EPCA ACTIVITIES:
IN SCOPE OF
I.ARABAEV KYRGYZ STATE UNIVERSITY

Bishkek (Kyrgyzstan)

12.03.2018.

Work plan for project year 1

Ref.nr/ Sub-ref nr	Title	Total duration (number of weeks)	OCT	NOV	DEC	JAN	FEB	MAY	APR	MAY	JUNE	JULY	AUG	SEP
WP1	Kick off meeting. *Period 22-25.01.2018, location LU, Sweden.*	1				1=								
WP2	Preparation for the development: information collection and analysis of the local needs.	7												
	Information collection and need analysis for the development of courses and iMSEP. *Deadline 19.03.2018, locations Uzbekistan and Kyrgyzstan.* Purchasing equipment for partner university's laboratories and for e-learning system.	6				1X	3X	2X						
	Designing the course contents according to the needs. Organizing course development groups and assigning a coordinator, deciding communication channels. Deciding on iMSEP functionalities. *Period 20-24.05.2018, location NTUA, Greece.*	1					I			1=				
WP3	Course development	11												
	Developing the primary version of the course materials. *Deadline 31.08.2018, location each participant and partner universities/countries.*	10									2=X	4=X	4=X	
	Presenting and discussing the primary versions. *Period 02-06.09.2018, location MU, Portugal.*	1												1=
WP6	Developing iMSEP	29												
	Designing system (iMSEP), selecting development tools, and creating the system. *Deadline 31.08.2018, location LU, Sweden.*	25					1=	4=	4=	4=	4=	4=	4=	
	Presenting iMSEP to the Steering Committee (SC) for feedback. *Period 02-06.09.2018, location MU, Portugal.*	1												1=
	Completing iMSEP based on the comments of the SC. *Deadline 30.11.2018, location LU, Sweden* (Please, see year 2).	3												3=
WP8	Dissemination and exploitation	5												
	Creating website for the project. *Deadline 19.03.2018, location VGTU, Lithuanian.*	2						2=						
	Dissemination in national and regional exhibitions, conferences, events and seminars. *Location Uzbekistan and Kyrgyzstan. Period is from March until May each year.*	2						1X		1X				
	Publishing in newspapers and TV (*Minimum one time in a year*).	1											1X	
WP9	Coordination and management.	2												
	Coordination of the project. *Location LU, Sweden.* (Please see WP 9, 9.5).	2									2=			

ERASMUS+: Higher Education – International Capacity Building

- **Monday, 23 January 2018**
- **Participants: all partners according to the List**
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- Ali Mansourian, coordinator of the project, opened the meeting by welcoming the participants and reviewing the agenda of the kick-off meeting.
- Participants introduced themselves and gave a brief presentation of their universities.
- The aim of the project as well as different work packages and activities were presented by Ali.
- Project's Steering committee was selected; one member from each partner/participant university with project coordinator as the chair:
  - Ali Mansourian, Project coordinator
  - Petter Pilesjö, LU
  - Eimuntas Parseliunas, VGTU
  - Marinos Kavouras, NTUA
  - Jorge Gustavo Rocha, MU
  - Muzaffar Matchanov, URSU
  - Abdireimov Salavat, KSU
  - Damira Tilenova, I.AKSU
  - Nizamiev Abdurashit, OSH
- Quality Control Group (CQG) was selected consisting of four members. The group is also in charge of general management and organization of the project (core coordination group):
  - Ali Mansourian, Project coordinator
  - Petter Pilesjö, LU
  - Muzaffar Matchanov, URSU
  - Damira Tilenova, I.AKSU
- Petter and Irma presented the budget of the project in details.
- EU regulations about the budget, travels, payments to staff, etc. were explained to the participants. Questions were discussed and/or answered.

- **Tuesday, 24 January 2018**
- **Participants: all partners according to the List**

- LU GIS Center has an operational e-learning programme. Roger Groth presented Moodle and AC, the two systems which are used in LU for the programme. It included a detailed presentation about publishing course materials, communication with students, how students submit the assignments, etc.
- Muzaffar presented the plan of CA partners for performing information collection and need analysis (WP2). The plan was discussed.
- Important questions for need analysis relevant to the "course development" were suggested by the participants. They were then discussed, refined and decided to be included in the relevant questionnaire.
- Important questions for need analysis relevant to the development of iMSEP were suggested by the participants. They were discussed, refined and decided to be included in the relevant questionnaire.
- Project travels were presented including the aim, the date and the place of each travel as well as the number of participants from each university.
- Due to starting project with delay, the dates of some travels were changed to make the plan realistic.
- Majid Mahdi, Director of Central Asia and Middle-East Region, External Relations, Lund University attended the meeting, said welcome to the participants and provided them with some information.

