



GIS Mapping and QGIS Training Report

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Risalat Consultants International

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Introduction

This report summarizes the three day training on GIS Mapping and QGIS which conducted in the Atlas B&B Guesthouse in Dushanbe, Tajikistan on 2nd, 3rd and 4th of October, 2015.

The course was designed for a user with little or no experience in QGIS. It helped the participants develop their skills using the Open Source Geographic Information System (GIS) software package Quantum GIS (QGIS) as a more cost-effective alternative to commercially available GIS packages such as ArcGIS and MapInfo.

The course provided a general understanding of the tools and features used in QGIS software to create and edit maps, create new layers and provide the facility to create high quality output.

The course focused on developing hands-on skills through individual computer-based practical sessions and trainer-led practical group works. The computer-based practical sessions were complimented by presentations, a brief field exercise and some group demonstrations.

The training was organized by **Risalat Consultants International FZE** in cooperation with and involvement of a local trainer in Tajikistan.

Training Audience

The trainees were all from Afghanistan representing a variety of organizations operating in different fields in Afghanistan. A total number of 5 delegates were present throughout the three days of the training. The following table shows their names, organizations and job titles.

No.	Full Name	Organization	Job title
1	Suliman Nazari	GIZ IDPP Balkh, Afghanistan	Senior Project Engineer
2	Abdul Razaq Elham	UNOPS Afghanistan	GIS Specialist
3	Haqiqurahman Rahmani	Wildlife Conservation Society (WCS)	Geospatial Consultant, GIS Assistant
4	Abdul Latif Walizada	Agha Khan Education Service, Afghanistan	Disaster Risk Management Initiative Focal Point
5	Attiquallah Mayar	MEDAIR Afghanistan	WASH Manager

Training Delivery

The training was a three day event conducted on 2nd, 3rd and 4th of October, 2015.

A pre-training survey was received from all the trainees providing information about their levels of knowledge of and experience with GIS and QGIS, as well as their specific expectations from the training. In addition, the profiles of the trainees in form of CV or resume were also received from all the trainees indicating their use of GIS and/or QGIS (if any) in their past and current jobs.

The first day of the training started with a short pre-test in which the participants had to answer simple questions about which field could GIS and QGIS applications be utilized, what could be done with QGIS in one's field, the major differences between GIS and QGIS applications, the components of QGIS and types of GIS data. The aim of this exercise was to take note of what the trainees already know about GIS and QGIS.

In addition to the pre-test form, a post-test questionnaire was distributed at the end of the last day of the training. This questionnaire had the same set of questions and aimed at measuring the learning outcomes and obtained knowledge on the items asked in the pre-test questionnaire at the outset of the training.

Furthermore, according to the program agenda, a review of each day was done by the participants at the end of each day, the results of which were taken into account on the following day of the training.

Each participant was enabled to connect his laptop to the beamer at least once and demonstrate on the screen practically an exercise learnt during the training. During the training some of the trainer-led practical tasks were done individually and some in groups. A short field work on collection of points, lines and polygons by GPS device was organized in the first half of the second day, after which the practical part was continued in the training room. Here the participants practically learned how to tethering GPS data into QGIS software and how to utilize, edit and analyze by the QGIS the data collected by GPS device. In the last day of the training a short video was shown to the participants on creating, managing and analyzing ecological data sets. This was followed by practical exercise by the participants taking into account their own field.

In order to enable the training participants further enhance their GIS/QGIS skills and best use their obtained knowhow in their work, a resources DVDs with lots of up-to-date materials on GIS and QGIS in form of power point presentations, user guides (pdf), data sets for practical exercises, various literature, step-by-step explanations notes with screenshots, manuals, QGIS changelogs and video tutorials were prepared and distributed to all the participants at the end of the workshop. The PDF version of the presentations for all the three days were also included in the resources DVDs.

Main Topics Covered in the Training

The contents of the program agenda were followed, and the participants had full chance to ask questions and/or request description and/or practical explanation of a specific item they had in mind related to GIS and QGIS during the training.

