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DEUTSCHE ZUSAMMENARBEIT

Environmental Education and Communication in Mongolia

Outdoor Environmental Education Workshops for Youth

Steffen Schülein, 11/2021

implemented by
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GOVERNMENT OF MONGOLIA
MINISTRY OF ENVIRONMENT AND TOURISM

Introduction

This Environmental Education Workshop Concept was developed in the framework of the GIZ SPACES project and based on needs assessment, MOVE manual and consultations with international and national project staff during the first phase of the project.

The outcome is a series of **5 outdoor workshops** that offer suggestions for practical environmental education for youth groups as school classes, young ranger programmes etc. The workshops combine "action learning" and "fun-learning" through a playful and practical learning-by-doing approach, rather than an academic biology-textbook approach. The content is developed based on experiences of outdoor workshops with youth groups / youth camps in several countries as Germany and Georgia and building upon existing activities in Mongolia.

The concept involves several topics of relevance for biodiversity conservation and improvement of the environmental situation in Mongolia and specifically in relation to the National Parks and Protected Areas.

Topics include waste management, trail marking and sign posting, construction of small-scale infrastructures (huts/hides), small-scale erosion prevention actions (soil conservation) and fencing/replanting of test sites for natural resource regeneration (grassland / forest).

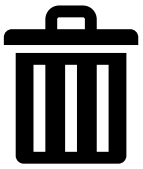
The practical activities are flanked with theoretical learning through presentations and videos about environmental topics as waste & pollution, climate change, flora and fauna biodiversity, soil conservation, watershed management, tree planting and grassland regeneration at local and global level.

Implementation of workshops can be done by blocks as suggested or in combination of several topics and corresponding methods. Depending on the specific workshop location, natural context, participants and qualifications of facilitators, the activities can be adapted and modified accordingly. The workshops can be shortened to a weekend (3 days) or extended to a full week (7 days) or even more days, combining elements of several workshops. However, 3-4 days are believed to be optimal.

Two to three (or more) specialized facilitators (from an NGO or university) should conduct the workshops. They should be accompanied by National Park staff / rangers and by teachers (if it is a school group).

Content: Suggested Outdoor Workshops for Youth

1.) Clean-up campaign and waste management awareness training.



2.) Trail marking, signposting and orientation in Nature, plus First Aid training.

3.) Construction of a small shelter or observation hide with local, natural building materials and Nature observation training.

4.) Implementation of small-scale erosion gully- and slope protection and planting measures to prevent loss of soil and to improve climate change resilience.

5.) Fencing of a small patch of overgrazed meadow or slope for grassland regeneration and planting of trees (on a separate plot), plus simple biodiversity monitoring training.

Structure

The proposed workshops are all conceived as outdoor workshops / youth camps. The workshop concepts are structured in the following way:

Purpose

- The objective of the workshops is to combine useful and hands-on Nature Protection actions with theoretical and multi-media environmental learning and fun group games.
- At the same time useful benefits as clean-up, trail marking, small scale infrastructures are created for the Protected Areas, in which the workshops will be implemented.
- In order to be more attractive for Youth, a variety of activities is offered and theoretical, practical tasks and play-time are balanced.
- Additionally, the workshops introduce the National Parks and the challenges of Nature Conservation to participants, which will increase their motivation to protect them.

Participants

- up to 20-30 students/youth (approx. 11-16 years old) e.g. a school class, a junior rangers team or any other youth group.

Materials

- For each workshop, the required materials are listed. If construction related tasks are part of workshop activities, facilitators should be capable of handling the required tools.

Process

- The workshops are structured as outdoor camps including camp- and food preparation.
- The content of workshops needs to be adapted to the proposed workshop location / area.
- The process of each workshop is described in text and time planning schedule.
- The workshops combine practical small scale (construction) works, theoretical element as presentations or movie screenings and group games. Games are described separately in Annex.
- Materials, tools and presentations need to be adapted to the tasks and to the participants group for each workshop by facilitators.
- Generally, all workshops start with ½ day for travel, camp preparation, welcome by the PA staff, presentation of tasks and formation of groups. An early start is recommended depending on travel distances. If distances are big, it may be appropriate to allocate one additional day for the workshop. After introductory games and ice-breakers, the practical elements / works can start. Food is prepared by participant groups in turns. Evenings are used for presentation, learning exercises and movie screening. If the tasks cannot be undertaken by many people at the same time, other groups can be active in land art, camp beautification exercises or games. Practical work sessions are alternated by breaks and game sessions and competitive elements. At the end, ½ day is allocated for packing, cleaning up of camp and return travel.

Time Schedule

- For each workshop, a tentative time schedule is presented.

Pedagogical Resources

- Suitable Methodologies from MOVE Manual and Tool Box, Games, References and Video links are given for each workshop;

Conclusion & Remarks

- A further discussion of the concept for each workshop is encouraged, in order to be well adapted to the local context.
- Elements of various workshops are to some extent interchangeable.
- The workshops have to be adapted to the capacities of the facilitators, the natural context, the location of the camp as well as to the available time and funds.

Workshop 1: Clean-up Campaign and Waste Management

Purpose / Objective: Cleaning-up of a littered area, i.e., a tourist area / camp site and learning about waste pollution and waste management. Learning about different categories of waste, recycling and waste management. Making and installing creative signboards for “No littering!”.

Expected Environmental Learning

a) Understanding that waste does not belong into Nature, sensitization what are the impacts if an area is littered and awareness that cleaning is a big effort (=> people who have collected waste once will not throw it into Nature again).
b) Learning about different sorts of waste, decomposition periods, harmfulness in the environment for water, soil and animals, raw materials in waste;
c) Learning about global problems of pollution with solid waste and waste management (videos, case studies e.g., Waste Life Cycle, Ocean Pollution, Waste Export etc.)
d) Learning about different technologies of Waste Management (avoidance, collection, combustion, sorting of waste, recycling, disposal and related risks),
e) Learning about the Protected Area / Surrounding area of the Camp-Site

Participants:

- up to 20-30 students/youth (approx. 11-16 years old) e.g., a school class, a junior rangers’ team or any other youth group.

