

PROJECT CABARET – EDUCATIONAL PLATFORM (WP7, MOOCs AND DEVELOPMENT)

**Boyko Ranguelov¹, Fathimath Shadiya², Fathimath Nistaran², Mariyam Humra²,
Mariyam Eeman², Mohaned Haikal Ibrahim²**

¹*University of Mining and Geology “St. Ivan Rilski” – Sofia*

²*Faculty of Engineering, Science & Technology – Maldives National University, Male, Maldives
e-mail: branguelov@gmail.com*

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Abstract: The **CABARET** (**Capacity Building in Asia for Resilience EducaTion**) Project is funded by the European Union under the Erasmus+ program, to foster regional cooperation for more effective multi-hazard early warnings and increased disaster resilience among coastal communities. The goal of the Project is to strengthen the evidence-base in support of the implementation of the new framework. The participants constructed of a consortium of 14 European and Asian higher education institutions from nine countries - four from Europe and five from Asia. The Project covers three years period and intend many meetings among participants for data and knowledge exchange. The MGU and MNU participation are active as co-chairs of the WP7 – “Learning and teaching tools methodologies and approaches to the MHEW (Multi Hazards Early Warnings) and sustainable development of the resilience”. The progress and achievements of the WP7 co-chaired by MGU and MNU are presented and the developments of MOOC’s (Major Online Open Courses) are under discussion. The intended deliverables include MOOC’s, Educational Platform development, Manual for use, Technical and Functional Specifications, Implementation actions, Students and wider public presentations about MHEWS, International Cooperation among partners, Sandpit Events, Promotions, etc. The new developments of WP7 are under discussion.

ПРОЕКТ САВАРЕТ - ОБРАЗОВАТЕЛНА ПЛАТФОРМА (РАБОТЕН ПАКЕТ 7)

**Бойко Рангелов¹, Фатима Шадиа², Фатима Нистаран², Мариам Хумра², Мариам Ееман²,
Мохамед Хайкал Ибрахим²**

¹*Минно-геоложки университет „Св. Иван Рилски” – София*

²*Факултет по инженерство, Наука и Технологии – Национален Университет на Малдиви, Мале,
Малдиви
e-mail: branguelov@gmail.com*

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Резюме: Проектът **CABARET** (**Capacity Building in Asia for Resilience EducaTion**) е финансиран от Европейския Съюз по Програмата Еразмус+, с цел да усилва регионалното сътрудничество за по-ефективни системи за ранно предупреждение отнасящи се до комплексни бедствия. Участниците са 14 Европейски и Азиатски университети от девет страни – четири от Европа и пет от Азия. Проектът има продължителност от три години и осъществява множество работни срещи, семинари и конференции между участниците. Минно-Геоложкия Университет (МГУ) и Малдивския Национален Университет (МНУ) са активни ко-водители на Работен Пакет 7 - „Създаване на инструменти за методологии и подходи към Системите за Ранно Предупреждение от комплексни бедствени явления и устойчивото им прилагане”. Развитието и достиженията на Работен пакет 7 са демонстрирани, както и изработването на Отворени курсове за обучение насочени към дистанционно образование на студенти и широка публика. В заключение са идентифицирани няколко основни насоки за устойчиво развитие на образование:

- Развитие на отворените курсове за студентите от МНУ, като са използвани моделите на Университетите от Филипините – Де Ла Сале и Атенео в Манила.

- Създаването на двустранно сътрудничество между МГУ и МНУ е в рамките на координацията между тях в рамките на работен пакет 7.
- Представяне на Проекта, образователната платформа и основните курсове в нея.
- Представени са нови специализирани курсове и общообразователни такива.
- Показано е, че международната сътрудничество се явява основен компонент за успешното развитие на проекта CABARET.

