11. Awareness and Education Strategy for Snow leopard and Ecosystem Conservation

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1. International Snow Leopard Trust & Global Snow Leopard and Ecosystem Protection Program

Conservation of the snow leopard and snow leopard landscapes requires a supportive constituency of communities and individuals. Environmental education is one means of building support and creating awareness amongst children and young people for the long term. It is the process of creating knowledge of the environment; strengthening pro-environmental values among children; motivating young people to participate in environmental protection; and through a process of empowerment find solutions for environmental problems (Stapp 1969).

The Global Snow Leopard Ecosystem and Protection Program (GSLEP) is mandated to implement the Bishkek Declaration 2013 endorsed by the highest offices of the range country governments. To create awareness and understanding of the relevance of snow leopard conservation, and the means to protect them and their habitat, are among GSLEP's broader goals. The Snow Leopard Trust (SLT) serves as GSLEP's key technical partner. The SLT and its partner network have continued to assist GSLEP in meeting with its various goals with a special focus on helping build conservation capacity.

Capacity building and generating awareness for conservation of snow leopards and their ecosystem is a stated GSLEP global as well as national-level priority. Various initiatives have been undertaken for such capacity enhancement so far, including development and implementation of training in community-based conservation (Mishra 2016); toolkits for scientific monitoring of snow leopard populations and for evaluation of conservation programs.

The Snow Leopard Trust Partner Network has been engaging with schools and children for promoting conservation awareness for several years. It has now developed a new environment education strategy for children that is responsive to the new challenges faced by the world due to the COVID-19 pandemic. The GSLEP Secretariat believes that this strategy can assist range-country efforts in helping children grow up into environmentally responsible citizens. While this strategy is particularly developed for children living in snow leopard landscapes, it can also be used for children in urban and global settings. Developing and implementing plans based on this strategy can also assist governments in meeting the sustainable development goal pertaining to quality education for all. Additionally, at the 25th conference of the Parties (CoP25) to the United Nations Framework Convention on Climate Change (UNFCCC), an intergovernmental declaration on children, youth and climate called upon countries to strengthen the capacity of children and young people on climate change mitigation and adaptation by establishing and investing in climate change and environment education.

Development of plans and implementation of this environment education strategy can be achieved through partnerships between relevant ministries, NGOs, schools and other institutions with overlapping mandates. Guidance may be sought from the Snow Leopard Trust as needed. The strategy allows flexibility in implementation through various platforms, especially ones that are likely to become relevant in the post COVID-19 world.

This strategy may also serve as a useful tool for educators and policy-makers interested in environmental education for children, to strengthen and increase global awareness and support for nature conservation. The approach provides tools for education that can be delivered through in-person and/or online means.

The educational strategy presented here is based on the principle of transforming values and knowledge as a basis for action and continued learning. Planned over the long-term, and supporting involvement of children and young people in a continuous education process, it has been structured following a modular framework where children are first introduced to a mix of knowledge and values important for conservation of snow leopards. Following this, it seeks to ignite children's curiosity and strengthen their practical skills and powers of critical thinking and reflection. The final stages aim to explore the possibilities of behaviour change and action and give children a sense of confidence and agency in taking action in their own communities and settings. The process involves feedback loops where all of these levels interact with and reinforce each other.

2. Snow Leopard Education Strategy

2.1 Background

The snow leopard is an iconic wild species found in the mountainous landscapes of Central and South Asia, across 12 countries (Afghanistan, Bhutan, China, India, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Russia, Tajikistan, and Uzbekistan). Throughout most of its range, the snow leopard shares space with agro-pastoral and pastoral communities. Coexistence of people and snow leopards is contingent on the continued strengthening of positive values among people towards snow leopards and the environment. It also requires dispelling negative views, and building alliances and support for conservation and environmental action. Engaging with children is critical for creating a conscious citizenry and developing conservation partnerships. Children's environmental education is particularly important as children are the future environmental custodians and also have the capacity to influence present household pro-environmental behaviors (Tanner 2010, Damerell et al. 2013).

Research has shown that adult pro-environmental behaviours are strongly linked with childhood experiences with nature (Wells et al. 2006). Childhood is a crucial time when long-lasting values are formed, and experiences with nature help in the formation of environmental values (Bryant and Hungerford 1977). Childhood experiences with nature have been shown to increase connectedness with nature; create awe and wonder for nature; create place-attachment; increase opportunities for self-directed exploration and learning; increase observational skills and attention spans; and instill environmental ethics (Gill et al. 2014). An important element of pro-environmental value formation is creating opportunities and spaces for children to develop connections with nature (Otto et al. 2017). Therefore, creating an environmentally aware and active citizenry starts with instilling pro-environmental values in children.

Childhood exposure to nature not only impacts pro-environmental behaviours, but also has strong benefits for the well-being of the child. These benefits include better mental, emotional, and physical health, increased physical activity, and improved scientific learning (Gill 2014). Due to these well recognized benefits to child well-being, education systems around the world are incorporating interactions with nature and outdoor learning into their curricula (Barrable 2019).

Children in local communities across snow leopard habitats have traditionally been close to nature. However, an ongoing 'extinction of experience' due to changing lifestyles, leading to a lack of awareness, is occurring among children not just in urban areas, but also within snow leopard landscapes (Trivedi et al. 2006). Extinction of experience is a process that weakens ties with nature and can lead to loss of positive values and a decrease in pro-environment behavior (Soga and Gaston 2015). This in turn leads to fewer children or adults willing to protect and fight for nature. This lack of connectedness between children and the natural environment can also lead to the loss of traditional, place-based ecological knowledge accumulated over generations (Artelle et al. 2018).

