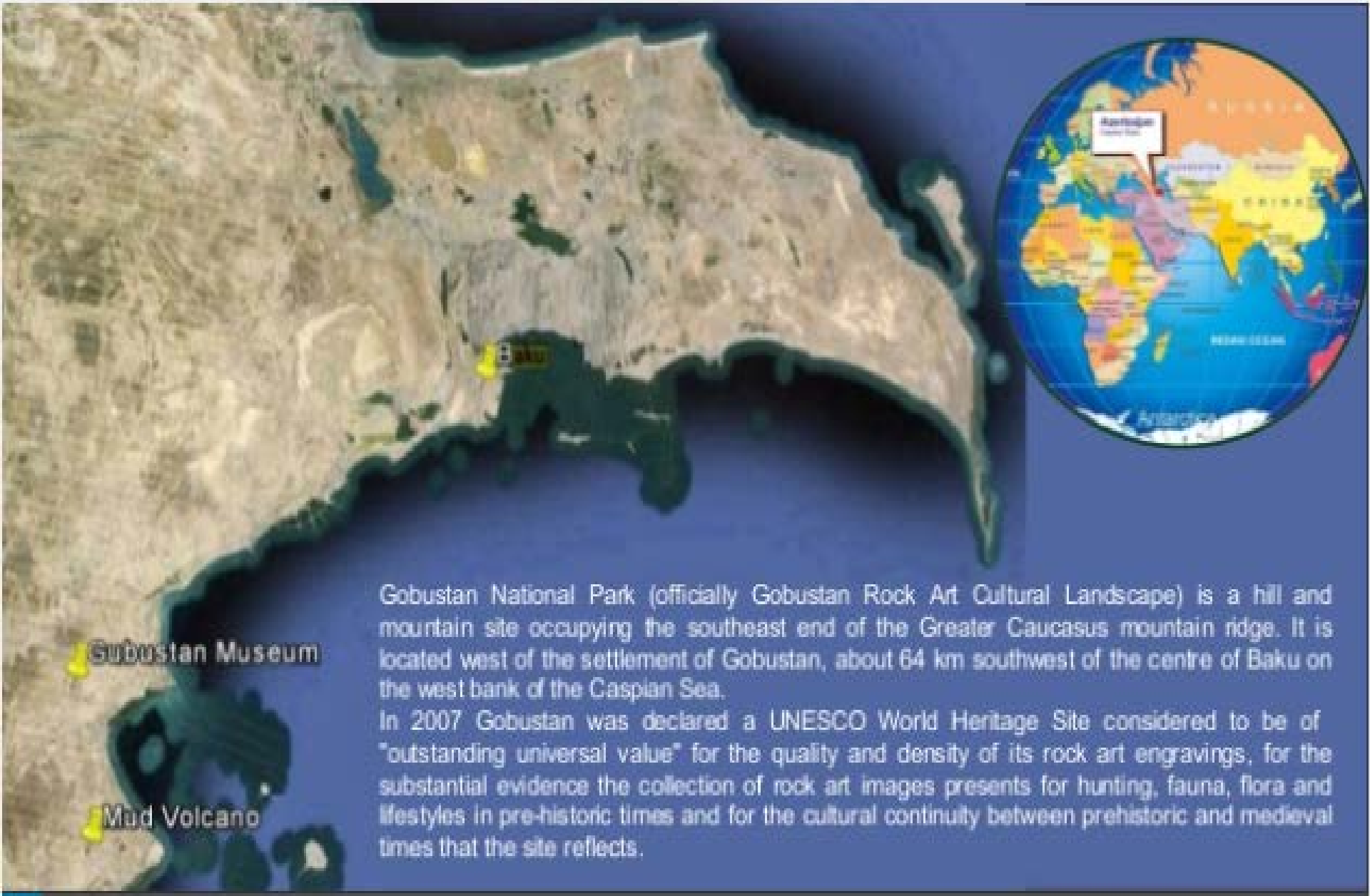
INCREASING CAPACITY FOR BIODIVERSITY CONSERVATION: Long-Term Integrated Research and Conservation Education Program, Azerbaijan

By Yelena Gambarova

Gobustan State National Park, Azerbaijan



Gobustan National Park (officially Gobustan Rock Art Cultural Landscape) is a hill and mountain site occupying the southeast end of the Greater Caucasus mountain ridge. It is located west of the settlement of Gobustan, about 64 km southwest of the centre of Baku on the west bank of the Caspian Sea.

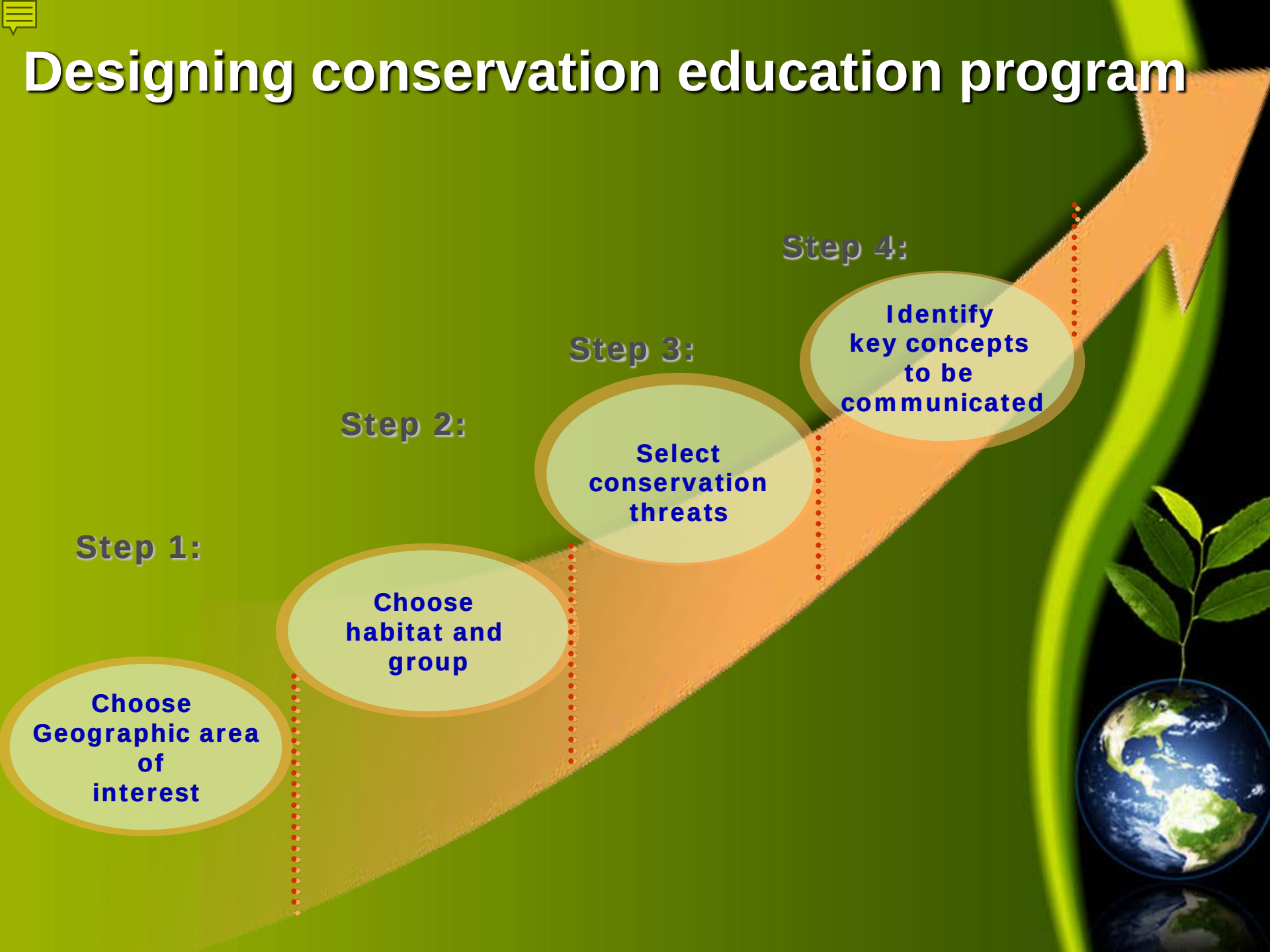
In 2007 Gobustan was declared a UNESCO World Heritage Site considered to be of "outstanding universal value" for the quality and density of its rock art engravings, for the substantial evidence the collection of rock art images presents for hunting, fauna, flora and lifestyles in pre-historic times and for the cultural continuity between prehistoric and medieval times that the site reflects.

