

# IMPLEMENTATION AND COMPATIBILITY OF EUROPEAN CREDIT TRANSFER SYSTEM: CASE STUDY MOLDOVA

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## **Abstract**

*The study presents the evaluation results of the European Credit Transfer System (ECTS) implementation as a part of the Bologna Declaration at the State Agrarian University of Moldova. Paper points out the main feature of current situation of ECTS implementation process at the University which has been established since 2001 and its utilization for students and teaching staff mobility. Despite of fact, that since 2005 each student has received the Diploma Supplement, which is in accordance with UNESCO-CEPES level, all Master programmes are still not running with the Bologna Declaration principles and students and staff mobility remains at very low level. Recommendations for ECTS implementation process at the Master level at the State Agrarian University of Moldova are provided. The University has made a considerable progress in implementing many elements of the Bologna Process whereas several points should be improved or implemented.*

**Key words:** Bologna Declaration, European Credit Transfer System, agricultural education, international mobility, Moldova, State Agrarian University of Moldova

## INTRODUCTION

### **Agricultural development in Moldova**

Despite of certain economic growth in last seven years, Moldova still remains the poorest European country. In 2007, GDP is estimated at USD 2,962 per capita<sup>1</sup> which is considerably lower in comparison to Moldova's neighbour countries Ukraine (USD 8,059) and Romania (USD 10,661) or in comparison to Albania (USD 6,137), which was considered as the European poorest country for last hundred years (IMF, 2007). In 2005, more than ten years after the fall of the Soviet Union, agriculture still remains the most important sector of Moldova national economy, while agriculture share on GDP achieved 21.3% and one fifth of labour force is all along involved in agricultural sector (FAO, 2006)<sup>2</sup>. In addition to this information, agribusiness is believed to represent more than 60% of GDP and almost 70% of total country export (FAO, 2007).

According to recent FAOSTAT data, agriculture in Moldova is less developed than in any other country from the European Union. In 2003, number of tractors per 1,000 hectare of arable land was 22.2 in compare to the Czech Republic (29.9), Ukraine (12.0) and Romania (12.0). Number of harvester-threshers is as follows (per

1,000 ha of arable land): Moldova (3.25), Czech Republic (3.94), Romania (2.94) and Ukraine (1.91). Obviously, these statistical numbers are not able to express the potential and quality of above mentioned machinery. On the other hand, there are numbers helping to understand the most serious problems of agriculture in Moldova at present. Total consumption of fertilizers has declined in last five years to less than 5.5 kg per hectare of arable land only. Over 120 kg of fertilizers is annually consumed in the Czech Republic, 34.6 kg in Romania and 18.1 kg in Ukraine (FAOSTAT, 2007). Such data, dealing with fertilizer use, are usually considered as one of the indicator of agricultural development. In case of Moldova, these numbers point at the same issues developing countries are facing now: lack of money and, despite of long tradition of agricultural education in Moldova, lack of adequate knowledge and capacities.

### **Educational development in Moldova**

To understand, how the overall situation in education has developed in last ten years, educational development indicators should be used. As the former Soviet Union country, Moldova achieved very high development level at primary, secondary and tertiary level of education. Nevertheless, many of the former Soviet Union countries

<sup>1</sup> GDP per capita of the Czech Republic in 2007 was USD24,680 (IMF, 2007).

<sup>2</sup> In 1995, 33% of GDP was produced from agriculture activities. This situation is also caused by the fact, that Transnistria (area on the left bank of Nistru river with majority of Slavic/Russian population), which break-up from Moldova in 1992, while this region represents 40% of Moldova's GDP, 15% of Moldova's population and major part of Moldova's industrial base (IMF, 2005). There is a problem with data collection as some sources used national data without Transnistria and some still consider Moldova and Transnistria as one country, according to UN.

have come through the years of transition of both economic and educational development. Therefore, negative aspects of transition process of education have arisen and many work need to be done in this area.