Number of facilitators:

- 2-3 facilitators (for camp organization, presentations, input on topic, wood work techniques, excursions, first aid, supervision of food-preparation, participation in cleaning activities)

Materials:

Nr.	Activity	Material and Equipment
1	Games	Volleyball, Frisbee, Spikeball Kit, Flags on Pole, Wood Skis (as in Annex)
2	Clean up action	Plastic bags to collect waste, Working Gloves, Truck to remove collected waste (to be hired)
3	Teaching Session	Video presentation equipment/laptop, projector and films (indoor or outdoor as applicable), Group Tent or big tarp (if outdoor), generator for electricity / solar panels and batteries?
4	Camping & Cooking	Kitchen tent, camping equipment (tents, matrasses, sleeping bags), cooking equipment, food for 3 lunch and 2 dinner incl. barbecue
5	Emergency / Accident	First Aid Kit

Process:

- The workshop starts with travel to the camp site. If travel time is big, an early start is recommended. After setting-up of camp, welcome by the PA staff, presentation of tasks and group formation is done. An introductory game should be made if time allows. On first day midday, lunch packages are handed out.
- On **first day** afternoon, a presentation is given about different sorts of waste and decomposition periods, harmfulness to the environment, impact on water pollution, hazardous materials etc. (The presentation needs to be prepared in Mongolian language by facilitators beforehand). This can be followed by introductory games and other games (see Annex). In the evening, after dinner, screening of movies related to global and local waste problems (e.g. Microplastic, pollution of oceans etc) is suggested. Some examples are presented in reference section of this workshop description. (Power supply to be ensured with generator or solar & battery equipment.). For evening meals and lunch, food is prepared by participant groups in turns, ingredients are purchased/brought by workshop organizers.
- On **second day** morning, practical clean-up works in groups can start. Explanation about how to do waste collection is given, delimitation of terrain is made and handing out gloves and collection bags etc. is done. The exercise is continued throughout the day (including lunch break). At the end of the day collected waste is loaded onto a truck. Photo documentation of the process should be done. In the evening, successful examples of waste management can be presented and movies about waste management screened. A barbecue could be an option for second day evening. Whenever there is some free time, group games can be organized.
- On **third day** morning, signboards for “no littering” are constructed by participants, requiring some wood work and painting, and installed at relevant spots. After lunch packing, cleaning up of camp and return travel.

Tentative time schedule:

WS1	Day 1	Day 2	Day 3
Morning Session	• Travel to site, Arrival of participants • Welcome by Protected Area Management and Presentation of the Protected Area / National Park • Camp organization • Division into groups	• Warm up exercise/game • Introduction of the task: clean-up of the area which is littered by visitors / picknickers etc. • Collection of waste	• Self-made design, construction and installation of signboards against littering (materials to be brought by project • Production of “No littering” sign-boards • Photo-documentation of results / Group photos
Lunch Break	• Lunch package	• One group (3-4 students) responsible to cook /prepare lunch.	• One group (3-4 students) responsible to cook /prepare lunch.
Afternoon Session	• Presentation and introduction of topic: “different sorts of waste and decomposition periods, harmfulness to the environment”,	• Continuation of waste collection activities • Loading of truck, • Photo-documentation of results. • Games if time allows	• Wrap up of Camp / Departure. • Travel home

WS1	Day 1	Day 2	Day 3
	impact on water pollution, hazardous materials etc • Introductory games		
Dinner Break	• One group (3-4 students) responsible to prepare dinner.	• Barbecue or dinner preparation by group	
Evening Session	• Movie-Night about Waste Problems / e.g. Plastic / Microplastic	• Presentation on Waste Management / challenges of waste management / how to organize community waste management (case studies) • Video Session / films about waste management worldwide	

Example of a cleaning campaign workshop with a school class in a Natural Monument Site in Georgia:





Source: Steffen Schuelein (2009)

Suitable Methodologies from EEC Toolbox: (see toolbox and MOVE Manual)

- Pairwise Interview
- Participant's Expectations
- Guiding the Blind
- Participatory Evaluation

Group games: (see Annex)

- "Spoon-and-Egg" Race (2 teams)
- "Wood-Ski-Race" (teams of 4)
- "Capture the Flag" (2 teams)
- Volley Ball (in circle or with net)
- Frisbee (in circle)

References: Literature / Videos:

- UNDP-Mongolia: Leveraging behavioural Nudges to improve waste collection at Gorki-Terelj National Park, Mongolia (2019)
- SPACES (2020): Environmental Education and Communication in Mongolia. A toolbox of Methods and Materials, Games and Exercises;
- Video: How Long It Takes for Trash To Break Down https://www.youtube.com/watch?v=iS4VDu98Qa8
- Video: Plastic Disaster – An ocean Pollution Documentary https://www.youtube.com/watch?v=1acjqraXMhs

Conclusion & Remarks:

- Clean up activities are presently implemented in Mongolia with Youth groups. Mostly, these are ½ day to 1-day activities with the objective to physically remove the litter laying around. The difference and added value of the suggested workshop is that the physical activity is enriched with multimedia and learning sessions and that the group process is enhanced through games and camping & cooking activities. Even if the amount of waste collected is similar to the classic 1-day clean-up action, the added value of the workshop is a better understanding/awareness of the waste management problem and potential solutions. The production of creative "no littering signs" is an additional plus.

Workshop 2: Trail Marking, Signposting, Orientation in Nature and First Aid

Purpose / Objective: Trail marking exercise, production of signboards and learning about orientation in Nature and behaviour in case of accidents, Rescue and First Aid training.

Expected Environmental Learning

a) Development of a sense for orientation in Nature. landmarks, stars & sun, maps, compass, GPS navigation;
b) Learning how to define and mark trails (visible from both directions) and which information is required on signboards and where to put them.
c) Learning about the Protected Area / Surrounding area of the Camp-Site, learning about different zones of Protected Areas (IUCN categories)
d) Learning about risks in Nature and prevention of accidents, first aid training

Participants:

- up to 20-30 students/youth (approx. 11-16 years old) e.g. a school class, a junior rangers team or any other youth group.

