussion consisting of representatives from both departments is ongoing in order to identify which specific statistical software to be purchased. Besides the statistical software the DAEO in Skopje has to purchase licensed antivirus software for the Computer Lab. A general Computer Lab report is attached as Appendix 5.

## ***Reference Material for the Library at the Department in Skopje***

### ***Activities***

According to the project plan, the library at the department in Skopje should be supplied with online science journals and modern textbooks covering the topics economics, marketing, management, and writing skills. All books and journals provided will be in English. In addition, the DAEO should be provided with online science journals and more textbooks if there is a necessity during the teaching or research processes. For the online journals the DAEO in Skopje has filled out the JSTOR application form in order to receive an offer with the fees for online journals and awaits for a response.

### ***Constraints***

Low fee JSTOR was selected for the online journals as the price is suitable for educational institutions in developing countries. According to their procedure, the DAEO in Skopje has filled out an application form but has been waiting for over two months for a response after which another request has been made.

## ***English Language Courses***

### ***Background***

In an ever-increasing globalised world, English is of great importance. Since, the project language is English and many of the Macedonian colleagues and students do not have the appropriate level of English, the DAEO in Skopje will provide its staff and students with two different courses in English. The courses are divided into regular courses and courses for preparation for the IELTS language test. Staff and the students participate in the regular courses according to the general language course plan, see Appendix 6, while students applying for Msc-studies at SLU attend the IELTS courses. The regular courses are organized in two semesters, in a total of eight months; while the IELTS course lasts for three months.

### ***Achievements***

During 2006 there were approximately 30 attendees on the regular courses, while 1 student attended the IELTS course. In order to strengthen the regular courses these are organized at the DAEO in Skopje. The School for Foreign Languages provides for the courses and also test students and staff after the end of the regular courses. The IELTS test is organized and held within the British Council in Skopje

## ***Annual Study Visit to Uppsala for Undergraduate Students***

### ***Background***

Educational institutions everywhere compete to make students choose their study programme; this is certainly true also at the departments in Skopje and Uppsala. Since the DAEO has had some

problems with students quitting before graduating with BSc degrees, the project aims at initially inviting seven students per year during the first implementation period 2004-2007 (in total 21 students) for a seven day study visit to Sweden and the Department of Economics in Uppsala to show the possibilities awaiting them once they have graduated.

The study visit to the department in Uppsala, invites undergraduate students in their fourth year from the DAEO in Skopje to learn more about studying and living in Uppsala. The selection for participating is based upon academic merits, computer and language skills. The visits generally last for eight days and include information meetings on the courses provided at the department at SLU, a lecture at the department, library and Internet orientation. Moreover, the programme contains an extensive variety of visits to other organisations like farms, the Swedish Farmer Association, and also the Ministry of Agriculture. Accommodation is provided at a local youth hostel within walking distance of the department. Upon the return to Skopje each student is obliged to write a travel report in the form of a short essay in English commented on by a Swedish teacher.

### *Achievements*

The annual study visit is organized for the spring 2007 to show Sweden at its best. Therefore no activities were realized during 2006.

## ***Advisory System in Macedonia***

### *Background*

This subproject is not defined yet, but is expected to be initiated in 2007. Potential activities could be the development of a homepage; information material; creation of courses for continuous education of advisors; and collaboration groups with farmers, advisors, and researchers. The subproject on Advisory systems in Macedonia could include, besides the two departments, the National Extension Agency in Macedonia, Agriwise, MAASP, and one or more development projects aimed at advisory systems. It may be envisaged to include Macedonian agricultural enterprises or farm associations, including the ongoing project SFARMII financed by Sida. There is also a possibility to make use of the data collected for the Farm Monitoring System by the National Extension Agency, a project initiated by the World Bank.