There are no big differences in literacy in Moldova in comparison to Europe as adult literacy rate reach 98.4% in 2004 (UNDP, 2006). The same source indicates adult literacy rate for Romania 97.3% and for Ukraine 99.4%. However, the situation is different for Gross Enrolment Ratio (GER) numbers. In 2004, GER for Moldova reached 70%, while this number oscillated just above 60% in early 2000s (UNDP, 2006). In the Czech Republic GER reached 81%, in Romania 75% and in Ukraine 85%. Data, dealing with tertiary enrolment ratio, illustrate the situation at Moldova's higher-education system. In 2005, only 34% of Moldova population at tertiary age is involved in tertiary education. The important issue is that number for male population is equal to 27%, thus majority of university students are women, who rarely became farmers in future or agriculture-involved workers and possible positive impact on agricultural development is quite limited. Respective data for Ukraine, Romania and the Czech Republic are as follows: 69%, 45% and 48%, for male population: 63%, 40% and 44% (UNESCO, 2007). Despite of lack quality-oriented data, it is clear that higher education improvement in Moldova is of high priority and needs complex solving-problem approach, especially in the field of agribusiness.

**Agricultural education in Moldova**

Agricultural education has a long tradition in Moldova. The State Agrarian University of Moldova (SAUM) was established in 1933 in Chisinau and it is the only centre of higher education in today's Moldova which offers study programmes in agriculture and the related subjects. There are about 9,500 students enrolled in different programmes at eight University faculties; from this number nearly half are part-time students. At present, the University has 586 full time teaching staff. The University campus as well as its farms with more than two thousands of hectares of arable land offers a very good development potential.

Other University offering the higher agricultural studies is in Tiraspol. However, due to the political split of Moldova it is out of the transition process. The Technical University in Chisinau offers study programmes in food technology.

**European Credit Transfer System**

The European Credit Transfer System (ECTS) was developed by the Commission of the European Union in order to provide common procedures to guarantee academic recognition of studies abroad (Kabakov, 2006). It provides a way of measuring and comparing learning achievements, as well as transferring them from one institution to another. The European Credit Transfer System serves to facilitate mobility and academic recognition and to make European higher education more attractive for students from abroad. The credit system is a

part of the Bologna Declaration from 1999 which was signed by 45 countries (Moldova signed the Bologna Declaration in 2005).

ECTS system is based on three core elements:

- ξ Information on study programs and study achievements
- ξ Mutual agreement between the partner institutions and the student
- ξ The use of ECTS credits to indicate student workload

ECTS credits are a numerical value (1 to 60) allocated to course units to describe the student workload required to complete them. They reflect quantity of work necessary to complete a full year of academic study at the institution including lectures, practical work, seminars, tutorials, field work, private study (in the library or at home), examinations or other assessment activities. ECTS is based on full student workload and is not limited only to contact hours (Kabakov, 2006).

In ECTS, 60 credits represent the workload of an academic year of study and normally 30 credits for a semester and 20 credits for a term. ECTS credits ensure that the program will be reasonable in terms of workload for the period of study abroad. According to the Bologna Declaration is recommended to divide the study programme to the system "3 + 2 + 3", including three cycles with the following numbers of credits:

The 1st cycle	Bachelor level	180 – 240 credits
The 2nd cycle	Master level	90 – 120 credits
The 3rd cycle	Doctorate level	no credits

The credit system ECTS is based on the principle of mutual trust and confidence between the participating institutions. Its additional use for the purpose of credit accumulation at higher education institutions could help to mobilise the potential for more flexibility, diversity and efficiency. Transparency of bilateral and multilateral cooperation is provided by ECTS credits, Information Package, Transcript of Records and Application Form/Learning Agreement.

Students of co-operating universities can study at ECTS-partner universities for part of their studies. Prior to the departure of the student, two partners' universities and their coordinators define within the Learning Agreement where is specified which course student should attend. After returning to the home university the academic records will be accredited with the Transcript of Records. Therefore it is guaranteed that student does not suffer from time loss due to his or her stay abroad. The students participating in ECTS will receive full credit for all academic work successfully carried out at any of ECTS partner institutions and they will be able to transfer their academic credits from one institution to another as long as there is prior agreement between the institutions involved.