▸ According to the consolidated work plan and the kick-of meeting conclusions, partner universities collected needs for developing SIST courses on environmental protection and disaster risk management from associate partners and stakeholders. The following activities were conducted to reach the objectives:

▸ - Agreed meetings with associate partners and stakeholders (other responsible organizations on environmental protection and disaster risk management) in a planned date.

▸ - Visited associate partners and stakeholders.

▸ - Presented applicability of modern innovative SIST for environmental protection and disaster risk management.

▸ - Discussed and analyzed skills and knowledge gaps related to environmental protection and disaster risk management using SIST, that were used for developing course syllabuses.

▸ - Discussed and analyzed the base data and functionalities needed for iMSEP.

▸ - Discussed and analyzed available resources and infrastructure at both partner universities and stakeholders for running and using online courses.

▸ - Prepared report by regional and university coordinators.

▸

Meetings and interviews conducted with 2018-02-12 to 2018-03-19.

28 Organizations (who participated in the survey):
- Ministries, departments, agencies - 10;
- Universities – 11;
- **Research institutes – 6;**
- **NGO - 1.**

Meeting at the Central Asian Institute for Applied Geosciences and the Institute for Seismology of the National Academy of Sciences of the Kyrgyz Republic

Meeting in Athens
(19-15.05.2018 years)

Co-funded by the
Erasmus+ Programme
of the European Union

ERASMUS+: Higher Education – International Capacity Building

- **Monday, 21 May 2018**

- **Participants: all partners according to the List**

- **- Welcome by host university (NTUA)**

- **- Project coordinator stated the aim of the meeting: design the three online courses**

- **- Participants introduced themselves to the rest of the group**

- **- Needs Analysis Results Presentation (the partnership had already been informed by e-mail a week before the meeting)**

- **1. Needs analysis results for Uzbekistan (CA regional coordinator). Main points follow:**

- **Different organizations were questioned**

- **Drought/landslides/flooding are the main natural disasters**

- **Topics of interest: soil salinization /desertification/air pollution/land cover monitoring/others (e.g. solid waste management/erosion/drinking water/water use/Aral sea)**

- **Skills most desired: spatial analysis/land cover monitoring/ data acquisition and storage**

- **28% of the interviewed organizations do not use GIS at all!**

- **72% organizations use Remote Sensing MORE THAN 10% in daily activities**

- **Different kind of maps available at different scales not all for free use ("secret" data), most hard copies (not digital)**

- **Functionalities of iMSEP are defined.**

- **Most of the interviewed parties know how to digitize but cannot perform spatial analysis.**

- **Most of the interviewed parties are not GIS specialists; these are mainly hired in academia.**

- **100% willingness to take distant learning courses**

- **2. Needs analysis results for Kyrgyzstan (CA regional coordinator). Main points follow:**

- **28 organizations were questioned**

- **Natural disasters: landslide/ earthquake/ pollution/ avalanches/ drought/ flooding/ desertification**

- **Topics of interest: glaciers/ water pollution/ air pollution/ ecosystem monitoring/…**

- **Skills most desired: spatial analysis/ data acquisition and storage/ ecologically threatened areas monitoring**

- **iMSEP desired functionalities: digitizing maps/ storing attributes/ uploading data**

- **93% willingness to take distant learning courses**

- ▸ **Courses should be linked to real-life problems**
- ▸ ☐ **There are differences in the students' background**
- ▸ ☐ **Provide a term thesaurus in three languages (Uzbek, Kirgiz, and Karakalpak)**
- ▸ **After presentation the rest of the group posed questions to both presenters:**
- ▸ **- Remark: Different topics/natural disasters/environmental issues in each country.**
- ▸ **- What about GIS usage? – For Kyrgyzstan a new specification for GIS is needed/ expected**
- ▸ **- For Kyrgyzstan what type of aerial imagery? How (if at all) do they perform photogrammetry/ aerial photography?**
- ▸ **- What type of knowledge is provided for university students related to GIS and RS?**
- ▸ ☐ **Uzbekistan: introduction to GIS and Special topics (different applications)/ GIS for surveying engineers mostly.**
- ▸ ☐ **Kyrgyzstan: more or less the same. In technical universities GIS is taught in high level, but not in humanities. GIS mostly considered a mapping tool not as an analytical or decision-making one.**
- ▸ **- Data and map use constrains in CA, EPCA will overcome this by focusing on providing methodological tools instead.**
- ▸ **- Decisions taken:**
- ▸ ☐ **Harmonizing students backgrounds is a need and this will guide the course design; provide them with a solid base.**
- ▸ ☐ **GIS and RS core modules will be common for all courses because students may select only one course**
- ▸ ☐ **The courses target group is university students**
- ▸ ☐ **The prerequisites (if any) will given by CA universities**
- ▸ ☐ **There will be introductory parts in all courses**
- ▸ ☐ **We cannot develop courses for all GIS and RS applications. The aim is to teach the main techniques and how these can be applied to indicative case studies.**
- ▸ **- Open issue**
- ▸ ☐ **How much theoretical? How much application-related?**
- ▸ **- Plan for the following day: 3 different WGs will be formed to design the 3 courses. The approach is working for 1-1:30 hour and reporting and continuing like this.**

