

Executive Summary

BFL has been categorized as a Category B project, as the potential adverse environmental and social impacts on 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 Biological Corridor (BC) 4,- Zhemgang describes mitigation measures/good practices at activity level which are required as per the screening protocol. All the screened activities which has potential risks to environment and social management have to prepare ESMP which include environment management and mitigation plans during pre-activity, activity implementation and closing phases. Hence, it contains 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 record, reporting, review, auditing and update ESMP yearly as per the planned activities.

The activities that required ESMPs for the year 2025 under BC4 -Zhemgang are as follows:

1. Enhancement of low-land grass land at Pirchen
2. Maintenance of Khomshar Range Office
3. Maintenance of Bermo Forest Nursery

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Bhutan for Life

Environmental and Social Management Plan for BC-4, Zhemgang (2025)

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.

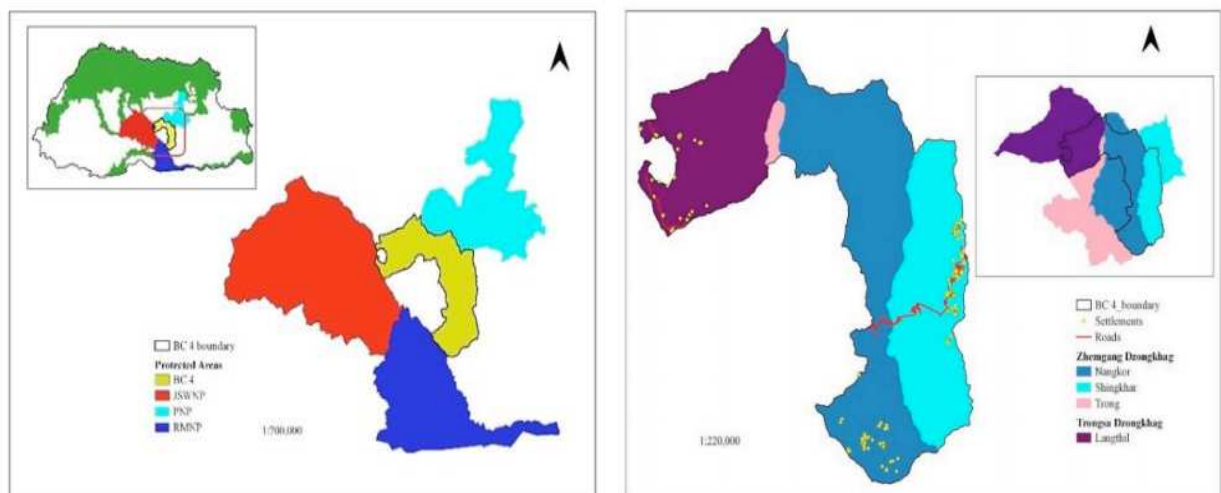


Fig1: Location of BC4

(B) Scope of ESMP

The preparation of this Environmental and Social Management Plan (ESMP) was required to manage the environmental and social impacts through specific mitigation actions required to implement the project as per 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 each park authority (PA) and biological corridor (BC), and by the contractor to be commissioned by each PA/BC 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 the 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 according to 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

The BC4 is located between the longitudes 90°35'22.14" E and 90°56'49.83" E and latitudes 27°23'5.66" N and 27°1'2.15" N. Biological Corridor 4 (BC 4) covers an area of 594 sq.km and the elevation ranges from 228-4570 masl it is the largest of the biological corridors in Bhutan. The slope classification of the corridor is based on the standard adopted for developing Local Forest Management Plans (LFMP) in Bhutan. The slope is classified into three categories based on the steepness of the slope; 0-35 degrees as a gentle slope, 35-45 degrees as moderately steep, and more than 45 degrees as a steep slope (Figure 3). The biological corridor area is characterized by a 60% gentle slope, 28% moderately steep slope, and 12% steep slope.

The elevation of the corridor ranges from 228 masl to 4570 masl, and it is classified into four major categories (Figure 4). Most of the corridor area falls between the elevation range of 1000 to 2500 masl. A significant portion of the biological corridor area has south-facing slopes followed by north-facing slopes, west-facing slopes, and least east-facing slopes.

