Development of Advanced Education in Geoinformatics for Enabling Sustainable Development in Uzbekistan

Odil AKBAROV, Uzbekistan
Bela MARKUS and Andrea PODO, Hungary

Outline

• Background
• GE-UZ project information
• GE-UZ project aims and objectives
• Development activities
• Capacity building
• Creation educational environment
• Dissemination
Background

• **Geoinformatics** education in Uzbekistan
  Unavailable degree program in Geoinformatics, only selected courses are available. Need for qualified graduates by growing needs.

• **Facing challenges**
  i.e. sustainable land and water resources management, environmental monitoring, infrastructure development etc.

• **Tempus program**
  Tempus is the European Union’s program which supports the modernization of higher education in the Partner Countries*, mainly through university cooperation projects.

* Partner Countries of Eastern Europe, Central Asia, the Western Balkans and the Mediterranean region

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Project details

| Name: | Geoinformatics: enabling sustainable development in Uzbekistan (GE-UZ) |
| Type: | Curricula development |
| Duration: | 36 months |
| Start: | 15 October 2012 |
| Finalization: | 15 October 2015 |
| Budget: | € 847 668,20 (Tempus funded) + € 95 322,80 (co-financing) = 942 991 Euro |
GE-UZ Partners

Coordinator
P1 University of West Hungary (UWH), Sopron, HU

Uzbekistan
P2 National University of Uzbekistan named after Mirzo Ulug’bek (NUU), Tashkent, UZ
P3 Karakalpak State University (KSU) Nukus, UZ
P4 Tashkent Architecture Building Institute (TABI) Tashkent, UZ
P5 Tashkent Institute of Irrigation and Melioration (TIIM) Tashkent, UZ
P6 Ministry of Higher and Secondary Specialized Education (MHSSE) Tashkent, UZ
P7 National Center of Geodesy and Cartography (NCGC) Tashkent, UZ
P8 State Unitary Enterprise "Geoinformkadastr" (Geoinformkadastr) Tashkent, UZ

EU
P9 Paris-Lodron Universität Salzburg (PLUS) Salzburg, AT
P10 Royal Institute of Technology (KTH) Stockholm, SE
P11 University of Greenwich (UoG) London, UK

GE-UZ Aims

Wider aim:
• To ensure that UZ partner universities have the capacity to offer a Master programme in Geoinformatics that meet Bologna process and international academic quality.

Project aim:
• To introduce a new Master program in Geoinformatics by September 2015
GE-UZ Objectives

Objectives:
• Develop a successful MSc in Geoinformatics
• Ensure qualified staff for course delivery
• Build a sustainable educational network
• Support Uzbekistan in sustainable development

Outcomes
• Sustainable MSc program in Geoinformatics
• Developed learning materials
• Developed learning environment
• Trained teaching staff
• Built a sustainable educational network

Develop a successful MSc in Geoinformatics

WP 2. Curriculum development (DEV)
  2.1 As-is survey, needs analysis
  2.2 Bologna conform curriculum
  2.3 Accredited and licensed courses

WP 3. Development of learning materials (DEV)
  3.1 Guidelines
  3.2 Course syllabi in English
  3.3 8 modules in Uzbek
  3.4 Review
  3.5 Final draft
  3.6 Feedback from the pilot course
  3.7 8 core modules in Uzbek and Russian

WP 5. Development of learning environment (DEV)
  5.1 Learning Management System (LMS)
  5.2 Installation and operation of 4 computer labs
  5.3 Use of photogrammetric workstation, lasercanner

WP 7. Quality Management (QPLN)
  7.1 Quality Manual assuring project quality
  7.2 Guidelines for Quality Assurance of learning material development
  7.3 Guidelines for Quality Assurance of course delivery
  7.4 External Evaluation Report (EER)
Work package groups

- **Development**: The substance of the work planned including production, testing etc;
- **Management**: Activities ensuring the sound management of the project;
- **Dissemination**: Provision of information and awareness raising about the project and its achievements;
- **Quality Plan**: Quality control and monitoring, internal and external evaluation;
- **Exploitation of results**: Sustainability of the project results used by end-beneficiaries during and beyond the project lifetime;

### Work packages

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## WP 2. Curriculum development

### Accreditation

### Definition of new curriculum

### Needs analysis

### Work packages

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WP 3. Development of learning materials

- Geoinformation Systems and Science
- Remote Sensing and Photogrammetry
- Geodatabases and Distributed Architectures
- Data Acquisition and Data Integration
- Cartography and Geovisualization
- Spatial Analysis
- Spatial Data Models
- Project Management and Organisation

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## WP 4. Train-the-teachers

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<th>What</th>
<th>When</th>
<th>Where</th>
<th>Why</th>
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<tr>
<td>Workshop on educational methodology and ICT</td>
<td>June 2013 – 1 week</td>
<td>Tashkent, Uzbekistan</td>
<td>To train 32 teachers</td>
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<tr>
<td>Studies in Data Acquisition and GeoDBMS</td>
<td>October 2013 – 1 month</td>
<td>Székesfehérvár, Hungary</td>
<td>To train 16 teachers</td>
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<tr>
<td>Studies in Spatial Analyses</td>
<td>November 2013 – 1 month</td>
<td>Salzburg, Austria</td>
<td>To train 16 teachers</td>
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<tr>
<td>Field training on use of new technologies</td>
<td>March – April 2014 2 weeks</td>
<td>Tashkent, Uzbekistan</td>
<td>To train 16 teachers and students</td>
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<tr>
<td>Study tour on Quality Assurance</td>
<td>~ April 2015 – 1 week</td>
<td>London, UK</td>
<td>To train 16 teaching and administrative staff</td>
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Ensure qualified staff for course delivery

![Workshop on educational methodology and ICT (June 2013)](image)
Ensure qualified staff for course delivery

Training course in University of West Hungary (October 2013)

Training course in Paris Lodron University of Salzburg (November 2013)
**Ensure qualified staff for course delivery**

*Field training on use of new technologies (March - April 2014)*

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WP 1. Project Management
WP 7. Quality Management

Quality Plan
WP 2. Curriculum development
WP 3. Development of learning materials

Exploitation of Results
WP 4. Train-the-teachers
WP 5. Development of learning environment

Dissemination
WP 6. Educational network development
WP 9. Dissemination and awareness
WP 5. Development of learning environment
WP 6. Educational network development

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WP 9. Dissemination and awareness

Main project website:  
www.ge-uz.eu

National project website:  
www.geoinformatics.uz

Project newsletters

GIS in Central Asia Conferences

The GISCA series of conferences aims at building a Central Asian network of GIS professionals supporting the sustained development of this region into an environmentally friendly, secure and prosperous society.

Next GISCA’15 in Uzbekistan. Linked with GE-UZ final event.
Thank you!

www.ge-uz.eu
www.geoinformatics.uz

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XXV International Federation of Surveyors Congress, Kuala Lumpur, Malaysia, 16 – 21 June 2014