The topics that were followed in the training included, but were not limited to:

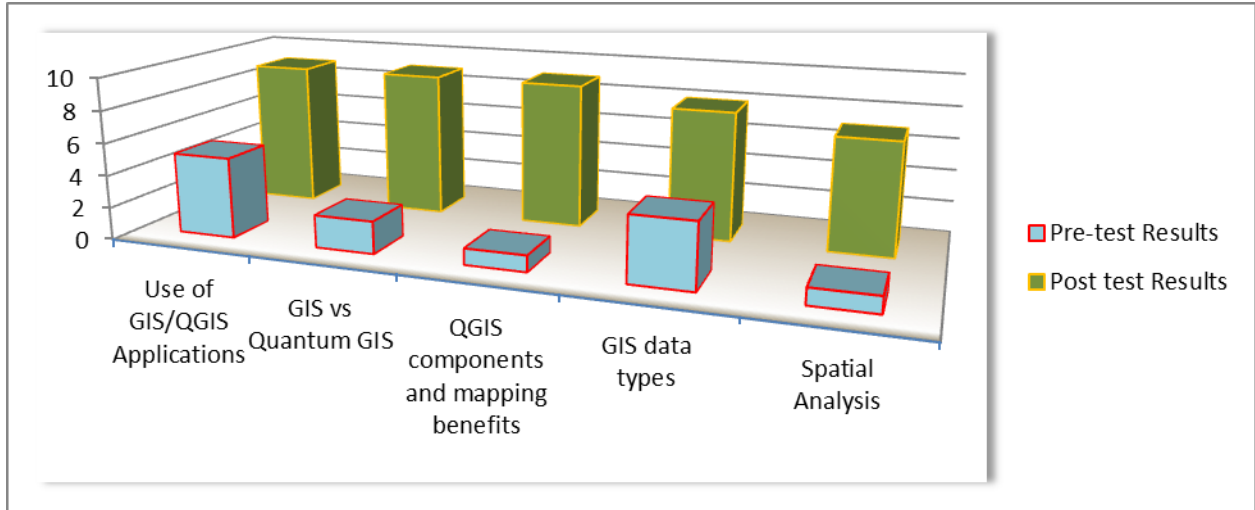
- What is GIS? Use of GIS applications in different fields?

- ESRI file-based geodatabases and their uses;
- Importance of GIS applications in ecological decision making;
- The main concepts and uses of QGIS;
- Quantum GIS vs ArcGIS;
- QGIS 2.10 'Pisa' interface;
- Adding, saving and changing layers;
- Adding ArcInfo coverages into QGIS;
- Mapping features, creating a basic map (components);
- Online support resources for GIS and QGIS;
- Collection and management of data (points, line, polygon);
- Field work and tethering a GPS to QGIS software;
- Importing data into QGIS software and exporting to MS Office applications;
- Querying, digitizing and editing;
- Georeferencing;
- Rasters;
 - Adding
 - Changing
 - Analysis
 - Calculation
- Vector data;
 - Classifying
 - Creating
 - Calculation
 - simplification
- Using spatial databases in QGIS;
- Spatial queries;
- Data analysis and classification;
- Create, manage and analyze ecological data sets;
- Use of editing tools and features;
- Symbology;
- Saving map layouts in JPG, PDF and other formats;
- Finalizing and printing maps for reports.

Training Impact

In fact, the real impact of a training program can be observed and realized in the long run, however, but the learning outcomes can be determined upon completion the training. This was assessed and compared by means of the pre and posttests administered before and after the training. Having compared the completed pre-test and post-test questionnaires a clear picture of the change in understanding and experience of the participants with GIS and QGIS based on some randomly selected topics can be visualized.