- **Tuesday, 22 May 2018**
- **Participants: all partners according to the List**
- - Main task of the day: **Course development (including outline, syllabus, learning outcomes, etc)**
- - Formation of 3 WGs, one for each course (each University will be represented in each WP with one participant)
- - **General instructions:**
- ☐ 7 weeks each course full time: 280 hours (40 hours per week)
- ☐ Video lectures are ideal BUT should not be too long (Youtube videos can also be used)
- ☐ Instructions for the exercises with data (CA regions-related) should be provided
- ☐ Open source GIS software
- ☐ Use the template provided the Project Coordinator before the meeting (received a week before the meeting)
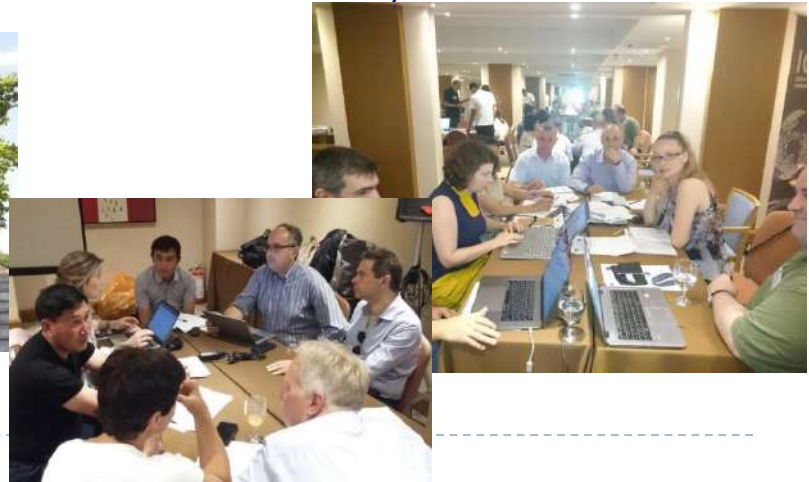- - **Outcomes:**
- ☐ Courses outlines for all three courses (with three quite different perspectives and visions).
- ☐ A core part has been identified in all courses: theoretical/ introductory modules related to GIS and RS. This will be more or less common to all courses, and the partner responsible for developing any part of it will be the same for all courses.
- ☐ For the core part: mostly exercises and project-related activities will vary according to context of the course.
- ☐ Exercises and project-related activities for the three courses vary in intensity as designed/decided by WGs. For instance, course 2 (GIS and RS for disaster risk management) will not include a large-scale project during the last week(s). However, for 5 weeks students will have to conduct small-scale activities/exercises that will increase in complexity as the course progresses.
- ☐ All of the above have resulted in different allocation/ distribution of hours for the different study methods.

Dissemination:

A report on the EPCA project was provided International in scientific and practical conference
«Problems of improving the management of natural and socio-economic processes at the present stage». Dedicated to the World Environment Day
Bishkek - Cholpon-Ata, 2018 JUNE 3 – 5

Dr. Ali Mansourian, the coordinator of the EPCA project, visited Bishkek (Kyrgyzstan) June 30 - July 4, 2018. Kyrgyz State University (KSU), Ministry of Emergency Situations, National Erasmus Coordination Office, and World Health Organization (WHO) as well as experts from Ministry of Health were visited. The aims and advantages of the project as well as applications of SIST for Environmental Protection and Disaster Risk Management were presented and discussed. In a field trip, environmental situations and issues were observed and discussed with the experts.

Courses:

#	Course Name / Credits (ECTS)	Language
1	GIS & RS for Environmental Protection (10 ECTS)	English /Kyrgyz/ Uzbek/ Karakalpak
2	GIS & RS for Disaster Risk Management (10 ECTS)	English /Kyrgyz/ Uzbek/ Karakalpak
3	SDI for Environmental Protection and Disaster Risk Management (10 ECTS)	English /Kyrgyz/ Uzbek/ Karakalpak

The internet-based information Management System for Environmental Protection (iMSEP) and disaster risk management will include:
- Friendly and simple user interfaces.
- Core GIS functions.
- Manager module.
- Advanced architecture.

