Bhutan for Life
Environmental and Social Management Plan for
Sakteng Wildlife Sanctuary (2024)

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

c) Purpose of ESMP

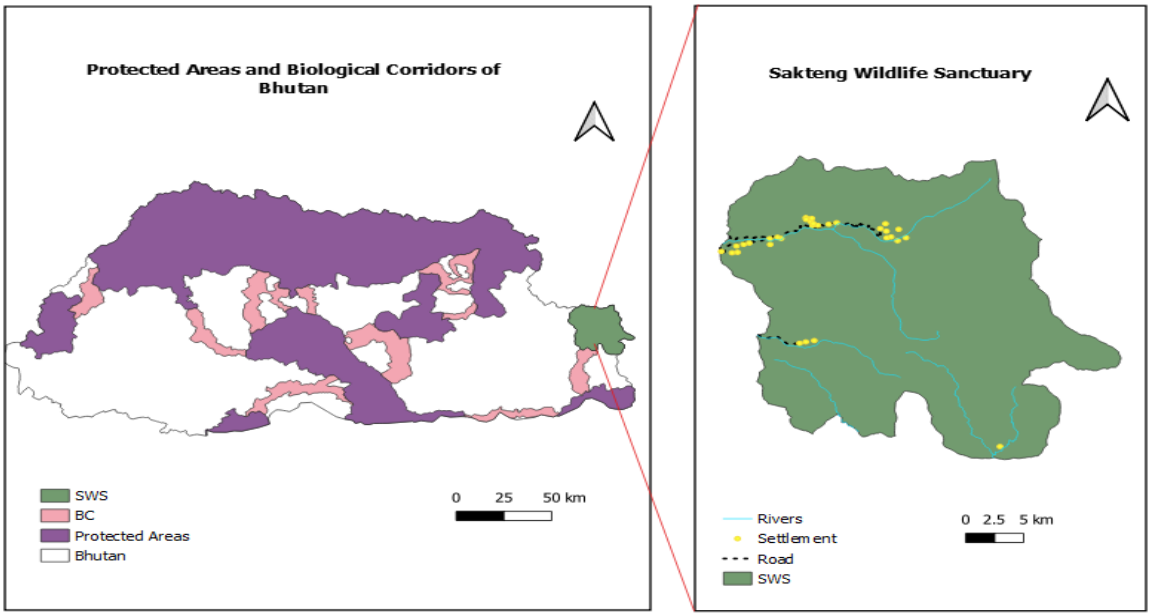
This Site-Specific ESMP is a project-specific source document detailing the environmental and social protection requirements to mitigate and minimize the adverse impacts. The ESMP's primary purpose is to ensure that the environmental requirements and social commitments associated with the project are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

1. Minimizing any adverse environmental, social and health impacts resulting from the project activities;
2. Conducting all project activities in accordance with the relevant RGoB Laws and WWF's safeguard operational policies and guidelines;
3. Preventing environmental degradation as a result of either individual subprojects or their cumulative effects;
4. Enhancing the positive environmental and social outcomes of project activities;
5. Ensuring that the proposed mitigation measures are feasible and cost-efficient;
6. Providing an Action Plan to ensure that the project impact mitigation measures are properly implemented and monitored;
7. 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 in the lower hill slope. Joenkhar, Tholong, Shingkhar 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, Shingkhar, and Khashiteng are situated in the lower valleys.

b) 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.

c) 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.

d) 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.

e) 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.

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.

3. Planned activities in Year 2024-2025

Activity 3.1: Corral Fencing Installation to Mitigate Livestock Depredation

Budget: 1.3 million

Timeline: October 2024-March 2025

Location: Sakteng

The majority (85%) of the population residing in the sanctuary relies on livestock for sustenance, dwelling deep within the forest where human-wildlife conflicts are imminent. The primary conflict reported involves wild carnivores attacking calves. Building upon the success of the pilot corral fencing installations at Merak and Sakteng by SWS in collaboration with NCD, this initiative aims to continue installing corral fencing to mitigate livestock depredation by wildlife especially for the livestock calves which are more prone to depredation. Portable equipment necessary for corral fencing installation will be provided to enable people to shift between seasonal grazing lands.

The following course of action will be involved in installing corral fencing:

1. Supply of corral fencing wire
2. Supply of solar panels and solar wire.
3. Supply Inverter battery.
4. Cutting down of pole-sized tree for posts
5. Fencing a small portion of the area near the hut to protect calves from wild predators

The fencing material will be provided to the more than 50 herders upon prioritization from gewog office and the installation will be carried out by the 2-3 herders for each installation which they will coordinate among themselves. Technical support for the installation will be provided by the park management in collaboration with relevant technical experts.