Research also shows that girls and young women tend to have more negative attitudes towards carnivores such as the snow leopard (Suryawanshi et al. 2014; Alexander et al. 2015). Some of the possible causes may be that women may perceive a greater risk or fear of carnivores; they may be less engaged by conservation agencies; or they may have stronger emotional bonds with livestock that often get preyed upon by large carnivores (Gillingham and Lee 1999; Prokop and Fančovičová 2010). A key factor in assisting women to develop positive views towards carnivores is to ensure that girls are particularly involved in conservation education programmes. Often, effective pedagogies are different for girls and boys (Maher 1985; Kishimoto and Mwangi 2009) and girls in rural areas may not go to schools as frequently as boys due to a variety of factors such as discrimination, household work,

safety or hygiene (UNICEF 2017). A gender sensitive approach that is cognizant of different styles of learning among children, and specifically facilitating girls to have access to conservation education can ensure that no child is left behind.

2.2 Education Strategy Aims

The overarching aim of this environmental education strategy is to empower children so that they can be actors of change and support snow leopard and wider environmental protection efforts.

Specifically the strategy aims to assist in:

- Enhancing conservation awareness, knowledge, values, motivations, opinions and aspirations amongst children within snow leopard habitats.
- Building skills that prepare children to collaboratively undertake positive environmental action.
- Creating opportunities and synergetic spaces for collaborative conservation action (decision making, behaviours, practice) amongst children in snow leopard habitats.
- Ensuring no girl is left behind.

2.3 Theory of change

The strategic vision is to strengthen relationships between people and their local ecology. Children are envisaged as the agents of change as part of the community but also as actors themselves in undertaking conservation action. In many parts of the snow leopard range, children and young people are traditionally not active members of household decision-making and are not perceived as important voices in the community. Young women and girls face particular barriers in taking on roles similar to young men. Yet, children have shown that they can be active members and participate constructively in social change. Today children and youth are more connected through technology and more educated than earlier generations, and more predisposed to questioning traditional and often restrictive gender norms.

The ***short term outcomes*** are to:

1. **Enhance conservation awareness, knowledge, values, motivations, opinions, aspirations, environmental concern** of children; and
2. **Build skills (self-efficacy, critical thinking, leadership, collaboration)** that prepare children to collaboratively undertake positive environmental action.

Enhanced values, knowledge and skills of children and youth are expected to lead to the longer term outcome of motivating children in **taking part in conservation action** (practice, decisions, behaviours) within their communities. It is important to create opportunities for collaborative action, which is expected to help children/youth become motivated learners, build a sense of community and connection to the local environment, and ultimately design conservation solutions.

Empowering girls and young women throughout the process is particularly important in reaching the short and longer term outcomes. Educational programs must be designed to be gender sensitive at all stages including the initial engagement with teachers and students, and types of teaching methods used (collaborative rather than competitive approaches).