Number of facilitators:

- 2-3 persons (for camp organization, presentations, input on topic, wood work techniques, excursions, first aid, supervision of food-preparation, participation in cleaning activities); at least 1 qualified specialist on First Aid Training (to be subcontracted).

Materials:

- List of required Materials:

Nr.	Activity	Material
1	Games	Volleyball (+Net), Frisbee, Spikeball Kit, Flags with wooden pole, Maps for orientation race, maps and treasure for treasure hunt, Wood Skis
2	Treasure Hunt / orientation Race	Maps of the area (different maps) If with using GPS: 1 GPS device per group / smart phone, task list
3	Trail Marking	Paint (different colours e.g. Red & White, several pots for teams) and several brushes and cleaning liquid (acetone). Tools and wood or other materials for directional signs, gloves
4	Teaching Session	Video presentation equipment/laptops, projector and films (indoor/outdoor as applicable), generator for electricity / solar panels and batteries

Nr.	Activity	Material
5	Camping & Cooking	camping equipment, cooking equipment, food for 4 lunch and 3 dinner incl. barbecue,
6	First Aid Training	First Aid Kit (specific facilitator required); plaster, bandages for experimentation

Process:

- The workshop starts with ½ day for travel, setting-up of camp, welcome by the PA staff, presentation of tasks and group formation and introductory games (see Annex and MOVE manual and Tool Box). On first day midday, lunch packages could be handed out to avoid preparation of lunch. An early start is recommended if travel distance is big.
- On **first day** afternoon, a presentation and introduction to the use of maps and GPS devices can be given. (GPS devices or mobile phones can be used[1]). With objects distributed in the area in prior, a treasure hunt (based on principles of Geocaching) can be organized, requiring participants to locate the hides/treasures (e.g. sweets) based on GPS coordinates. In the evening, after dinner a presentation and introduction of topic of "orientation in Nature", how to do trail marking, how to make and install signboards is given. (The presentations need to be prepared in Mongolian language by facilitators beforehand; power supply to be ensured with generator or solar & battery equipment.). For evening meals and lunch, food is prepared by participant groups in turns.
- On **second day** morning, the trails to be marked are identified by doing an orientation race (or a transect walk) by groups. In the afternoon after lunch break, the construction of signboards and directional signs can start. Materials need to be made available to participants' groups. In the evening, successful examples of waste management can be presented and movies about waste management screened. Whenever there is some free time, group games can be organized.
- On **third day** morning, the trail marking exercise can start. This includes marking the selected trails with paint and installation of signboards. The groups not involved in marking exercise can do some beautification of camp site / land art with natural materials. (see pictures for examples). Photo documentation of the process should be done. The exercise is continued after lunch break. In the evening a presentation of the National Parks and Protected Areas of Mongolia could be given including explanations of different categories and zoning concepts. A participation of rangers is encouraged. Afterwards, music and games are suggested. A barbecue could be an option for third day evening.
- On **fourth day** morning a First Aid training is made. This includes an introduction to risks in Nature and emergency behaviour and a First Aid Training. Experimenting with First Aid Material is done until lunch. After lunch, packing, cleaning up of camp and return travel.

[1] If GPS and Smart Phone devices are not available to every group, topographic maps and compass can be used. Also different geographic information tools can be compared.

Time Schedule WS-2:

WS-2	Day 1	Day 2	Day 3	Day 4
Morning Session	• Travel to site, Arrival of participants • Welcome by Protected Area Management and Presentation of the Protected Area / National Park • Camp organization	• Warm up exercise/game • Division into groups • Orientation race. (with GPS or with Map) e.g. along the trails) to be marked) to get to know the area	• Marking of trail (already identified trail by rangers) • Beautification of camp site / land art with natural materials (for those who are not marking)	• Introduction to risks in Nature and emergency behaviour / First Aid Training • Experimenting with First Aid Material
Lunch Break	• Lunch package	• One group (3-4 students) responsible to cook /prepare lunch.	• One group (3-4 students) responsible to cook /prepare lunch.	• One group (3-4 students) responsible to cook /prepare lunch.
Afternoon Session	• Introductory game • Introduction to map reading, GPS navigation, Geocaching • Small treasure hunt using GPS	• Self-made design, construction and installation of directional signboards • Games	• Continuation of marking and signboard production • Continuation of Beautification of camp site / land art with natural materials • Photo-documentation of results / Group photos	• Wrap up of Camp / Departure. • Travel home
Dinner Break	• One group (3-4 students) responsible to prepare dinner.	• One group (3-4 students) responsible to prepare dinner.	• Barbecue or dinner preparation by group	
Evening Session	• Presentation and introduction of topic: orientation in Nature, trail marking, signboards	• Presentation of National Parks in Mongolia, introduction to the concept of zoning of NPs and different IUCN categories	• Games, Music	

Example of a trail construction and trail marking workshop with a school class in a National Park Buffer Zone in Georgia (Algeti NP):

Source: Steffen Schuelein (2009)

Suitable Methodologies from EEC Toolbox:

- Pairwise Interview
- Participant's Expectations
- Find the treasure
- Participatory Evaluation

Other games:

- Treasure Hunt
- Wood Ski Competition

- Orientation Race with maps
- “Capture the Flag” (2 teams)
- Volley Ball (in circle or with net)
- Frisbee (in circle)

References: Literature / Videos:

- SPACES (2020): Environmental Education and Communication in Mongolia. A toolbox of Methods and Materials, Games and Exercises;
- Hiking trails and Marking / Signboards https://commons.wikimedia.org/wiki/Category:Hiking_and_footpath_signs_in_Switzerland
- Explanation of How to do trail marking: http://hike-mst.org/trailmark.pdf
- Introduction to Geocaching (GPS Treasure Hunt): https://www8.garmin.com/specs/geocaching.pdf
- Introduction to Protected Areas: https://www.youtube.com/watch?v=Vr0_e6mWf4A
- IUCN Categories of Protected Areas: https://www.iucn.org/theme/protected-areas/about/protected-area-categories,
- Planning of PAs: https://www.youtube.com/watch?v=AikRqaKLiMM
- First Aid Outdoor Training Video: https://www.youtube.com/watch?v=hnjVsJdLeCk
- First Aid Training in Mongolia: https://sosmedica.mn/en/our-services/first-aid-training/

Conclusion & Remarks:

This workshop offers an introduction into the following topis: orientation in Nature, use of maps and GPS, trail marking and directional sign production and an introduction into First Aid for outdoor activities. Facilitators should have experience with the offered techniques and for the First Aid training qualified local specialists will have to be subcontracted.