Some of the possible social and environmental impacts are:

1. Generation of waste while installing the corral fencing.
2. Occupational safety of workers
3. Safety of commuters

Activity 3.2: Maintenance of Range Office

The range office at Merak has not received any significant maintenance since its construction. Urgent repairs are needed, particularly for the roofing, flooring, and drainage system. Therefore, an allocation of Nu. 0.7 million will be utilized for the maintenance of these aspects of the office.

The following course of action will be involved in maintaining the Range Office:

1. Maintenance of roofing.
2. Replacement of wooden floor with concrete floor.
3. Maintenance of drainage system.

The maintenance work will be carried out through community contract process which is the local practise. The maintenance work will be carried out by 5-6 community workers who will commute from their home to workplace, so no accommodation is required for the workers. The workers will use existing water and toilet facilities in the office compound during the maintenance work.

Some of the possible social and environmental impacts are:

1. Waste generation from construction workers
2. Noise pollution
3. Air pollution
4. Occupational health and safety of workers

4. Mitigation Measures for Environmental and Social Impacts

Potential impact	Impact scale	Proposed mitigation measures	Responsible Party	Costs (million)
Activity 1: Corral Fencing Installation to Mitigate Livestock Depredation				1.3
Generation of waste while installing the corral fencing.	Short term minor	• Bring back all non-degradable waste to the proper dumping site • Make sure that no waste is left unattended in the fencing site	SWS Management and BFL Focal	NA
Occupational safety of workers	Short term minor	• Comply with the worker's health and safety guidelines of BFL • Use safety gear (especially the proper installation equipment like a plier, tester, and voltmeter for testing the voltage)	BFL Focal and site supervisor	Nu 10000
Safety of commuters	Short term minor	• Installation of signage at the fenced sight • Provide awareness during meetings regarding the fencing	BFL Focal and sight supervisor	NA
Activity 3: Maintenance Range Office at Merak				0.7
Waste generation from construction workers	Short term minor	• Awareness briefing on waste management to the contractor and worker before the commencement of work • Install proper waste bins • Segregate non-biodegradable waste and dumped in designated land fill site • Construct proper toilet for workers	SWS Management and BFL Focal	NA
Noise pollution	Short term minor	No significant noise is expected to be produced during the work. To maintain the peace and privacy of the occupant, working time is restricted to 8 AM to 8 PM.	BFL Focal	NA

Air pollution	Short term minor	• Apply wet sanding while removing rust from the CGI sheet • Use of mask during the maintenance work	BFL Focal & site engineer	NA
Occupational health and safety of workers	Short term minor	• Comply with the BFL and RGoB occupational health and safety guidelines • Ensure decent working conditions • No under-aged workers should engage in the work • Monitor the health of the workers	BFL Focal & site engineer	5000

5. ESMP Implementation Arrangements

The execution of project activities will be overseen by the designated BFL focal person stationed at SWS. The focal person 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 mitigative 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, reviewing 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 safeguard's requirements.

6. 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.

Protocol for monitoring of activities under this ESMP will be carried out as follow:

Sl#	Activities	Monitoring team	Timeline		Location	Means of Verification
			Start	Complete		
1	Corral Fencing Installation to Mitigate	Field Focal	October 2024	March 2025	Sakteng	Collar fencing handing taking report
		ESS focal	Nov, 2024	Feb, 2025		

	Livestock Depredation					
3	Maintenance of Range Office	Field Focal	October 2024	March 2025	Merak	Work completion report
		ESS focal	Nov, 2024	Feb, 2025		

Activity 1: Corral Fencing Installation to Mitigate Livestock Depredation

Monitoring by implementing entities:

- The installation work will be monitored by the concerned Range Office
- Progress report of the work shall be submitted monthly.

- Monitoring by ESS officer: once during the implementation and through field report submitted by the field focal
- Quarterly reports by PCU (M&E officer) to Secretariat
- Bi-annual reports of the Secretariat to WWF US (as part of mid-year and final APRs)

Activity 2: Maintenance of Range Office

- Monitoring by implementing entities:
  - The work shall be jointly monitored by Range Office, Merak, SFE Section and BFL Focal
  - Progress report of the work shall be submitted monthly.
- Monitoring by ESS officer: Through field report submitted by the field focal
- Quarterly reports by PCU (M&E officer) to Secretariat
- Bi-annual reports of the Secretariat to WWF US (as part of mid-year and final APRs)

7. 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.

