

འབྲུག་ཆེ་སློག་མ་དདུལ།

Bhutan for Life

མཐའ་ལོར་གནས་སྤངས་དང་མི་སྡེའི་འཛིན་སྐྱོང་འཆར་གཞི།

Environmental and Social Management Plan for

སཀའ་སྤྲོང་རི་དྭགས་སྤངས་སྐྱོབ་ཡིག་ཚང་ ༢༠༢༦།

Sakteng Wildlife Sanctuary for 2026

ལོ་དྲན་འཕེལ་བཅུན་དོན།

འབྲུག་ཆེ་སློག་མ་དདུལ་འདི་མཐའ་ལོར་གནས་སྤངས་དང་མི་སྡེའི་འོས་འབབ་ཅན་གྱི་ལས་འགུལ་གྱི་དབྱེ་ཁག་ (Category B)

ནང་ལུ་རྒྱུད་དེ་ཡོད་པ་ཡིན། དེ་ཡང་ལས་འགུལ་འདི་ལས་བརྟེན་ཏེ་སྤངས་སྐྱོབ་སའིངས་ནང་སྤྱད་མིའི་མི་སེར་དང་ ཡང་ན་

སྤངས་སྐྱོབ་སའིངས་གྱི་མཐའ་སྐྱོར་ཏེ་འཛོལ་སྤངས་སྐྱོབ་སའིངས་ལུ་བརྟེན་སྤྱད་མིའི་མི་སེར་ ཡང་ན་

གཤམ་ཅན་གྱི་མཐའ་སྐྱོར་གནས་སྤངས་ཀྱི་སའིངས་ཚུ་ལུ་གཞོན་པ་འབྱུང་ནིའི་ཉེན་ཁ་ཡོད་པ་དང་ གཤམ་སྤྱོད་གཞོན་པ་འབྱུང་པ་ཅིན་

གཞོན་ཉེན་ཚུ་དམིགས་གསལ་ས་གནས་ནང་རྒྱུ་ཅིག་འབྱུང་ནི་དང་ གཞོན་ཉེན་མར་ཕབ་རྒྱུ་ཅི་དང་ཅ་མེད་ཡང་གཏང་ཚུགས་པ་ཡིན།

དེ་འབད་མ་ལས་ འབྲུག་ཆེ་སློག་(BFL) མ་དདུལ་ཐོག་ལུ་ རྒྱུ་ཚུར་འབད་ཡོད་པའི་ལས་འགུལ་དང་ལས་སྤྱོད་ མཐའ་ལོར་གནས་སྤངས་དང་

མི་སྡེ་གཉིས་ལུ་ཡུན་བརྟན་གྱི་ཕན་པ་ཡོད་པ་བཟོ་བ་གི་མ་ཚད་ འབྲུག་ཆེ་སློག་མ་དདུལ་གྱི་སྤྱོད་ལུ་ལམ་སྟོན་དང་འབྲེལ་ཐབས་ལུ་

མཐའ་ལོར་གནས་སྤངས་དང་མི་སྡེ་འཛིན་སྐྱོང་འཆར་གཞི་འདི་དགོང་དང་ མི་དམངས་གྲོས་བསྟུན་དང་

དུས་དང་དུས་སྤྱོད་མི་དམངས་ལུ་གསལ་བ་བཤད་ནི་འདི་དགོང་ཡིན།

སཀའ་སྤྲོང་རི་དྭགས་སྤངས་སྐྱོབ་ཡིག་ཚང་ནང་རང་བཞིན་གནས་སྤངས་དང་མི་སྡེ་འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་གླིང་ཀ་དང་སློག་ཆགས་རྒྱུན་ལམ་ཚུ་ནང་ལས་སྤྱོད་

འབད་བའི་སྐབས་ ཐབས་ལམ་དང་བཟང་སྤྱོད་ཚུ་གསལ་སྟོན་འབད་མ་ཡིན་པ་དང་ འདི་ཡང་ལས་སྤྱོད་གཏང་མེའི་ལམ་ལུ་གསལ་དང་འབྲེལ་ཏེ་ཡིན།

གཏང་མེའི་འབད་ཡོད་པའི་ལས་སྤྱོད་གོ་ནང་ལས་ མཐའ་ལོར་གནས་སྤངས་དང་མི་སྡེ་འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་ལུ་

མཐའ་ལོར་གནས་སྤངས་དང་མི་སྡེ་འཛིན་སྐྱོང་འཆར་གཞི་བཟོ་དགོ། འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་

ལས་སྤྱོད་འགོ་མ་བཟུགས་པའི་ཉེ་མ་གཞི་བཟུགས་འབད་བའི་སྐབས་དང་མཚུགས་སྤྱོད་ལུ་

མཐའ་ལོར་གནས་སྤངས་འཛིན་སྐྱོང་དང་གཞོན་ཉེན་མར་ཕབ་ཀྱི་ཐབས་ལམ་ཚུ་བཟུགས་དགོང་ཡིན།

དེ་འབད་མ་ལས་འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་ ལས་སྤྱོད་ མི་སྡེ་ ལཱ་འགན། བད་སྤྱོད་དང་སྟན་ལུ།

དེ་ལས་སྤྱོད་ཀྱི་ལམ་ལུ་གསལ་ཚུ་གཞོར་ལས་འབྲེལ་བཤད་ཁ་གསལ་ཚུ་དགོང་ཡིན། འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་ལུ་

གཤམ་གཏོགས་འབད་དགོ་པའི་ཁེ་གཏང་ཡོད་མི་ཚུ་གཞོན་ཉེན་ལུ་གཤམ་གཏོགས་འཆར་གཞི་དགོ། ཁེ་གཏང་ཡོད་པའི་མི་ཚུ་གཞོན་ཉེན་ལུ་གཤམ་གཏོགས་འཆར་གཞི་དགོ།

གཤམ་གཏོགས་འཆར་གཞི་འདི་ནང་ ཁེ་གཏང་ཡོད་མི་ངོས་འཛིན་འབད་ནི་དང་གཤམ་གཏོགས་འབད་ནིའི་ལམ་ལུ་གསལ་

དེ་ལས་གཤམ་གཏོགས་ཀྱི་དུས་ཚད་དང་བཅའ་སྤྱི་ལུ་ཚུ་དགོང་ཡིན། གླིང་ཀ་དང་སློག་ཆགས་རྒྱུན་ལམ་ཡིན་ཚུ་གི་མཆར་གཞི་ལས་སྤྱོད་དང་འབྲེལ་ཏེ་

བཟོ་ཐོང་སྟན་ལུ། བསྐྱར་ཞིབ། ཕྱིས་དཔྱད་འབད་ནི། དེ་ལས་

མཐའ་ལོར་གནས་སྤངས་དང་མི་སྡེ་འཛིན་སྐྱོང་འཆར་གཞི་འདི་ལོ་བསྟར་བཞིན་དུ་མཐུན་བཟོ་དགོང་ཡིན།

སཀའ་སྤྲོང་རི་དྭགས་སྤངས་སྐྱོབ་ཡིག་ཚང་དོན་ལུ་སྤྱི་ལོ་ ༢༠༢༦ ནང་མཐའ་ལོར་གནས་སྤངས་དང་མི་སྡེ་འཛིན་སྐྱོང་འཆར་གཞི་དགོང་ཡོད་པའི་ལས་སྤྱོད་ཚུ་ཡང་།

༡) གནག་ཅུང་ལ་ གྲ་ཏར་༡༠༠ དེ་ཅི་ ལཱ་པའིན་རྩ་ཐང་ལེགས་བཅོས་ཀྱི་ལཱ།

༢) མེ་རག་དང་སཀའ་སྤྲོང་ལུ་རྒྱ་དོང་ལེགས་བཅོས་༧ གི་ལཱ།

༣) མེ་རག་དང་སཀའ་སྤྲོང་ལུ་རྒྱ་དོང་ལེགས་བཅོས་༧ གི་ལཱ།

Executive Summary

BFL has been categorized as a Category B project, as the potential adverse environmental and social impacts on the population within the Protected Areas or those living around who depend on the PA for their livelihoods or environmentally important areas are site-specific, reversible, and can be readily mitigated.