**MATERIALS AND METHODS**

The study provides the results based on one year experience in collaboration with the State Agrarian University of Moldova the project entitled as “Support to the development of Study Programmes at the State Agrarian University of Moldova in Chisinau and Coordination of its Education System with European Standards” coordinated by the Institute of Tropics and Subtropics in the frame the Czech Official Development Assistance. Two methods were used for data collection. Firstly, the general observation of the present situation and interview with responsible authorities, and, secondly, from official materials published both by SAUM and other organizations and relevant sources. Discussions targeting the credit system ECTS and mobility of students and teaching staff at SAUM were carried out with the Rector of the University, Vice Rectors, Deans of respective faculties, International Relation Office representatives and academic teaching staff. At the same, the documents provided by the University were studied. They especially touched study programmes description, statistical data on number of students currently studying at Master level programmes, brochures which include the rules of study at SAUM with ECTS credit system and Bologna process.

Particular outputs of the missions are included in the project mission reports. The first results of evaluation of ECTS credit system at the University were presented during the Conference, which was held on 29 November 2006 at the State Agrarian University of Moldova.

**RESULTS AND DISCUSSION**

**Process of implementation of ECTS at SAUM**

The credit system ECTS was decided to recognize and implement at the State Agrarian University of Moldova by the University Senate during its meeting on 4 May 2001. The credit system has been implemented since 1 September 2001 (Procesul Bologna, 2006). The professional standard of higher degree specialists was developed for each department separately as a result of the analysis of various normative documents from different countries and exposed to a deep expertise by Moldavian specialists as well as by EU specialist. In the framework of the TACIS project the credit system ECTS was implemented at the pilot faculties. It establishes minimum compulsory requirements of knowledge and professional educational competencies at higher education level.

Learning plans applied from 1 November 2001 were elaborated in compliance with education law and government’s decisions and are in accordance with framework plan and adjusted to the credit system ECTS. The European Credit Transfer System is presented in curricula of each department as well as in “Regulation on organization and carrying out didactic process in SAUM on the European Credit Transfer System (ECTS) basis”

published and applied since 1 September 2001 (Regulamentul, 2002). It has been annually distributed to each student enrolled in the first year being applicable for the whole period of study.

Since 2005, all graduates at SAUM have received the Diploma Supplement which is in accordance with UNESCO-CEPES level, where each subject is allocated a number of ECTS credits so that the Diploma of License was released to students who accumulated a total number of 240 ECTS credits. Starting with 2005–2006 study year, higher education from Moldova is organized in accordance with new framework plan for the first cycle (License/Bachelor/Higher education). This forced SAUM to elaborate new teaching plans and adjust ECTS system to the new requirements. Currently, all first year students study according to new teaching plans adjusted to requirements of the Bologna Process.

**ECTS at SAUM**

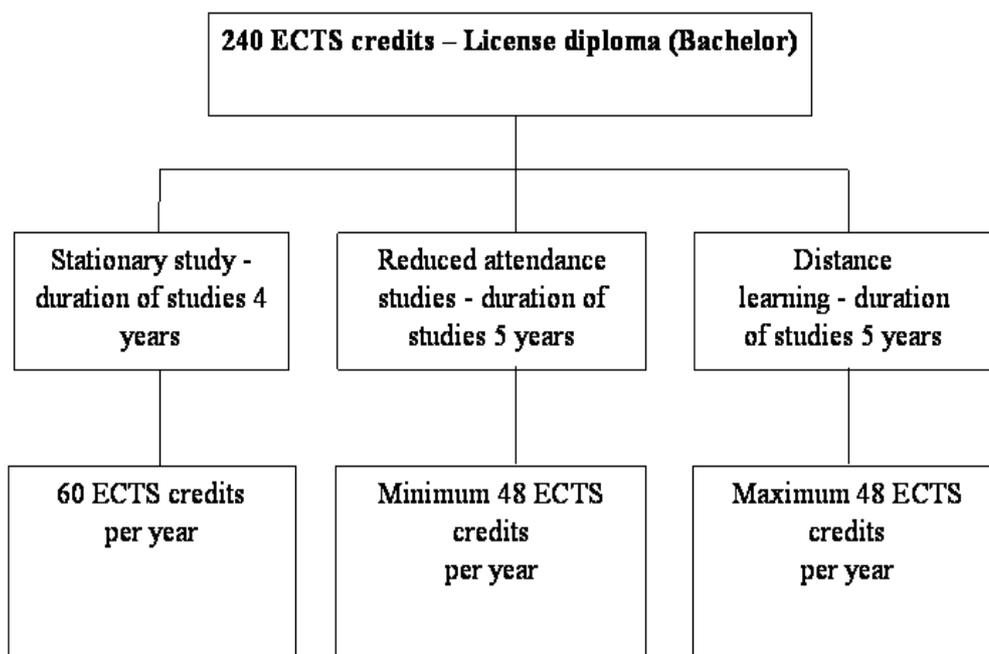
The credit unit quantifies 30 hours of learning activity in class room (contact) and individual activity. Due to standard duration of a semester at stationary learning which is 15 weeks, and a study year contains 30 weeks, the total number of credits is: 30-per semester; 60-per year (consequently the total number of hours per semester is 900 and for a study year is 800). The total number of credits in terms of duration of study:

