



Environmental knowledge, environmental attitudes and environmental behaviours (Tests/ Questionnaires)

Development of Tests/ Questionnaires

The student questionnaire that designed to measure the intended outcomes of the conservation education program grouped into four categories:

Category: 1 Environmental Attitudes

Category: 2 Rare Vegetation Knowledge Test (Competency test used in writing to test principles, facts and other knowledge-based objectives)

Category: 3 GIS and Remote Sensing Test / Geographic Information Systems (GIS): Knowledge Base - Remote Sensing Exercises (Demonstrations of skills are particularly useful for evaluating technical skills.

Category: 4 Environmental Behaviours. Measuring Behaviour Changes (1.5 year after the training)

Part 1: Environmental Attitudes

This part of the survey is designed to determine environmental attitudes. There are no right or wrong answers, only differences of opinion. CIRCLE the letter that reflects your true feelings.

1	If a rare plant is of no use to humans, then we don't need to waste our time trying to protect it.				
	A Strongly Agree	B Agree	C Neutral	D Disagree	E Strongly Disagree
2	If I had to choose between protecting rare vegetation and creating homes for humans, I would choose to protect the area.				
	A Strongly Agree	B Agree	C Neutral	D Disagree	E Strongly Disagree
3	Industries should have to pay for any pollution they cause				
	A Strongly Agree	B Agree	C Neutral	D Disagree	E Strongly Disagree
4	There is no point in getting involved in environmental issues (rare vegetation), since governments and industries have all the power and can do whatever they want to.				
	A Strongly Agree	B Agree	C Neutral	D Disagree	E Strongly Disagree
5	I am interested in spending time working to help rare vegetation, even though I realize this will cut into my free time.				
	A Strongly Agree	B Agree	C Neutral	D Disagree	E Strongly Disagree

Part 2: Rare Vegetation Knowledge Test (Competency test used in writing to test principles, facts and other knowledge-based objectives)

This multi-alternative test consists of 10 multiple-choice questions about the distribution of rare vegetation types common in the Gobustan National Park. Each question has four answers. Please select the answer that you think is correct.

Q1 *In your opinion, which of the following definitions of the region is correct?*

- South-Eastern part of the Republic of Azerbaijan
- South-Western part of the Republic of Azerbaijan
- Southern part of the Republic of Azerbaijan
- Eastern part of the Republic of Azerbaijan

Q2 *In your opinion, what type of habitat for rare species of vegetation is presented for monitoring?*

- Desert
- Shrubland
- Desert\Semi-desert
- Grassland

Q3 *In your opinion, which of the rare types of vegetation communities to monitor?*

- Tamarix
- Suaeda dendroides/Salsola dendroides
- Salsola Nodulosa/Artemisia Lerchiana
- Alhagi pseudoalhagi

Q4 *Determine the type of soil and the degree of salinity for rare types of vegetation present in the area of interest*

- Slight salinity, clay and pale loam
- Low salinity, typically clay
- Salty pale soils
- Salty pale soils (Solonchak)

Q5 *In your opinion, which of the following threats are most severe risk of rare types of plants in the area of interest?*

- Excessive and uncontrolled livestock grazing in the area of interest
- Population growth in the area of interest
- Global Climate Change
- Development of infrastructure in the area of interest

Q6 *In your opinion, how many years you need to recover a rare species of plants present in the area of interest, in the case of degradation?*

- 1 year
- 1-3 years
- 3-5 years
- 10-12 years

Q7 *In your opinion, which of the following rare types of plant communities were degraded in the period 2004-2016?*

- Tamarix
- Alhagi pseudoalhagi
- Suaeda Dendroides
- Salsola Nodulosa/Artemisia Lerchiana/ Salsola Dendroides

Q8 *In your opinion, which of the following rare types of plant communities have not been degraded in the period 2004-2017?*

- Alhagi pseudoalhagi
- Tamarix
- Suaeda Dendroides
- Salsola Nodulosa/Artemisia Lerchiana/ Salsola Dendroides

Q9 *In your opinion, in what parts of the area of interest classification results showed degradation of the rare types of vegetation?*

- In the northern part of the area of interest
- In the southern part of the area of interest
- In the "buffer" zone
- In the north-western part of the area of interest

Q10 *In your opinion, in which parts of the zone of interest classification results showed an increase in "Bare ground"?*

- In the northern part of the zone of interest
- In the southern part of the zone of interest
- In the "buffer" zone
- In the north-western part of the zone of interest

Part 3: GIS and Remote Sensing Test / Geographic Information Systems (GIS): Knowledge Base - Remote Sensing Exercises (Demonstrations of skills are particularly useful for evaluating technical skills.