Designing conservation education program

The goal of conservation education program “Monitoring rare vegetation within Buffer zones around Industrial objects using Space technologies” is taking as consideration rare vegetation distribution within “buffer zones” for recent years.

This proposal addresses communities’ recommendation through development of a conservation education program including the implementation of conservation training workshops.

Designing conservation education program



Designing conservation education program

Step 5:

Choose target audience

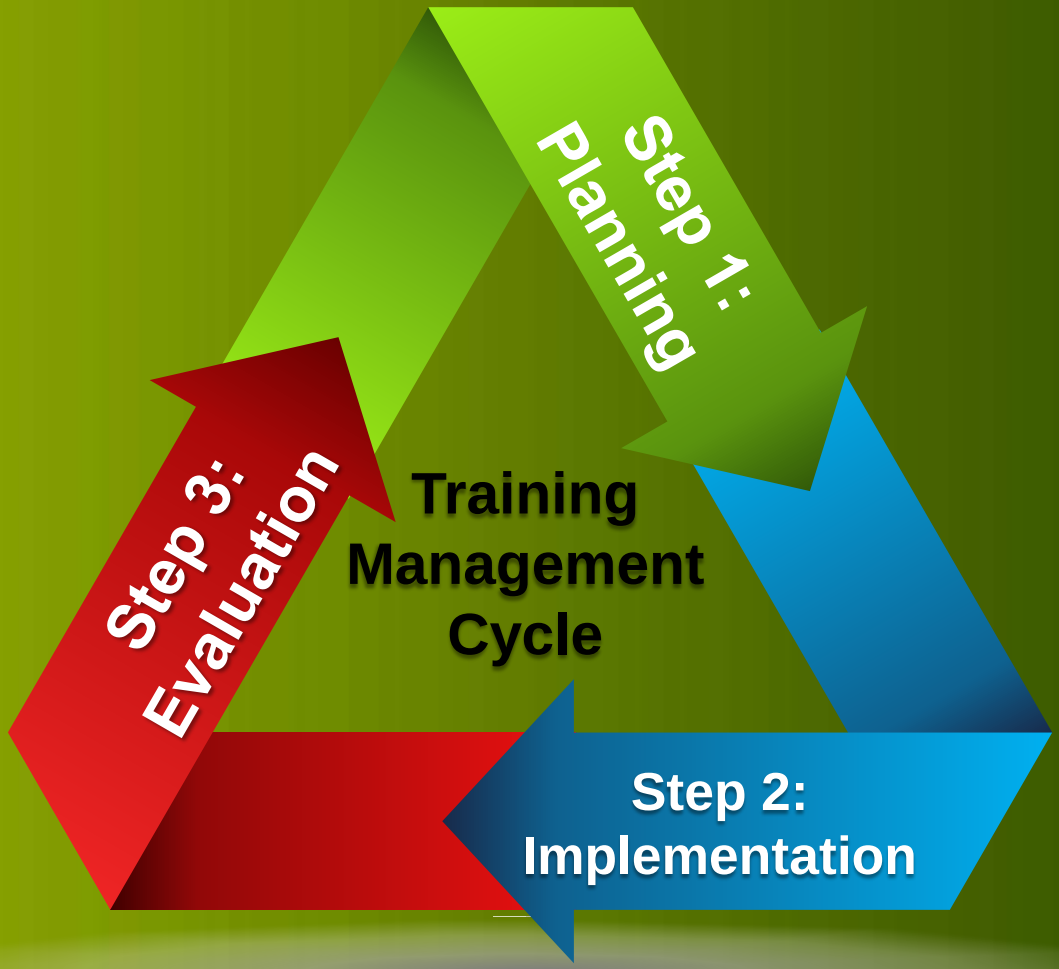
Step 6:

Plan the program and craft messages

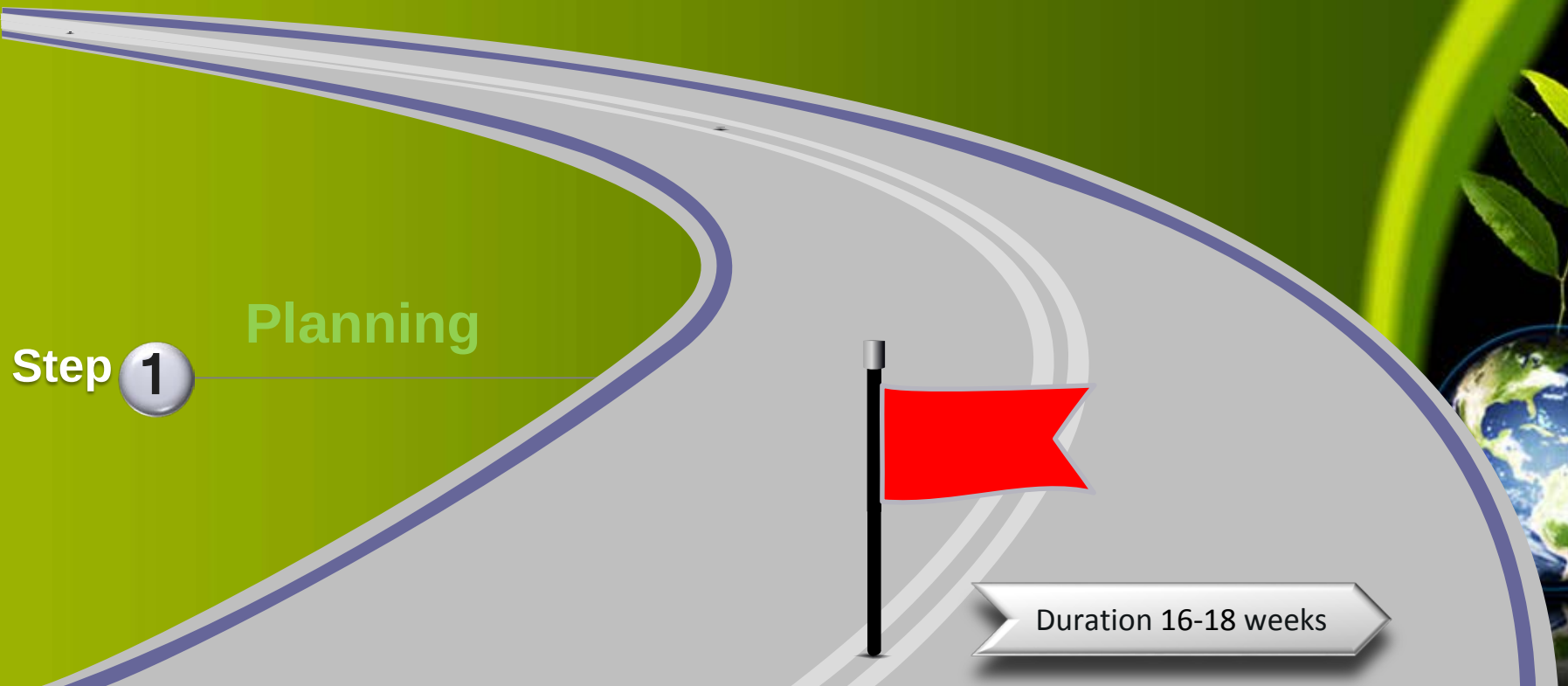
Step 7:

Create my own targeted recourses

Training Management Cycle



Roadmap

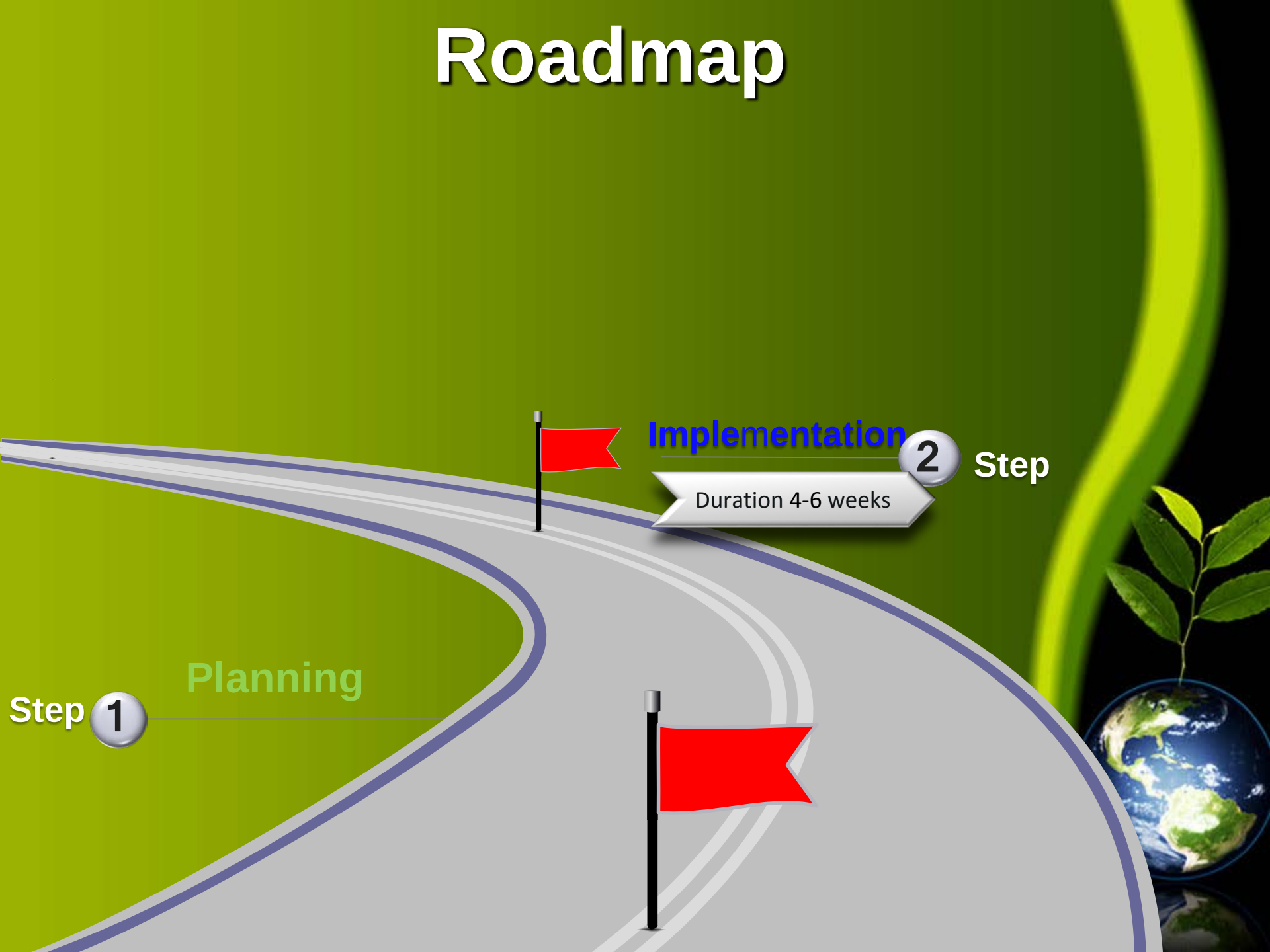


Step 1

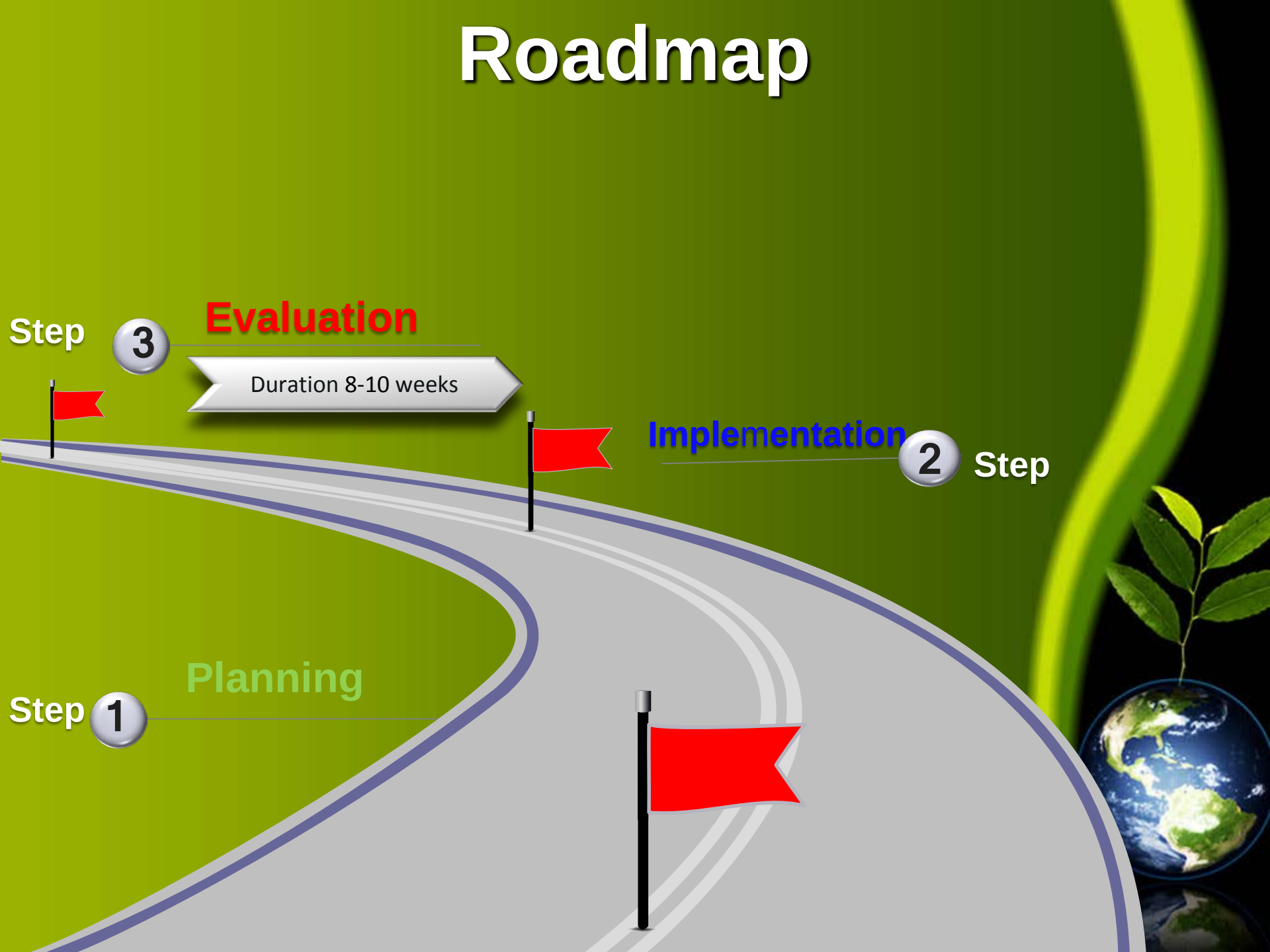
Planning

Duration 16-18 weeks

Roadmap



Roadmap


Step 3
Evaluation
Duration 8-10 weeks
Implementation
2 Step
Planning
Step 1

Activities and Methodology

Strategy and materials development → Training Workshop Implementation → Monotoring, Evoluation Program → Reporting, Pesentation and Results

Activities and Methodology

Activity 1: STRATEGY and MATERIALS DEVELOPMENT

A common method for reducing or eliminating impacts to rare vegetation from adjacent land uses and other pressures is to maintain "buffer zones" around the resources.

a. Design a capacity building strategy;
b. Identify target audience);
c. Conservation educational program development tool;
d. Design and compile training materials;
e. Design online learning products and services to allow retrieval of training materials.