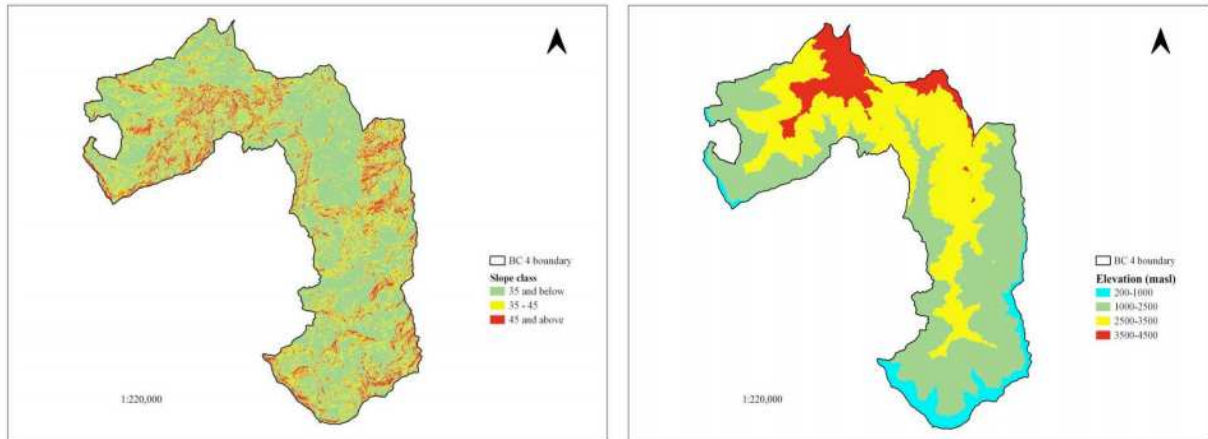


Fig2: Slope and elevation classification of corrido

b. Hydrological conditions

There are major and minor rivers, as well as multiple seasonal streams flowing through the corridor catchment area. The corridor is prominently bordered by major rivers, *Mangduechu* and *Chamkharchu*. While the *Mangdechu* river basin borders the corridor with JSWNP in the north and RMNP in the south, the *Chamkharchhu* forms the eastern and southern boundary of the corridor.

The major rivers originate from beyond the corridor boundary, while the source of minor rivers (*Burgongchhu* and *Wangdigangchhu*) and all the seasonal streams emerge within the corridor. Further, there is an upcoming Hydro Project along the *Burgongchhu* basin (Between *Buli* and *Ngakhar* villages (Figure 6). The river source and upstream tributaries feed the river basin and emerge from within the corridor area. Hence, it is imperative to conserve upstream catchment for the sustainability of the hydropower plant and induce minimal impact on the biological corridor and the surrounding environment.

c. Flora and fauna

It has 94 species of vascular plants, 25 species of mammals, and 150 species of birds. Mammals recorded from the photographic capture as provided in Figure 2 are: Tiger, Asiatic golden cat, marbled cat, Sambar deer (female & male), red panda,



black bear, long tail shrike, whiskered Yuhina, Long tail minivet, Himalayan monal pheasant and blood pheasant.



Fig 3: Photos of mammals, birds, and plant species in BC 4

d. Socio-economic conditions

BC 4 covers four Gewogs (Trong, Nangkor, Shingkar, and Langthel) as given in Table 1. Of the four geogs falling inside the corridor, Trong geog has no settlements. People in the area are mostly Khengpa. It has 74 households permanently inside the BC4 and 250 households in its buffer area. Socio-Economic Survey conducted from the year 2015-2016 reveals that two dialect-speaking communities are living in and around the corridor boundary. It holds a population of 7653. The ratio of men and women is almost equivalent with 3869 men and 3784 women.

Table 1: Population inside BC 4

Geog/Dzongkhag	Chiwog	Male	Female	Total
Nangkhor, Zhemgnag	Buli	629	539	1168
	Tshaidang	177	190	367
	Duenmang	126	153	279
Shingkar, Zhemgang	Radi	55	59	114
	Nimshong	200	129	329
Langthel, Trongsa	Dangdung	525	461	986
	Baling	226	175	401
Total		1938	1706	3644

The major source of livelihood for the communities residing inside and along the buffer (5 km outside the boundary) of the corridor is agriculture and livestock rearing. Livestock rearing is more than a source of income for households as it provides food for nutrition and manure for agriculture. Agricultural farms and meadows form about 10 sq. km of the total area. Occasionally, additional income is also generated from the sale of non-wood forest products and daily wage labor. Three types of agriculture can be categorized in the BC region: wetland (chhuzhing), dry land (kamzhing), and Tseri (swidden agriculture). The wetland is the most productive of these and requires a good deal of water. As a result, it is not very widespread and can only be found in those parts that have good irrigation facilities.