The workshop suggests a variety of activities from learning orientation with landmarks and natural features, maps, GPS devices. Especially for children growing up in cities this is an interesting qualification and exposure to Nature. Not every area will be suitable for trail marking, so this workshop may only be carried out in suitable areas. Trail marking is a lot of fun and can be done in areas where applicable and where the Protected Area Administration wants to offer a visitor trail. Otherwise, the camp beautification / land art component, the orientation race and/or the First Aid component may be extended (and the trail marking left out). The learning sessions can as well include a presentation of the Protected Areas of Mongolia (by the PA administration) and an introduction into the IUCN categories and zoning concept of Protected Areas.

Workshop 3: Construction of a small shelter or an observation hide and animal observation / identification)

Purpose / Objective: Construction of a shelter or an animal observation hide (various options) and learning about animal observation and flora & fauna biodiversity.

Expected Environmental Learning

a) Construction of an animal observation infrastructure, or a shelter, camp beautification & land art infrastructures
b) Learning how to work with tools, construction principles
c) Learning about the Protected Area / Surrounding area of the Camp-Site
d) Learning about animals in the area, learning about, animal footprints, bird songs, general flora and fauna biodiversity
e) Learning how to observe animals, using binoculars, as well as apps for recognition of birds / plants etc.

Participants:

- up to 20-30 students/youth (approx. 11-16 years old) e.g. a school class, a junior rangers team or any other youth group.

Number of facilitators:

- 2-3 persons (for camp organization, presentations, input on topic, shelter construction and wood work techniques, supervision of food-preparation, participation in cleaning activities); at least 1 qualified specialist on shelter construction. Advantage if 2 accompanying teachers can handle tools and be involved in construction activities.

Materials:

Nr.	Activity	Material
1	Games	Volleyball, Frisbee, Flag with wooden pole
2	Animal Observation	Several Binoculars, Photo camera with Zoom/Macro, Apps for recognition of plants, animals, Charts of local animal traces etc.
3	Shelter construction	Materials and tools for shelter construction, construction wood (construction planning to be done by facilitators), First Aid Kit, PPE for facilitators / rangers
4	Teaching Session	Video presentation equipment/laptops, projector and films (indoor/outdoor as applicable), Smartphone apps for plant and

Nr.	Activity	Material
		animal identification, Logbooks for biodiversity competition, DVDs of movies to be screened e.g. Planet Earth/Our Planet, Andy Goldsworthy, etc. Generator for electricity / solar panels and batteries?
5	Camping & Cooking	Camping equipment, cooking equipment, food for 4 lunch and 3 dinner incl. barbecue

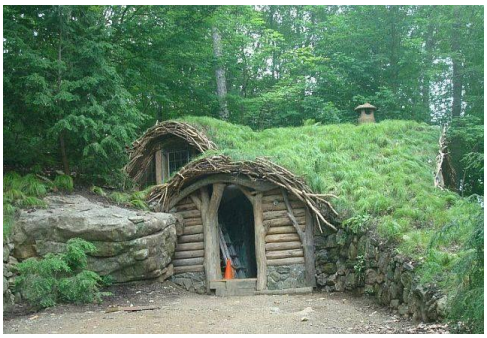
Process:

- The workshop starts with ½ day for travel, setting-up of camp, welcome by the PA staff, presentation of tasks and group formation and introductory games (see Annex and MOVE manual and Tool Box). On first day midday, lunch packages could be handed out to avoid preparation of lunch. An early start is recommended if travel distance is big.
- On **first day** afternoon, a presentation and introduction of the tasks for shelter construction and for camp beautification/land art is given, followed by the preparation of materials for the construction tasks. This can be followed by games (see Annex). For evening meals and lunch, food is prepared by participant groups in turns. In the evening, after dinner, a presentation and introduction of topic of animal observation, animal footprints etc is made. Movie screening of Planet Earth etc can be done. Also, a film about "land art" e.g. Andy Goldsworthy "Rivers and Tides" may be screened, to motivate participants for land art and this specific perspective on Nature. (The presentations need to be prepared in Mongolian language by facilitators beforehand; DVDs needs to be bought and some explanations in Mongolian translated; power supply to be ensured with generator or solar & battery equipment.).
- On **second day** morning, the construction of the shelter / animal observation hide is started. This will require 2-3 adults (incl. teachers) to lead the process and at the same time show participants how to use the tools. The groups not involved in marking exercise can do some beautification of camp site / land art with natural materials e.g. building a fireplace etc. (see pictures for examples). In the evening, a presentation of National Parks in Mongolia and their biodiversity, incl. rare and red-list species and a presentation of traditional ger / Mongolian shelter construction (awareness for local traditional knowledge) is suggested.
- On **third day** morning, the shelter construction and camp beautification and land art exercise can be continued. Photo documentation of the process should be done. The exercise is continued after lunch break. In the evening, a presentation of Smart phone apps for identification of animal traces, birds and plants is done. Afterwards, music and games are suggested. A barbecue could be an option for third day evening.
- On **fourth day** morning, a session to experiment with animal and plant identification apps (for smart phones) is made. A group competition who identifies the most animal species within a given area in a given time slot (e.g., 2h) can be organized. Winners may get small prizes (to be prepared in advance). (The exercise is also possible without smart-phone, however might be less interesting for Youth (see EEC toolbox: "booklet of plant species", "small zoo"). After lunch, packing, cleaning up of camp and return travel.