The chart below illustrates the learning outcomes of the participants based on a given set of themes in terms of recorded responses on the same set of questions asked before and after the training:



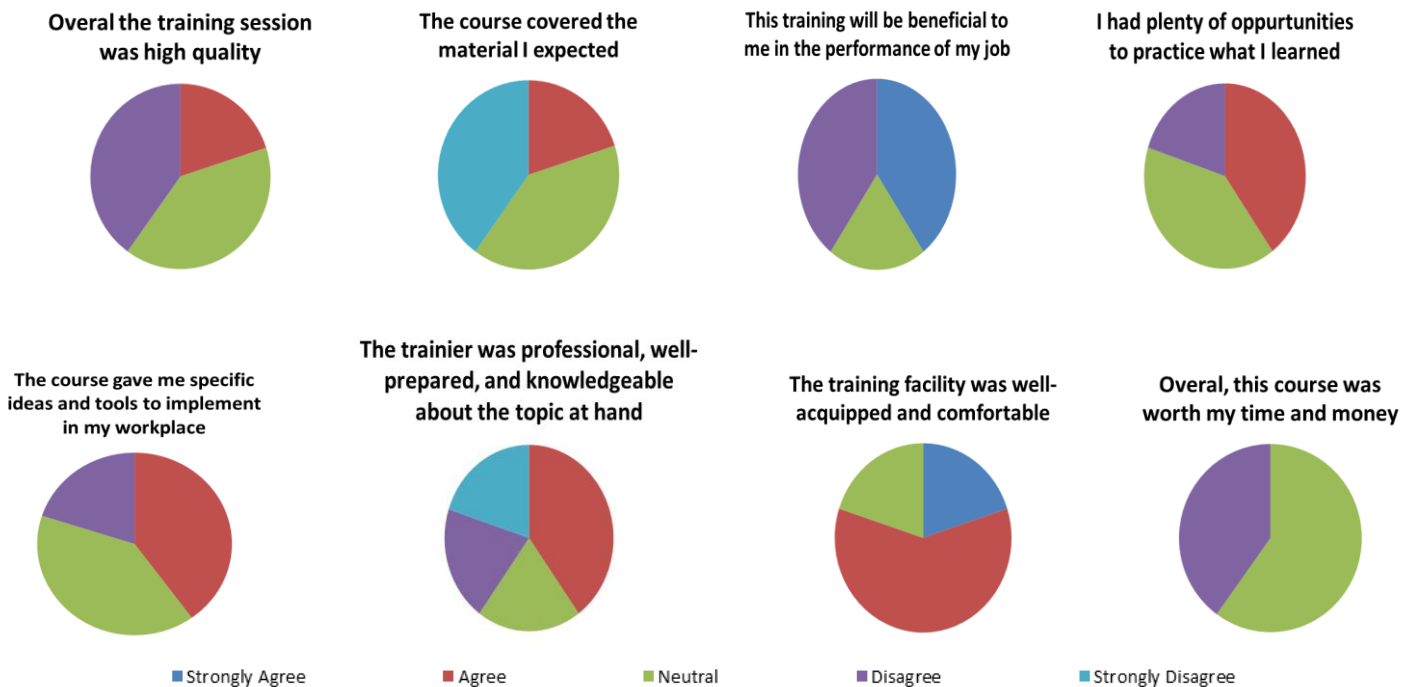
Training Evaluation

It is a norm at Risalat to conduct a comprehensive evaluation of the training programs in order to analyze the problems the trainees may be facing or the issues there may be causing hindrances in the successful execution of the training. It also helps improve the quality of future programs and deliver trainings that meet higher quality standards.

We believe in continuous improvement of our programs and an evaluation which benefits not only future program, but also the on-going program. Therefore, a daily feedback of the participants was collected in order to determine issues the trainees may be facing which would need to be resolved for the following days.

In addition, a final course evaluation was conducted by means having the participants complete a form by providing short information about the training, a bit about the trainee himself, general evaluation and the trainees' final thoughts on the training.

A summary of the responses for the final program comprehensive evaluation is provided below:



Some Photos of the Training Course