Kamzhing or dry land cultivation is the most common. It is practiced by nearly every household in the Chiwog. Tseri cultivation is also commonly seen in patches though the government has discouraged such practices due to the impact of environmental damage.

In addition to such cultivation of grains, all farming households also maintain kitchen gardens, where they grow a variety of vegetables. Although some of the vegetables are sold in the nearby towns of the villages, cultivation of grains is mainly subsistence-oriented, aiming only to meet the needs of the household. Mandarin, banana, and guava constitute the most important cash crops in the region but they are mostly grown on a small scale. Cardamom plantation is the common cash crop followed by hazelnut plantation to supplement the income of the farmers

3. Planned activities from July 2025 to June 2026

Activity 3.1. Enhancement of lowland grassland at Pirchen

- *Budget: Nu.450,000/-*
- *Timeline: Jan – Mar 2026*
- *Location: Pirchen, Zhemgang*

Pirchen Grassland is situated at an elevation of 590 meters above sea level (masl), along the Mangdechu River bank. It is located approximately 4 kilometers away from Tingtibi town under Trong Gewog, Zhemgang Dzongkhag. It is a flat grassland partially covered by non-palatable herbs and shrubs. The grassland is accessible by an approach road constructed by Natural Resources Development Corporation Limited (NRDC) for sand collection. The area falls within the buffer area of Jigme Singye Wangchuck National Park (JSWNP) and Biological Corridor 4. The grassland is frequented by ungulates like Sambar, Himalayan Goral, Barking Deer, and Serow. It also hosts predator species like the Common Leopard, Leopard Cat, and Dhole. The grassland was improved and developed in the year 2021-2022 through removing of alien and non-palatable species.

This year enhancement of lowland grassland activity will be implemented within **9 hectares (ha)** of state-reserved forest land, which was previously only **4ha**. The activity includes the removal and burning of non-palatable herbs and shrubs. Grass-cutter machines will be utilized to cut the grass as well as through manual labor. The cut vegetation will then be gathered and left to dry at least for two days to facilitate easier burning.

Around 15 to 20 workers from Berti village and Tingtibi will be involved during the implementation of the activity. The proposed budget for the activity will be utilized to pay the daily wage to the workers. No accommodations or logistics will be required for the workers, as they will be returning home in the evening. Since the activity is included in the management plan of BC 4, no clearances are needed for its implementation.

- *3.1.1 Potential social and environmental impacts of the activity are:*
 1. *Occupational health and safety hazards for workers*
 2. *Accidental forest fire during burning of debris*
 3. *Growth of non-palatable species*



Fig 4: Location Overview of Pirchen Grassland

Activity 3.2. Maintenance of Khomshar Range Office, BC4

- *Budget: Nu. 1000,000/-*
- *Timeline: Oct 2025 – Jun 2026*
- *Location: Khomshar, Zhemgang*

The office operated as a Beat Office from 2007-2011 and was constructed as a Range Office in 2012. The office is situated in Tangtsebi village under Khomshar gewog (district) on a 0.38-decimal plot of land. It oversees 310 households across a vast area of 21,969.49 hectares. The region's elevation ranges from 410-3600 meters above sea level, falling within sub-tropical to cool broadleaved forest zone. However, in the last 13 years since its establishment, no maintenance work has been carried out, leaving both the interior and exterior of the building in urgent need of repair.

The proposed activity focuses on renovating the existing Range Office at Khomshar to create a more conducive working environment for effective public service delivery. The scope of work includes repairing plinth protection, drainage, and the toilet, as well as replacing window frames, changing sockets, re-electrifying the office, installing earthing, and painting the roof. A maximum of 10 laborers will be hired through a contractor, ensuring they receive adequate food and logistical

support for the duration of their employment. The office water supply is shared with the community and may not be sufficient for the laborers. For sanitation, they can use the existing office toilet, which also requires maintenance.

