European Commission

EPCA

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Environmental Protection in Central Asia: Disaster Risk Management with Spatial Methods

Most countries in Central Asia have a history of devastating disasters, having caused enormous human and economic losses across the region. Different types of disasters such as draughts, floods, landslides, debris flows, earthquakes, and extreme temperatures have struck the region. According to the reports from the World Bank, ISDR, and CAREC, the annual economic losses linked to natural disasters in Uzbekistan and Kyrgyzstan are estimated as 290 and 220 Million USD respectively, during the last ten years. Spatial Information Science and Technologies, including Geographical Information Systems, Remote Sensing, and Spatial Data Infrastructures have proven to be crucial for environmental protection and disaster risk management.

Aim of the project is to build capacity, using spatial methods, for better environmental protection and disaster risk management in Central Asia.

Objectives:

1. Developing innovative and blended courses in Spatial Information Science and Technology (SIST) for environmental protection and disaster risk management (EP-DiRiM): The developed courses will be taught at the partner universities with the aim of skill formation and filling knowledge gaps. The graduated students will be skilled professionals, who can potentially be employed by relevant stakeholders to develop and improve the application of spatial methods in EP-DiRiM.

2. Training of trainers: Faculty members at the regional partner universities will be trained on how to teach the developed courses.
- Improving quality of education and teaching: Online learning techniques/tools have revolutionized the pedagogic world. CA partners will be equipped with e-learning and open network learning (ONL) tools.

3. System development: Internet-based information Management System for Environmental Protection and disaster risk management (iMSEP) will be developed and implemented. The aim is to make a GIS system widely available for stakeholders to be able to use it for data collection, storage, analysis, and decision-making.

4. Dissemination of the outcomes: Environmental protection and disaster management authorities, at policy-making, planning, and operational levels, will become aware of the advantages and applications of SIST in environmental protection and disaster risk management to support the development and use of SIST in their countries.

5. Developing HEIs within society: The link between HEI, government, and enterprise is not well established in Uzbekistan and Kyrgyzstan. As a result, students may not find an adequate job after graduation, and they may not be able to deliver good services to the society in their job carriers. An aim of this project is to strengthen this link by developing courses, which are required by the governmental sector and the society, as well as making stakeholders aware of the technologies they need to use (where universities can help with) and the educated group of graduates that can be employed to support it.

Major direct and indirect impacts:

1. Improved quality of education at HEIs in Uzbekistan and Kyrgyzstan (Innovative courses on SIST and its application for environmental protection and disaster risk management will be developed).
2. Improving university-enterprise cooperation and increasing the employability.
3. Improving environmental protection and disaster risk management in CA.
4. International networking.

Partners:

1. Lund University, Sweden.
2. National Technical University of Athens, Greece.
3. Vilnius Gediminas Technical University, Lithuanian
4. University of Minho, Portugal.
5. Urgench State University, Uzbekistan.
6. Kyrgyz State University named after I. Arabaev, Kyrgyzstan.
7. Osh State University, Kyrgyzstan.
8. Karakalpak State University named after Berdakh, Uzbekistan.

Associate partners:

1. State Agency of Hydrometeorology under Ministry Of Emergency Situations of The Kyrgyz Republic.
2. Ministry of Emergency Situations of the Republic of Uzbekistan.
3. Ministry for Higher and Secondary Specialized Education of the Republic of Uzbekistan.
4. Ministry of Labour and Social Security of the Republic of Karakalpakstan.
5. Ministry of Education and Science of the Kyrgyz Republic.
6. The State Entreprise “Center of Remote Sensing and GIS Technologies”, Uzbekistan.
7. Central-Asian Institute for Applied Geosciences, Kyrgyzstan.

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National Technical University of Athens

Universidade do Minho