## ***Educational Research Center – newly added activity***

A new and additional project activity has been added this year: an Educational Research Center. An idea that originally was born in 2005 but more elaborated in 2006. The need of a research center is growing solidly having in mind fast changes of transition towards a market economy in Macedonia and the transformation process for its accession in EU. The impact of these events are expected to be enormous affecting the agricultural sector. As result, both departments suggest an establishing of an Educational Research Center for postgraduate studies in the area of agricultural economics. The idea is elaborated in a project proposal prepared by both departments and is expected to be submitted to the Swedish International Development Agency. Within the Center proposal all of the aspects are clarified being as follows:

- Why the need of an Educational Center?
- The Educational Center will have a regional character, which means that candidates from Western Balkan countries will be included and educated within the Center
- Short term and long term project objectives
- Location of the Center
- Organizational structure
- Study programs accreditation
- Quality assurance
- Diploma
- Curriculum organization
- Center organization capacities
- Budget planning
- Time frame for realization of the project

## Monitoring and evaluation

The progress of achieving the objectives defined in the project document is continuously monitored and evaluated throughout the year for most activities to secure the desired outcome and improve plans and follow through each activity. The means of verification differs somewhat between sub-projects, as will be presented here. So far there has not been an evaluation of the research activity, but the finished report on the sector analysis will be regarded as a means of verification for this first cooperation; it should be completed by the end of 2006. The new Macedonian PhD student's progress will be assessed once or twice a year, where the supervisors go through the individual study plan that all PhD-students must have, to see that the studies are progressing as planned. The study plan is then given to the director of studies at the department for a second control. The objective for the MSc-program at SLU is evaluated based on the number of passed courses (currently, the Department of Economics at SLU does not award other grades than pass or fail) and the annual evaluation form answered by the students. The MSc-studies will also be evaluated based on the finished theses.

The curriculum development is continuously monitored using evaluation forms for each Swedish guest lecturer or visit by a Macedonian teacher to Uppsala.

Literature and journals are monitored through inventory lists, while the language courses are assessed based on the test results at the end of the semester or IELTS-course. As mentioned earlier, the Study Visit is evaluated based on the essays written by participating students, as well as the report by the group leader.

## Financial Report 2006

The revised total budget for 2006 was 3,979,200 SEK; the final outcome for the year is 2,652,384 SEK, or approximately 67 per cent of the budget, leaving a surplus of 1,326,816 SEK.

As seen in the table below the Research section is overall the largest share of the budget surplus and of the total budget. For the research final activities as workshop; promotion etc are expected to be postponed for the beginning of 2007.

The second largest surplus for different sections is found in the post of PhD Students. With its 435,004 SEK it comprises 33 per cent of the 2006 surplus. This activity has had some economic unforeseen consequences. For the PhD students there has been no planned budget for the initial visits of students to Uppsala for supervisor meetings and identification of the study plan. Also, the planned resources were calculated only for one student. Since the study visit was requested by the supervisors, and suggested by Peter Herthelius, both of them were urged to become PhD-students. Therefore, a budgetary approval was received in order to organize a visit for both of them.

Regarding the Computer Lab the Macedonian part has utilised a great deal of the budget as additional equipment not previously planned for has been purchased for the Project Coordinator and taken from the budget intended for Internet installation in the Computer Lab. The resources for the Computer Lab had not been fully utilised so a transfer was made for the equipment purchase.

The negative balance of the Study Visit section is a result of a late received invoice from the previous fiscal year, 2005.

The balance deficit for the Swedish administration under the section of Project Administration is due to two main reasons. Firstly, it is a result of substituting the Swedish Project Leader, now on maternity leave, with a new employee. These costs were not foreseen when the 2006 budget was planned. The present substitute Project Leader is expected to be employed until May 2007. Secondly, it is a result of the poor Macedonian administrative work and inefficiency consequently forcing the Swedish administrator demanding overwork which in turn, unfortunately, ended in a budgetary cost.

Financial report for 2006. All amounts in SEK.