- *3.2.1 Potential social and environmental impacts of the activity are:*

1. *Generate solid wastes from the maintenance work and worker's camp*
2. *Produce dust during construction.*
3. *Noise pollution during construction.*
4. *Occupational health and safety hazards for construction workers.*



Fig 5: Khomshar Range Office

Activity 3.3. Bermoo Botanical Garden Nursery management, BC4

- *Budget: Nu. 60,000/-*
- *Timeline: Oct-Dec 2026*
- *Location: Bermoo, Zhemgang*

The forest nursery is located approximately 3.5 km from Tingtibi towards Wangdigang and below Wangdigang-Tingtibi bypass. It was established as a component of Bermoo Botanical Garden in the year 2013 with the funding support of Nu.391,000/- (Ngultrum Three Hundred Ninety-one Thousand) from

Mangdechhu Hydro Project Authority (MHPA) Trongsa. The Nursery encompasses a fishery pond, store cum caretaker quarter, and 20 nursery beds. The Bermo nursery is located at the valley bottom with a warm broadleaved forest.

The existing nursery will serve as a vital hub for seedlings (Champ, Walnut, *Beilschmiedia sp.*, *Cupressus sp.*, Bamboo, etc.) production, supporting a range of important plantation initiatives (Social Forestry days, Community Forests, and other national importance days). Key activities will include the procurement of essential supplies such as poly pots, flexible piping, watering cans, tools, green nets, leaf molds, topsoil, sand, and tree seeds.

Three staff under the Divisional Forest Office, Zhemgang are stationed in Bermoo which is around 150m away from the nursery site. The nursery development works will be carried out by the staff stationed at Bermoo and will not require to provide shelter as they will join the work from home.

- 3.2.1 Potential social and environmental impacts of the activity are:
 1. Risk of disturbance to habitat during the collection of leaf molds
 2. Occupational health and safety hazards of the workers
 3. Generation of wastes



Fig 6: Location Overview of Bermoo Botanical Garden Nursery



Fig 7: Existing Bermoo Botanical Garden nursery

4. Mitigation Measures for Environmental and Social Impacts

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Cost
<i>Activity 1. Enhancement of lowland grassland at Pirchen</i>				
Occupational health and safety	Short term minor	<ul style="list-style-type: none"> • Comply with the worker's health and safety guidelines • Provide hand gloves, face masks, safety goggles, and gumboots. • Ensure that no underage workers or children are engaged. • Ensure that workers are employed on the principle of equal opportunity and fair treatment. 	BFL Focal and Bermoo Botanical Garden	Cost will meet from activity
Accidental Forest fire during burning of debris	Short term minor	<ul style="list-style-type: none"> • Monitor the activity closely. • Adopt measures like controlled/ prescribed burning (fire lines, fuel load reduction, backfiring, etc). • Burning of trees and other plants should be avoided. 	BFL Focal and Bermoo Botanical Garden	from Cost will meet from activity activity
Growth of non-palatable species	Short term minor	<ul style="list-style-type: none"> • Regular weeding and control measures need to be carried out. 	BFL Focal and Bermoo Botanical Garden	Cost will meet from activity

Activity 2. Maintenance of Khomshar Range Office, BC 4				
Occupational health and safety	Short term minor	<ul style="list-style-type: none">• Comply with the worker’s health and safety guidelines.• Provide PPE to the workers• Ensure that no underage workers or children are engaged.• Ensure that workers are employed on the principle of equal opportunity and treatment.	BFL Focal, RO, Khomshar Range and Contractor	To be incorporated in the bidding document
Generate solid wastes from construction and workers’ camps.	Short term minor	<ul style="list-style-type: none">• Ensure proper management and disposal of wastes at designated sites.• Install containers/ waste bins at the project site• Regular monitoring of the activity• Burning of construction waste should be prohibited.	BFL Focal, RO, Khomshar Range and Contractor	
Noise pollution during the construction phase.	Short term minor	<ul style="list-style-type: none">• The operations on site shall be restricted to 7 am – 7 pm.• Regular monitoring of the activity• Earplugs and protecting devices shall be provided to workers on-site if necessary	BFL Focal, RO, Khomshar Range and Contractor	
Activity 3. Bermoo Botanical Garden Nursery management, BC 4				
		<ul style="list-style-type: none">• Comply with the worker's health and safety guidelines		Additional budget to procure safety