Public information about the project

Project site: http://eu-epca.eu/

University site:
http://arabaev.kg/?option=ara_gr
https://iro.oshsu.kg/en/news/360

- **Tuesday, 4 September 2018**
- Participants: all partners according to the List

- - Welcome by host university (MU)
- - Project coordinator stated the aim of the meeting: finishing of the design of the three online courses and development of contents.
- - Participants introduced themselves to the rest of the group

- - Structures of the three courses were presented and some details were discussed, in order to finish the proposals' documents.
- - Colleagues from Lund University, Lithuania University and Athens University presented some examples of videos, textbooks, exercises and other materials, to be used as possible models for course content materials.
- - **Decision**: Lund University will create a temporary Moodle project to store the documents produced by all teams.
- - **Decision**: the logo EPCA will be used in all materials produced.
- - **Decision**: Muzaffar will create a word and ppt templates for all materials of the project.
- - The 3 WGs started working on finishing the structure of the courses and developing the content.
- - WG on "GIS and RS for Disaster Risk Management" presented the final structure and contents proposal. Some suggestions and changes were proposed.

- **Wednesday, 5 September 2018**
- Participants: all partners according to the List
- - Main task of the day: Course development (planning of exercises, textbooks, videos, etc.)

- - Group works and reporting.

- - WG on "GIS and RS for Environmental Protection" and "SDI "presented the final structure and contents proposal. Some suggestions and changes were proposed.
- - **Decision**: in the "GIS and RS for Environmental Protection" course, the students will have to choose a final project among the three offered projects, at week 5.
- - **Decision**: For the core modules, common lectures and exercises will be developed for different courses (mainly DM and EP courses. Additional exercises will be developed for each course, where needed.
- - **Decision:** the three courses will be based on open source GIS and RS software.
- - **Decision**: free and open source references/textbooks will be included in the three courses.

- - The responsible for each WG presented individual and group tasks distribution.

Steering Committee Meeting

Participants: all partners according to the List

- EU had asked for additional meetings in CA in the first year of the project. Ali visited Kyrgyzstan in July 2018 and will visit Uzbekistan in September 2018.

- In order to be able to ask for the second payment from EU, we need to have spent 70% of the first payment. Partners agreed to report their payments on travel and salaries to Irma as soon as possible.

- Universities in Uzbekistan have conducted a tender to buy equipment. Each university will buy all equipment from the company that wins the tender. LU will pay directly to the company. This procedure has been communicated with and approved by EU and NEOs. Since all equipment will be bought at the same time, the share of the Kyrgyz partners on the equipment, from the first payment, will be used for Uzbek partners to buy. By receiving the second payment, the share of the Uzbek partners for the equipment, on the second payment, will be used for the Kyrgyz partners. Kyrgyz universities will start the procedure as soon as the second payment is conducted.

- The project's Website is operational and is getting updated regularly where needed. Each University has to update and translate the university's information and their role and deliver it to VGTU by the end of September.

- Lund University will create a temporary Moodle project to store the documents produced by all teams.

- The course design is finished and signed by the course development teams.

- Course development must be finished by March, when we meet in Vilnius. A preliminary time plan, to achieve the aim was suggested and approved as follows:

The two core modules must be finished by the end of October 2018;

60% of the materials must be ready by the end of November 2018;

100% by the end of January 2019;

In February 2019 course materials will be circulated for commenting, polishing and improvements.

All courses will be ready by the first of March 2019.

- Data from CA are needed for the development of the courses. This plan was approved to ensure that the data delivery will not affect the development of the courses:

By 17th September 2018 the data needs must be reported to Central Asia partners

Data will deliver by CA partners by 8th October 2018.

Muzaffar and Damira will be the contact persons on this subject.

If CA partners could not deliver data, course developers will develop the exercises based on data from other sources. Then it will be the responsibility of CA partners to change the exercises based on their local data in future.

- Vilnius meeting will be 4-7 March 2019. It starts 4 March at the afternoon. 5 and 6 March will be full day working.

- iMSEP development

<u>September 2018</u>

iMSEP development will be contracted with an external enterprise, and the process is already on going. Ali reported the progress. The tender has finished. A company has been selected. LU and EU are aware of the current progress and have approved it. The contract with the company will be signed by LU. iMSEP will be ready by January 2019.

<u>The internet-based information Management System for Environmental Protection(iMSEP) and disaster risk management will include - Friendly and simple user interfaces. Core GIS functions. Manager module. Advanced architecture.</u>

<u>November 2018</u>

…….iMSEP development ……the progress is 55%.

Upcoming activities:

▸ Finalizing courses in Lithuania / second year reporting

▸ Translating in April

▸ Testing by pilot students

▸ ToT in Bishkek

Thanks for your attention!