Therefore, to ensure that all BFL-funded projects and programs are environmentally and socially sustainable as well as in line with BFL's policies and guidelines, an Environmental and Social Management Plan (ESMP) involving stakeholder participation and timely public disclosure is required.

An Environmental and Social Management Plan (ESMP) for Sakteng Wildlife Sanctuary describes mitigation measures/good practices at the activity level that are required as per the screening protocol. All the screened activities that have potential risks to environment and social management have to prepare an ESMP, which includes environment management and mitigation plans during pre-activity, activity implementation, and closing phases. Hence, it contains a description of the detailed actions, including communities, roles, communication, and reporting and monitoring processes required as part of the implementation.

In order to ensure that the issues of all stakeholders are taken into account, it includes a stakeholder engagement plan. The plan includes identification of stakeholders, method of engagement, timing, and logistics. It is a requirement for all parks and biological corridors to keep records, report, review, audit, and update ESMP yearly as per the planned activities.

The activities that required ESMPs for the year 2026 under Sakteng Wildlife Sanctuary are as follows:

1. Improvement of the alpine meadow at Nakchungla (100 ha), Merak
2. Rehabilitate and restore degraded grazing land (Tsamdro)
3. Waterhole improvement at Merak and Sakteng (4 Nos.), SWS

1. Introduction

a) Project Background

The Bhutan for Life (BFL) project aims to ensure a robust network of protected areas and biological corridors that secure human well-being and biodiversity conservation and increase climate resilience in Bhutan. The project provides a 14-year financial bridge that allows for immediate improvement in the management of Bhutan's protected areas for climate resilience and the prompt delivery of mitigation, adaptation, and biodiversity gains while the country gradually ratchets up its financing resources.

BFL seeks to achieve the following objectives:

- Help Bhutan remain carbon neutral by increasing forest and vegetative cover within the Protected Area System;
- Enhance the socio-economic well-being of communities in and in the vicinity of the PAS through climate-informed natural resources management;
- Maintain stable, thriving, and diverse populations of key species contributing toward national and global biodiversity goals;
- Strengthen organizational, institutional, and financial capacity for effective management of PAS.

BFL includes five components that reflect these goals, divided into 16 milestones (or outputs) and over 80 detailed activities.

b) Scope of ESMP

The preparation of this Environmental and Social Management Plan (ESMP) was required in order to manage the environmental and social impacts through specific mitigation actions required to implement the project in accordance with the requirements of WWF's Social Safeguards Integrated Policies and Procedures (SIPP), the project's Environmental and Social Management Framework (ESMF), and applicable national legislation and regulations.

The ESMP provides an overview of the environmental and social baseline conditions on the routes of the proposed second segment of the project, summarizes the potential impacts associated with the proposed activities, and sets out the management measures required to mitigate any potential negative impacts.

This ESMP will be implemented by the BFL focal person in Sakteng Wildlife Sanctuary (SWS) and the contractor to be commissioned by SWS for the project.

c) Purpose of ESMP

This Site-Specific ESMP is a project-specific source document detailing the environmental and social protection requirements to mitigate and minimize the adverse impacts. The ESMP's primary purpose is to ensure that the environmental requirements and social commitments associated with the project are carried forward into implementation and operational phases of the project and are effectively managed. The specific objectives of this ESMP are as hereunder:

- Minimizing any adverse environmental, social and health impacts resulting from the project activities;
- Conducting all project activities in accordance with the relevant RGoB Laws and WWF's safeguard operational policies and guidelines;
- Preventing environmental degradation as a result of either individual subprojects or their cumulative effects;
- Enhancing the positive environmental and social outcomes of project activities;
- Ensuring that the proposed mitigation measures are feasible and cost-efficient;

- Providing an Action Plan to ensure that the project impact mitigation measures are properly implemented and monitored;

Ensuring that all stakeholders are engaged in the project activities' preparation and implementation and their concerns are fully addressed.

2. Environmental and Socio-Economic Conditions:

a) Geological and topographical conditions

Sakteng Wildlife Sanctuary (SWS) was founded in 2003 to showcase Bhutan's easternmost temperate and alpine ecosystems. This sanctuary is a habitat for several rare and globally endangered wildlife species. Moreover, it boasts the highest concentration of Rhododendron species, with 41 out of the 46 recorded in the country.

SWS is situated within the latitudinal range of 27°09'00" to 27°28'08" North and longitudinal range of 91°47'04" to 92°07'02" East, covering an expanse of 742.46 km². It shares boundaries with the Indian State of Arunachal Pradesh to the north and east, Phongmey Gewog under Trashigang Dzongkhag to the west, and Lauri Gewog in Samdrup Jongkhar to the south. In the south, the sanctuary is connected to Jomotshangkha Wildlife Sanctuary through a biological corridor, contributing to the Bhutan Biological Conservation Complex (B2C2).

Merak and Gyengu villages under Merak Gewog and Pussa, Tengma, Manirong, Sakteng, Borangmang, and Borangtse under Sakteng Gewog are located in the mid-valley. Thrakthri, Dak, Murbee, and Kheliphu are situated on the lower hill slope. Joenkhar, Tholong, Shingkar, and Khashiteng are located in the lower valley.

From a geological perspective, the Sakteng Wildlife Sanctuary consists of Tethyan meta-sediments, and its surface features include periglacial, aeolian, and colluvium deposits on slopes, with significant alluvium present in high valleys. The upper region of SWS exhibits a broad expanse characterized by gentle slopes and screes, hosting numerous alpine lakes. In contrast, the lower sections are deeply carved by streams and rivers, forming narrow valleys.

Mid-valley areas encompass the villages of Merak and Gyengu under Merak Gewog, as well as Pussa, Tengma, Manirong, Sakteng, Borangmang, and Borangtse under Sakteng Gewog. Thrakthri, Dak, Murbee, and Kheliphu are positioned on the lower hill slopes, while Joenkhar, Tholong, Shingkar, and Khashiteng are situated in the lower valleys.

Climatic conditions

Sakteng Wildlife Sanctuary (SWS) can be broadly divided into three climatic zones: subtropical, temperate, and alpine meadows. The altitude within the sanctuary ranges from 1500 to 4500 meters, encompassing a sub-tropical climate in the lower valleys and transitioning to alpine meadows in the higher mountainous regions. The majority of SWS falls within the temperate zone, characterized by cold winters and warm summers, along with intermittent heavy rainfall.

The temperate climate in the area is notable for its cold winters and warm summers, with the highest precipitation occurring in June, July, and August. Sporadic rainfall is observed throughout late April to early October, particularly during the late afternoon. Snowfall is a regular phenomenon from mid-October to early April.

b) Hydrological conditions

Sakteng Wildlife Sanctuary (SWS) can be segmented into five sub-watersheds in Eastern Bhutan. The largest among them is the Gam-ri watershed, covering 39.2% of the total area, followed by Yachu (19.4%), Shaar-chhu (18.9%), Jomo-ri (15.1%), and the smallest being Mera-ama-ri (7.4%). The three major rivers in SWS – Gam-ri, Mera-ama-ri, and Jomo-ri – are sustained by numerous small and medium-sized lakes, streams, and seasonal rain/snowfall. It's noteworthy that there are no permanently snow-capped mountains in SWS. Gam-ri originates from the far northeastern part, bordering India at Jang-Puensum (three brothers) and Dremaling Lake, joined by various small streams. Bamukpa-ri, originating from Tsho-na in the Tshezung area, is the primary tributary of Gam-ri.

According to the initial investigation, the Sanctuary contains 104 lakes of varying sizes, contributing to approximately fourteen small rivers within its catchment area. These rivers play a crucial role as significant tributaries in major river systems such as Mera-ama-ri and Drangme- chhu in the Eastern region. It's worth noting that over 90% of these lakes are situated in alpine regions.

c) Flora and Fauna

The terrestrial biodiversity survey documented a total of 858 plant species belonging to 141 families and distributed across 35 orders. Among these, 57% were classified as herbs (including climbers), 17% as trees, 14% as shrubs, and 12% as orchids. Notably, coniferous forests dominate approximately 65% of the surveyed area, comprising 12 different species falling under seven genera. These genera include fir (*Abies densa*), hemlock (*Tsuga dumosa*), larch (*Larix griffithii*), Himalayan yew (*Taxus* sp.), Bhutan pine (*Pinus bhutanica*), chir pine (*Pinus roxburghii*), and spruce (*Picea spinulosa*). Additionally, Juniper species play a significant role in the ecosystem, with five different types identified, namely *Juniperus recurva*, *J. communis*, *J. cf. indica*, *J. squamata*, and *J. pseudosabina*.