Time Schedule WS-3:

WS-3	Day 1	Day 2	Day 3	Day 4
Morning Session	• Travel to site, Arrival of participants • Welcome by Protected Area Management and Presentation of the Protected Area / National Park • Camp organization • Division into groups	• Warm up exercise/game • Construction of shelter (in selected area by PA administration) • Beautification of camp site / land art with natural materials (for those not involved in shelter construction)	• Continuation of construction of shelter • Continuation of camp beautification • Games if time allows	• Experimenting with apps and identification of animal traces, biodiversity observation. • Group Competition who identifies / counts most species of birds / mammals / amphibians / insects in 2h time in radius of 1km.
Lunch Break	• Lunch package	• One group (3-4 students) responsible to cook /prepare lunch.	• One group (3-4 students) responsible to cook /prepare lunch.	• One group (3-4 students) responsible to cook /prepare lunch.
Afternoon Session	• Introductory game • Preparation of construction materials for the shelter • Preparation of other materials (for camp beautification)	• Continuation of construction of shelter • Continuation of camp beautification • Games if time allows	• Continuation of marking and signboard production • Photo-documentation of results / Group photos • Games if time allows	• Wrap up of Camp / Departure. • Travel home
Dinner Break	• One group (3-4 students) responsible to prepare dinner.	• One group (3-4 students) responsible to prepare dinner.	• Barbecue or dinner preparation by group	
Evening Session	• Presentation and introduction of topic: animal observation, animal footprints, species • Screening of Movies / e.g. Planet Earth	• Presentation of National Parks in Mongolia and their biodiversity, incl. rare and red-list species • Presentation of traditional ger / Mongolian shelter construction	• Presentation how to work with bird, botanical etc identification apps on smart phones • Games, Music	

Example of shelters and hides for animal observation:



Source: Steffen Schuelein and various www

Suitable Methodologies from EEC Toolbox (see Toolbox and MOVE Manual):

- Pairwise Interview
- Participant's Expectations
- Guiding the Blind
- Nature Camera
- Memory Game on Wildlife
- Small Animal Zoo
- Participatory Evaluation

Other games (see description in Annex):

- "Capture the Flag" (2 teams)
- Spikeball
- Wood Ski Competition
- Volley Ball (in circle or with net)
- Frisbee (in circle)

References: Literature / Videos:

- SPACES (2020): Environmental Education and Communication in Mongolia. A toolbox of Methods and Materials, Games and Exercises;
- Shelter construction: Video Bushcraft Shelter (Earth/Stones) https://www.youtube.com/watch?v=Qxf1-N44lOs; Bushcraft Shelter Wood https://www.youtube.com/watch?v=lUd7_4XANfg, Video: Building a frame cabin from scratch https://www.youtube.com/watch?v=j37XOW-XMqI
- Video: Insects for kids https://www.youtube.com/watch?v=PZtT9SLOzYU and https://www.youtube.com/watch?v=rKQfJFAHW8Q
- Video: Our Planet | Frozen Worlds | FULL EPISODE https://www.youtube.com/watch?v=cTQ3Ko9ZKg8
- Video: Our Planet Fresh Water https://www.youtube.com/watch?v=R2DU85qLfJQ
- Video: Our Planet: From Deserts to Grasslands https://www.youtube.com/watch?v=XmtXC_n6X6Q
- Video: Our Plant: Forests https://www.youtube.com/watch?v=JkaxUblCGz0
- Video: Land Art of Andy Goldsworthy Trailer "Rivers and Tides" https://www.youtube.com/watch?v=LrGMkXukeEo; https://www.youtube.com/watch?v=vWcebVXNrDw
- Plant ID identification app: Video: https://www.youtube.com/watch?v=7rgJw9sY9cw; Test of apps: https://www.youtube.com/watch?v=zdl60HyyQ0o (Plant ID apps to be tested for Mongolia)
- Video: Birds of Mongolia https://www.youtube.com/watch?v=csdJyx3vSgM
- Bird ID Apps: Birding Apps test: https://www.youtube.com/watch?v=zdl60HyyQ0o
- Merlin Bird ID App, How to use Merlin App: https://www.youtube.com/watch?v=csdJyx3vSgM; https://www.youtube.com/watch?v=X-8QDpq8of8
- Identification of trees: https://www.youtube.com/watch?v=nO67Jd_6KEw

Conclusion & Remarks:

This workshop offers an introduction into the following topis:

- Practical training in construction of shelters and/or animal observation hides. The type of construction depends on the selected location, the available or brought materials.
- Knowledge of flora and fauna biodiversity and observation (classic with binoculars and with apps. A small biodiversity competition gives an incentive to test the learnings on the ground around the camp.
- “Land Art” exercises can help develop an appreciation for Nature in a micro context and in a playful way. The camp beautification tasks are generally well appreciated by Youth groups.
- The need to translate videos and other content into English may be needed, however some of the videos and apps may also work without English language if the explanation is given in Mongolian (a facilitator may be required who understands the content in English).

Workshop 4: Construction of small-scale erosion protection and soil conservation in watersheds

Purpose / Objective: Construction and implementation of small-scale erosion prevention measures (e.g., in erosion gullies) and learning about soil and water conservation. Use of locally available materials for gully protection, slope stabilization, replanting etc with small scale nature-based solutions. Learning about watershed management approach and climate change mitigation and adaptation.

Expected Environmental Learning

a) Development of awareness for erosion problems, soil loss and soil and water conservation in context of climate change, recognizing erosion problems and loss of soil;
b) Learning about watershed and landscape conservation approaches;
c) Learning how to construct soil conservation measures e.g. gully protection, contour bunding, slope protection, replanting of erosion prone areas;
d) Implement small scale solutions for erosion protection and soil conservation measures with local materials and gain practical knowledge;
e) Learning about the Protected Area / Surrounding area of the Camp-Site.

Participants:

- up to 20-30 students/youth (approx. 11-16 years old) e.g. a school class, a junior rangers team or any other youth group.

Number of facilitators:

2-3 persons (for camp organization, presentations, input on topic, wood work techniques, excursions, first aid, supervision of food-preparation, participation in cleaning activities); at least 1 qualified specialist on construction of erosion prevention measures and capable of handling tools e.g. cooperation with rangers. (Site identification and planning of works to be done beforehand).