Introduction

One of the most important packages due to the deliverables listed in the Project targeted to all participants is the WP7 entitled “Learning and teaching tools methodologies and approaches” for the multihazards early warning systems and their applications [1]. The intended Educational Platform (EP), MOOCs (Major Online Open Courses), technical manuals and brochures, together with the use of the Internet abilities for distant education are the modern tools for Higher Educational Institutions (HEI’s) and their high effective performance of the knowledge for real practical purposes could be the most useful outputs [2]. During the last months many activities like bilateral cooperation, new concept about EP, curriculum of the MOOC’s, etc. have been performed and executed following the research program and the practical applications [3, 4, 5]. The part of MOOC’s is good to follow the Curriculum of Maldives education course (undergraduate level). There some links to other materials (such like larger and deeper content about Multihazards, MHEWS, case studies etc.) could be incorporated for students who like to extend their knowledge about different topics of this issue, because the Platform is targeted to the students of MNU.

International and bilateral cooperation

During the development a lot of activities have been performed:

- Meeting with the team of MNU participating in the CABARET Erasmus+ Project and discussions about the educational platform and the MOOC’s content of WP7.
- Visit to the Maldives Meteorological Service (The Multihazards Early Warning System – MHEWS located and functioning there) and shearing experience (book “Multihazards early warning systems – Bulgarian expertise”) donated to the team of MMS.
- Meeting with the Dean of the FEST (MNU) and shearing experience on natural hazards assessment
- Visit to the Male (capital with a monument of the victims of tsunami of 2004) and the island Viligilli.
- Meeting with the vice-chancellor of the MNU and shearing experience on Natural Hazards (book “Natural hazards – nonlinearities and assessment” donated to the MNU)
- Public lecture “Maldives Mystery (an insight into geological formation of Maldives Archipelago) held in the Auditorium of MNU (visited by the deputy minister, vice-chancellor, Dean of FEST, many specialists, teachers and student and more then 300 people), created large public interest and recorded by the local TV channels.
- Meeting and training with the staff of the Research Unit of MNU, etc.

The meetings and discussions were rather fruitful and some important conclusions have been extracted:

- Maldives islands are a unique formation of the double chain of coral atolls, an inside sea located between them, with a unique nature, location and specific problems.
- The sustainable development of the Republic of Maldives has many specifics, related to the position, coral composition of the islands and large concentration of people in Male.
- The country is rather isolated, which can create huge difficulties in case of a major disaster possibly affecting the Maldives. Large earthquakes, huge tsunamis, strong cyclones, etc., can create large destructions due to the low average elevation of the islands.
- In case of a major disaster, if the airports are damaged or destructed, the international help could be impossible due to the communication difficulties
- Sea transport, such as ferries or sea ambulance accessibility is possible but in larger interval of time and they can provide only service to the ports that are not affected by disaster.
- The natural protection walls in the sea are difficult to construct, due to the lack of stones, cement, etc.
- The natural protection by the mangrove forests is also limited, due to the specific soil conditions mangrove forests required to be planted.
- The problem with the wastes of the islands is also heavy and could create environmental crisis.

- The water supply is strongly dependent of the purification and desalination factories, which in case of major disaster also could be damaged or destructed.

The Maldives are islands archipelago located in calm geodynamic environment, with lack of local earthquakes, active faults and other large natural disasters. Most of the hazards affecting Maldives are “imported” (tsunamis in the Indian Ocean, possible mega earthquakes, cyclones, ocean level oscillations – fast, due to the sea wind storms and slow, due to the climate change, etc.). Might be the only local potential disaster could be the coral reef collapse, but it needs really specific circumstances (mega earthquake, big blasts, etc.). Other threats are related to the wastes (industrial, technological, anthropogenic) and lack of deposition sites. This needs special treatment to avoid the negative ecological consequences.

The cooperation between the MNU and MGU tends to be extended in the fields of environment protection, disaster's education and marine research. The MGU has well developed Department of Ecology, experience in the natural disasters and waste management as well as expertise in marine research, marine biology and fish industry.