Occupational health and safety	Short term minor	<ul style="list-style-type: none"> • Provide hand gloves, face masks, and gumboots. • Ensure that no underage workers or children are engaged; • Ensure that workers are employed on the principle of equal opportunity and fair treatment. 	BFL Focal, NCS, and plantation focal (FRPMS)	gear for three workers: Nu.10000 /-
Waste generation	Short term Minor	<ul style="list-style-type: none"> • Wastes generated shall be collected and disposed of in the municipal landfill at Tingtibi by the workers 	BFL Focal, NCS, and plantation focal (FRPMS)	
Risks of disturbance to habitat during collection of leaf molds	Short term Minor	Minimal surface collection of leaf mold shall be carried out from non-restricted areas.	BFL Focal, NCS, and plantation focal (FRPMS)	

5. ESMP Implementation Arrangements

The implementation of project activities will be carried out by the BFL focal person in BC 4. The focal person will be responsible for compliance with all procedures outlined in this ESMP, as well as compliance with any requirements to obtain clearances, permits, approvals, or consent documents from relevant authorities and stakeholders.

This ESMP should be part of the contract that the BC will sign with the Contractor(s) for implementation of the planned activities in BC 4 from July 2025– June 2026 The Contractor is obligated to perform all proposed preventive or mitigation environmental and social measures in this plan and to keep the evidence of any documents related to applying these measures (e.g., letter asking the municipality for disposal of inert waste, records on OHS information session performed for all workers before start of activities, all developed OHS plans, etc.). An OHS information session should be organized by the Contractor for all workers prior to the start of the project activities and prior to any specific tasks with high health risks.

The BC 4 Supervising Engineer must monitor the implementation of proposed measures by the Contractor and the Contractor’s subcontractors through visual inspections, reviewing evidence records to confirm the measures have been applied, and requesting that the Contractor implement the measures as soon as possible. Non-compliances should be recorded and the Report on any non-compliances should be reported to the ESS focal immediately, and the ESS focal will report it to the PCU (ESS Expert at PCU). Each non-compliance should be closed with appropriate measure/s and the evidence should be kept.

Disbursement of project funds to the BC will be contingent upon their full compliance with the safeguard requirements.

6. ESMP Monitoring Arrangements

The CFO and BFL focal person in BC 4 will closely monitor the implementation of all planned activities and the required mitigation measures, ensuring they fully comply with this ESMP and the terms and conditions included in the environment clearances issued by the RGoB’s national authorities.

BC 4 is also fully responsible for the compliance of all external contractors and service providers working in the BC 4 with the safeguards requirements outlined in the ESMP.

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	Enhancement of lowland grassland at Pirchen	BFL Focal	Jan 2026	Mar 2026	Pirchen, Trong Gewog, Zhemgang	Field visits and reports
		ESS Focal	May 2026	May 2026		
2	Maintenance of Khomshar Range Office, BC4	Field Focal	Oct 2025	Jun 2026	Khomshar, Zhemgang	Field visits and reports
		ESS Focal	May 2026	May 2026		
3	Bermoo Botanical Garden Nursery Management, BC4	Field Focal	Oct 2025	Dec 2025	Bermo, Zhemgang	Field visits and reports
		ESS focal	Oct 2025	Dec 2025		

Activity 1: Enhancement of lowland grassland at Pirchen

- Monitoring by implementing entities:
 1. Field visits at least twice - during the intervention and then monthly as part of the “SMART patrolling” activity – Jan 2026 – March 2026.
 2. Reports by the implementing entities submitted to ESS focal during the intervention and then after the intervention completion - Jan 2026 – March 2026
- Monitoring by ESS consultants:
 1. Field visits by ESS focal - at least once during the intervention - March 2026
 2. Reports by ESS focal to the PCU (M&E officer) - within two weeks after the field visit and for semi-annual reporting – March 2026
- 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 Khomshar Range Office, BC4

- Monitoring by implementing entities:
 1. Field visits at least twice - during the intervention and then monthly as part of the “SMART patrolling” activity – October 2025 – December 2025.