Materials:

List of required Materials:

Nr.	Activity	Material
1	Games	Volleyball, Frisbee, Flag with wooden pole
2	Construction of Erosion Prevention Measures	Locally available construction materials / stones, wood, iron mesh (for gabions, slope protection) tbd in detailed workshop planning, tools as shovels, hammers, rope, screws, etc. Personal Protection Equipment (for facilitators/rangers) handling tools as chainsaw etc., seedlings for replanting (if applicable), First Aid Kit
4	Teaching Session erosion and loss of soil, soil conservation, watershed management, landscape conservation	Video presentation equipment/laptops, projector and films (indoor/outdoor as applicable), generator for electricity / solar panels and batteries
5	Camping & Cooking	camping equipment, cooking equipment, food,

Process:

- The workshop starts with ½ day for travel, setting-up of camp, welcome by the PA staff, presentation of tasks and group formation and introductory games (see Annex and MOVE manual and Tool Box). On first day midday, lunch packages could be handed out to avoid preparation of lunch. An early start is recommended if travel distance is big.
- On **first day** afternoon, a presentation and introduction of the tasks for erosion prevention measures and for camp beautification/land art is given, followed by the preparation of materials for the construction tasks. A site visit walk of the areas for construction works is made. For evening meals and lunch, food is prepared by participant groups in turns. In the evening, after dinner, a presentation of overgrazing problem and soil conservation and plant biodiversity can be done, short movies about natural succession cycle and about flora biodiversity of Mongolia can be done.
- On **second day** morning, the construction of the erosion prevention measures is started. The groups not involved in marking exercise can do beautification of camp site / land art with natural materials e.g. building a fireplace etc. (see pictures for examples). On second day evening a presentation of watershed management and landscape conservation approaches and screening of movies can be made.
- On **third day** morning, the construction of erosion prevention measures and camp beautification and land art exercise can be continued. The exercise is continued after lunch break. In the evening, music and games are suggested. A barbecue could be an option for third day evening.
- On **fourth day** morning, continuation of construction of erosion protection measures / gully restoration, gabions, planting of seedlings. Photo documentation of the process and results should be done. After lunch, packing, cleaning up of camp and return travel.

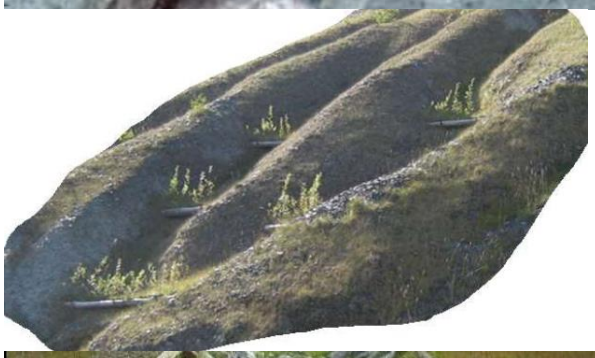
Time Schedule WS-4:

WS-4	Day 1	Day 2	Day 3	Day 4
Morning Session	• Travel to site, Arrival of participants • Welcome by Protected Area Management and Presentation of the Protected Area / National Park • Camp organization • Division into groups	• Warm up exercise/game • Construction of erosion protection works (in selected area by PA administration, e.g., in buffer zone) • Beautification of camp site / land art with natural materials (for those not involved in erosion protection works)	• Continuation of construction of erosion protection measures / gully restoration • Continuation of camp beautification / planting of seedlings • Games if time allows	• Continuation of construction of erosion protection measures / gully restoration, gabions, planting of seedlings • Photo-documentation of results / Group photos • Games if time allows

WS-4	Day 1	Day 2	Day 3	Day 4
Lunch Break	• Lunch package	• One group (3-4 students) responsible to cook /prepare lunch.	• One group (3-4 students) responsible to cook /prepare lunch.	• One group (3-4 students) responsible to cook /prepare lunch.
Afternoon Session	• Introductory game • Preparation of construction materials for small scale erosion prevention, soil protection and replanting works • Preparation of other materials (for camp beautification) • Site visit of planned works sites	• Continuation of erosion protection works • Continuation of camp beautification • Games if time allows	• Continuation of erosion protection works • Games if time allows	• Wrap up of Camp / Departure. • Travel home
Dinner Break	• One group (3-4 students) responsible to prepare dinner.	• One group (3-4 students) responsible to prepare dinner.	• Barbecue or dinner preparation by group	
Evening Session	• Presentation and introduction of topic: erosion and loss of soil • Screening of movies / e.g. the soil, soil conservation	• Presentation of watershed management and landscape conservation approaches • Screening of Movies	• Games, Music	

Example of erosion prevention and soil conservation measures:



Suitable Methodologies from EEC Toolbox (see Toolbox and MOVE Manual):

- Pairwise Interview
- Participant's Expectations
- Transect walk
- Nature Camera
- Guiding the Blind
- Participatory Evaluation

Other games (see description in Annex):

- "Capture the Flag" (2 teams)
- Volley Ball (in circle or with net)
- Frisbee (in circle)

References: Literature / Videos:

- SPACES (2020): Environmental Education and Communication in Mongolia. A toolbox of Methods and Materials, Games and Exercises;
- Video: Let's talk about soil https://www.youtube.com/watch?v=1ND5Jl-jjmI
- Video: Explanatory Video Gully erosion https://www.youtube.com/watch?v=ofhQvAu_L1I

Conclusion & Remarks:

This workshop offers awareness raising to recognize erosion problems and loss of soil and water conservation in context of climate change. Through hands-on construction of small-scale solutions with local materials (timber / stones, iron mesh for replanting of erosion slopes, contour bunding if appropriate) workshop participants learn what can be done to reduce the loss of soil and learn about landscape conservation in catchment areas / watersheds.

Workshop 5: Fencing of a small area of overgrazed meadow or slope for grassland regeneration, implementing a replanting exercise, introduction to biodiversity monitoring

Purpose / Objective:

- Practical training in construction of natural regeneration areas (fencing) and planting of bushes, trees, signboard production. (Fencing and planting materials as seedlings, tools etc to be brought), gaining knowledge of flora biodiversity and introduction into botanical monitoring.