Educational Platform

The part of MOOC's is good to follow the Curriculum of Maldives education course (undergraduate level). There some links to other materials (such like larger and deeper content about Multihazards, MHEWS, case studies etc.) could be incorporated for students who like to extend their knowledge about different topics of this issue

Other part of other topics of MOOC's could be developed to the educational platform using ACCENT Platform including specific topics related to MHEW's.

Third part of the CABARET Educational Platform (EP) can use published materials for broader coverage of the topics related to the CABARET activities, using again ACCENT Platform (good horizontal link with similar projects), as well as other developed sources of information.

The curriculum of the MOOC's is adopted on the basis of the Philippine's expertise, especially of the De La Sale University (Manila). The educational platform is decided to use Moodle abilities for distant and on-line education and the experience of MNU. Course skeleton and several MOOC's are proposed with thematic topics and schedule for students in MNU.

A progress in MOOC's development has been made during the last year. Lessons structure has been accepted and unified. It consists of the following elements:

- Definitions – the general explanation is described to introduce students to the terminology
- Physical characteristics – the main physical characteristics of the studied disasters are presented by measurable parameters to characterize the destructive potential of the hazards
- Examples – various case studies are demonstrated to illustrate the negative consequences of the disasters
- Lessons learned are summarized to focus the attention of the students to the possibilities to mitigate and eliminate these negative consequences
- Specifics – many specifics of the different disasters and their effects are developed and explained to separate and introduce the students to the different aspects of the consequences – social, economic, psychological, gender, disable people, etc.
- Results achieved are under control by various methods – discussions, tests, seminars, etc.
- Quiz (test) – target tests are developed to control the obtained knowledge, accommodated to the different assessment scales at national and international level.

First Disaster Management Course (DMC) is finished according the preliminary accepted educational program.

Conclusion

The international bilateral cooperation between MGU and MNU is established in the frame of the co-chairmanship of the WP7 – CABARET Project.

A progress of the work performed in the frame of the WP7 of CABARET Project is displayed including educational platform development and MOOC's.

The co-chaired WP7 by MGU and MNU is under development according to the time schedule of the Project. First results of MOOC's are available.

Intended international cooperation among participants of the Project is an essential topic for the coastal resilience educational platform development.

References:

1. Capacity Building in Asia for Resilience Education – CABARET Project. Detailed Description of the Project. Annex IV. Version 1., 2016, 201 p.
2. Rangelov, B. THE EU ERASMUS+ PROJECT C A B A R E T AND MGU PARTICIPATION., Journal of Mining and Geology University, v.60, part I, Geology and Geophysics, 2017, pp .90–93. 2017.
3. Rangelov, B. PROJECT C A B A R E T - E U TOOL FOR SUSTAINABLE M H E W EDUCATION FOR COASTAL COMMUNITIES., НАЦИОНАЛНА НАУЧНА КОНФЕРЕНЦИЯ „ОБРАЗОВАНИЕ И НАУКА – ЗА ЛИЧНОСТНО И ОБЩЕСТВЕНО РАЗВИТИЕ“., 27–28 октомври 2017 г. гр. Смолян. pp. 396–404. 2017. <https://uni-plovdiv.bg/pages/index/1318/>
4. Rangelov, B. and F. Shadiya., THE C A B A R E T ERASMUS+ PROJECT - WP7 (PROGRESS AND ACHIVEMENTS.), SES2018, 14th Intl. Sci. Conf. “SPACE, ECOLOGY, SAFETY”, 7–9 November 2018, Sofia, Bulgaria.
5. Maldives-Philippines workshop newsletter – 20th May, 2019.
6. <http://ec.europa.eu/programmes/erasmus-plus/projects/eplus-project-details-page/?nodeRef=workspace://SpacesStore/5315e537-5ff2-42ed-888d-d8f3fb6ce86c>
7. <http://www.journalriskcrisis.com/mr-rangelov-on-seismic-early-warning-systems/>

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