Due to the challenging topography characterized by significant altitude variations ranging from 1500m to 4500m, the SWS possesses remarkable biodiversity and ecosystems. This area serves as a habitat for numerous faunal species that are critically endangered or facing threats. The biodiversity survey conducted in 2015 unveiled a rich collection of diverse terrestrial, avian, and aquatic species, many of which are exclusive to the eastern Himalayan region and hold global importance for conservation efforts.

d) Socio-economic conditions

Due to recent progress in infrastructure development, including enhanced road and electricity connectivity, the living standards of both communities of Merak and Sakteng have significantly improved. This advancement has not only generated additional employment opportunities for the local population but has also drawn a growing number of tourists. The construction of motor roads has improved market accessibility, allowing the residents to sell their products over a broader geographical area.

Based on the wealth ranking assessments carried out during the 2015 social survey, a significant portion of households are categorized as having a "middle" income level, with an average annual income of Nu. 75,000.00 per household. There are only a limited number of households classified as "Poor" and "BPL" (Below Poverty Line), with average annual incomes of Nu. 32,500.00 and Nu. 12,500.00 per household, respectively.

The main sources of income for these communities are from the sales of livestock produce such as butter, cheese, fermented cheese "*Yoshu*," meat, and wool to the nearby towns. Of late, they have also started collecting non-wood forest produce such as mushrooms, wild vegetables, tubers, incense-making herbs, and medicinal plants to supplement their income.

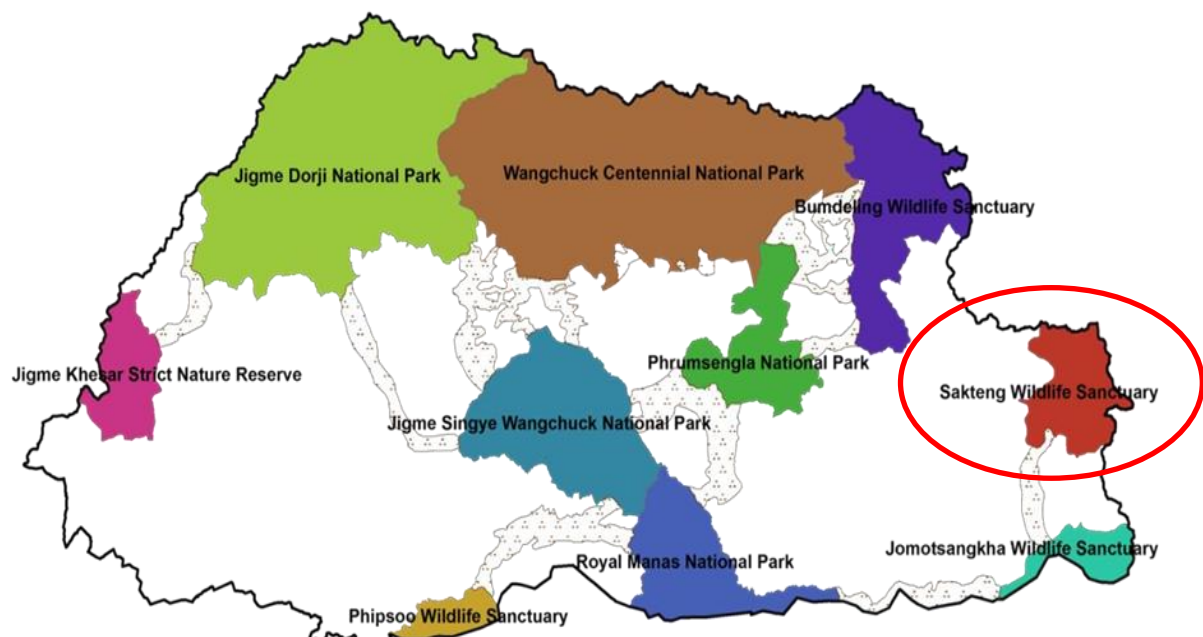


Figure 1. Location of Sakteng Wildlife Sanctuary

3. Planned activities in the years 2026-2027

Activity 3.1 Improvement of Alpine Meadow at Nakchungla, Merak

Budget: Nu. 1 million

Timeline: Oct 2026 - March 2027

Location: Nakchungla, Merak (Latitude: 27.328043°, Longitude: 91.895152°).

3.1.1. Problem Statement

Approximately 90 percent of the settlers within Sakteng Wildlife Sanctuary are semi-nomadic herders who rely heavily on cattle grazing for their livelihoods. However, the sanctuary faces a severe shortage of grazing land, and in recent years, existing pastures have become degraded due to shrub encroachment, the spread of unpalatable plant species, soil erosion, and grazing pressure. This has resulted in reduced availability of palatable grasses and declining livestock productivity.



Figure 2. Alpine meadow improvement area at Nakchungla, Merak.

3.1.2. Site Description

Nakchungla is an alpine grazing area located under Merak Gewog at an altitude of approximately 4,000 meters above sea level (Latitude: 27.328043°, Longitude: 91.895152°). The area consists of alpine meadows interspersed with rhododendron and juniper shrubs and is characterized by gentle to moderate slopes. The grazing land is a community-managed Tsamdro used by more than 100 herder households for rearing yaks, cattle, and sheep. The project area is located within the multiple-use zone of Sakteng Wildlife Sanctuary and does not fall within any known critical wildlife breeding habitat or highly sensitive ecological site.

3.1.3. Activity Description

To restore the ecological condition and productivity of the pasture, Sakteng Wildlife Sanctuary proposes to improve approximately 50 hectares of alpine meadow through cutting and uprooting of unpalatable shrubs, selective debranching of Rhododendron and Juniper species, and restoration of degraded grassland areas. The lops and tops generated from debranching activities will be managed in accordance with the FNCRR of Bhutan, including controlled disposal such as firewood for herders and prescribed burning where necessary. The activity will also promote natural regeneration of palatable grasses and sustainable grazing management practices.



Figure 3: Reference photograph of past alpine meadow improvement work.

3.1.4. Activity Impacts

The activity is expected to improve grazing conditions, enhance forage availability for livestock, increase pasture productivity, reduce further land degradation, and contribute to the sustainable management of alpine ecosystems. More than 100 herder households from Merak Gewog are expected to benefit from improved pasture productivity and livestock grazing conditions.

Potential social and environmental impacts of the activity include occupational health and safety risks to workers during shrub cutting and clearing operations, waste generation by workers during implementation, minor soil disturbance during shrub removal activities, and temporary disturbance to wildlife due to the presence of workers and restoration activities.

5. Workers and Other Related Information

The activity will be implemented and supervised by Sakteng Wildlife Sanctuary using manual labor and hand tools without the use of heavy machinery, herbicides, or chemical inputs. Approximately 50 workers of mixed gender (30% women) will be engaged in the restoration activities and accommodated in herders' camps during the implementation period.

Work will be carried out from 9:00 AM to 5:00 PM with mandatory rest breaks and hydration every 30 minutes. Workers will wear warm clothing and appropriate safety gear. A first-aid kit will be available on-site, and a communication plan will be established through a WhatsApp group. Workers will operate under a team leader, who will provide regular health updates to the Range Officer. Emergency evacuation procedures will be coordinated by the team leader and Range Office due to the site's remote location.

Before starting work, workers will be trained to identify target shrub species and avoid removing palatable grasses and non-target vegetation. Cut debris will be spread or contour-stacked to minimize erosion and fire risks. Temporary recovery zones will be clearly marked and agreed upon with the Tsamdro Committee and herders to control grazing during vegetation recovery. All plastic waste and other non-biodegradable materials will be collected and transported back to the community landfill.

All workers will be provided with appropriate personal protective equipment (PPE) and required to follow occupational health and safety guidelines throughout the implementation period. Any domestic waste generated during implementation will be properly collected and transported back to community waste disposal sites to prevent environmental contamination. The intervention area is community-managed grazing land, and no private land acquisition or displacement of people is required. The Range Office will monitor grass regeneration and vegetation recovery after one growing season and document the results.