Expected Environmental Learning

a) Construction of fenced area (15mx15m) for natural meadow regeneration, construction of signboards (explaining the activities / results)
b) Learning how to do planting of trees, adapted species, practical implementation of planting in one planting site (tbd)
c) Learning how to work with tools, construction principles
d) Learning about overgrazing and erosion problems, learning about natural succession,
e) Learning about plant biodiversity and botanical monitoring
f) Learning about the Protected Area / Surrounding area of the Camp-Site

Participants

- up to 20-30 students/youth (approx. 11-16 years old) e.g. a school class, a junior rangers team or any other youth group.

Number of facilitators

- 2-3 persons (for camp organization, presentations, input on topic, supervision of food-preparation, at least 1 qualified specialist on fence construction and tree planting / support by rangers

Materials:

Nr.	Activity	Material
1	Games	Volleyball, Frisbee, Flag with wooden pole
2	Fencing of natural regeneration area	Materials for fencing (area e.g., 15-15m), wooden poles, shovels hammer etc. First Aid and PPE
3	Replanting	Seedlings and tools for tree planting exercise, seedling protection material (tubes etc), shovels, sticks etc,
4	Signboard production	Materials and tools for signboard production, paint (construction planning to be done by facilitators)

Nr.	Activity	Material
5	Teaching Session	Video presentation equipment/laptops, projector and films (indoor/outdoor as applicable), Smartphone apps for plant identification, Logbooks for biodiversity competition, generator for electricity / solar panels and batteries?
6	Camping & Cooking	Camping equipment, cooking equipment, food for 4 lunch and 3 dinner

Process:

- The workshop starts with ½ day for travel, setting-up of camp, welcome by the PA staff, presentation of tasks and group formation and introductory games (see Annex and MOVE manual and Tool Box). An early start is recommended if travel distance is big. On first day midday, lunch packages could be handed out to avoid cooking. For evening meals and lunch, food is prepared by participant groups in turns.
- On **first day** afternoon, a presentation and introduction of the tasks for fencing of natural regeneration sites and tree planting exercise is given to participants. This is followed by the preparation of construction materials for fencing of natural meadow regeneration site and the preparation of tree planting site and sorting out suitable seedlings (to be purchased and brought to the camp). A site visit (transect walk) of the areas for construction works is made. In the evening, after dinner, a presentation of overgrazing and erosion problem and soil conservation and plant biodiversity in Mongolia is made. (The presentations need to be prepared in Mongolian language by facilitators beforehand; power supply to be ensured with generator or solar & battery equipment.).
- On **second day** morning, the tasks of fencing of natural regeneration test site (group 1) and the task of planting of trees (group 2) are started and continued throughout the day. The meadow regeneration test site needs to be a separate site of the tree planting site! Photo documentation of the process and results should be done. On second day evening a presentation of National Parks in Mongolia and their biodiversity and an introduction into monitoring of plant biodiversity / how to do a simple inventory of plants, how to compare situation before and after conservation / regeneration measures can be made.
- On **third day** morning, the construction the fencing works for the meadow regeneration test site and the planting works for the tree planting site can be continued and the production of signboards for the sites can be started. After lunch break, preparation of signboards can be continued and completed with sharing of experiences between groups / planting and fencing. In the evening, a presentation of how to work with botanical identification apps on smart phones can be made and plant identification exercise is prepared. Later music and games are suggested. A barbecue could be an option for third day evening.
- On **fourth day** morning, experimenting with botanical app and identification of flora biodiversity of the area is suggested. A group competition, who identifies the most plant species within a given area in a given time slot (e.g., 2h) can be organized. Winners might get small prizes. (The exercise is also possible without smart-phone, however might be less interesting for Youth). After lunch, packing, cleaning up of camp and return travel.

Time Schedule WS-5:

WS-5	Day 1	Day 2	Day 3	Day 4
Morning Session	• Travel to site, Arrival of participants • Welcome by Protected Area Management and Presentation of the Protected Area / National Park • Camp organization • Division into groups	• Warm up exercise/game • Start of fencing of natural regeneration test site (group 1) • Start of tree planting exercise at tree planting site (group 2)	• Continuation of replanting (group 2) • Signboard production for tree planting site and for meadow regeneration site (fenced area) • Photo-documentation of results / Group photos • Games if time allows	• Experimenting with botanical app and identification of flora biodiversity • Group Competition who identifies / counts most species in 2h time in radius of 1km.
Lunch Break	• Lunch package	• One group (3-4 students) responsible to cook /prepare lunch.	• One group (3-4 students) responsible to cook /prepare lunch.	• One group (3-4 students) responsible to cook /prepare lunch.
Afternoon Session	• Introductory game • Site visit of work sites • Preparation of construction materials for fencing of natural regeneration sites • Preparation of planting sites and sorting seedlings	• Continuation of fencing of meadow regeneration site (group 1) • Continuation of planting at tree planting site (group 2) • Games	• Continuation of signboard production • Sharing of experiences between groups / replanting and fencing • Games if time allows	• Wrap up of Camp / Departure. • Travel home
Dinner Break	• One group (3-4 students) responsible to prepare dinner.	• One group (3-4 students) responsible to prepare dinner.	• Barbecue or dinner preparation by group	
Evening Session	• Presentation of overgrazing and erosion problem and soil conservation and plant biodiversity • Introduction into natural succession cycle • Screening of Movies / Presentation of flora biodiversity of Mongolia	• Presentation of National Parks in Mongolia and their biodiversity, • Introduction into monitoring of plant biodiversity / how to do a simple inventory of plants, how to compare situation before and after	• Presentation how to work with botanical identification apps on smart phones • Games, Music	

Example of replanting and plant biodiversity regeneration sites, demonstration of regeneration & monitoring:

Source: Steffen Schuelein, various www.