## Financial Report for January - December 2006

Budget item	Budget 2006		Outcome 2006			Balance
	Subtotal	Total	Outcome Sweden	Outcome Macedonia	Sum outcome	
<b>Research</b>		<b>871 500</b>	<b>220 696</b>	<b>196 753</b>	<b>417 449</b>	<b>454 051</b>
Remunerations	537 700					
Miscellaneous	333 800					
<b>PhD-studies</b>		<b>742 800</b>	<b>294 781</b>	<b>13 015</b>	<b>307 796</b>	<b>435 004</b>
Travel	24 100		0	12 167	12 167	11 933
Remunerations	448 800		216 400	848	217 248	231 552
Miscellaneous	269 900		78 381	0	78 381	191 519
<b>MSc-studies</b>		<b>444 600</b>	<b>360 257</b>	<b>41 627</b>	<b>401 884</b>	<b>42 716</b>
Travel	49 600		476	34 989	35 465	14 135
Remunerations	34 400		438	3 916	4 354	30 046
Miscellaneous	360 600		359 343	2 722	362 065	-1 465
<b>Curriculum Development</b>		<b>652 000</b>	<b>324 395</b>	<b>58 139</b>	<b>382 534</b>	<b>269 466</b>
Travel	207 300		48 719	28 538	77 257	130 043
Remunerations	331 400		254 216	3 804	258 020	73 380
Miscellaneous	113 300		21 460	25 797	47 257	66 043
<b>Computer Lab</b>		<b>324 100</b>	<b>0</b>	<b>136 955</b>	<b>136 955</b>	<b>187 145</b>
Equipment	60 700		0	70 491	70 491	-9 791
Licences & Computer Engineer	263 400		0	66 464	66 464	196 936
<b>Literature</b>		<b>32 000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32 000</b>
Textbooks	3 000		0	0	0	3 000
Subscriptions	29 000		0	0	0	29 000
<b>Language Courses</b>		<b>83 800</b>	<b>0</b>	<b>72 626</b>	<b>72 626</b>	<b>11 174</b>
<b>Study Visit</b>		<b>0</b>	<b>27 847</b>	<b>0</b>	<b>27 847</b>	<b>-27 847</b>
Travel	0		200	0	200	-200
Remunerations	0		24 657	0	24 657	-24 657
Miscellaneous	0		2 990	0	2 990	-2 990
<b>Advisory System</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Project Administration</b>		<b>535 300</b>	<b>412 415</b>	<b>117 535</b>	<b>529 950</b>	<b>5 350</b>
In Sweden	393 200		412 415	0	412 415	-19 215
In Macedonia	142 100		0	117 535	117 535	24 565
<b>Reviews</b>		<b>293 100</b>	<b>4 064</b>	<b>2 004</b>	<b>6 068</b>	<b>287 032</b>
Remunerations	245 100		0	2 004	2 004	243 096
Miscellaneous	48 000		4 064	0	4 064	43 936
<b>Sum</b>		<b>3 979 200</b>	<b>1 644 455</b>	<b>1 007 929</b>	<b>2 652 384</b>	<b>1 326 816</b>

**NB.** The average of the SEK-EUR exchange rate received for money transfers from SLU to FAF is 9,323 SEK.

## **Planning of the coming period (2007)**

### ***Research cooperation***

It is expected that the Sector Analysis Study will be finished in late December 2006 having its final promotion in the beginning of 2007 at the MAFWE. The study is expected to be carried out according to the outline in Appendix 2.

A joint paper on farm models in Macedonia and Sweden will be written by Dragi Dimitrievski and Bo Öhlmér starting from December 2006.

A new research within the research activities should start. It should be defined in accordance with the MAFWE's requests and the strategy operational plan.

A mini conference should be organized, where the professors as well as the MSc students have to present their research topics and a joint paper to be published

### ***PhD-programme***

Emelj Tuna and Gordana Tasevska Manevska will start with their PhD studies from January 2007.

### ***Msc-programme***

Ana Krstevska and Blagoja Tosevski have started with their master studies in March 2006 and will continue with courses as well as with working on their master thesis in 2007, while Elena Simonovska has started with the courses from autumn 2006 and will continue with her studies in 2007. Beside them one more student has to start with master studies from the autumn semester in 2007.