Activities and Methodology

Strategy and materials development

Training Workshop Implementation

Monotoring, Evoluation Program

Reporting, Pesentation and Results

Activities and Methodology

Activity 2: TRAINING WORKSHOP
Implementation

Conduct training through a two-day workshop “Open Education Initiative - “Open Education Initiative - Space for our young generation”

Activities and Methodology

Activity 3: MONITORING and EVOLUATION PROGRAM

a. Make a plan for evaluating the program
b. Feedback and review of the effectiveness of the training
c. Analyze and report results
EVALUATION TOOLS
• Feedback
• Interviews
• Performance records

The results of the training evaluation are reflected in the next phase of training planning to improve future training programs

Activities and Methodology

Strategy and materials development

Training Workshop Implementation

Monotoring, Evoluation Program

Reporting, Pesentation and Results

Phase 1: Planning

- **Strategy development**
- **Intended Audience**
- **Training Material Development**

Phase 1: Planning

Intended Audience

Students who work with biodiversity data and are interested in developing skills to effectively use spatial analysis programs with GIS applications with a focus on diversity and ecological analyses.

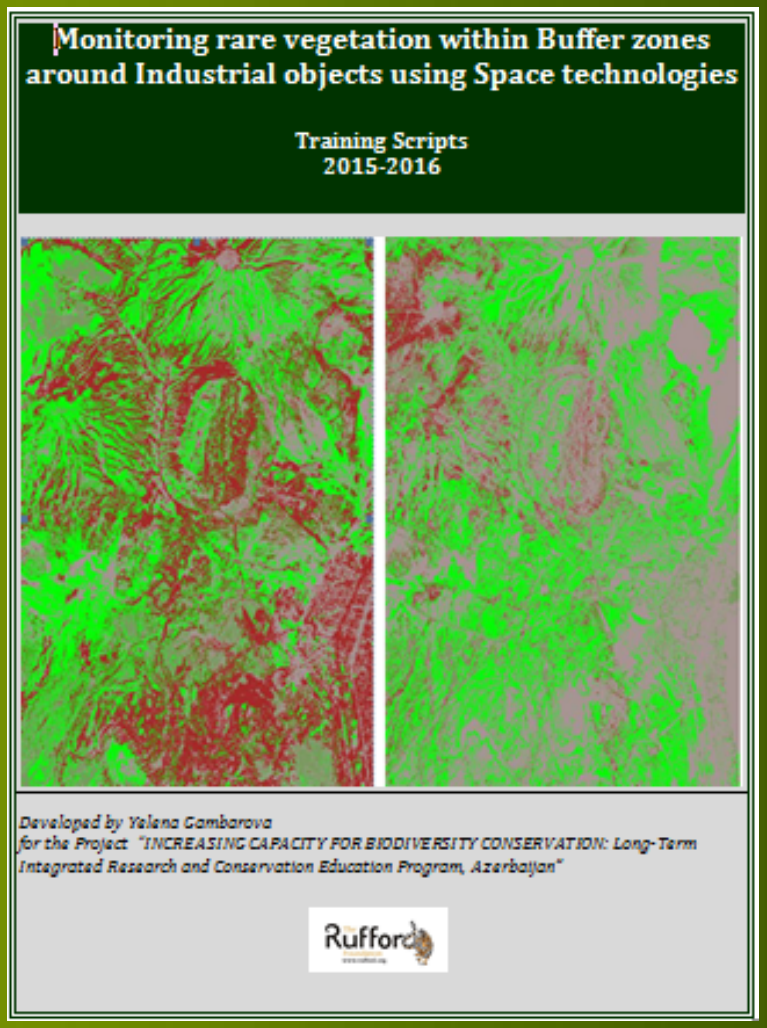
Phase 1: Planning

- Intended Audience
- Training Material Development:
  - Training Scripts
  - Lesson Plan
  - Presentation

Phase 1: Planning

Training Test Scripts

- **Step-by-step guide for setting up and managing "*Monitoring rare vegetation within Buffer zones around Industrial objects using Space technologies*" program**
- **Additional practice scripts for review and skill refinement**



Phase 1: Planning

- Intended Audience
- Training Material Development:
  - Training Scripts
  - Lesson Plan
  - Presentation

Training Lesson Plan

Course Objectives

To provide the necessary theoretical and practical training in technical field related to rare vegetation conservation work.

Aim of the Training Program

The aim of this training program is to provide the teaching community an exposure to recent advances in satellite image analysis, dealing with very high spatial resolution images.

Intended Audience

This Training Lesson Plan is intended for students who work with biodiversity data and are interested in developing skills to effectively use spatial analysis programs with GIS applications.

Monitoring rare vegetation within Buffer zones around Industrial objects using Space technologies

TRAINING WORKSHOP
Training Lesson Plan

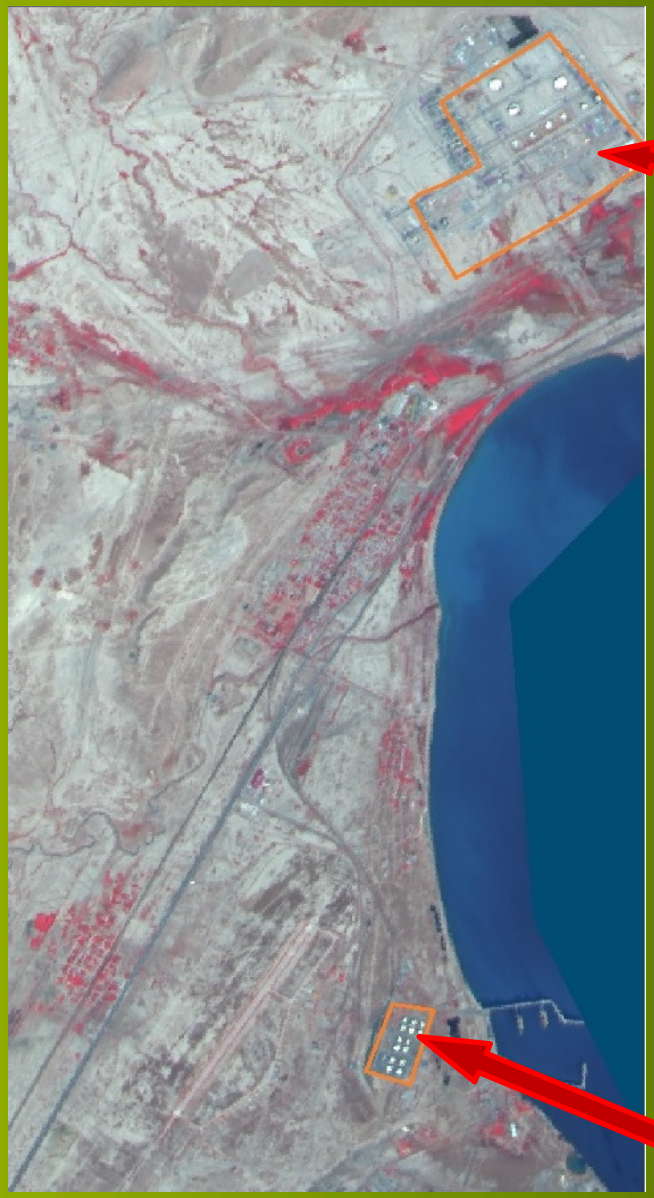
Phase 1: Planning

- Intended Audience
- Training Material Development:
  - Training Scripts
  - Lesson Plan
  - Presentation

Presentations:

Subject: Rare Vegetation response to Industrial development

Indication of the “Industry object 1” and “Industry object 2” on satellite imagery