3.1.6. Potential social and environmental impacts of the activity are

- ✓ Occupational health and safety risks to workers during shrub cutting and clearing operations.
- ✓ Waste generation by workers during implementation.
- ✓ Minor soil disturbance during shrub removal activities.

Activity 3.2 Rehabilitate and Restore Degraded Grazing Land (Tsamdro), Chabling, Merak

Budget: 0.8 million

Timeline: October-December 2026

Location: Chabling, Merak
(27.340089°, 91.762773°)

3.2.1. Problem Statement

In recent years, the Chabling grazing land has experienced significant degradation due to soil erosion, surface runoff, and recurring landslides. Runoff water from an existing farm road located above the grazing area has further aggravated slope instability, resulting in the loss of productive grazing land and reduced pasture quality.

3.2.2. Site Description



Figure 4. Restoration area, Chabling

Chabling is a grazing area located under Merak Gewog in Sakteng Wildlife Sanctuary at an altitude of approximately 2,900 meters above sea level (Latitude: 27.340089°; Longitude: 91.762773°). The area comprises community-managed Tsamdro surrounded by cool broad-leaved forest and is characterized by gentle slopes. The grazing land is used by more than 30 herder households for livestock grazing and forms an important source of livelihood for the local community.

3.2.3. Activity Description

To address these issues, Sakteng Wildlife Sanctuary proposes to rehabilitate and restore approximately 8 hectares of degraded grazing land through the construction of check dams, implementation of bioengineering measures, and development of drainage systems. Check dams will be constructed using locally available stones and logs from near the project site to reduce the force of runoff water and stabilize landslide-prone areas. Bioengineering interventions will include the planting of native fast-growing plant species to restore vegetation cover and improve slope stability. Drainage channels will also be developed to divert and safely channel rainwater away from vulnerable areas.

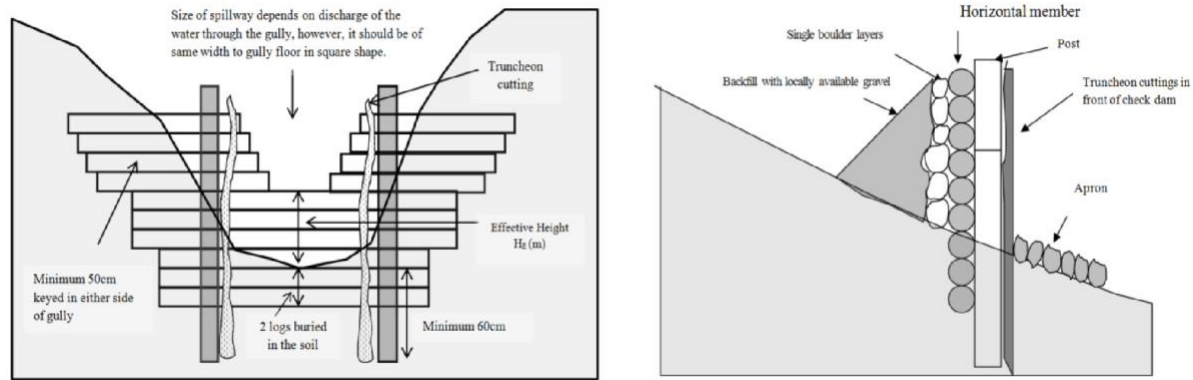


Figure 5. Check Dam design as per the Sustainable Land Management and Best Practices of Bhutan, 2021.

3.2.4. Activity Impacts

The activity is expected to restore degraded pastureland, reduce soil erosion and landslide risks, improve drainage and water management, enhance grazing conditions, and strengthen the livelihoods of more than 30 herder households dependent on the grazing land. The intervention will also contribute to long-term ecological restoration and sustainable management of community grazing resources.

Potential social and environmental impacts of the activity include occupational health and safety risks to workers during construction of check dams, drainage systems, and bioengineering works; minor soil disturbance and localized erosion during construction activities; and generation of small quantities of domestic and plastic waste by workers.

3.2.5. Workers and Other Related Information

The activity will be implemented by Sakteng Wildlife Sanctuary through community contracts using locally available materials and manual labor without the use of heavy machinery, chemicals, or pesticides. Approximately 30 workers of mixed gender from the local community will be engaged during implementation. Workers will stay at their respective herders' camps during the implementation period, where water and other basic necessities will be available.

The intervention will be carried out on community grazing land under existing user rights and is based on a proposal initiated by the local community. The activity will not require private land acquisition, displacement of households, or restriction of access to grazing resources. Minor quantities of domestic waste generated during implementation will be collected and transported to designated waste disposal sites. The project site is not situated within any known critical wildlife breeding habitat or environmentally sensitive area.

3.2.6: Potential social and environmental impacts of the activity are

- Occupational health and safety risks to workers during the construction of check dams, drainage systems, and bioengineering works.
- Generation of small quantities of domestic and plastic waste by workers.

Activity 3.3 Improvement of Waterholes under Sakteng Wildlife Sanctuary

Budget: Nu. 0.4 million

Timeline: October 2026-March 2027

Location: 1. Tsangkutse (Lat: 27.395169° Long. 91.904161°),
2. Dakpashisa (Lat: 27.447566°, Long: 91.916142°),
3. Nathengtse (Lat: 27.376852°, Long: 91.865865°),
4. Mendula (Lat. 27.322816°, Long. 91.75755°).



Figure 5. Location of Waterhole at Nathengtse

3.3.1 Problem statement

Over the years, the waterholes have gradually decreased in depth and storage capacity due to sediment accumulation, natural erosion, and vegetation overgrowth. During dry periods, limited water availability affects both wildlife and livestock and may increase wildlife movement toward nearby human settlements in search of water.

3.3.2. Site Description

The proposed activity aims to improve four existing waterholes located at Tsangkutse, Dakpashisa, Nathengtse, and Mendula under Sakteng Wildlife Sanctuary. The Tsangkutse waterhole is situated at an altitude of approximately 2,650 masl, Nathengtse at 2,743 masl, Dakpashisa at 2,700 masl, and Mendula at 2,990 masl. All four sites are located on gentle slopes within the multiple-use zone and are not situated within any known critical wildlife breeding habitat or environmentally sensitive area. The area is surrounded by cool broadleaf to fir forest. These waterholes serve as important water sources for wildlife and livestock in areas experiencing seasonal water scarcity.

3.3.3. Activity Description

To address these issues, Sakteng Wildlife Sanctuary proposes to improve the existing waterholes through deepening and reshaping water bodies, desilting, minor excavation works, strengthening outlet edges using locally available stones collected from nearby sites, and installing tarpaulin lining materials to improve water retention capacity. The activity will be implemented manually by Sakteng Wildlife Sanctuary staff using hand tools and locally available materials without the use of heavy machinery, chemicals, herbicides, or pesticides. Water required for drinking and domestic use will be sourced from nearby streams and safe natural water sources. Temporary and localized disturbance to wildlife may occur due to human presence and construction activities; however, impacts are expected to be short-term and minor.

3.3.5. Workers and other related information

All workers engaged in the activity will be provided with appropriate personal protective equipment (PPE) and will be required to follow occupational health and safety guidelines, particularly when working near water bodies to reduce risks of slips and falls. A basic first aid kit will be made available on site.

Any domestic waste generated during implementation will be collected, properly managed, and transported to designated waste disposal sites. Open dumping or burning of waste at the site will not be allowed. The intervention will not require private land acquisition, displacement of households, or restriction of access to grazing resources. The activity is expected to improve water availability for wildlife and livestock, enhance habitat quality, reduce seasonal water stress, and support sustainable livestock grazing in the surrounding areas.

3.3.1 Potential social and environmental impacts of the activity are

1. Occupational health and safety risks to workers during excavation, desilting, and stone placement works.
2. Generation of small quantities of domestic and plastic waste by workers at the project sites.



Figure 5: Reference photo of waterhole improvement conducted at Khatsiteng, Merak.