### ***Curriculum development***

Swedish teachers are planned for lecturings in Macedonia and the teacher exchange plan for the spring 2007 is prepared but will be updated during the year with the teacher exchanges for the autumn semester. The courses for which the Department of Economics in Skopje needs Swedish teacher in the spring semester are International Agriculture Policy, Mathematical – Statistical Methods, Financial Management, Cooperatives and International Trade. For all arrangements a direct contacts with the teachers is to be carried out.

Macedonian teachers visiting Sweden are planned for spring 2007 and refer to the following courses: Financial Accounting, Business Management and Entrepreneurship. The list will be updated with the visits in the autumn semester.

Changes in the curriculum development program has been made by the project management team and a decision taken for labour market study to be prepared for at the beginning of 2007.

### ***The department in Skopje equipped with Computer lab***

Under this section the goal is to purchase licenses (software applications and antivirus software), organize courses on some software applications for five teachers and also a study visit for the network engineer.

An alternative Internet connection has been identified, and it will be used if the existed connection cannot be utilized any longer.

### ***New Reference Material for the Library at the Department in Skopje***

For online journals not provided for in 2006 will be planned for in 2007. Besides the on-line journals, the CAP Monitor should be purchased. It will also be considered whether additional literature must be purchased. This will include only the necessary literature for research and teaching processes and is not expected to exceed five books.

### ***English language courses***

Courses will be carried out according to Appendix xx.

***Annual Study visit to Uppsala for Undergraduate Students***

Study Visits are planned for May 2007.

***Advisory System in Macedonia***

The sub-project on the Advisory system will, according to earlier plans, start in 2007.

***Educational Center***

Year 2007 may be used for the final Center preparations. This means preparation of documents for its accreditation, preparation and accreditation of the study programs, teaching staff for conducting the studies and other administrative tasks.

## APPENDIX 1

### Objectives and Outputs of the Project

The project is ultimately expected to improve the Macedonian capacity for policy formulation and for performing economic analyses related to the agricultural sector. Many other efforts will contribute to this development, and the project discussed here can only create the preconditions for such changes.

The development objective of the project is:

*To contribute to an improved Macedonian policy for, and economic analysis of, the agricultural sector with respect to trade, marketing, production and processing.*

The project proposed is essentially a capacity building project. Macedonia shall, through Swedish cooperation, build up its own capacity to formulate efficient policies and undertake strategic economic analysis of food sector issues. Key areas where such knowledge and skills may be required are in agro-management, marketing of Macedonian agricultural products, education in the agricultural sector, or analysis of the impact and consequences for the agricultural sector of the WTO membership or a future accession to the EU.

The immediate objectives of the project are:

- 1. To improve the Department's of Agricultural Economics and Organization capacity to undertake policy formulation and economic analysis on issues of strategic importance to the agricultural sector, particularly trade, marketing, production and processing.*
- 2. To improve governmental staff's and other actors' in the industry capacity to undertake policy formulation and economic analysis on issues of strategic importance to the agricultural sector, particularly trade, marketing, production and processing.*

The capacity building objectives will be addressed by nine parallel and/or sequential subprojects, of which the core is the two research topics identified at the workshop as well as the joint supervision of a number of PhD- and MSc-students. The research topics are

- i. Modelling and analysis of the agriculture and food production sector in Macedonia*
- ii. Models of managing Macedonian farm organisations*

The other subprojects include assistance in developing the agricultural economics curriculum at the Department in Skopje, equipping a computer lab for teachers and students, contribute to the reference library at the department, arrange a yearly study visit for undergraduate students to the Department of Economics in Uppsala, and increase the language skills of the staff and students. Additionally, in the latter part of the project a loosely defined subproject on advisory systems in the agricultural sector is envisaged, encompassing the National Extension Agency, the Swedish Agriwise and possibly other international development projects in the agricultural sector.