2. Monthly report prepared by implementing entities and submitted to the ESS focal during the intervention and then after the intervention completion - October 2025 – December 2025
- Monitoring by ESS consultants:
 1. Field visits by ESS focal - at least once during the intervention – October 2025
 2. Reports by ESS focal to the PCU (M&E officer) - within two weeks after the field visit and for semi-annual reporting – October 2025
 - 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 3: Bermoo Botanical Garden Nursery Management, BC4

- Monitoring by implementing entities:
 1. Field visits at least twice - during the intervention and then monthly as part of the “SMART patrolling” activity – October 2025 – December 2025.
 2. Monthly report prepared by implementing entities and submitted to the ESS focal during the intervention and then after the intervention completion - October 2025 – December 2025
- Monitoring by ESS consultants:
 1. Field visits by ESS focal - at least once during the intervention – October 2025
 2. Reports by ESS focal to the PCU (M&E officer) - within two weeks after the field visit and for semi-annual reporting – October 2025
- 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

Activities under this ESMP will be implemented by the BFL focal person, supervising engineer/staff, and a contractor that will employ workers as mentioned in the contract agreement.

- *The budget for each of the activities is:*

Sl#	Activity	Amount (Nu.)	Budget for ESS mitigation
1	Enhancement of lowland grassland at Pirchen	450,000	

2	Maintenance of Khomshar Range Office, BC4	1000,000	
3	Bermoo Botanical Garden Nursery management, BC4	60,000	10,000
Total			1,520,000

8. Consultation and Disclosure Mechanisms

This ESMP is prepared by the Divisional Forest Office, Zhemgang under the supervision of the Chief Forestry Officer. The full English version of this ESMP, as well as an executive summary translated into Dzongkha, shall be disclosed on the website of MoENR, BFL, and WWF GCF AE, Hard copies of the ESMP should also be available at the Division Forest Office and the PCU Office. Copies of the ESMP will be shared with relevant local elected leaders of Khomshar Geowg for their compliance.

There are no communities within the periphery of the Pirchen Grassland; therefore, community consultation is not necessary. Similarly, no consultation is required for the Bermoo Botanical Garden Nursery management work, as there are no settlements in the area.

Grievance Mechanisms

This ESMP and its mitigation measures are required to be disclosed to communities for 30 days before 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.

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. Stakeholder Engagement Plan

There are no communities within the periphery of the Pirchen Grassland; therefore, community consultation is not necessary. However, consultations will have to be conducted with the community near the Khomshar Range Office maintenance site. Similarly, no consultation is required for the Bermoo Botanical Garden Nursery management work, as there are no settlements in the area.

Annexure

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 in compliance to Sl. No. 21 of 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 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 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 the 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.

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 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 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 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. 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.

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- 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 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

GRIEVANCE/COMPLAINT

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RECEIVE AND REGISTER GRIEVANCE

↓

ACKNOWLEDGE, ASSESS AND ASSIGN

↓

PROPOSED RESPONSE

↓

DRAWING AGREEMENT ON RESPONSE

↓

IMPLEMENT AGREED RESPONSE

↓

RESOLVED

↓

MONITOR

2 working days

↓

10 working days

↓

4 working days

↓

4 working days

↓

10 working days

↓

↓

UNRESOLVED

↓

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:

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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

BC4
DIVISIONAL FOREST OFFICE, ZHEMGANG

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.

HEAD OFFICE

- 👤 Tashi Wangchuk
- ☎️ 17113920
- ✉️ twangchuk73@gmail.com
- 🏠 Zhemgang Forest Division, Zhemgang

ZHEMGANG RANGE OFFICE

- 👤 Tandel Zangpo
- ☎️ 17559998
- ✉️ tandyl.zangpo@gmail.com
- 🏠 Zhemgang Range Office, Zhemgang

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

KHOMSHAR RANGE OFFICE

- 👤 Sherab Jamtsho
- ☎️ 17559931
- ✉️ sherabjamtsho85@gmail.com
- 🏠 Khomshar Range Office, Khomshar, Zhemgang

SHINGKAR BEAT OFFICE

- 👤 Nima Dorji
- ☎️ 17975457
- ✉️ nimadorji624@gmail.com
- 🏠 Shingkhar Beat Office, Shingkhar, Zhemgang

BULI BEAT OFFICE

- 👤 Kinley Dorji
- ☎️ 17628465
- ✉️ kinleyd855@gmail.com
- 🏠 Buli Beat Office, Buli, Zhemgang

BFL PROJECT COORDINATION UNIT (PCU)

- 👤 Ugyen Dechen
- ☎️ 17491881
- ✉️ ugyendechen@gmail.com
- 🏠 BFL Project Coordination Unit, Department of Forests and Park Services, Ministry of Energy and Natural Resources, Taba, Thimphu

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. Nangkor Gewog – 17838823
2. Shingkhar Gewog – 17874525

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/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.