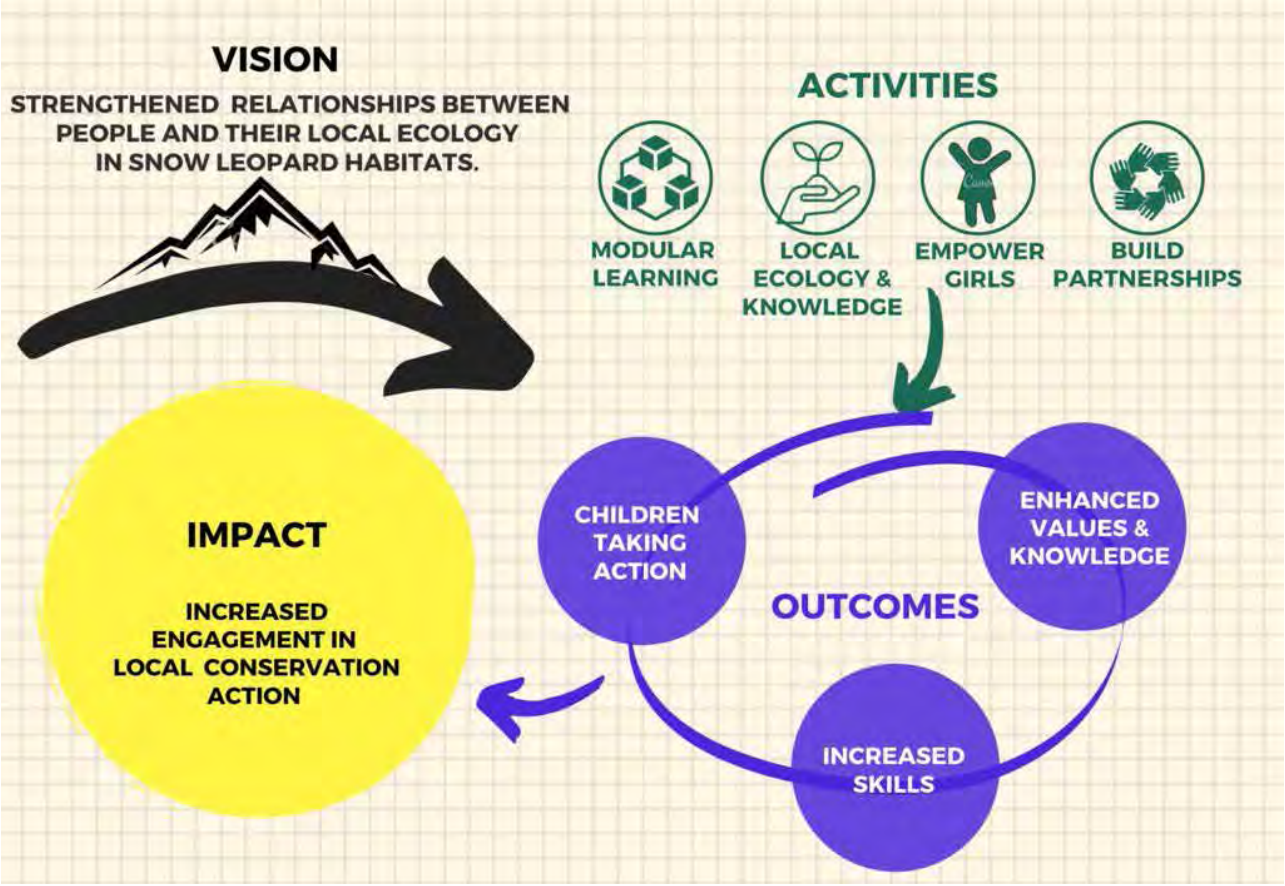

Figure 1. Theory of change for environmental educational programs in snow leopard landscapes

2.4 Approach

The program approach will build on the following principles and steps:

2.4.1 Structure: modular and progressive learning

To keep the children interested and engaged, the environmental education activities will build on existing knowledge and create a program that is intellectually stimulating and interactive. To ensure that the program is on par with the childrens' capabilities, it will reflect the national or local curricula and ride on the concepts that they are learning in school by applying them to nature-based education. The education material will be contextualized to the local environment and ecology.

The program is designed to follow a modular and progressive learning approach. There are three thematic focus areas which can be incorporated to different degrees in each module. Theme 1 focuses on developing multiple values for nature and knowledge about nature; Theme 2 focuses on developing skills, such as critical thinking and analytical skills needed to solve conservation issues; and Theme 3 focuses on developing skills, space and opportunity for conservation action. Activities in each module will be developed with these focus areas in mind, and successive modules will be designed to build on learnings from previous modules. This modular, progressive approach is further elaborated in Table 1.

The duration of the program may vary based on the mode of engagement. E.g., if children are reached through actual eco-camps, the program may encompass activities from various modules packed into

a short duration. However, if the engagement is online or through a mix of recurring short activities at schools or homes, the modules may be implemented in a phased manner.

Table 1: Thematic engagement of the environmental education program. Each theme of the program can focus on a different outcome. By the end of each education program, children are expected to be empowered in areas of values, knowledge, and skills and actions.

Thematic steps of engagement	Theme Goals	Focus & Activities
Theme 1 	Focus on developing multiple ***values*** for nature and ***knowledge*** about the local environment.	**What?** Values (with an emphasis on relational values). • Intrinsic - values for nature for its own sake • Instrumental - values for nature as a means to an end, specifically use-values. For example, use of pastures for forage • Relational - values for nature based on the relationship humans have with nature and each other. For example, biophilia, love, care, and responsibility for nature, empathy, collaboration (together we can act), equity, fairness, justice, identity, sense of place, and connectedness to nature **Knowledge** • Natural history • Local environment (wildlife, livestock) • Ecological processes and functions including carnivores • Human interactions with nature • Local indeginous, and cultural knowledge **How?** • Observational activities; describing surrounding environment • Interactive activities • Activities designed around having fun in nature and around games and theatre so that nature can be connected with fun, play, and positive experiences • Activities designed around local and traditional ecological knowledge (knowledge of medicinal plants, knowledge of traditional healing using medicinal plants, traditional systems of managing water and pastures • Activities designed around creating sense of place and connectedness to nature

Thematic steps of engagement	Theme Goals	Focus & Activities
Theme 2 	Focus on developing ***skills*** such as reflection, critical-thinking, analytical thinking, confidence, collaboration.	**What**? Skills • Observational • Analytical • Investigative • Confidence-building • Sharing & communication skills (communication with peers, sharing knowledge, bringing attention to the cause). • Leadership • Critical thinking **How?** • Critical thinking activities • Why questions • Understanding environmental processes • Environmental interactions • Observing patterns • Making connections and linkages • Techniques for collaboration
Theme 3 	Focus on developing ***skills*** that will help them become actors in conservation action and creating ***space/ opportunity for action***.	**What?** Action • Decision-making • Positive local action • Compliance with environmental regulations **How?** • Activities that focus on generating new knowledge (e.g. through short-term projects) • Exposure to different actors in conservation and research • Exposure to role-playing and complex scenarios

2.4.2 Context: science, indigenous knowledge & local culture

The educational materials will be contextualized to reflect the local ecology and culture by drawing on scientific and local indigenous knowledge and cultural values. An increasing body of scientific

knowledge about local ecology is now available from snow leopard landscapes. This scientific literature should inform the educational material. Similarly, local communities have accumulated knowledge of the local ecology for centuries. They also have rich repertoires of stories and cultural linkages to the landscape. Throughout snow leopard landscapes there are a diversity of cultures and religions like Islam, Buddhism, Christianity, animistic traditions, and atheism. Where appropriate, cultural traditions and religions can promote positive values for nature such as stewardship and responsibility toward animals and their landscapes (Bhatia et al. 2017). The educational material may use cultural traditions and religious philosophies that promote positive values for nature.