Mitigation Measures for Environmental and Social Impacts

The following ESS and GESI mitigation measures are as per the approved ESS forms shared in the link ([Links for List of Approved ESS form for Year 8 BFL implementation](#))

Potential impact	Impact scale	Proposed mitigation measures	Responsible Party	Costs (million)
Activity 3.1: Improvement of Alpine Meadow at Nakchungla, Merak				The cost will be met from the activity budget.
1. Occupational health and safety risks to workers during shrub cutting and clearing operations.	Short-term minor	● Provide and enforce the use of appropriate PPE (boots, face masks & gloves). ● Maintain a first aid kit at the work site and also ensure that the workers are aware of medical emergencies, including altitude sickness. ● Provide equal opportunity to all for the alpine meadow improvement work and not to employ underage workers. ● Carry out controlled burning as one of the management tools and also to avoid the risk of forest fire. ● Please highlight on GRM	BFL Focal and Merak Range Officer	
2. Waste generation by workers during implementation.	Short-term minor	● Bring back all non-biodegradable waste to the Merak community dumping site. ● Make sure that no waste is left unattended at the sites.	BFL Focal and Merak Range Officer	
3. Temporary soil disturbance and minor erosion	Short-term Minor	● Spread or contour-stack cut branches and debris on disturbed areas to reduce runoff and protect exposed soil.	BFL focal, range officer, and workers.	

Activity 3.2: Rehabilitate and Restore Degraded Grazing Land (Tsamdro), Chabling, Merak				
Occupational safety of workers	Short-term minor	● Use safety gear (boots, gloves & mask) ● No underage workers shall be engaged in the work; ● Reserve appropriate first aid kit (esp. for high altitude sickness); ● Workers are native herders, and they will come for work from their herders' camp. ● Please highlight GRM	BFL Focal, Geog Engineer and Merak Range Officer	The cost will be met from the activity budget.
Waste generated by workers	Short-term minor	● Bring back all non-degradable waste to the community dumping site; ● Make sure that no waste is left at the workplace.	BFL Focal and Merak Range Officer	
Activity 3.3: Improvement of Waterholes under Sakteng Wildlife Sanctuary				
Occupational health and safety risks to workers during excavation, desilting, and stone placement works	Short-term minor	● Provide and enforce the use of appropriate PPE (boots, gloves, and face mask). ● Maintain a first aid kit at the work site and ensure that the workers are aware of medical emergencies including altitude sickness. ● Workers are native herders, and they will come for work from their herders' camp. ● No underage workers shall engage in the work	BFL Focal, Range Officer (Merak, Sakteng and Joenkhar)	The cost will be met from the activity budget
2. Generation of small quantities of domestic and plastic waste by workers at the project sites.	Short-term minor	● Prohibit littering and open burning of waste at the project site. ● Bring back all non-biodegradable waste to Merak gewog waste disposal sites	BFL Focal, Range officer(s) and workers	

3. ESMP Implementation Arrangements

The execution of project activities will be overseen by the designated BFL focal person stationed at SWS. The focal will bear responsibility for ensuring adherence to all procedures delineated within this ESMP, as well as fulfilling any obligations necessary to secure clearances, permits, approvals, or consent documents from pertinent authorities and stakeholders.

The ESMP must be integrated into the estimate/contract that SWS will finalize with the contractor(s) responsible for executing the planned activities. **The designated BFL Focal Point or relevant implementing entity is obliged to execute all proposed preventive or mitigating environmental and social measures outlined in this plan.** They must also maintain documentation verifying the implementation of these measures. **The implementing agency/contractor is required to organize an Occupational Health and Safety (OHS) information session for all workers before commencing project activities and prior to undertaking any tasks posing significant health risks.**

The SWS's supervising engineer needs to monitor the implementation of proposed measures by the contractor and contractor's representative with visual checking, review the records of evidence that the measures have been applied, and ask the contractor to apply the measures as soon as possible. Non-compliances should be recorded, and the report on any non-compliance should be reported to the ESS officer immediately, and the ESS officer will report it to the PCU (M&E Officer). Non-compliance should be closed with appropriate measure(s), and the evidence should be kept.

As per the agreement, the release of project funds to SWS is subject to their complete adherence to the safeguards requirements.

4. ESMP Monitoring Arrangements

The designated BFL focal person at SWS will diligently oversee the execution of all planned activities and the necessary mitigation measures, ensuring strict adherence to both this ESMP and the terms and conditions outlined in the environmental clearances issued by the national authorities of RGoB.

SWS is responsible for ensuring that all external contractors and service providers operating within its jurisdiction adhere to the safeguard requirements delineated in the ESMP.

The protocol for monitoring of activities under this ESMP will be carried out as follows:

SI	Activities	Monitoring team	Timeline		Location	Means of Verification
			Start	Complete		
1	Improvement of alpine meadows at Nakchungla, Merak	Range Officer, Merak	October 2026	March 2027	Nakchungla, Merak	Report
		BFL focal/ESS focal				
		PCU: ESS&GESI, M&E Officer				

2	Rehabilitate and Restore Degraded Grazing Land (Tsamdro), Chabling, Merak	Range Officer Merak	October 2026	December 2026	Chabling, Merak	Work, handing, taking report
		BFL focal/ESS focal				
		PCU: ESS&GESI, M&E Officer				
3	Improvement of Waterholes within Sakteng Wildlife Sanctuary	RO (Merak, Sakteng and Joenkhar)	October 2026	March 2027	Merak and Sakteng geogs	Work completion report
		BFL focal/ESS focal				
		PCU: ESS&GESI, M&E Officer				

5. Capacity Need and Budget

The implementation of activities outlined in this ESMP will involve the BFL focal person, supervising engineer/staff, and a contractor responsible for hiring workers as specified in the contractual agreement. The capacity needs and budget for each of the activities is:

SI#	Activity	Amount (Nu.)	Budget for ESS mitigation
1	Improvement of Alpine Meadow at Nakchungla, Merak	1,000,000	The cost will be met from the activity budget.
2	Rehabilitate and Restore Degraded Grazing Land (Tsamdro), Chabling, Merak	800,000	The cost will be met from the activity budget.
3	Improvement of Waterholes under Sakteng Wildlife Sanctuary	40,000	The cost will be met from the activity budget.
Total		2,200,000	Nil

6. Consultation and Disclosure Mechanisms

This ESMP has been developed following thorough consultations with the community and relevant stakeholders, where applicable. All the activities are scheduled for the year 2026-2027 (year 8).

This ESMP encompasses all essential social and environmental mitigation measures required for the successful execution of the BFL program. The complete English version of this ESMP will be made publicly accessible on the websites of MoENR, BFL, WWF, and SWS. Additionally, hard copies of the ESMP will be accessible at the SWS Management Office and the PCU Office.

7. Stakeholder Engagement Plan

All these three activities will be contracted out to local community contractors.

8. Grievances Redressal Mechanism

This ESMP and its mitigation measures are required to be disclosed to communities for 30 days prior to the start of implementation of activities.

In addition, the BFL focal point is responsible for making local communities aware of the grievance mechanisms: the BFL-specific grievance mechanism, WWF's Grievance Mechanism, and the GCF Independent Review Mechanism.

BFL-specific Grievance Mechanism

A grievance redressal mechanism (GRM) is in place to address any grievances arising from the implementation of BFL activities, including resources, non-performance of project obligations including safeguards, violation of law and/or corruption, project governance and implementation, fair access and benefit sharing, stakeholder engagement, labor-related issues and incidents, gender-related issues, and others.

If the stakeholders have any grievances related to the BLF project, they can report their grievances via letter, phone call, or verbally to the nearby gewog or forest offices. The report can also be sent to the BFL PCU office or WWF office. The specific brochure for the GRM is attached in Annexure II for any grievance related to the implementation of the project activities.