Industry object 1

Industry object 2

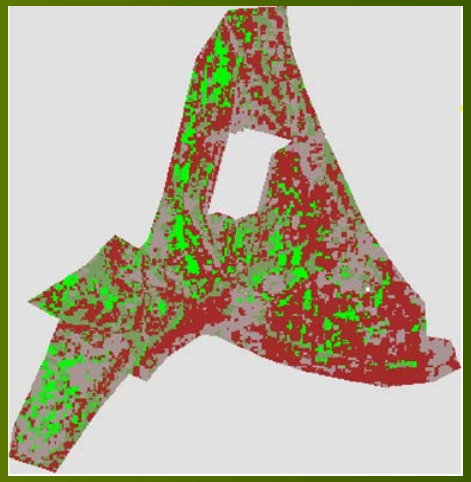
Indication of the “Industry object 1” and “Industry object 2” on satellite imagery

Rare vegetation classification within the “Buffer zone 1”

2004

2012

Rare vegetation classification within the “Buffer zone 2”



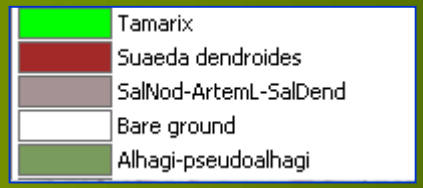
2004

2012

Rare vegetation classification within the “Buffer Zone 1” and “Buffer Zone 2”