The educational curricula will make concentrated efforts to incorporate these multiple worldviews and values, including local cultural traditions, languages, beliefs, and perspectives. Incorporating local perspectives is important as it can help promote place-based learning, an increased respect and understanding of the local culture and environmental concerns, and an awareness of the deep relationships between people and their environment. This can improve overall connectedness with the landscape.

This can be achieved through the following ways:

- Involving, wherever possible, local community representatives in the design, delivery and leadership of the program
- Developing educational materials in local languages
- Documenting and incorporating cultural values and religious teachings that refer to nature in the educational material
- Documenting and incorporating local stories and folklore in the educational material
- Creating educational content based on local/regional folktales, songs, dialects, theatre, customs and cultural practices
- Incorporating ecological information that are from science accredited sources

2.4.3 Gender: no girl left behind!

The education program will explicitly factor in gender-sensitive approaches to ensure that all children are reached and no girl is left behind. Gender-sensitivity will be built into the approach in two ways:

1) Reaching children through schools: A multi-pronged approach should be built into the modules:
    - Pedagogical approaches that are sensitive to all sexes, using language that breaks gender stereotypes, creating an environment that empowers girls to speak up, and exposure to both male, female and gender neutral role models.
    - A repository of education modules that contain cooperative, discussion-led, structured activities along with open-ended, collaborative ones to facilitate a proactive gender sensitive approach.
    - Facilitating young adults, especially girls who have attended program activities earlier, to join as resource persons and volunteers (to provide role models and support for younger students).
    - More resources to inform gender sensitive approaches can be found here: https://en.unesco.org/themes/education-and-gender-equality/resources
2) Reaching children not going to school: Girls and intersex children are sometimes unable to attend school due to a variety of societal issues such as discrimination, inadequate safety measures

in schools, early marriage, household chores, social stigma, and lack of toilets. This issue is further compounded in rural areas. In addition to the regular modules that target school-going children, education programs should include efforts that target groups who cannot go to school. For example education programs can be organized through community groups and target girls and other disadvantaged children.

2.4.4 Ethics, privacy, and child safety

Child safety and privacy will be of utmost importance while conducting the conservation education programmes. The rights and security of children and young people need to be protected, promoted and respected at each stage of the programme. Plans for the protection of children should be put in place for education programs that take place in schools, outdoor excursions and camps, or online. We recommend that implementation teams discuss with local communities on how to promote participation of both boys and girls in ways that are empowering and safe.

Education activities often take place in remote or outdoor locations. A plan for providing necessary safety during the program needs to be in place prior to the start of any activities. The plan should include as a minimum the following;

- Medical kits must be present on-site
- Plan for emergency medical attention or evacuation in place at each of the camp-sites
- Basic training of staff on first aid and basic principles of public health and hygiene

Plans should also take into account putting into place measures to ensure child protection. We recommend that teams discuss with local communities how to promote participation of both boys and girls in ways that are empowering and protective. All staff who have contact with children should be screened for any previous child abuse history. Approaches such as the following need to be considered;

- Training and protocols in place for appointment of staff, preventive measures in place, and dealing with any instances of inappropriate behaviour.
- Safety talk with all children before the start of the camp
- Children and staff have a designated staff member to whom they can turn for advice or meet concerns
- At least one female staff will be present at all times through the duration of the programme
- The teachers will have a separate tent for overnight accommodation
- Girls and boys will have separate tents where appropriate
- Groups that are going out into the outdoor environment, especially longer walks, will be accompanied by both male and female staff
- Basic training for staff on how to deal with cases of mental and physical bullying and/or abuse with sensitivity, procedure to be followed, and steps that are needed for follow-up action (eg. police complaint, talking to parents etc. according to agreed protocols)

If education activities are online it is imperative that the program takes into consideration Child Protection. Part of this process includes teaching children how to avoid placing themselves at increased risk of becoming victims, recognizing such behaviour and responding in a safe way. Children need to be educated in:

- the importance of non-disclosure when it comes to posting personal information online
- exercise extreme caution when befriending people online

Teachers and the wider program should also be aware of measures to promote child protection. These include:

- Children and staff have a designated staff member to whom they can turn for advice or meet concerns
- The content that is shared with teachers and young children within online groups should only relate to conservation education, use appropriate language, and challenge any inappropriate language used.
- Programme staff should not WhatsApp OR Zoom students individually.
- Respect Child Privacy.
  - Child photos where faces are clearly seen will not be shared online, on our social media platforms or in presentations . If shared, they will be shared after blurring the faces or covering the faces.
  - The outputs produced by children will only be shared after prior consent from their parents.