WWF Grievance Mechanism

A grievance can be filed with the Project Complaints Officer (PCO), a WWF staff member fully independent from the project team, who is responsible for the WWF grievance mechanism and who can be reached at:

Email: SafeguardsComplaint@wwfus.org

Mailing address:

Project Complaints Officer

Safeguards Complaints,

World Wildlife Fund

1250 24th Street NW

Washington, DC 20037

Stakeholders may also submit a complaint online through an independent third-party platform at <https://secure.ethicspoint.com/domain/media/en/gui/59041/index.html>

GCF Independent Review Mechanism

The Independent Review Mechanism (IRM) provides recourse to those affected or who may be affected by GCF projects. Complainants can find information on filing a complaint and proceed to file a complaint on the GCF IRM website: <https://irm.greenclimate.fund/case-register/file-complaint>

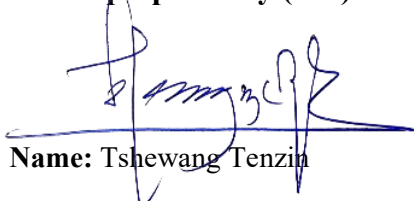
9.Certification of Mitigation Measures and Approvals for ESMPs

This section serves to clarify that the Environmental and Social Management Plan (ESMP) and its associated mitigation measures are fully compliant with the BFL Environmental and Social Management Framework (ESMF) and have undergone the intensive review and approval process.

All the mitigation measures, environmental and social management prescriptions, and good practices outlined in this ESMP are based on the following approved documentation:

1. **Screening and Scoping Tools (SST):** The identification of potential impacts and subsequent mitigation measures are derived from the approved SST submitted to the PCU by IAs and approved by ESS & GESI experts in a WWF-US AE team.
2. **Site-specific template and endorsement from implementing agencies (IAs):** all mitigation actions are formulated as per the approved SST, ensuring they are mitigation prescriptions that are site-specific and relevant to the planned activities and are further endorsed from IAs for implementation.
3. This ESMP is hereby certified for implementation. All parties involved in the execution of the project activities are obligated to perform all proposed preventive and mitigation measures as detailed in the plan, and compliance with these measures is the prerequisite for the disbursement of project funds.

ESMP prepared by (IAs)

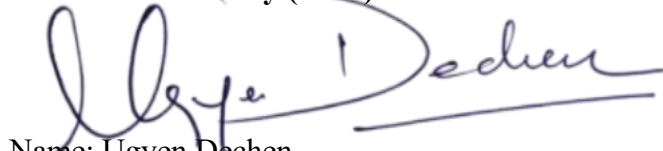


Name: Tshewang Tenzin

Title: Forestry Officer

Date: 5/5/2026

ESMP Reviewed by (PCU):

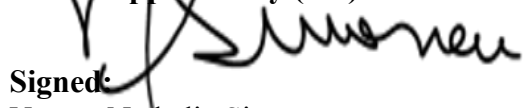


Name: Ugyen Dechen

Title: Project Officer

Date: 29th June 2026

ESMP Approved by (AE)



Signed:

Name: Nathalie Simoneau

Title: Senior Director – Gender, Social Inclusion & Safeguards

Date: June 29, 2026

Annexure 1: BFL: Suggested Occupational Health and Safety Standards

Employers and supervisors are obliged to implement all reasonable precautions to protect the health and safety of workers. Implementing entities should hire contractors that have the technical capability to manage the occupational health and safety issues of their workers, extending the application of the hazard management activities through formal procurement agreements.

This section provides guidance and examples of reasonable precautions to implement in managing principal risks to occupational health and safety. It is based on the IFC's Environmental, Health, and Safety Guidelines (April 30, 2007) and the Occupational Health and Safety Guidelines of Bhutan's Construction Development Corporation Ltd., which relies on the national Regulation on Occupational Health, Safety, and Welfare 2012; Regulation on Working Conditions 2012; and Labour Act 2007 and is in compliance with Sl. No. 21 of the Regulation on Occupational Health, Safety, and Welfare 2012.

1. General Facility Design and Operation

Integrity of Workplace Structures

Permanent and recurrent places of work should be designed and equipped to protect occupational health and safety:

- Surfaces, structures, and installations should be easy to clean and maintain and not allow for the accumulation of hazardous compounds.
- Buildings should be structurally safe, provide appropriate protection against the climate, and have acceptable light and noise conditions.
- Fire resistant, noise-absorbing materials should, to the extent feasible, be used for cladding on ceilings and walls.
- Floors should be level, even, and non-skid.
- Heavy oscillating, rotating or alternating equipment should be located in dedicated buildings or structurally isolated sections.

Severe Weather and Facility Shutdown

- Workplace structures should be designed and constructed to withstand the expected elements for the region and have an area designated for safe refuge (e.g., in case of earthquake).

Workspace and Exit

- The space provided for each worker, and in total, should be adequate for safe execution of all activities, including transport and interim storage of materials and products.

Fire Precautions

The workplace should be designed to prevent the start of fires through the implementation of fire codes applicable to industrial settings. Other essential measures include:

- The workplace shall be provided with adequate means of protection and escape in case of fire.
- The workplace shall be provided with an adequate number of relevant fire extinguishers.
- Workers shall wear shoes without iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction.
- Smoking, lightening, or carrying of matches, lighters or smoking materials shall be prohibited.
- All other precautions, as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks, overheated surfaces of machinery or plant, chemical or physical, chemical reaction and radiant heat.
- At every workplace adequate provision of water supply for firefighting shall be provided and maintained.
- Equipping facilities with firefighting equipment (e.g., fire extinguishing bottle). The equipment should be maintained in good working order and be readily accessible. It should be adequate for the dimensions and use of the premises, equipment installed, physical and

chemical properties of substances present, and the maximum number of people present.

- Manual firefighting equipment shall be easily accessible and simple to use.
- Fire extinguishers and emergency alarm systems that are both audible and visible should be in place.

Lavatories and Showers

- Adequate lavatory facilities (toilets and washing areas) should be provided for the number of people expected to work in the facility (at least one for every 20 workers). Toilet facilities should also be provided with adequate supplies of hot and cold running water and soap.

Potable Water Supply

- Adequate supplies of potable drinking water should be provided to workers at the work site.
- Clean Eating Area
- Where there is potential for exposure to substances poisonous by ingestion, suitable arrangements are to be made for provision of clean eating areas where workers are not exposed to the hazardous or noxious substances.

Lighting

- Workplaces should, to the degree feasible, receive natural light and be supplemented with sufficient artificial illumination to promote workers' safety and health, and enable safe equipment operation. Supplemental 'task lighting' may be required where specific visual acuity requirements should be met.
- Emergency lighting of adequate intensity should be installed upon failure of the principal artificial light source to ensure safe shut-down, evacuation, etc.

Safe Access

- Passageways for pedestrians and vehicles within and outside buildings should be segregated and provide for easy, safe, and appropriate access.
- Equipment and installations requiring servicing, inspection, and/or cleaning should have unobstructed, unrestricted, and ready access.
- Covers should, if feasible, be installed to protect against falling items.

Measures to prevent unauthorized access to dangerous areas should be in place.

First Aid

- The employer should ensure that qualified first-aid can be provided at all times. A sufficient number of first aid boxes or cupboards shall be provided and maintained so as to be readily available during all working hours, provided that the distance of the nearest first aid box or a cupboard shall be not more than 200m from any working place.
 - First aid kits include all equipment outlined in Annex 1 to these Guidelines.
 - Remote sites should have written emergency procedures in place for dealing with cases of trauma or serious illness up to the point at which patient care can be transferred to an appropriate medical facility.
- #### Work Uniform
- The contractor shall provide a working uniform to each worker.
 - All workers shall be required to attend the duty in proper uniform unless otherwise instructed by the Contractor.

Air Supply

- Sufficient fresh air should be supplied for indoor and confined workspaces. Factors to be considered in ventilation design include physical activity, substances in use, and process related emissions. Air distribution systems should be designed so as not to expose workers to draughts.
 - Re-circulation of contaminated air is not acceptable. Heating, ventilation and air conditioning (HVAC) systems should be equipped, maintained and operated so as to prevent growth and spreading of disease agents (e.g. Legionella pneumophila) or breeding of vectors (e.g. mosquitoes and flies) of public health concern.
- #### 2. Information Provision on Occupational Health and Safety (OHS)
- The Contractor is responsible to hold an information session to familiarize all workers with the OHS procedures specified in these guidelines, in order to ensure they are apprised of the basic

site rules of work at / on the site and of personal protection and preventing injury to fellow workers.

- The information session should consist of basic hazard awareness, site-specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. Any site-specific hazard or color coding in use should be thoroughly reviewed as part of orientation training.