Separate budget of ngultrum fifteen thousand is (Nu 150000) required to implement the mitigation measures for the activities under year 6 of BFL implementation.

Sl#	Activity	Amount (Nu.)	Budget for ESS mitigation
1	Corral Fencing Installation to Mitigate Livestock Depredation	1,300,000	10,000
3	Maintenance of Range Office	700,000	5000

Total	**2,400,000**	**15000**

8. Consultation and Disclosure Mechanisms

This ESMP has been developed following thorough consultations with the community and relevant stakeholders, where applicable. The ongoing restoration and improvement of alpine meadows and lowland grasslands are scheduled activities for the year 2023 (year 5). The continuation of the restoration/improvement of alpine meadows align with the outcomes of the public consultation held from December 19th to 26th, 2019.

Public consultation is deemed unnecessary for the implementation of corral fencing installation and maintenance of the Range Office, as these activities do not encroach upon or disrupt private property or grazing grounds. Nonetheless, 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 MoAF, BFL, and WWF, Bhutan Program. Additionally, hard copies of the ESMP will be accessible at the SWS Management Office and the PCU Office.

9. Stakeholder Engagement Plan

The tasks of enhancement of alpine meadows, and upkeep of the Range office will be contracted out to local community contractors. The local government will be involved in identifying the community that purely depends on livestock for the distribution of collar fencing. The installation of the collar fencing may be done by the concerned field officials who were trained during pilot collar fencing in the year 2023.

10. Grievance 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, on resources, non-performances of project obligation 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 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 the annexure

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.

Annexure

BFL: OCCUPATIONAL HEALTH AND SAFETY STANDARDS

Employers and supervisors are required to take all necessary precautions to safeguard the health and safety of their workers. Implementing entities should engage contractors with the requisite technical expertise to effectively address the occupational health and safety concerns of their workers, extending the implementation of hazard management activities through formal procurement contracts.

This section offers advice and illustrative instances of sensible precautions to adopt in addressing the primary risks to occupational health and safety. The content draws upon the Environmental, Health, and Safety Guidelines issued by the IFC (April 30, 2007), as well as the Occupational Health and Safety Guidelines established by Bhutan's Construction Development Corporation Ltd. These guidelines are founded on national regulations such as the Regulation on Occupational Health, Safety and Welfare 2012, Regulation on Working Conditions 2012, and the Labour Act 2007, ensuring 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 accumulation of hazardous compounds.
- Buildings should be structurally safe, provide appropriate protection against climatic conditions, 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. 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 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 within and around the construction sites.
- 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.
- Facilities shall be equipped 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.
- Fire exits should be identified and marked in Dzongkha and English- all workers should be made aware of the fire exits.

Lavatories and Showers

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

Potable Water Supply

- Adequate supplies of clean 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

- Workplace should receive adequate natural light and if required supplemented with artificial illumination to promote worker's safety and enable safe equipment operation.
- Emergency lighting of adequate intensity should be provided in case of failure of the powerline.

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 need to be provided where ever necessary, if there is risk of falling of overhead object.
- 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 stall be not more than 200m from any working place.
- First aid kits include all equipment outlined in Annex 1 to these Guidelines.
- Each first aid box or a cupboard shall be distinctly marked "FIRST AID"

Air Supply

- Workplace should have adequate ventilation for fresh air

2. Information Provision on Occupational Health and Safety (OHS)

1. 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.
2. 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.

3. 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 90 dB(A) for a duration of more than 8 hours per day without wearing ear plugs/ear muffs.
- Exposures to impulsive or impact noise shall not exceed 140dB(A).

- For every 3 dB(A) increase in sound levels from the permissible limit of noise, the ‘allowed’ exposure period or duration should be reduced by 50 percent.
- Where it is not practicable to reduce the noise, the employer must limit the duration of time persons employed or working in the workplace are exposed to the noise so that such persons are not exposed to excessive noise.
- 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

In any workplace where persons are at work in any process or operation which involves exposure to vibration which may constitute a risk to their health, it shall be the duty of the employer to provide, so far as is reasonably practicable, effective means to reduce the vibration.