## APPENDIX 2

### MACEDONIAN AGRICULTURE IN EU (Pre-Accession Sector's Analysis Study)

#### CONTENTS

#### **BLOCK A: European integration of Macedonian agriculture**

Dragi Dimitrievski; Emil Erjavec;

##### I. Introduction

- Study issues
- Structure of the study

##### II. EU and CAP

- Process of EU integration
- CAP: Historical roots and development
- Future of the CAP
- CAP legal framework
- CAP decision making process

##### III. CAP integration process

- Accession process and tasks
- Accession frame for Western Balkan Enlargement of EU

#### **BLOCK B: Sector Analysis and Accession Perspectives**

Department of Economics and Organization in Agriculture (DEOA) - Skopje

##### I. Agricultural policy in Macedonia

- Methods and data sources
- Macro-economical aspect of agriculture
- Natural conditions for agricultural development
- Agricultural and socio-economical structure
- Production trends
- Trade flows and patterns
- Production prices
- Goals of agricultural policy
- Budgetary flows

##### II. Agricultural Markets Overview and Prospects

- Crop production
- Permanent crop production
- Livestock production

#### **BLOCK C: Quantitative Analysis of Macedonian Agriculture**

Department of Economics (DE), SLU - Uppsala

##### I. Estimate of PSE support of agriculture in Macedonia

- Crop production
- Livestock production
- Compare with EU

## II. Model Analysis

### **BLOCK D: Conclusions and Recommendations**

DEOA; DA;

#### Recommendations

- Macedonian agricultural policy in pre-accession period

APPENDIX 3

**Students' Evaluation of Guest Lectures**  
**Held at the Faculty of Agriculture and Food – Skopje, St Cyril and Methodius**  
**University**  
**<date>**

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*Please circle the number that best matches what your answer. If you want to comment on any of your answers, do not hesitate to do so below the question or on a separate piece of paper.*

1. What is your overall impression of the lectures? *Very poor*                      *Excellent*  
1 2 3 4 5 6 7

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2. Do you feel the topics presented were relevant and useful to the course? *Not at all*                      *Very much*  
1 2 3 4 5 6 7

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3. Did you find the lectures interesting and enjoyable? *Not at all*                      *Very much*  
1 2 3 4 5 6 7

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4. Do you think the lectures were easy to follow? *Very easy*                      *Very difficult*  
1 2 3 4 5 6 7

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5. What is your opinion about the level of the lectures? *Too low*                      *Too high*  
1 2 3 4 5 6 7

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6. Did you find the handed out material useful? *Not at all*                      *Very much*  
1 2 3 4 5 6 7

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*Very poor*                      *Excellent*

7. What do you think of the lecturer's contribution?                      1 2 3 4 5 6 7

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*Not at all*                      *Very much*

8. Do you feel you have gained new skills or knowledge through the lectures?                      1 2 3 4 5 6 7

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*Not at all*                      *Very much*

9. Did you find the case study presentation interesting and engaging?                      1 2 3 4 5 6 7

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10. What are the features of the guest lectures that you found most valuable? Please explain.

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11. Further comments.

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## *APPENDIX 4*

### **EVALUATION FORM FOR THE TEACHER EXCHANGE SWEDEN – MACEDONIA Macedonian teachers visiting Sweden**

**Name:**

**Surname:**

**Address:**

**E-mail:**

The information submitted in this evaluation form will serve both as a report from your visit and as feed back for the activity Teacher Exchange in Macedonia. Please give at least some comments on all questions to facilitate reports to Sida and guidance for other teacher planning lectures in Macedonia.

- 1) Please specify the date and the duration of your visit to Sweden.
  
- 2) Which own course/s did your visit concern?
  
- 3) Please describe the content and level of the course/s?
  
- 4) With whom at SLU did you discuss your course/s? Please specify the department this person/s is connected with, if other than the department of economics.
  
- 5) Which aspects of the course/s did you discuss? Please give a brief description.
  
- 6) Did you receive any material, e.g. case studies, models, course literature? Did you visit any lectures?
  