2. Physical Hazards

- Physical hazards represent potential for accident or injury or illness due to repetitive exposure to mechanical action or work activity.

- Rotating and Moving Equipment

- Injury or death can occur from being trapped, entangled, or struck by machinery parts due to unexpected starting of equipment or unobvious movement during operations. Recommended protective measures include:

- Designing machines to eliminate trap hazards and ensuring that extremities are kept out of harm's way under normal operating conditions. Examples of proper design considerations include two-hand operated machines to prevent amputations or the availability of emergency stops dedicated to the machine and placed in strategic locations.
- Where a machine or equipment has an exposed moving part or exposed pinch point that may endanger the safety of any worker, the machine or equipment should be equipped with, and protected by, a guard or other device that prevents access to the moving part or pinch point. Guards should be designed and installed in conformance with appropriate machine safety standards.

Noise

- No worker should be exposed to a noise level greater than 85 dB(A) for a duration of more than 8 hours per day without hearing protection. In addition, no unprotected ear should be exposed to a peak sound pressure level (instantaneous) of more than 140 dB(C).
- The use of hearing protection should be enforced actively when the equivalent sound level over 8 hours reaches 85 dB(A), the peak sound levels reach 140 dB(C), or the average maximum sound level reaches 110dB(A). Hearing protective devices provided should be capable of reducing sound levels at the ear to at least 85 dB(A).
- Although hearing protection is preferred for any period of noise exposure in excess of 85 dB(A), an equivalent level of protection can be obtained, but less easily managed, by limiting the duration of noise exposure. For every 3 dB(A) increase in sound levels, the 'allowed' exposure period or duration should be reduced by 50 percent.
- Prior to the issuance of hearing protective devices as the final control mechanism, use of acoustic insulating materials, isolation of the noise source, and other engineering controls should be investigated and implemented, where feasible.
- Periodic medical hearing checks should be performed on workers exposed to high noise levels.

Vibration

Exposure to hand-arm vibration from equipment such as hand and power tools, or whole-body vibrations from surfaces on which the worker stands or sits, should be controlled through choice of equipment, installation of vibration dampening pads or devices, and limiting the duration of exposure. Electrical Exposed or faulty electrical devices, such as circuit breakers, panels, cables, cords and hand tools, can pose a serious risk to workers. Overhead wires can be struck by metal devices, such as poles or ladders, and by vehicles with metal booms. Vehicles or grounded metal objects brought into close proximity with overhead wires can result in arcing between the wires and the object, without actual contact. Recommended actions include:

- Marking all energized electrical devices and lines with warning signs.
- Locking out (de-charging and leaving open with a controlled locking device) and tagging-

out (warning sign placed on the lock) devices during service or maintenance.

- Checking all electrical cords, cables, and hand power tools for frayed or exposed cords and following manufacturer recommendations for maximum permitted operating voltage of the portable hand tools.
- Double insulating / grounding all electrical equipment used in environments that are, or may become, wet; using equipment with ground fault interrupter (GFI) protected circuits
- Protecting power cords and extension cords against damage from traffic by shielding or suspending above traffic areas.
- Appropriate labeling of service rooms housing high voltage equipment ('electrical hazard') and where entry is controlled or prohibited.
- Establishing "No Approach" zones around or under high voltage power lines.
- Rubber tired construction or other vehicles that come into direct contact with, or arcing between, high voltage wires may need to be taken out of service for periods of 48 hours and have the tires replaced to prevent catastrophic tire and wheel assembly failure, potentially causing serious injury or death.
 - Conducting detailed identification and marking of all buried electrical wiring prior to any excavation work.

Eye Hazards

Solid particles from a wide variety of industrial operations, and/or a liquid chemical spray may strike a worker in the eye causing an eye injury or permanent blindness. Recommended measures include:

- Use of machine guards or splash shields and/or face and eye protection devices, such as safety glasses with side shields, goggles, and/or a full-face shield. Frequent checks of these types of equipment prior to use to ensure mechanical integrity is also good practice.
- Where machine or work fragments could present a hazard to transient workers or passers-by, extra area guarding or proximity restricting systems should be implemented, or PPE required for transients and visitors.
- Provisions should be made for persons who have to wear prescription glasses either through the use overglasses or prescription hardened glasses.

Welding / Hot Work Welding creates an extremely bright and intense light that may seriously injure a worker's eyesight. In extreme cases, blindness may result. Additionally, welding may produce noxious fumes to which prolonged exposure can cause serious chronic diseases. Recommended measures include:

- Provision of proper eye protection such as welder goggles and/or a full-face eye shield for all personnel involved in, or assisting, welding operations. Additional methods may include the use of welding barrier screens around the specific work station (a solid piece of light metal, canvas, or plywood designed to block welding light from others). Devices to extract and remove noxious fumes at the source may also be required.

Working Environment Temperature

Exposure to hot or cold working conditions in indoor or outdoor environments can result in temperature stress-related injury or death. Use of personal protective equipment (PPE) to protect against other occupational hazards can accentuate and aggravate heat-related illnesses. Extreme temperatures in permanent work environments should be avoided through implementation of engineering controls and ventilation. Where this is not possible, such as during short-term outdoor work, temperature-related stress management procedures should be implemented which include:

- Monitoring weather forecasts for outdoor work to provide advance warning of extreme weather and scheduling work accordingly
- Providing temporary shelters to protect against the elements during working activities or for use as rest areas.
- Use of protective clothing.

- Providing easy access to adequate hydration such as drinking water or electrolyte drinks, and avoiding consumption of alcoholic beverages.

Ergonomics, Repetitive Motion, Manual Handling

Injuries due to ergonomic factors, such as repetitive motion, overexertion, and manual handling, take prolonged and repeated exposures to develop, and typically require periods of weeks to months for recovery. These OHS problems should be minimized or eliminated to maintain a productive workplace. Controls may include:

- Facility and workstation design with 5th to 95th percentile operational and maintenance workers in mind.
- Use of mechanical assists to eliminate or reduce exertions required to lift materials, hold tools and work objects, and requiring multi-person lifts if weights exceed thresholds.
- Selecting and designing tools that reduce force requirements and holding times, and improve postures.
- Incorporating rest and stretch breaks into work processes, and conducting job rotation
- Implementing quality control and maintenance programs that reduce unnecessary forces and exertions

Working at Heights.
Fall prevention and protection measures should be implemented whenever a worker is exposed to the hazard of falling more than two meters; into operating machinery; into water or other liquid; into hazardous substances; or through an opening in a work surface. Fall prevention / protection measures may also be warranted on a case-specific basis when there are risks of falling from lesser heights. Fall prevention may include:

- Installation of guardrails with mid-rails and toe boards at the edge of any fall hazard area
- Proper use of ladders and scaffolds by trained workers.
- Use of fall prevention devices, including safety belt and lanyard travel limiting devices to prevent access to fall hazard area, or fall protection devices such as full body harnesses used in conjunction with shock absorbing lanyards or self-retracting inertial fall arrest devices attached to fixed anchor point or horizontal life-lines.
- Appropriate training in use, serviceability, and integrity of the necessary PPE
- Inclusion of rescue and/or recovery plans, and equipment to respond to workers after an arrested fall.

Illumination

Work area light intensity should be adequate for the general purpose of the location and type of activity, and should be supplemented with dedicated work station illumination, as needed. Controls should include:

- Use of energy efficient light sources with minimum heat emission.
- Undertaking measures to eliminate glare / reflections and flickering of lights.
- Taking precautions to minimize and control optical radiation including direct sunlight.
- Exposure to high intensity UV and IR radiation and high intensity visible light should also be controlled.
 - Controlling laser hazards in accordance with equipment specifications, certifications, and recognized safety standards. The lowest feasible class Laser should be applied to minimize risks.

Personal safety equipment for workers

All workers are equipped with the following personal safety equipment: helmet, gloves, ordinary boots and reflective vest.

Workers that are exposed to dust should also be provided with eye protection glasses and face mask. Workers that are exposed to noise should be provided with ear plugs. Workers that need to work in the dark should be provided with hand and cap lamps. Workers are instructed regarding safety equipment as follows:

- Always wear a complete set of protective wear.