It is important that teams follow all national and international laws and guidelines on child safety and protection. More detailed resources can be found here:

- https://www.unicef.org/protection/files/Child_Safety_online_-_Global_challenges_and_strategies_FINAL_1Dec.pdf

2.4.5 Partnerships

Partnerships are important for successfully implementing environmental education programs and must include local communities, schools, teachers, education departments, and others. Partnerships with local teachers and communities are important to build the momentum to propagate conservation education. Building relationships of trust between teachers, community leaders and conservationists (and their institutions) can lead to lasting positive values. Partnerships with local and national governments are also particularly important for ensuring the long term sustainability of the program. Partnerships with NGOs can aid in the smooth delivery of the program. GSLEP country partners can collaborate with their respective education ministries and departments to incorporate environmental education into the school curricula and focus on education material that is relevant to the local ecology and culture

Teachers are crucial for the delivery of the conservation education programme. Training teachers can provide them the skills, knowledge and motivation to teach children environmental education. Teacher training programs need to be created which should ideally focus on both the content as well as how to teach the programme so that students learn and engage with the material.

2.4.6 Delivery

The programme can be delivered in a variety of ways. Activities can either be spread out through the year, or conducted through intensive short modules. Different approaches have different strengths and weaknesses, and can be chosen based on the context, constraints, reach, capacity, duration, and desired level of engagement.

We recommend that all delivery approaches use good practices teaching principles for connecting children with nature. Here we list a few recommended principles for environmental education (Wilson, 2011):

- Make the content relevant to the everyday lives of children. Focus the action orientated activities on targeting locally relevant issues.
- Encouraging participatory processes where activities are social (the chance to socialise and build friendships) and fun
- Exploratory and active learning/ Less classroom orientated learning
- Promote activities that encourage direct experiences; i.e. use of senses to actively explore and experience
- Encourage children to become active stakeholders in the environment and decision making
- Encourage children to be optimistic about the future
- Promote activities that increase the confidence of children
- Encourage children to work towards making their own decisions
- Promote collective learning and activities that promote collaborations

a. **Eco-camps:** Ecocamps generally take place during the summer months where children are hosted for 3-5 day camps in accessible regions in snow leopard habitat. They are short, intensive 'residential' modules and active learning is organized in the outdoors. They provide children with an immersive experience which allows them to directly interact with and learn from nature. They can play a role in forming strong place-based associations. These are best not undertaken until the pandemic situation is effectively controlled.

b. **School eco-clubs:** Eco-clubs are established through partnerships with schools and can be used to engage students through the year and over the school going years. Activities can be facilitated by teachers, community members or senior students and are conducted during or after school hours. Training of facilitators may be needed for this kind of engagement so that activities are conducted more frequently and also involve community action. This program can support the engagement of older students gaining leadership skills and supporting younger children. It is also recommended that eco-clubs are contacted regularly (every month or few months) with ideas of new educational activities, community initiatives, cross-sharing of experiences, or sharing opportunities across communities or schools.

c. **Community eco-clubs:** Eco-clubs can be established at the community level, in a village or district, to engage with children outside of schools. Activities can be planned throughout the year. Community eco-clubs may need more regular support than school eco-clubs and should also be contacted regularly in order to engage participants.

d. **Distance learning:** Online learning platforms for distance learning are becoming increasingly popular, and can be used for conservation education. They have the potential to reach a large number of students, including students outside snow leopard landscapes, with relatively less effort than in-person education. This also provides the opportunity to increase the frequency of interactions and classes.

   There are a variety of ways of conducting distance education. For example, teachers or education facilitators can share at home activities with children that focus on biodiversity in the house or backyard such as observing spiders or drawing bird beaks. After completing the activity, students can share feedback with the facilitator. Teachers can also hold educational sessions

online which students can attend. Teachers can also be supported to develop pre-recorded modules as notes or short videos with assignments. A suitable online learning platform can be chosen based on local requirements and facilities available. A list of online learning platforms can be found here: https://en.unesco.org/covid19/educationresponse/solutions. It is paramount to consider online child safety measures for this form of delivery.

Due to restrictions incurred due to the pandemic that are likely to last for an extended period of time, environmental education activities can be delivered through distance learning.

While online learning and communication platforms offer promise, they are limited to places that have internet connectivity or children with access to smartphones and laptops. In such instances alternative modes of engagement need to be considered. Some examples include the distribution of books that have a list of activities that collected from individual households after the completion of activities, having lessons through television, or in-person teaching with small class sizes maintaining social distancing and other safety protocols.

2.4.7 Monitoring of the program

Effective programme performance is integrally linked to well-designed monitoring and evaluation systems and course corrections. Monitoring and evaluation help identify how well a project or strategy is working, identify whether there is the desired conservation impact, and enable course correction. We encourage programs to develop a monitoring framework and identify key output and outcome indicators in order to track progress.

The list below specifies the input, process, output and outcome indicators of a typical education program that can be used to track progress in implementation and achieving results. These indicators can be tracked and recorded on a yearly basis.

The outcome indicators related to increased knowledge, values of the local environment and skills for environmental action need not be collected on a yearly basis. These outcomes can be assessed through additional pre- and post- questionnaires of a sampled group of participants.