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
- Conducting detailed identification and marking of all buried electrical wiring prior to any excavation work
- Every person who is working on an electric supply line or apparatus or both shall be provided with tools and devices such as gloves, rubber shoes, and safety belts, ladders, earthing devices, helmets, line testers, hand lines whichever is relevant for protecting him/her from mechanical and electrical injury.

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.

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.

Working Environment Temperature

Exposure to hot or cold working conditions in indoor or outdoor environments can result 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.

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:

- 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 (adult man- 50kg, adult female-25kg)

- 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.

4. 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 complete set of protective wear.
- Do not wear loose clothing, such as overhang shirt, jackets, mufflers etc.
- Tuck shirt and jacket well.

- Secure helmet with belt under the chin.
- Tuck the bottom sleeves of trouser inside safety boot.
- Dress with reflector

5. Standards for workers' accommodation[1]

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 if the accommodation is reasonably far from the worksite.
- The living facilities are built using adequate materials, kept in good repair and kept clean and free from waste and 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 and is regularly monitored.
- 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

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 waste collection are provided and emptied on a regular basis.

6. Rooms/dormitories facilities

- Rooms/dormitories are kept in good condition. They are aired and cleaned at regular intervals.
- Rooms/dormitories are built with easily cleanable flooring material.

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- 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.
- Separate sleeping areas are provided for men and women.
- A separate bed is provided for every worker and use of double deck bunks is minimized.
- Workers are provided with comfortable mattresses. Workers may be expected to use their own pillows and bed linens.
- 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 and shower 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.

9. Cooking and laundry facilities

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

Annex 1. 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)

Annexure II

BFL Grievance Redressal Mechanism Brochure for SWS

LOGICAL STEPS FOR GRIEVANCE RESOLUTION PROCESS

- GRIEVANCE/COMPLAINT
- RECEIVE AND REGISTER GRIEVANCE — *2 working days*
- ACKNOWLEDGE, ASSESS AND ASSIGN — *10 working days*
- PROPOSED RESPONSE — *4 working days*
- DRAWING AGREEMENT ON RESPONSE — *4 working days*
- IMPLEMENT AGREED RESPONSE — *10 working days*
- RESOLVED / UNRESOLVED
- MONITOR / APPEAL, REVIEW / FORMAL SYSTEM

Each grievance will be registered with the following information:

- Name of the complainant
- Date of the grievance
- Nature of the grievance and location
- Number of persons involved
- Tracking no.
- Potential solutions

Modes of communication:

WHAT HAPPENS TO YOUR COMPLAINT?

The complaint will be investigated by responsible authorities following the logical steps for grievance resolution process within 12 working days. If further investigation is required, the complainant will be informed accordingly and a final response will be provided after an additional period of 8 working days.

If you did not prefer to remain anonymous, you will be notified regarding the complaint resolution once the investigation is completed.

VISIT US:

Bhutan For Life, Project Coordination Unit, Department of Forests and Park Services, Ministry of Energy and Natural Resources, Royal Government of Bhutan

GREEN CLIMATE FUND

WWF

Bhutan Trust Fund for Environmental Conservation

THE GRIEVANCE REDRESSAL MECHANISM FOR BHUTAN FOR LIFE

SAKTENG WILDLIFE SANCTUARY

The goal of the BFL GRM is to channel grievances into an acceptable, institutionalized mechanism for timely resolving conflict that may arise from implementation of BFL project activities.

The GRM seeks to address any grievances related to the implementation of BFL activities such as:

- Loss of community resources
- Non-performance of project obligations including safeguards
- Violations of law and/or corruption
- Project governance and implementation
- Fair access and benefit sharing
- Stakeholder engagement
- Budget allocation
- Labour related issues and incidents
- Gender related issues

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

Wangchuk Dorji
17583951
wdorji@moenr.gov.bt
Sakteng Wildlife Sanctuary, Phongmey, Trashigang

MERAK RANGE OFFICE

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

SAKTENG RANGE OFFICE

Jambay Dhendrup
17943850
dhendrup15@gmail.com
Park Range Office, Sakteng Range, Trashigang

JOENKHAR RANGE OFFICE

Sonam Samten
17738192
sonamsamten7@gmail.com
Park Range Office, Joenkhar 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

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

BFL PROJECT COORDINATION UNIT (PCU)

Norbu Yangdon
17987200
norbuyangdon@moenr.gov.bt
BFL Project Coordination Unit, Department of Forests and Park Services, Ministry of Energy and Natural Resources, Taba, 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 entitity 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/maybe 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.