- 7) Did you agree to any future contact regarding the course/s?
  
- 8) Did you listen to any research seminars during your visit?
  
- 9) Did you give any seminar during your visit?

10) Do you have any other comments or thoughts?

## APPENDIX 5

### General Language Courses Plan

According to the General Language Courses Plan, the following group of students will participate in the language courses:

- a) Students from III year of study – start every spring semester with level VI;
- b) Students from IV year of study – the students from the previous year continue with the level VII and VIII;
- c) Students who will apply for a master studies at SLU - IELTS preparing.

The students from III and IV year of studies will participate in the regular courses, while the students who will apply for master studies at SLU will participate in the courses for IELTS language test preparing. It should be mentioned that approximately 7-8 students will be selected from each year. It means that during the spring semesters approximately 15 students will attend the courses while during the winter semesters approximately 9-10 students will attend the courses. This figure 9-10 includes students for the regular courses as well as students for the IELTS test preparing (see the table below).

The language courses in the school for foreign languages are divided in eight levels and therefore the selected students will participate in the courses from the level VI, VII and VIII. The students from third year will start in the spring semester in the level VI. They will continue in the winter semester with level VII and finish in the next spring semester with level VIII when the next group of students from third year will start again with the level VI, etc.

The Language Courses Plan follows:

Students from the appropriate year of study	Spring semester, 06	Winter semester, 06	Spring semester, 07	Winter semester, 07
III	Level VI (7-8)		Level VI (7-8)	
IV	Level VIII (7-8)	Level VII (7-8)	Level VIII (7-8)	Level VII (7-8)
		IELTS preparing (2-3)		IELTS preparing (2-3)
Number of students	~ 15	~ 10 (7-8+2)	~ 15	~ 10 (7-8+2)

## APPENDIX 6

### Computer Lab Report

#### General Information:

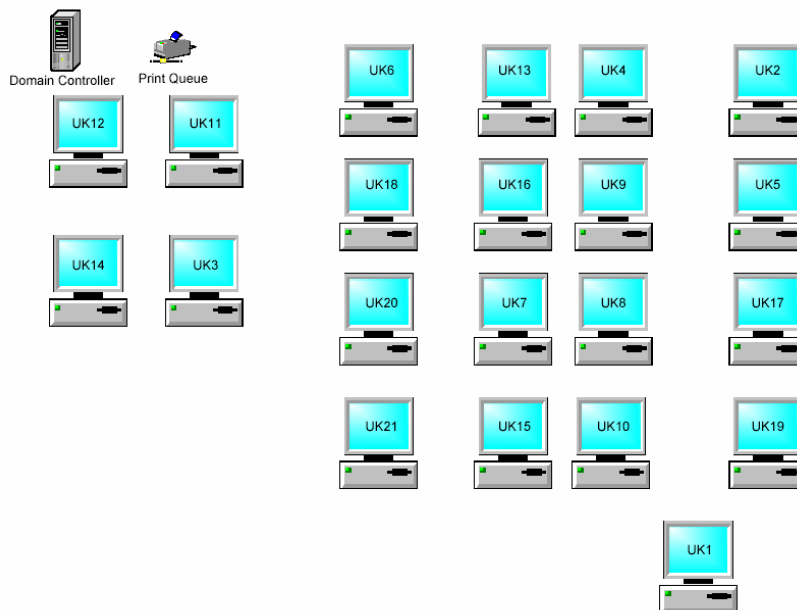
The computer lab was opened on December 16, 2005 and as a modern equipped lab is put in operation process from the day of its opening. Since the day of its opening it was under several changes in order for its better functioning especially in the part of the network, sharing resources, management of users' and group's rights, as well as computer network protection from an unauthorized and inappropriate usage of the equipment to be accomplished.

#### Computer Lab Equipment:

The computer lab is equipped with the following equipment: 22 computers (21 computers and server), 22 monitors, 1 printer, 1 scanner, 22 keyboards, 22 mouses, 1 projector, whiteboard and appropriate cables for connection.