1. Input indicators:

i. Number of staff assigned to project

ii. Time invested in relationship and trust building

2. Process indicators:

i. Number of initial contact and check-ins with schools and teachers.

ii. List of activities developed (such as audio, video, pdf etc)

iii. Any agreements that may be signed with the schools

3. Output Indicators:

i. Number of regions/communities reached by effort

ii. Number of education institutions that have been reached

iii. Number of teachers involved

iv. Number and proportion of children reached (number of girls, number of boys)

v. Number and proportion of children retained through the year (number of girls, number of boys) retained (defined as active participation)

vi. Number of assignments/activities returned by the children

vii. The quality of assignments/activities returned by the children

viii. Number of students participating and/or completed each module

4. Outcome/impact indicators:

i. Proportion of eligible children enrolled in the program (total number of children reached/ estimated Total number children in that age group in that community or region)

ii. Anecdotes about conservation related action taken by the children (through observations or other stakeholder observation)

iii. Self reported environmental action by students/teachers (i.e. completion of action activities)

3. Populating Curricula through the Activity Register

Each educational approach needs to be anchored in a modular framework allowing for adaptation depending on the delivery strategy and target audience. We have compiled a sample repository of activities, sorted into modules, for the education initiatives (**Appendix 1**). More activities can be assessed from the website (www.snowleopard.org/education). We encourage teams to consider how to best combine different activities in order to build towards the overall objectives of enhancing knowledge, strengthening values, building skills, and creating opportunities for action. Activities need to be structured to ensure progressive learning and we suggest teams develop a curriculum (See section 3.1). Explicit attention to the inclusion of girls and those children who might otherwise be excluded needs to be incorporated.

The educational activities in **Appendix 1** and the website were developed in partnership with organizations and groups working throughout the snow leopard range. Here we provide details on how one can use the activity register to populate a curriculum through a few examples. The activity register in the website (www.snowleopard.org/education) encompasses a range of activities for children between the ages of 11 and 15.

3.1 How to develop a curriculum with the Activity Register?

The theory of change of this education strategy emphasizes all three components (knowledge & values, skills, and action) need to be integrated in order to support children as agents of change. Activities therefore need to be formulated and combined as a coherent curriculum that is tied to local context and opportunities. We encourage teams to look through the activity register and select the best combination that works towards encouraging an "environmental action" activity as an end product. For example we suggest that teams first introduce children to activities that focus on knowledge and skills. Once the children build confidence and curiosity they can move more easily towards more complex activities related to developing new skill sets. There are a variety of different skill set activities that can be combined to support each other in order to think holistically about the environment and how it affects their world. Once the group has acquired a foundation of skills they can be supported to use them in an "environmental action" activity.

Appendix 1 provides examples of curriculums- we call modules- for each theme (described in Section 2.4). These module examples focus on different aspects of values, knowledge, skills and action. They also all work towards an action 'activity' at the end of the module. The 'snow leopard observer' is the first module we would recommend to teachers as this module focusses on cultivating values and knowledge, in addition to key skills in observation. The snow leopard investigator is the second module where we dig deeper into exploring and strengthening values, skills, and knowledge developed in Module 1 (the observer). It centres on building analytical and investigative skills related to their environment. It also can include life skills such as confidence building, communication and leadership skills. This module also has a focus on action-oriented activities as a final component, drawing on local circumstances and wildlife. The snow leopard conservationist is the third and most substantive module of the environmental education programme. This module maybe more appropriate for children that have completed the previous modules or/and have prior relevant experience in environmental education. It builds on the values, knowledge, and skills developed in the snow leopard investigator and the snow leopard observer modules. This aims to encourage children to become

agents of change in their own world or setting. The module focusses on supporting decision-making and creating an enabling environment for positive local action. It also involves understanding and analysing environmental rules and strategies to promote conservation.

More activities can be accessed from the website (www.snowleopard.org/education). Activities are sorted into the modules described above and educators can access these activities, and structure their own curricula based on their own contexts.

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Appendix 1

We have developed three example modules with activities that educators can use. Each module is designed to build on the previous module. We recommend that activities are complemented and supported with additional theory.

The snow leopard observer

The snow leopard observer is the first module of the environmental education programme. In this module, the key thematic focus areas are on values and knowledge, in addition to key skills in observation. This module encourages children and young people as they observe their surrounding environments and supports their curiosity. The focus is on building intrinsic and relational values, along with skills in taking note of and interpreting information from nature. In terms of knowledge the module focuses on local environmental themes.

Activity 1

Activity name: Getting to know your environment

Estimated time: 1 hour

Values: Relational, Intrinsic

Skills: Observational, investigative

Knowledge: Local environment, Natural history

Action: N/A

Activity description: Ask your parents and family what kind of animals live in the mountains where you live. What animals do they describe? Where do these animals live? What do these animals look like? What makes these animals special?

Draw the animals and habitat they describe.

Activity 2

Activity name: My life around me

Estimated time: 1 hour

Values: Relational, intrinsic

Skills: Observational

Knowledge: Local environment

Action: N/A

Go outside and draw the animals and plants you observe. What colors do you observe? What shapes? What smells? If you come across something interesting that you noticed while drawing, please share it with us.

Activity 3

Activity name: Astronomy

Estimated time: 1 hour

Values: Relational, Intrinsic

Skills: Observational

Knowledge: Local environment

Action: N/A

1. Go outside during the night- preferably a clear night when there are no clouds and then there is a new moon. The stars will be bright.
2. What stars do you see? Which are the brightest?
3. Draw the dark sky with the many stars on a piece of paper
4. Now imagine the stars are making shapes and are the outline to objects.
5. Draw lines connecting the stars and create an image
6. What did you create?

Activity 4

Activity name: Become a photographer for the day

Estimated time: 1 hour

Values: Relational

Skills: Sharing and communication

Knowledge: Natural history

Action: N/A

Taking photos of plants and wildlife is not always easy. This activity adds an extra difficulty- how can you tell a story with your photo? Go outside and take a photo of your favourite plant or animal. Try and take the photo in a way that it tells the story of the animal.