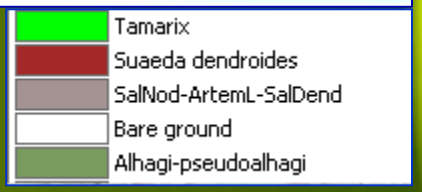
2004

2012

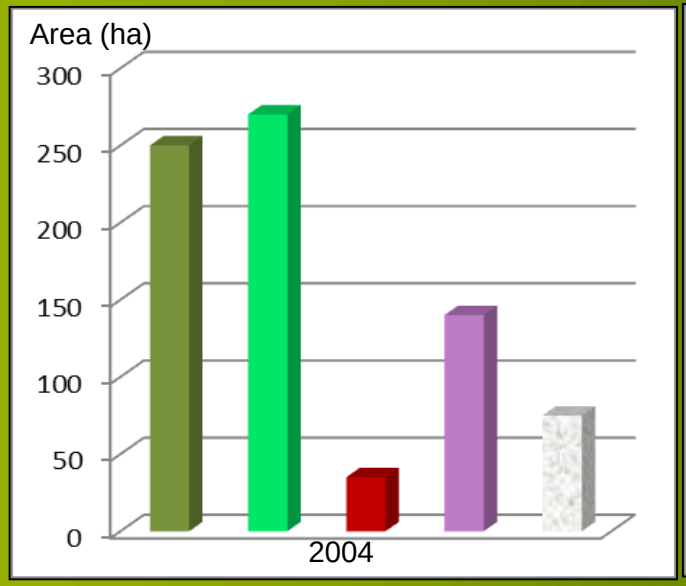


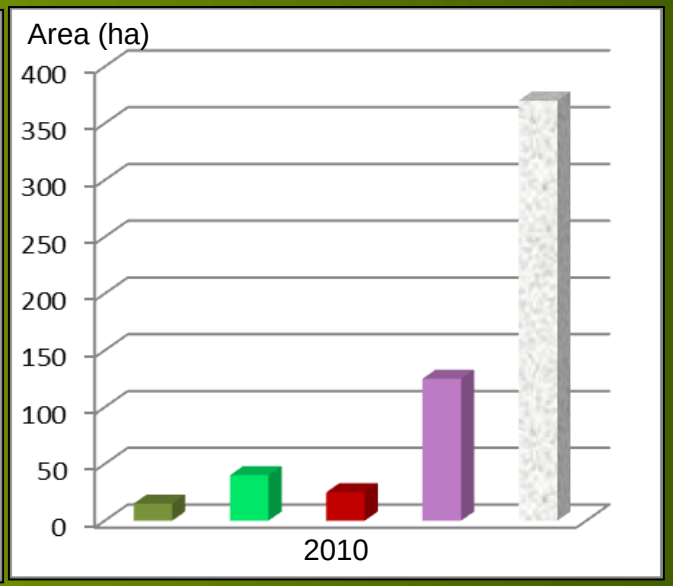
2004

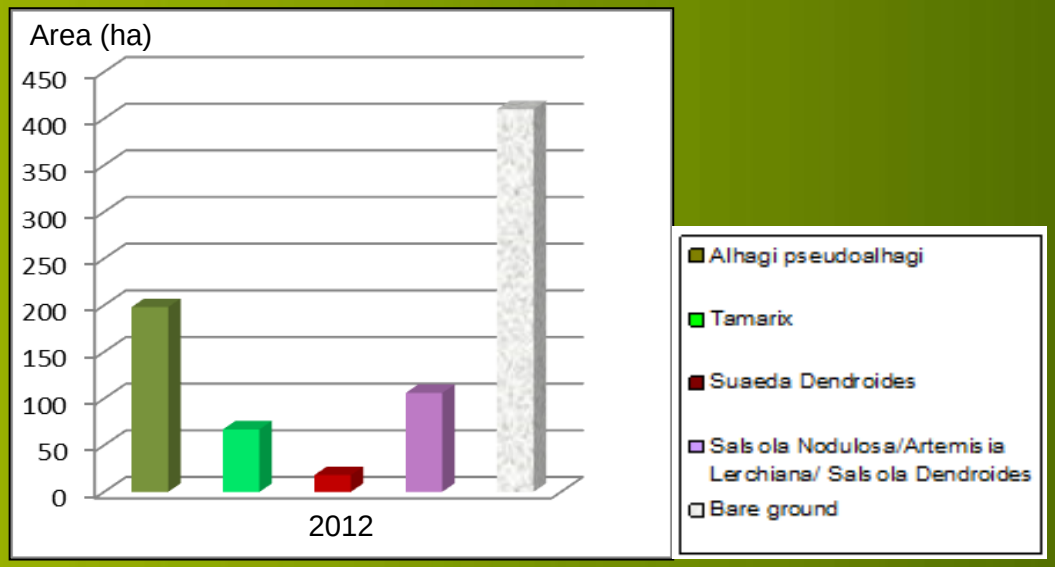
2012


Tamarix
Suaeda dendroides
SalNod-ArtemL-SalDend
Bare ground
Alhagi-pseudoalhagi

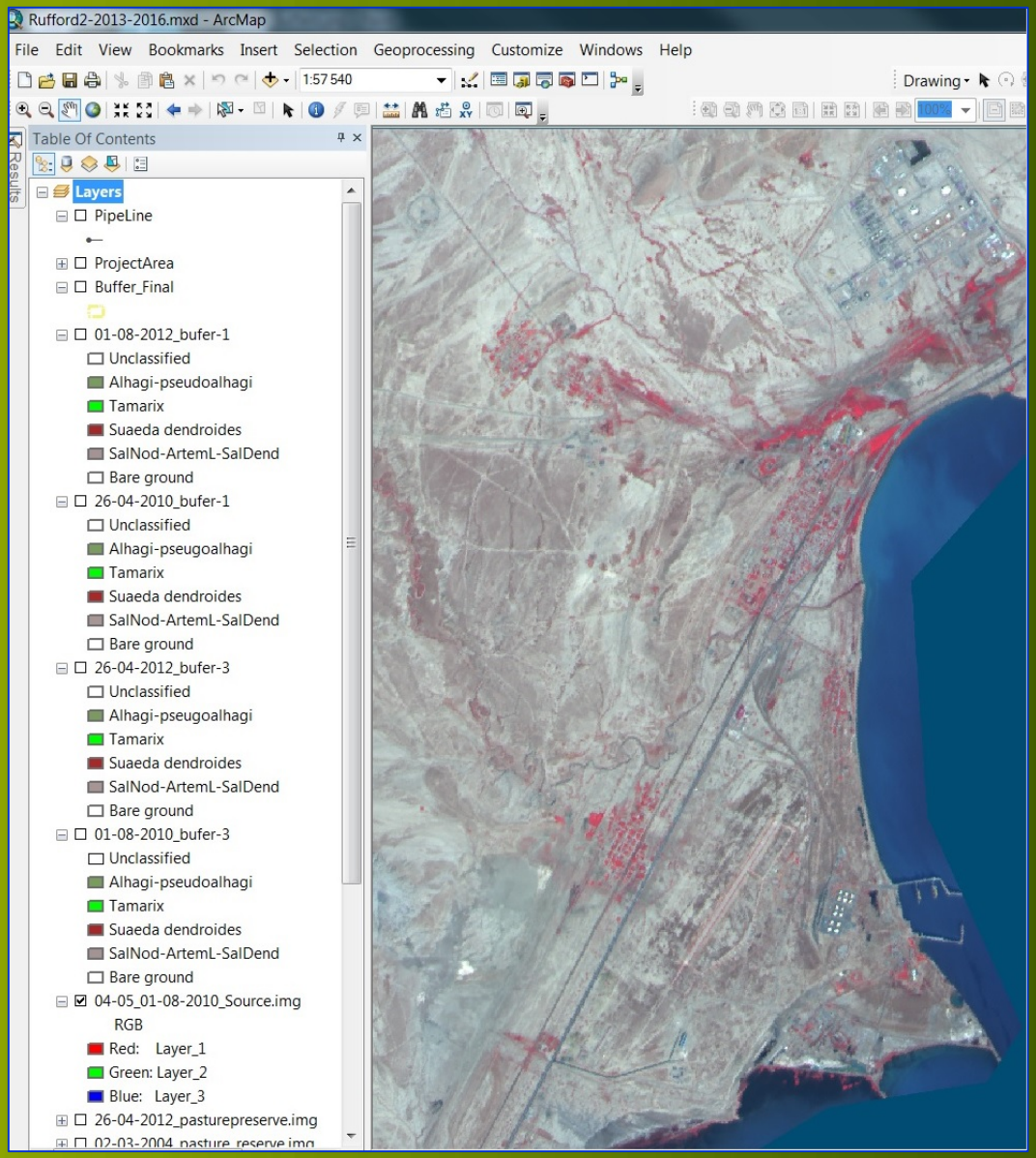
Rare vegetation degradation within the “Buffer zone”



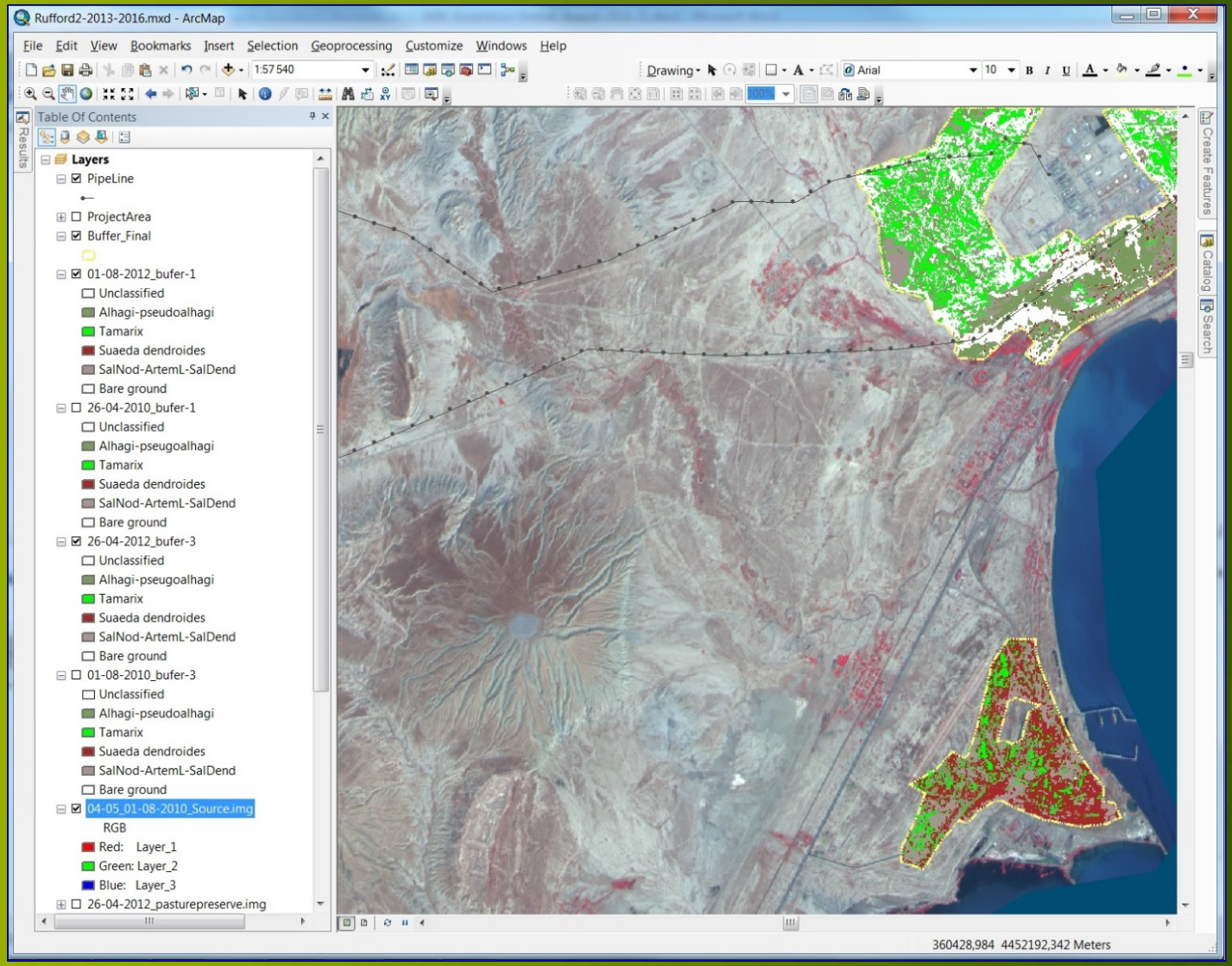




Geographical Data Base (GDB)