Considering the fact that the computer equipment is very sensitive on different changes and high temperatures as well, two appropriate air conditioners are installed in the classroom.

The network equipment is consisted of: Linksys 24 Port 10/100 2-Port gigabit Switch, Panel that is situated in rack. All of the computers are equipped with network interface cards-NIC and they are connected in a central location-Switch, through panel. The network has star topology where all of the computers are connected on one central location- Switch and Server. How the computers are organized in the computer lab is presented on the picture one.



On this picture we cannot see the network cables and the rack (it is on the wall next to the printer where all of the cables are connected into the Panel i.e. the Switch). The scanner is also connected on the first computer.

The 22 computers are connected in network. All of the computers have private IP addresses and belong to the same workgroup through which they can share hardware and software resources.

#### Accounts, User names, Passwords:

The students are enabled to use the computers with their own accounts, user names and passwords generated by written program in order the security and safety of the computer network and their documents to be strengthened. The students cannot change the passwords

by themselves. They are signing contract before they start to use the computer lab. In the contract beside the rules for using the lab, their own account for signing in is mentioned. The password changing is not allowed since when one user is logged in there is a possibility for its changing by another user beside the fact that the computers are set for automatically logging off when the users are not working for a longer time. Disk quotas (not printer quotas) are implemented as a preventive measure and the students can not save a lot of data on the server. Therefore they are enabled to print their documents on the printer, to burn them on CD/DVD or to use floppy as backup with a previous permission of the computer lab administrator in order the services abuse to be avoided. This services abuse refers to burning contents not related to the education needs like undertaking some contents from Internet and burning private CD/DVD discs in a big amount.

### **Access Groups:**

There are two types of access groups within the computer lab such as: administrators and users.

The administrators (teachers have administrative privileges on the local workstations and not on the domain since there is only one administrator on domain) have access for installing computer programs or to change some of the settings within the computer hardware or operating system. But, for protection of an unauthorized connection of other machines and using the Internet even if they cracked administrator password they cannot set up the computer while the appropriate administrator console is not reconfigured (edited). The group of users with administrative privileges can share different resources. There are resources shared on the locations by the administrator in order the data to be easily transferred through the network. Everyone who is domain user is using the shared resources from the server. The password security is strengthened; i.e. the server is set for the users who can enter only complex passwords.

The users have privileges to a certain location and to their own documents. A certain user does not have an access to the documents and the folders created by the other users. Only the user with administrative privileges has overall privileges (can access all of the resources in the network and the local workstations).

### **Internet Abuse:**

In order an abuse at the time of using the Internet to be avoided software which does not allow loading or retrieving web pages with inappropriate, incivility or vulgar content (including pictures, videos, text...) is installed. At the beginning the Internet Explorer was configured in the section Content Advisor but it was concluded that it is not a solution since there is a Portable Firefox or some web browser that will allow opening page like the above mentioned. At the moment when someone search or want to open new page with inappropriate content the Internet program is turning off so he/she cannot see the content. More information regarding this issue can be found on the web page [www.icra.org](http://www.icra.org) . Below is mentioned what is used in the classroom.

*The filtering technology employed in software features:*

- *Heuristic analysis capable of recognizing new material automatically.*
- *Semantic analysis of web pages contents and analysis of their addresses and links.*
- *Recognizes all the major languages (10+).*
- *Recognizes ICRA labelling system.*
- *Monitoring is not limited to web sites, but covers the whole local internet traffic.*
- *Works with all service providers and software applications, and does not alter settings.*
- *Allows blocking of file-sharing applications.*
- *Password-protected (the password is chosen during the installation).*

- *Can be used on slow connections (it does not perform any download in background).*

Also, is able to constantly monitor all internet connections, protecting children from inappropriate online material - such as obscene or violent contents; pornography, pedophilia and erotism in the form of images or texts; sites that popularize drugs; gambling games; terrorism; hate propaganda; occultism; sects; blasphemy, etc, does not rely on a simple list of banned sites; instead, it examines in real-time all the data being transmitted and received through any internet application - such as web browsers, chat programs, news readers, etc.