Share the photo with us.

Activity 5

Activity name: Silent nature

Estimated time: 1 hour

Values: Relational

Skills: Observational

Knowledge: Local environment

Action: N/A

1. Get up early in the morning and go outside and find a place where no one will disturb you.
2. Then close your eyes, raise your head slightly to the sky, place the palms of both hands on your knees facing up, and listen to the sounds of nature.
3. Be quiet and listen carefully to the sounds surrounding you.
4. What do you hear? What natural sounds do you hear? How do these sounds make you feel?

Activity 6

Activity name: Wise use of water

Estimated time: 1 hour

Values: Instrumental

Skills: Investigative, Analytical

Knowledge: Human interactions with nature

Action: Decision-making, positive local action

Water is the most important thing for all living things on earth. It is also important to know where we get our water from and whether it is clean or not. As we know the water in the Gobi is mostly from underground wells and its resources are in danger of being depleted. Therefore, we need to use water wisely.

Exercise:

- Lets calculate how much water we use per day or per week. This is a very simple calculation.
- Ask yourself or a family member how often they go to the well to fetch water and what kind of container they use.
- Now, divide it by family members. You will know how much water is used per person
- Think of ways that water is perhaps being wasted
- Think of actions you can employ to reduce wastage of water
- Implement these in your household. Tell us about the experience

The snow leopard investigator

The snow leopard investigator is the second module of the environmental education document. In this module, we dig deeper into exploring and strengthening values, skills, and knowledge developed in Module 1 (the observer). It centres on building analytical and investigative skills related to their environment. It also can include life skills such as confidence building, communication and leadership skills. This module also has a focus on action-oriented activities as a final component, drawing on local circumstances and wildlife.

Activity 1

Activity name: The fragrant world

Estimated time: 1 hour

Values: Relational, Instrumental, Intrinsic

Skills: Observational, analytical

Knowledge: Local environment and local culture and knowledge

Action: N/A

Everything in nature has a smell. Today we will investigate the smells of plants around us and try to explain the smells in words. For example, the *Alium* herb smells like onions in the kitchen.

Draw or take a picture of the plant and then describe the smell.

Which of these plants are eaten by livestock and which by wild animals?

If any of these plants are used in your kitchen for cooking, describe them and how they are used.

Activity 2

Activity name: We are interconnected

Estimated time: 1 hour

Values: Relational, Intrinsic

Skills: Analytical

Knowledge: Ecological processes and functions

Action: N/A

All living things on our planet are closely interconnected with each other. A food chain describes different species in our ecosystem and how we are connected. For example it describes who eats whom.

Trees and plants are all producers as they produce their own food from sunlight (photosynthesis).

Animals are called consumers as they eat plants or other animals. If any one of the species and chain breaks, it impacts many other living beings.

For instance; the role of the snow leopard in nature is to regulate and control herbivore numbers (including livestock) to safeguard the pasture. So we could call the snow leopard the doctor of the mountain.

Exercise: Draw the food chain of nature around you

Activity 3

Activity name: Nature is changing

Estimated time: 1 hour

Values: Intrinsic

Skills: Investigative, critical-thinking

Knowledge: Ecological processes and functions, Natural history

Action: N/A

Nature is constantly changing. If we look closely around us, we can easily understand the nature of that change.

Exercise: Please draw and describe the natural beauty of your area. Describe what you see that changes with the season. What does not change?

- How are the colors changing
- How are the plants changing
- How is the weather changing
- How are the animals changing
- How are people changing

Why do you think that it is changing in this way? Do you think they are interconnected?

Activity 4

Activity name: What do livestock eat?

Estimated time: 1 hour

Values: Relational, Instrumental

Skills: Observational skills

Knowledge: Local ecological and cultural knowledge

Action: N/A

What plants do livestock eat?

This exercise will be the easiest and most fun for you if you help your parents and grandparents herd livestock in the summer.

- Observe the animals in the pasture and record what kind of plants they eat. If you don't know the name of the plant, ask your parents or siblings.
- Try and draw each type of plant- highlighting their color and unique characteristics

Activity 5

Activity name: Threats to the snow leopard

Estimated time: 1 hour

Values: Relational, intrinsic

Skills: Investigative, analytical, critical thinking, leadership

Knowledge: Ecological processes and functions, human interactions with nature, local cultural knowledge

Action: Local positive action, decision-making

Educators share information about threats to snow leopards globally and locally.

Students are asked list the major threats to snow leopards or wildlife in their area.

Students are asked what can be done locally to address these threats? Encourage students to ask the elders and other people in your community the measures they have taken to protect animals and plants. Use the help of elders and community members to make a list.

Choose one of these discussed solutions to design a plan for reduce the threat the community.

Activity 6

Activity name: What trash says to us.

Estimated time: 1 hour

Values: Instrumental

Skills: Analytical, investigative, leadership

Knowledge: Human interactions with nature, local environment

Action: Positive local action, decision-making

Plastic waste pollutes environments around the world. Every household should take all possible measures to reduce plastic waste. For example, instead of buying a plastic bottle of beverage from a store, you can make a drink at home from a local fruit.