- Do not wear loose clothing, such as overhang shirts, jackets, mufflers etc.
- Tuck shirt and jacket well.
- Secure helmet with belt under the chin.
- Tuck the bottom sleeves of trouser inside the safety boot.
- Dress with a reflector.

5. Standards for workers' accommodation.

1. General living facilities.

- The location of the facilities is designed to avoid flooding or other natural hazards.
- The living facilities are located within a reasonable distance from the worksite.
- Transport is provided to worksite safe and free.
- The living facilities are built using adequate materials, kept in good repair and kept clean and free from rubbish and other refuse.

2. Drainage

- The site is adequately drained.

3. Heating, air conditioning, ventilation and light.

- Living facilities are provided with adequate heating, ventilation, and light systems including emergency lighting.

4. Water

- Workers have easy access to a supply of clean/ potable water in adequate quantities.
- The quality of the water complies with national/local requirements or WHO standards.
- Tanks used for the storage of drinking water are constructed and covered to prevent water stored therein from becoming polluted or contaminated.
- The quality of the drinking water is regularly monitored.

5. Wastewater and solid waste.

- Wastewater, sewage, food and any other waste materials are adequately discharged in compliance with national and/or international standards and without causing any significant impacts on camp residents, the environment or surrounding communities.
- Specific containers for rubbish collection are provided and emptied on a regular basis.
- Pest extermination, vector control and disinfection are undertaken throughout the living facilities at least once.

6. Rooms/dormitories facilities.

- Rooms/dormitories are kept in good condition.
- Rooms/dormitories are aired and cleaned at regular intervals.
- Rooms/dormitories are built with easily cleanable flooring material.
- Rooms/dormitories and sanitary facilities are located in the same buildings.
- Residents are provided with enough space.
- The number of workers sharing the same room/dormitory is minimized.
- Doors and windows are lockable and provided with mosquito screens when necessary.
- Mobile partitions or curtains are provided.
- Adequate number of furniture such as table, chair, mirror, and lamps are provided for all workers.
- Separate sleeping areas are provided for men and women.

7. Bed arrangements and storage facilities.

- A separate bed is provided for every worker.
- The practice of "hot-bedding" is prohibited.
- There is a minimum space of 1 meter between beds.
- The use of double deck bunks is minimized.
- If double deck bunks are in use, there is enough clear space between the lower and upper bunk of the bed.
- Workers are provided with comfortable mattresses. Workers may be expected to use their own pillows and bed linens.

- Workers wash bed linen frequently and applied with adequate repellents and disinfectants (where conditions warrant).
- Adequate facilities for the storage of personal belongings are provided.
- Separate storages for work clothes and PPE and depending on condition, drying/airing areas are provided.

8. Sanitary and toilet facilities

- Sanitary and toilet facilities are constructed from materials that are easily cleanable.
- Sanitary and toilet facilities are cleaned frequently and kept in working condition.
- Toilets, showers/bathrooms and other sanitary facilities are designed to provide workers with adequate privacy including ceiling to floor partitions and lockable doors.
- Separate sanitary and toilet facilities are provided for men and women.
- Toilet facilities are conveniently located and easily accessible.
- Toilet facilities are environmentally friendly (e.g., pit toilet) and sewage is not disposed into the worksite.
- Open defecation in the vicinity of project sites should be prohibited.
- An adequate number of hand wash basins and showers/bathrooms facilities are provided.
- Shower facilities are provided with water heating facilities.

9. Cooking and laundry facilities

- Cooking and laundry facilities should be available for workers at the worksite or in close vicinity to it. These facilities should be kept in clean and sanitary conditions.

10. Leisure, social and telecommunications facilities.

- Basic social collective spaces should be available to workers.
- Workers are provided with dedicated places for religious observance, as appropriate.
- The employer provides workers with local sim cards that can be used for communication on their personal cell phones.

Contents of first aid box or cup-boards

The first aid boxes or cup-boards shall be distinctively marked with white cross on a green background and shall contain the following equipment:

1. Small sterilized dressings (12)
2. Medium size sterilized dressings (6)
3. Large size sterilized dressings (6)
4. Large size sterilized burn dressings (6)
5. (1/2 oz.) Sterilized cotton wool (6 packets)
6. (2oz.) Bottle containing a two per cent alcoholic solution of iodine (1)
7. (2oz.) Bottle containing Betadine (antiseptic solution) having the dose and mode of administration indicated on the label (1)
8. Roll of adhesive plaster (1)
9. A snake bite lancet (1)
10. Torch light (1)
11. Pair of scissors (1)
12. Tablets Aspirin (5gms) 2 dozen
13. Burn Ointment (2 tubes)
14. Dettol (2 phial, about 2 ozs)
15. Bandages 4 inches wide
16. Bandages 2 inches wide
17. Triangular bandages (2)
18. Packets of safety pins (1)
19. A supply of suitable splint

Annexure II- BFL-specific GRM Brochure



HOW TO FILE YOUR COMPLAINT

To file your complaint, please contact any of the designated individuals provided below. You may maintain anonymity if you prefer.

BFL FOCAL OFFICER

- Tshewang Tenzin
- 17929856
- tshewangt@moenr.gov.bt
- Sakteng Wildlife Sanctuary, Phongmey, Trashigang

MERAK RANGE OFFICE

- Phuntsho Wangdi
- 17681453
- pwangs13@gmail.com
- Park Range Office, Merak Range, Trashigang

YOU MAY ALSO CONTACT THE BFL PROJECT COORDINATION UNIT (PCU) OR FUND SECRETARIAT (FS) AT:

BFL FUND SECRETARIAT (FS)

- Kuenzang Tobgay
- 17750414
- kuenzangtobgay@bfl.org.bt
- Bhutan For Life Fund Secretariat, Royal Textile Academy, Thimphu

SAKTENG RANGE OFFICE

- Pema Tshewang
- 17422906
- pematshewang999@gmail.com
- Park Range Office, Sakteng Range, Trashigang

JOENKHAR RANGE OFFICE

- Sonam Samten
- 17738192
- sonamsamten7@gmail.com
- Park Range Office, Joenkhara Range, Trashigang

IF YOU ARE NOT COMFORTABLE FILING YOUR COMPLAINTS AT PROTECTED AREA OFFICES, YOU MAY ALSO FILE YOUR COMPLAINTS AT THE NEAREST FOLLOWING GEWOG OFFICES:

1. Merak Gewog – 17827593
2. Sakteng Gewog – 17270713

BFL PROJECT COORDINATION UNIT (PCU)

- Ugyen Dechen
- 17491881
- ugyendeuchen@gmail.com
- BFL Project Coordination Unit, Department of Forests and Park Services, Ministry of Energy and Natural Resources, Thimphu

IF THE NATIONAL PROCESS OF GRM IS UNABLE TO RESOLVE THE GRIEVANCE, COMPLAINTS MAY ALSO BE FILED WITH WORLD WILDLIFE FUND (WWF).

Write to the WWF GCF Accredited entity at:

SafeguardsComplaint@wwfus.org
Project Complaints Officer, Safeguards Complaints, World Wildlife Fund 1250 24th Street NW Washington, DC 20037

COMPLAINTS MAY ALSO BE FILED WITH GCF INDEPENDENT REDRESS MECHANISM (IRM) OPTION. COMPLAINT CAN BE FILED BY:

- Sending it by mail or email at irm@gcfund.org
- Sending a voice or video recording
- Filling out the online complaints form available at:

<https://gcf.isight.com/external/case/new/group=Complaint>

A complaint for IRM should generally include:

- Name, address and contact information
- A description of the programme (caused adverse impacts to the complainant)
- A description of how the complainants have been/may be adversely impacted by the project/programme
- Whether confidentiality is being requested and the reasons for it.

COMPLAINTS MAY ALSO BE FILED WITH THE WWF THIRD PARTY GRIEVANCE REPORTING MECHANISM BY USING ETHICS POINT WEBSITE AT:

<https://secure.ethicspoint.com/domain/media/en/gui/59041/index.html>

This mechanism can receive reports online or by phone in multiple languages.

IF YOU ARE UNSATISFIED WITH THE COMPLAINT RESOLUTION PROCESS, YOU CAN APPEAL TO:

GRM Appeal Committee, Bhutan For Life Project, DoFPS, Thimphu, Bhutan.