Another part from the standards is:

The international, non-profit membership organisation, Internet Content Rating Association (ICRA), has introduced a new labelling system based on the resource description framework (RDF) standard. The new digital system aims to make the use of internet safer and more efficient.

The Internet Content Rating Association (ICRA) is an international, non-profit organization of internet leaders working to develop a safer internet. ICRA has long believed that self-regulation leads to the best balance between the free flow of digital content and protecting children from potentially harmful material.

The centrepiece of the organization is the descriptive vocabulary, often referred to as "the ICRA questionnaire." Content providers check which of the elements in the questionnaire are present or absent from their websites. This then generates a small file containing the labels that is then linked to the content on one or more domains.

The broad topics covered are:

- *The presence or absence of nudity*
- *The presence or absence of sexual content*
- *The depiction of violence*
- *The language used*
- *The presence or absence of user-generated content and whether this is moderated*
- *The depiction of other potentially harmful content such as gambling, drugs and alcohol*

Within each broad category the web author is asked more detailed questions about whether a specific item or feature is present or absent from the site.

#### **Data Back-up:**

If there is a need periodically backups are made for the important data, the anti virus software definitions are being upgraded and some of the computers are checked on a daily base for their proper functioning. The anti virus software is installed on the computers and it is configured to take updates each morning. It is freeware, and therefore we consider that it will be better if we have licensed antivirus software. Since there are new viruses and the anti virus software cannot guarantee extra protection for them, periodically some of the computers are tested with free tools for detecting and cleaning Trojan viruses, spyware, malware etc. The computers are also tested if there is any kind of hardware problem and there are reported to the Computer Company.

#### **Server:**

All of the computers in the computer lab have licensed or freeware software installed. The network operating system Windows Server 2003 Standard is installed and services for

administrating the server from another location are also configured. In that way it seems that there is no need for a server monitor but since there are situations like when no operating system is loading or if there is a need for configuration of some settings before loading OS- e.g. BIOS, the server monitor is additionally purchased.

The Server in the classroom which takes role of File Server is reconfigured as domain controller and Director Service administrator – Active Directory Users and Computers (AD) with an opportunity for undertook the central role in the administration of the users’ accounts within the computer network. The licenses for Windows Server 2003 are received from Microsoft. Finally, the server will use as a file server, printer server and domain controller as well in order easy administration to be accomplished.

### **Internet Connection:**

Regarding the Internet Connection it should be mentioned that the computer lab is using D-LINK ADSL modem/router and on that way the computers are provided with Internet access. Since we are talking about D-LINK ADSL modem/router it should be emphasized that this is faculty connection. This means if some problems arise, we should introduce the offer from the other provider.

### **Daily usage of the Computer Lab:**

**For Courses:** Since the Computer Lab was opened in December, only the courses from the second semester were provided by using the laboratory. Those courses are: Mathematical-Statistical Methods; Agro-Management; Financial Management; Models and Analysis in Agriculture and Costs and Calculations. The computer lab was used from 8:00 until 12:00 for the courses.

**For students needs:** With the opening of the Computer Lab the students have shown very big interest for its using. Since the conditions in the classroom are very good the students are using the computers for their individual or group thesis preparation or doing exercises. The Internet access is enabling the students to browse a lot of information from Internet, to find some online journals and finally to upgrade their computer education as a crucial part of their overall education.

In regard to the visits and the time spent in the computer lab, it should be considered that the average daily visit of the lab is 11 students per day, with the lowest level of visit of 3 students per day and the highest visits by 20 students. Regarding the time spent in the computer lab, the average stay is 1 hour and 7 minutes, with the shortest time of 5 minutes by student and the longest time of 3 hours and 45 minutes. The students are using the classroom from 12:00 until 16:00, or sometimes it is prolonged if the courses end after 12:00.

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