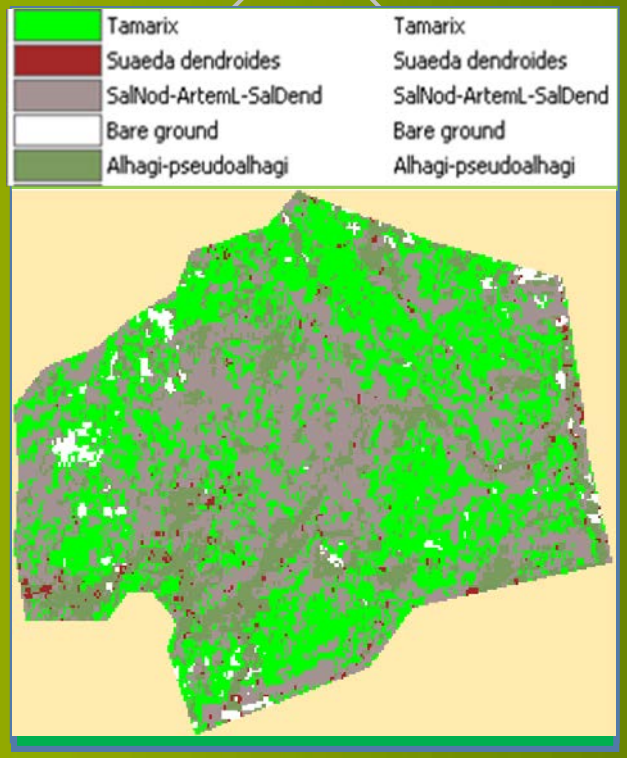


Geographical Data Base (GDB) with classification results

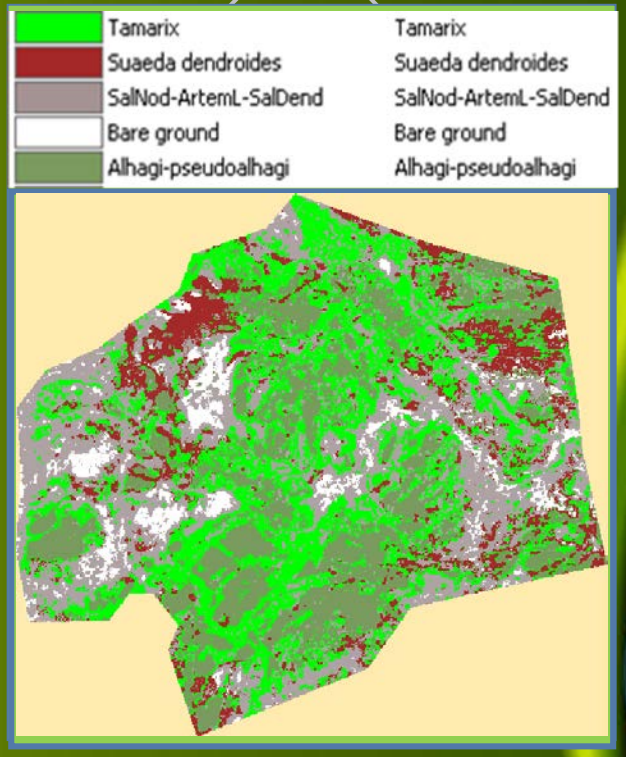


Rare vegetation classification within the Sensitive area

2004

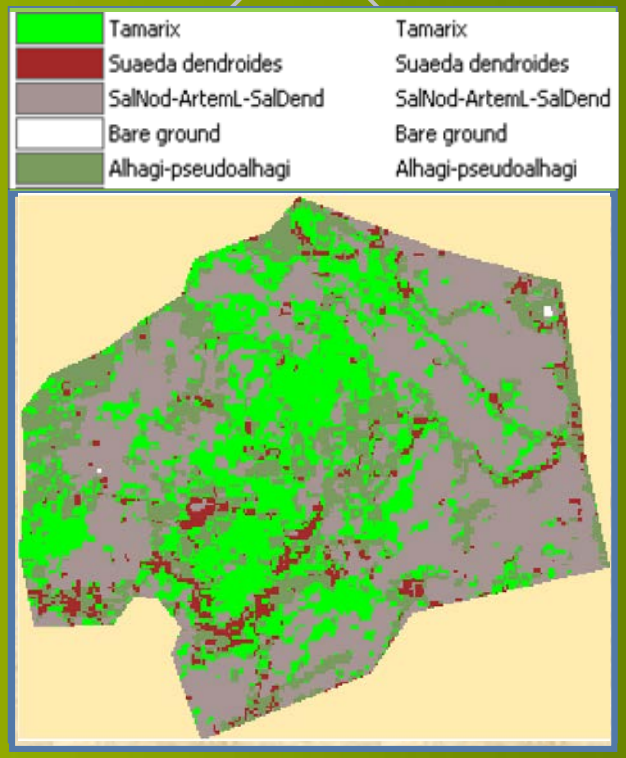


2007

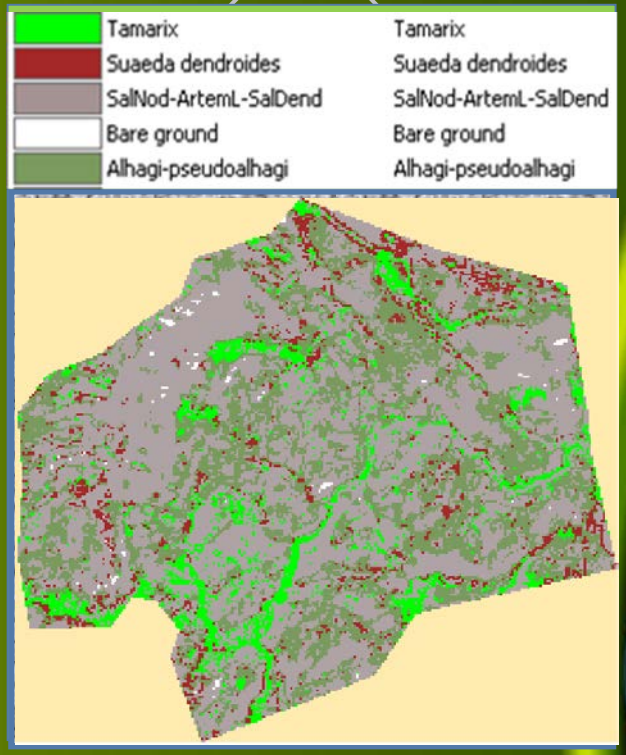


Rare vegetation classification within the Sensitive area

2012

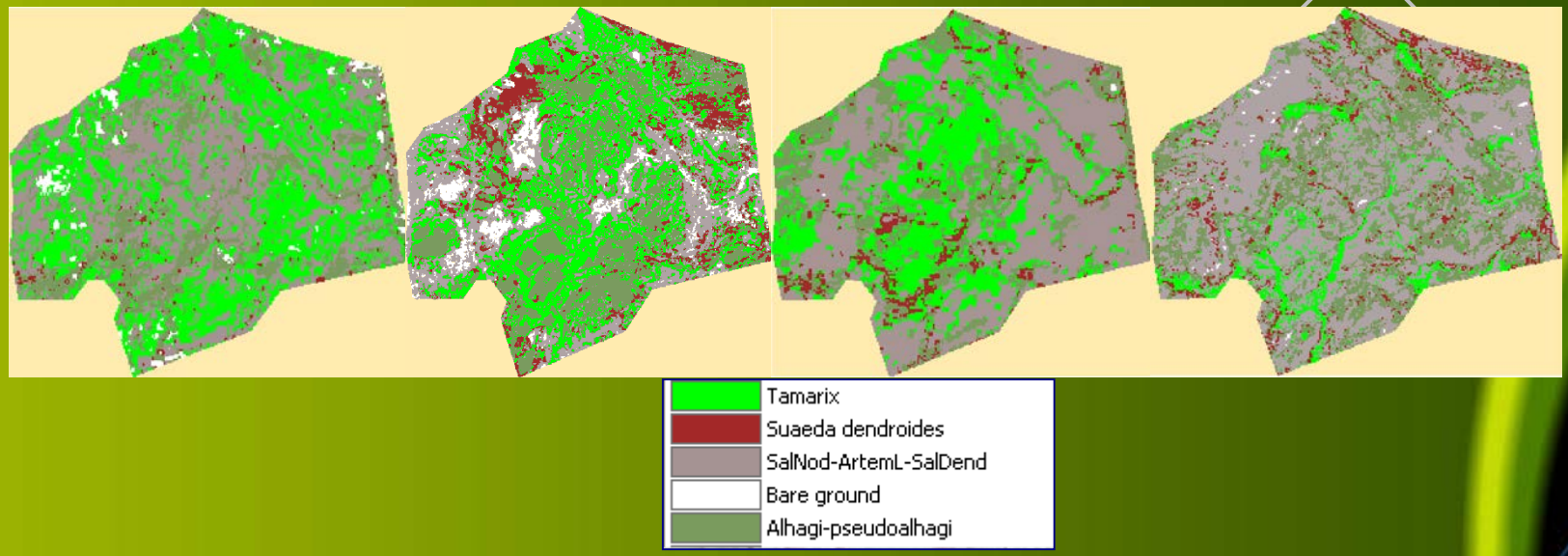


2014



Vegetation response to Industrial development

2004 2007 2012 2014



Training Management Cycle

Phase 2: Implementation

The aim of this training is to provide the community an exposure to recent advances in satellite image analysis, dealing with very high spatial resolution images.

The participants have been provided with course materials and demo versions of image analysis software. Suitable laboratory sessions are organized to complement the classroom lectures.