Suitable Methodologies from EEC Toolbox (see Toolbox and MOVE Manual):

- Pairwise Interview
- Participant's Expectations
- Guiding the Blind
- Minibooklet on Plants
- Participatory Evaluation

Other games (see description in Annex):

- Wood Ski Race
- "Capture the Flag" (2 teams)
- Spikeball
- Volley Ball (in circle or with net)

References: Literature / Videos:

- SPACES (2020): Environmental Education and Communication in Mongolia. A toolbox of Methods and Materials, Games and Exercises;
- Video: Ecological Succession https://www.youtube.com/watch?v=IrIvMt6HWlA
- Video: All about plants – for kids. https://www.youtube.com/watch?v=qULkjDccCeY
- Video: Trees educational video for kids https://www.youtube.com/watch?v=5I7u5FMQxHA
- Video: How to start your tree planting project https://treesisters.org/blog/how-to-start-your-own-tree-planting-project
- Plant ID identification app: Video: https://www.youtube.com/watch?v=7rgJw9sY9cw; Test of apps: https://www.youtube.com/watch?v=zdl60HyyQ0o (Plant ID apps to be tested for Mongolia)
- Identification of trees: https://www.youtube.com/watch?v=nO67Jd_6KEw
- Video: BBC: Planet Earth

Conclusion & Remarks:

This workshop offers an introduction into the following topis:

- Practical training in construction of natural regeneration areas (fencing), planting of bushes/ trees and signboard production. (Fencing materials as iron mesh, poles etc. and planting materials as seedlings, tools etc must be brought to the workshop venue)
- Knowledge of flora biodiversity and introduction into botanical monitoring. A small biodiversity competition gives an incentive to test the learnings on the ground around the camp.
- A translation of videos and other content from English into Mongolian may be needed, however some of the videos and apps may also work without English language competence if the explanation is given orally in Mongolian (a facilitator may be required who understands the content in English and translates the essence).

- Revisiting the area after 1 year (with the same group) is recommended to monitor the change. If rangers can monitor / take care in meantime, results will be better.

General

- Workshops may be shortened or extended, several workshops may be combined or elements taken from one and integrated into the other. This will depend on the specific location and purpose of the workshop as well as the availability of competent facilitators.
- Workshops are about environmental Knowledge, Awareness and Practice – and also fun.

Annexure 1: Selection of Outdoor Games

1. Capture the Flag

Material: You will need material to make flags (one per team). Each flag should be about the same size and brightly colored.

Description[2]: Capture the Flag is best played outdoors with plenty of space to run around. You will need an open area for your territories. The bigger the better, and obstacles such as trees, bushes, and large rocks help make the game more fun. Playing time 30m-1h.

Divide players evenly into two teams. Aim for a balanced mix of ages, sizes, and fitness levels for each team if you can.

Place one flag into each territory. This can be done by a representative from each team or a neutral person who isn't playing. The flag can be mostly hidden, but some part of it must be visible. Once it's placed, the flag can't be moved by its home team.

Start all players at a neutral location on the edge of the playing area. When the game begins, players try to cross into opposing teams' territories to grab their flags. Some teams might strategize beforehand and designate some players as seekers (who will go on the offense to try to find the other team's flag) and others as guards (who will protect their own flag).

Teams should not guard their flags too closely. One way to do this is to disallow players to be within 10 feet of their own flag unless an opposing team's player is present.

When a player is in an opposing team's territory, they can be captured by that team's players. If they tag the player, the player must perform a task—say, five push-ups—before returning to their own territory. (In some versions of the game, captured players are sent to "jail" and must be tagged by a teammate to be freed. But that means less physical activity, so give the work-out-of-jail strategy a try.) Decide beforehand how you'll handle captured players, and make sure everyone knows the plan.

Players are safe and can't be captured any time they cross back to their own team's territory.

The game ends when one team has successfully grabbed the flag from the other team and returned to their own territory.

[2] Description: https://www.verywellfamily.com/how-to-play-capture-the-flag-1257384

2. Spikeball

Material: Spikeball Kit (to be purchased as workshop material)

Description[3]: The Spikeball net is setup and placed in the center of two two-player teams. A serving team is chosen. The server stands a few feet away with their teammate adjacent. The opposing team members generally stand on the opposite side of the net. The game can be played with 4 people or max 6 people. For youth groups a tournament with several teams can be organized.

Play begins with a serve, in which the serving player hits the ball onto the net. From there, traditional volleyball rules apply. That is, each team has three hits to get the ball to hit the net, at which point the possession changes to the opposing team. This continues until one team cannot return the ball or one team directly hits the rim on the net. If the serving team won the pint, they must switch servers but retain the server. If the receiving team won the point, they gain serving rights.

Games of Spikeball are typically played to 11, 15, or 21 points. Points are scored on each serve, you don't have to be the serving team to score. Tournaments may be played to any of these numbers, they are announced before the tournament. Games of Spikeball must be won be two points.

Spikeball is a game that demands teamwork above all else. Playing the game on the same page as your partner is paramount to coming out on top. You must be ready to receive their passes, know who is going to defend the hit, and be ready for the quick returns (i.e. those which hit the net after less than three hits). Spikeball moves so quickly that much of the communication goes unspoken which will greatly benefit repeat playing partners who learn to work together instinctively.

[3] Description: https://www.yardandpubgames.com

3. "Wood Ski"-Race

Material: Skis: 350 cm length, 13cm width, 3cm height / equipped with hand ropes (or footholds)

Description: 2 groups (of 4 or 5 persons each) compete against each other on a length of approximately 50m-100m from start to finish. Teams start from same starting line and try to reach the finish before the other team. The game requires balance, coordination and interaction with group members. Teams are only allowed to move forward if all team members are standing with both feet on the skis. The competitive spirit is motivating. Before the competition a bit of practice is recommended.

4. Volleyball in Circle / Beach Volleyball

Material: Volleyball (+net)

Description: Volleyball is a well-known game played by two teams, usually of six players on a side trying to make the ball touch the court within the opponents' playing area. To prevent this a player on the opposing team bats the ball up and toward a teammate before it touches the court surface—that teammate may then volley it back across the net or bat it to a third teammate who volleys it across the net. A team is allowed only three touches of the ball before it must be returned over the net. If a net is not available the game can be played for a while with a group of people standing in a circle.

5. Frisbee

Description: Easy to play game in a circle or on a field. Competitive elements (two teams => two goals Ultimate Frisbee) can be added but this is not a must. Ultimate Frisbee a game played on a rectangular field between two seven-player teams in which a plastic disc is advanced by being thrown from player to player and in which a team scores by catching a throw in the opponent's end zone.

Material: one or several frisbees.