- ξ 4 years stationary learning (5 years reduced attendance) 240 credits
- ξ 6 years stationary learning (Faculty of Veterinary Medicine) 360 credits
- ξ 3 years stationary learning (4 years reduced attendance) 180 credits

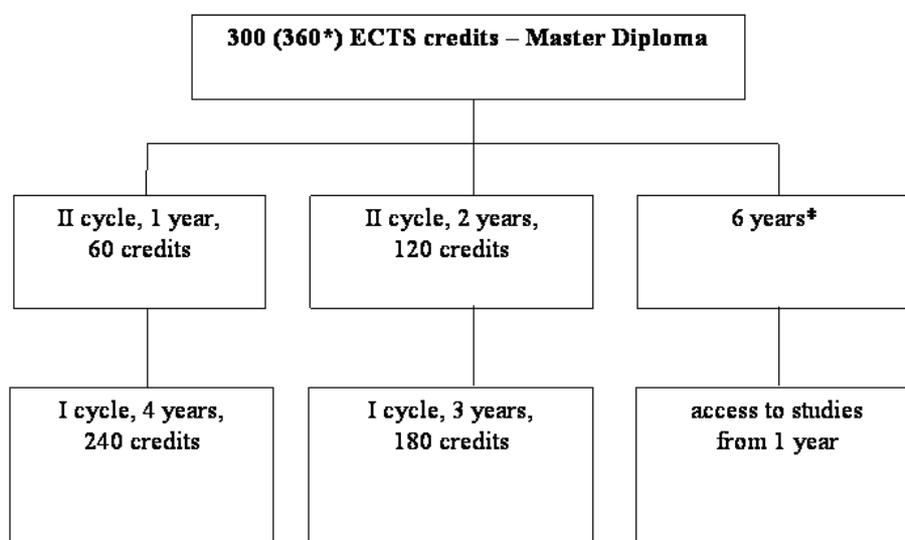
The credits are allocated to subjects and semesters, as well as to some independent activities (teaching and production internship, license exam) which finalize with separate evaluations. The credit package allocated to a subject or activity in a semester is not dividable and cannot be obtained in several stages. Student obtains the number of credits allocated to a subject in a semester through passing its final exam (minimum mark 5 or label-admitted). The subject Physical Training is not allocated with credits but is compulsory and finalizes with label admitted-rejected (Regulamentul, 2002).

Adoption within Moldavian higher education of the system based on two cycles of studies – undergraduate (License with 180–240 ECTS credits) and graduate (Master program with 120–60 ECTS credits) in accordance with the Bologna Process stipulations. Conditions for obtaining Bachelor or Master diploma by accumulating respective number of ECTS credits can be realized by the following schemes:

**A) Distribution of ECTS credits by years of studies obtaining Bachelor degree**



**B) Distribution of ECTS credits by years of studies obtaining Master degree**



\*In case of some faculties such as veterinary medicine, sector regulations within the European Union enforce organization of integrated higher education (license and master programs) which finalize only with release of master diploma if 360 ECTS credits are accumulated.

Source: Regulamentul, 2002

### **Implementation of ECTS at the Master level**

Presently, the Master level programmes are running at four faculties of the University and are not updated as to the Bologna declaration. The Master programmes last one year and students have to obtain 60 credits. These credits are divided into 22.5 credits for the first semester and 37.5 credits for the second semester. Master thesis is evaluated by 15 credits.

At this time, the University is preparing a proposal of implementation methodology of new Master programmes according to the Bologna Declaration including the credit system ECTS. The new study programmes should be implemented at SAUM since 2009. A national strategy plan of the implementation ECTS at universities is preparing by the Ministry of Education in Moldova. A final version of the strategy process will be included in the national law and be obligated for all universities in the country.