Exercise:

- Look around the household and see what items you find. Select 10 items
- Classify the items according to which waste group they belong to.
- These are the categories:
- Degradable in soil
- Slowly degradable
- Non-degradable waste
- Hazardous waste

Based on the categories that you have classified the waste, describe ways that they can be disposed

Implement the ways to dispose of the waste in your house. Tell us your experiences.

Snow leopard conservationist

The snow leopard conservationist is the third and most substantive module of the environmental education programme. This module maybe more appropriate for children that have completed the previous modules or/and have prior relevant experience in environmental education. It builds on the values, knowledge, and skills developed in the snow leopard investigator and the snow leopard observer modules. This aims to encourage children to become agents of change in their own world or setting. The module focusses on supporting decision-making and creating an enabling environment for positive local action. It also involves understanding and analysing environmental rules and strategies to promote conservation.

Activity 1

Activity name: Art with nature

Estimated time: 1 hour

Values: Relational

Skills: Sharing & communication skills, Confidence building

Knowledge: Natural history

Action:

This is an interesting and fun activity. We are challenging you to use your creativity and imagination using nature around you. These include materials such as stones, trees, leaves and flowers.

- Collect natural materials around you
- Use these materials to make an object or a drawing.
- This artwork allows you to participate in a Contest during snow leopard day. Write below what you did in the space or take a picture and attach it here. We will share your art on snow leopard day!

Activity 2

Activity name: Plants around us

Estimated time: 1 hour

Values: Relational, Intrinsic

Skills: Observational, investigative, critical thinking, communication

Knowledge: Local environment, local cultural knowledge

Action: Local positive action (raising awareness)

Plants and animals require different resources in nature to survive. Select 5 different plants or animal species and record the type of soil and environment in which they grow.

- What plants grow on sandy ground and what plants grow on more rocky ground?
- Why do you think these plants occur in these different areas? Ask yourself and your family the reasons why.
- Share with us your thoughts.
- Once you are done with this activity, think of ways to communicate this with your community and implement creative ways of communicating this information about plants.

Plant Name	Living conditions	Reason why

Activity 3

Activity name: Ancient pasture

Estimated time: 1 hour

Values: Relational, Intrinsic

Skills: Investigative, Analytical

Knowledge: Local environment, local indegenous and cultural knowledge

Action: N/A

As nature changes, so does the pasture that the livestock depend upon.

- What was the condition of the pastures surrounding your home 20-30 years ago?
- We would like to encourage you to ask your parents and grandparents, what did the pasture look like during their childhood and how has it changed over time?
- Please describe these changes.

Activity 4

Activity name: Adaptation

Estimated time: 1 hour

Values: Intrinsic

Skills: Analytical, critical-thinking

Knowledge: Ecological processes and functions, Natural History, Local environment

Action: N/A

Adaptation is the process by which living things become better able to live in their habitat over time. They do this in order to survive. For example, plants living in the desert have adapted their leaves to have less surface area to allow for evaporation of precious water. Please write 5 examples of adaptation of plants and animals around you. Ask your parents and grandparents for ideas.

Activity 5

Activity name: Save the snow leopard

Estimated time: 1 hour

Values: Intrinsic, Relational

Skills: Investigative, confidence-building, leadership, critical thinking

Knowledge: Human-wildlife interaction

Action: Decision-making, local positive action, compliance with environmental regulations

Like other wildlife, the snow leopard faces many challenges during its life. The snow leopard is a very rare animal that needs our help. Saving the snow leopard means protecting the entire mountain ecosystem.

Exercise: What are the threats faced by the snow leopard in your community? You can find this out by talking to the people in your community.

What are the environmental laws in the country related to the snow leopard?What can you do to save the snow leopard in your community and make sure the government laws are followed? How would you go about implementing these? What are the materials that you will need?

From your list, identify three steps that would be easy to implement in your community. Talk to your family and community leaders about easy ways they can be implemented. Tell us the steps you took and how people responded.

Activity 6

Activity name: Everything comes at a cost

Estimated time: 1 hour

Values: Relational, Instrumental

Skills: Analytical, leadership, critical thinking

Knowledge: Human interactions with nature

Action: Local positive action

Everything around us comes from natural sources. For example bread comes from wheat and people grind it to make flour. Bakers then make bread with flour and other ingredients. Similarly, with a T-shirt the raw material comes from cotton fields.

As your consumption increases you are using more natural resources, directly and indirectly. This can negatively impact the environment. That's what we call the "ecological footprint".

In order to reduce your ecological footprint, what are the steps that you can take?

Exercise: Write down the steps that you took to reduce your ecological footprint and your experiences and thoughts about the activity. Was is easy to do? Tell us how you have implemented them in your own life and in your household. Aso let us know if you have implemented it in the larger community?

Activity 7

Activity name: What are the environmental issues in your area?

Estimated time: 1 hour

Values: Relational, intrinsic, instrumental

Skills: Leadership, Confidence-building, analytical, critical thinking, investigative

Knowledge: human interaction with nature

Action: Decision-making, local positive action, compliance with environmental regulations

What are the environmental challenges in your area?

- Discuss and list all the challenges
- Discuss and write down possible solutions

Keep in mind that innovative projects can be funded by the Snow Leopard Conservation Fund.

Please consider below items as you write your project.

- Project purpose and needs,
- Target groups and stakeholders

- Budget required for the project.
- Outcome Summary.
- Identify how the work will benefit the environment, wildlife, and local communities.

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