	A	B	C	D
1	1	Geographical Data Base design and creation of Specialized GIS Environment	Test Number	Method
2	1.1	Raster Georeferencing		
3	1.1.1	Establish control points	001, 002	Demo
4	1.1.2	Input the known geographic coordinates of these control points	003	Demo
5	1.1.3	Choose the coordinate system and other projection parameters: Projected Coordinate System: WGS_1984_UTM_Zone_39N Projection: Transverse_Mercator	004, 005	
6	1.2	Geographical Data Base		
7	1.2.1	Raster Georeferencing	006	Demo
8	1.2.2	Creation of Data Base consisting of relevant spatial data: Orthorectified satellite multi-spectral data, ancillary data: various spectral Indexes, DEM and its derivatives as well as vector Topographical data and Map template.	007, 008, 009, 010	Demo

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	A	B	C	D
1	2	Field Study and Data Recording	Test Number	Method
2	2.1	Buttons & Pages in your GPS	015	Demo
3	2.2	Getting to know the basic GPS terms	016	Demo
4	2.3	Set Up	017	Demo
5	2.4	Entering a grid reference	018	Demo

1. GDB design 2. Field Study 3.Imc ...

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	A	B	C	D
1	3	Image Statistical Analysis	Test Number	Method
2	3.1	Redefinition/Clarification of AOI (Area of Interest) and Training/test sites	019, 020	Demo
3	3.2	Ground-truth Each training set corresponds to a certain vegetation type on the ground	021	Demo

3. Image Statistical Analysis 4. Rar ...

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E2 : PASSED

	A	B	C	D
1	4	Rare Vegetation Classification	Test Number	Method
2	4.1	Creating training and test signatures from imagery	022	Demo
3	4.2	Maximum likelihood classification	023	Demo
4	4.3	Classification accuracy assessment	024	Demo

4. Rare vegetation classificati

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F3 : Not Accepted

	A	B	C	D
1	5	Change detection	Test Number	Method
2	5.1	Comparison of NDVI values within "buffers zones"	025	Demo
3	5.2.	Comparison of NDVI values on North-West-East-South parts of the Study area as a single whole	026	Demo

5. Change Detection

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Part 3: Environmental Behaviours

Table. Measuring Behaviour Change

Measurement instrument	Pre/Post	Outcome Indicator
Questionnaires	✓	Respondents list behaviours that they began after the program.
Observations	✓	Observer tests for the presence or absence of a number of behavioural criteria (i.e. classroom recycling program).
Interviews		Open-ended questions prompt interviewees to remark on changes to their behaviour.
Job Shadow Performance Testing	✓	This tool is a test that allows the individual conducting the follow-up to determine if the trainee remembers and applies the lessons from the training into their daily life at the workplace.

This section of the survey is designed to find out what things you do about the environment. There are no right or wrong answers, so don't worry if you have never done any these things, and don't worry if all your tick marks end up in the 'N' column. We ask only that you be truthful as you answer these questions.

Mark the answer that is closest to the right answer for you:

N - stands for never or no R – stands for rarely (three or four times a year)

S – stands for sometimes (three or four times a month)

U – stands for usually, or yes (most of the time you have the chance)

	N	R	S	U
I talk with friends and colleagues about helping rare types of vegetation in Gobustan				
I am a member of an environmental club or group				
I appeal to responsible persons and politicians with questions about protection of rare types of vegetation in our country				
I work on outdoor projects to improve the environment				
I read literature on the environment (including flora and fauna in Azerbaijan) for entertainment only				

Part 4: Measuring Behaviour Changes (1.5 years after training)

Please indicate whether you have completed each of the job tasks taught in the course. If you indicate that you have not completed a task, you will be asked in the following question to identify why not.

A. Implementation at my workplace practices resulting from the course.

Yes _____ No _____

If **not**, please select why not from the following list:

- You have not had the opportunity to perform the task*
- Your unit does not have the software and equipment that the graduate was trained on*
- You do not have the skills or knowledge to perform the task*

B. I am continuing work on the three problems that were presented during the previous course:

(1) Definition of threats of threats to rare vegetation types in Gobustan:

Yes _____ No _____

If **not**, please select why not from the following list:

- You have not had the opportunity to perform the task*
- You do not have the skills or knowledge to perform the task*

(2) Identification of threats of rare types of vegetation in situ using GIS and Remote Sensing technologies:

Yes _____ No _____

If **not**, please select why not from the following list:

- Your unit does not have the software and equipment that the graduate was trained on*
- You do not have the skills or knowledge to perform the task*

(3) Public relations with stakeholders on conservation of rare vegetation types:

Yes _____ No _____

If **not**, please select why not from the following list:

- *You have not had the opportunity to perform the task*
- *Someone other than you performs this task at your unit*

C. I am involved in the work on projects that contribute to improving the environmental situation in our country

Yes _____ No _____

If **not**, please select why not from the following list:

- *You have not had the opportunity to perform the task*
- *Someone other than you performs this task at your unit*