### **International mobility at SAUM**

At present, the mobility of teaching staff and students is generally very low at the University. We can distinguish three following kinds of existing mobility. The first is internal mobility between faculties which is realized especially between teaching staff of different faculties at SAUM. The second is mobility between different universities in Moldova when teaching staff of the universities in Moldova is exchanged, but this kind of mobility is weak. The last mobility, international mobility of teaching staff is organized rarely. The countries of exchange cooperation are especially Romania, Russia, Latvia and Estonia. Some students have experience with abroad field work where are working and studying without credits. Students participate in different programmes in following countries: USA (5 students per year), UK (244 students per year), France (5 students per year), Germany (4 students per year).

One kind of student abroad mobility is organized by the Concordia programme. This programme is running five years at SAUM. Concordia is providing a new approach to education and training for students to learn while they work in the United Kingdom (UK). The programme combines education and training with work practice on UK farms for students from countries outside UK. Student Worker Education Programmes (SWEPs) is leading to the United Kingdom Certificate in Agriculture and Horticulture (UKCAH). Presently, the practical training is not accredited by ECTS.

## **CONCLUSIONS**

### **ECTS implementation at SAUM**

There are several positive aspects of ECTS implementation at the State Agrarian University of Moldova. The implemented credit system has been done with cooperation with EU specialist according to the Bologna Declaration and it is a transparent system. Representatives of the University responsible for the system implementation were contacted to help with ECTS imple-

mentation by other institutions in Moldova and abroad. They gave consultations to the Ministry of Agriculture of Moldova, other universities in Moldova and Russia. The brochure targeting at explication of the credit system has been published at the University. The whole process has been explained to teaching staff and students.

As negative aspects of ECTS implementation can be considered following points. ECTS implementation process was complicated and changes had been implemented in a short-time. There was a lack of experience with implementation process because SAUM was the first university in Moldova which implemented the credit system ECTS. The majority of the students are studying the Bachelor level, only 10 % of the students are studying the Master level. Lots of European programmes for students' mobility are offered to the Master level.

According to the Bologna Declaration, it is recommended to divide the study programme into two levels; the Bachelor level for 3 years with 180 ECTS credits allocated and the Master level for 2 years with 120 ECTS credits. With regard to low number of students graduated at Bachelor level who are able to continue study at the Master level, it could be possible to open some specialization every two years. It is necessary to increase language lessons proportion into the curricula of all specializations and to increase students' language skills. The Master study programmes should be established in accordance with studying programmes running at other EU universities. According to the number of credits is possible to prepare the system of activity evaluation at respective faculties, departments and teaching staff. The implementation process is possible to consult with ECTS national experts. The list of expert is available on-line: [at: http://ec.europa.eu/education/programmes/socrates/ects/counsellor\\_en.html](http://ec.europa.eu/education/programmes/socrates/ects/counsellor_en.html)

### **International mobility at SAUM**

The next steps can be considered as positive aspects for increasing international mobility. The credit system ECTS has been successfully implemented at the Bachelor level of SAUM. The respective needful forms (the Learning Agreement, the Transcript of Records) have been prepared at the university. An interest of teaching staff and students to participate the international exchange programmes is evident. Presently, the intensive English course for teaching staff is running at SAUM.

On the contrary, the mobility of teaching staff and students is weak at this time. Lots of students who had been studying abroad finally decided to finish the university outside Moldova. The teaching staff and students of the University have a low knowledge of foreign languages. Currently, the study programme teaching in English is missing at the University. During the discussions with representatives of International Relations department was mentioned that only small amount of foreign student prefers to study in Moldova.

There are several recommendations which could help to increase international mobility at the University. The first step which is precondition for international mobility is to

improve of language skills. The University should provide language courses at different levels for the teaching staff as well as for the students. At the same time, an implementation of study programme in English is essential for incoming foreign students. The preparation of PR tools as website, leaflets, exchange student guide is useful for promotion of the University. The University could become as a member to international associations which are working in the similar area and share information with other universities through international networks and organizations. The courses targeting to writing proposals of projects for international calls such as Socrates Erasmus, Leonardo Da Vinci, TEMPUS, Alban EU/US, Marie Curie, Erasmus Mundus, Asia-Link, EDULINK should be implemented at the University.

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