Collaborating with lecturers of Universities

Working with lecturers gives our education program the greatest impact.

During developing the education program, we ask lecturers to review materials for accuracy, up-to-date information, and appropriate use of terms.

Training workshop implementation

Lesson Structure: 4 stages with details

Introduction:

- Importance of rare vegetation conservation in Azerbaijan
- Information about the threats to rare vegetation, rare vegetation monitoring, species identification and Field Surveys and Data Recording
- Vegetation response to industrial development: Assessing protected area effectiveness using surrounding (buffer) areas environmentally similar to the target area

Geographic Information Systems (GIS): Knowledge Base

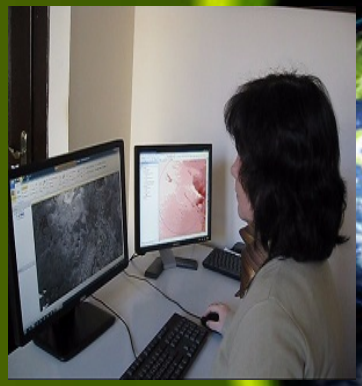
- Basic GIS introduction;
- ESRI ArcGIS: Tools and Functionality;
- Map Queries and Navigation. Spatial Filtering,
- Geospatial Analysis
- Practical work

GPS machines:

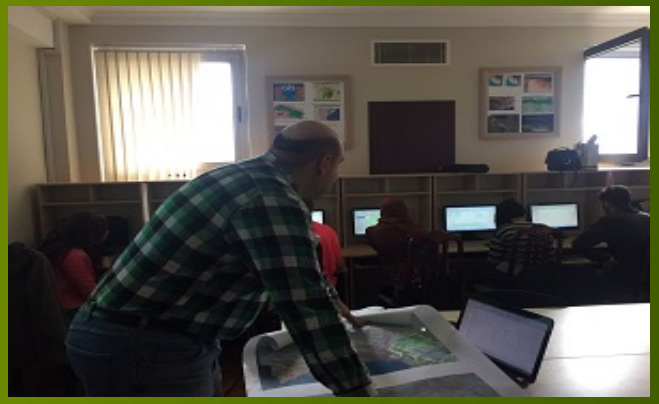
- Buttons & Pages in GPS
- Getting to know the basic GPS terms
- Set Up
- Entering a grid reference
- Routes & Information the GPS provides

Remote Sensing (RS) Technologies:

- Introduction to Remote Sensing
- Overview of Satellite Image Processing
- Satellite Image Classification



Training workshop implementation



Training Management Cycle

Phase 3: Evaluation

REVIEW OF THE EFFECTIVENESS OF THE TRAINING.

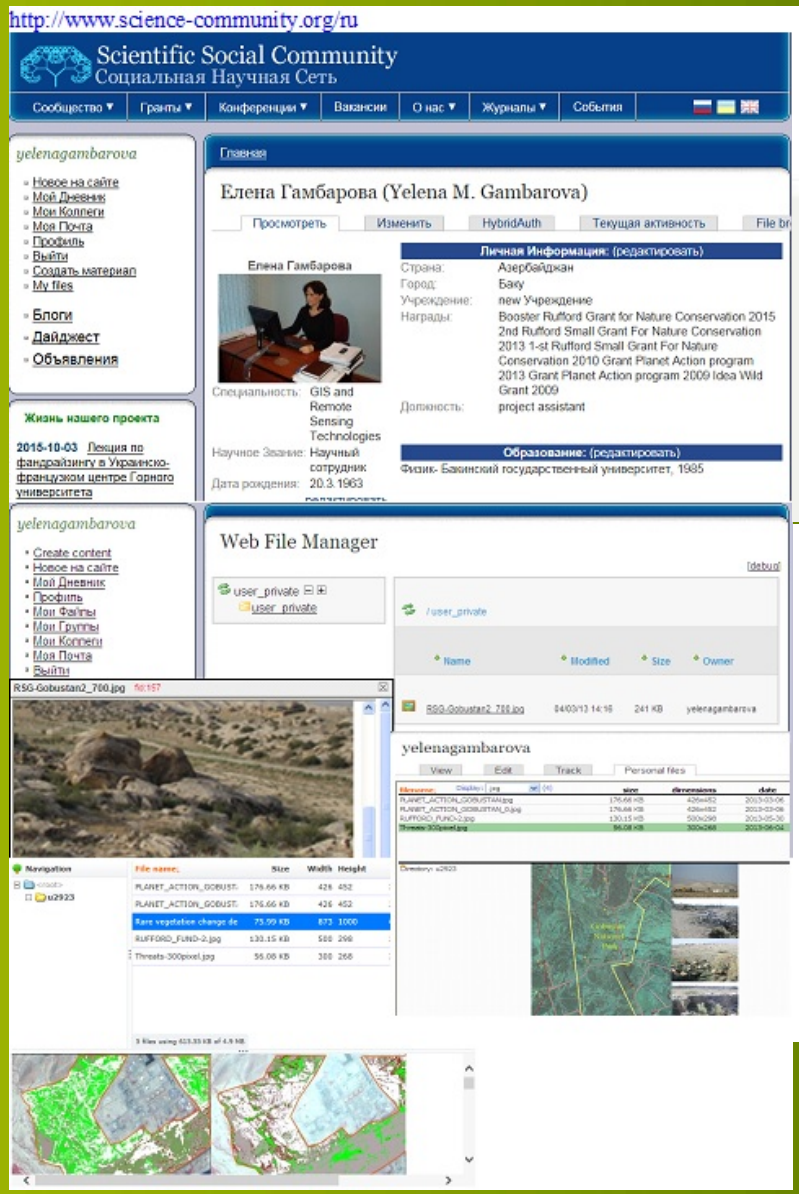
Experiences Gained, Recommendations and Lessons Learnt from the Training Workshop

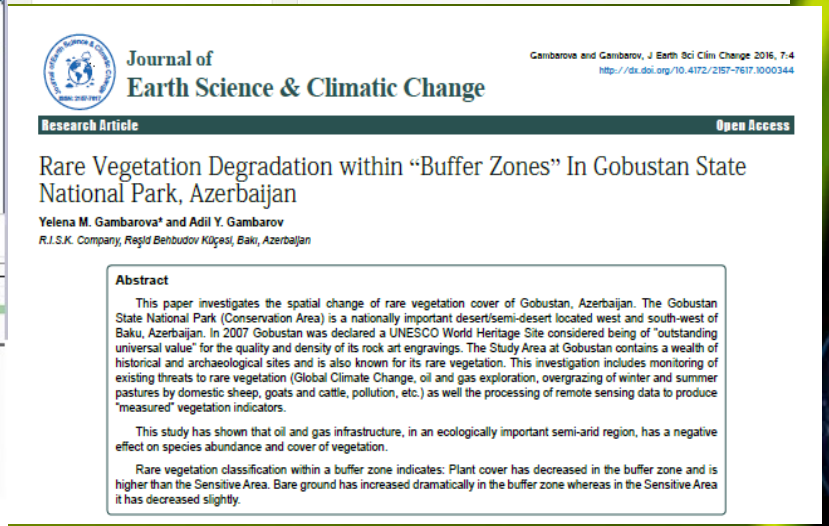
In general, the workshop appears to have been highly successful. While some tentative recommendations might be made for future training programs of this type – the evaluation capacity-building project should include two workshops: the first – at the beginning of the project, the other - at the end of the project, one year later.

Creation of Evaluation Team - A training outcome evaluation requires engagement from several stakeholders (e.g. external evaluator, representative from the training institution) and ideally they should all be represented in the evaluation team.

Results of the Training Outcome Evaluation should be measured on four levels: the event and the participants' immediate reactions, the participants' learning, the participants' job performance, and the organizational performance.

Public Awareness and Understanding for Conservation





Development and Implementation of the project have been carrying out with support from:

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www.ruffordsmallgrants.org

PLANET ACTION
Spot the impacts, engage in action

SPOT IMAGE

ESRI