

འབྲུག་ཆེ་སློག་མ་དངུལ།

Bhutan for Life

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

Environmental and Social Management Plan for

སྤྲུལ་བར་ལམ་བརྟན་པ་(བུམ་ཐང་དགའ་ཚལ་མངགས་སྡེ་ཡིག་ཚང་) ༢༠༢༦

Biological Corridor 08 (Bumthang) for 2026

གོ་དོན་ལྟར་བརྟན་དོན།

འབྲུག་ཆེ་སློག་མ་དངུལ་འདི་མཐའ་འཁོར་གནས་སྤངས་དང་མི་སྡེའི་འོས་འབབ་ཅན་གྱི་ལས་འགུལ་གྱི་དབྱེ་ཁག་ལ་པ་(Category B) ཅད་ལུ་རྒྱ་ཚུང་དེ་ཡོད་པ་ཡིན།
དེ་ཡང་ལས་འགུལ་འདི་ལས་བརྟན་ཏེ་སྤྱད་སྤྱོད་ས་ཁོངས་ནང་སྤྱད་མིའི་མི་སེར་དང་ཡང་ན་སྤྱད་སྤྱོད་ས་ཁོངས་ཀྱི་མཐའ་སྐོར་ཏེ་འཛོལ་སྤྱད་སྤྱོད་ས་ཁོངས་ལུ་
བརྟན་སྤྱད་མིའི་མི་སེར་ ཡང་ན་གཤམ་ཅན་གྱི་མཐའ་སྐོར་གནས་སྤངས་ཀྱི་ ས་ཁོངས་ཚུ་ལུ་གཞོན་པ་འབྱུང་ནིའི་ཉེན་ཁ་ཡོད་པ་
ད་གཤམ་སྤྱད་གཞོན་པ་འབྱུང་པ་ཅིན་གཞོན་ཉེན་ཚུ་དམིགས་གསལ་ས་གནས་ནང་རྒྱུང་མ་ཅིག་འབྱུང་ནི་དང་གཞོན་ཉེན་མར་ཡབ་རྒྱབ་ནི་དང་ཅུ་མེད་ཡང་གཏང་ཚུགས་པ་ཡིན།

དེ་འབད་མ་ལས་འབྲུག་ཆེ་སློག་མ་དངུལ་ཐོག་ལུ་རྒྱབ་སྐྱོར་འབད་ཡོད་པའི་ལས་འགུལ་དང་ལས་སྐྱུ་ཚུ་མཐའ་འཁོར་གནས་སྤངས་དང་མི་སྡེ་གཉིས་ལུ་ཡུན་བརྟན་
གྱི་ཕན་པ་ཡོད་པ་བཟོ་བགི་མ་ཚད་འབྲུག་ཆེ་སློག་མ་དངུལ་གྱི་སྤྱད་སྤྱོད་ས་ཁམས་སྤྱོད་དང་འབྲེལ་བའི་ཐབས་ལུ་མཐའ་འཁོར་གནས་སྤངས་དང་མི་སྡེ་འཛིན་སྐྱོང་འཆར་གཞི་
ཞི་འདི་དགོས་ མི་དམངས་ཁྲོམ་བརྟན་དང་ ཏུས་དང་ཏུས་སུ་མི་དམངས་ལུ་གསང་བ་བཤད་ནི་འདི་དགོས་ཡིན།

སྤྲུལ་བར་ལམ་བརྟན་པ་(བུམ་ཐང་མངའ་སྡེ་ཡིག་ཚང་) གི་རང་བཞིན་གནས་སྤངས་དང་མི་སྡེ་འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་གླིང་ཀ་དང་སློག་ཆགས་རྒྱུན་ལ་
མ་ཚུ་ནང་ལས་སྐྱུ་ཚུ་འབད་བའི་སྐབས་ཐབས་ལམ་དང་བཟང་སྤྱོད་ཚུ་གསལ་སྤྱོད་འབད་མ་ཡིན་མེད་པའི་ཡང་ལས་སྐྱུ་འདི་གདམ་སེལ་ལམ་ལུ་གསལ་དང་འབྲེལ་ཏེ་ཡིན།
ན། གདམ་སེལ་འབད་ཡོད་པའི་ལས་སྐྱུ་གི་ནང་ལས་ མཐའ་འཁོར་གནས་སྤངས་དང་མི་སྡེ་ལུ་གཞོན་ཉེན་ཡོད་པའི་ལས་སྐྱུ་ཚུ་གཞོན་ལུ་
མཐའ་འཁོར་གནས་སྤངས་དང་མི་སྡེ་འཛིན་སྐྱོང་འཆར་གཞི་བཟོ་དགོ། འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་ལས་སྐྱུ་འགོ་མ་བཟུགས་པའི་ཉེ་མ་གཞི་བཟུགས་འབད་བ་
འི་སྐབས་དང་མཇུག་བསྟུན་པུ་ མཐའ་འཁོར་གནས་སྤངས་འཛིན་སྐྱོང་དང་གཞོན་ཉེན་མར་ཡབ་རྒྱབ་ཀྱི་ཐབས་ལམ་ཚུ་བཟུགས་དགོས་ཡིན།

དེ་འབད་མ་ལས་འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་ ལས་སྐྱུ། མི་སྡེ། ལུ་འགན། བན་སྤྱོད་དང་སྤྱོད་ལུ།
དེ་ལས་སྤྱོད་ལམ་ལུ་གསལ་ཚུ་གི་སྐོར་ལས་འབྲེལ་བཤད་ཁ་གསལ་རྒྱ་ཚུང་དགོས་ཡིན། འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་ལུ་གཤམ་གཏོགས་འབད་དགོ་པའི་ཁེ་གུང་ཡོད་
མི་ཚུ་གི་ཉེན་བཤད་ཚུ་རྒྱ་ཚུང་དགོས་པའི་ཁར་ ཁེ་གུང་ཡོད་པའི་མི་ཚུ་གི་དོན་ལུ་གཤམ་གཏོགས་འཆར་གཞི་དགོ། གཤམ་གཏོགས་འཆར་གཞི་འདི་ནང་
ཁེ་གུང་ཡོད་མི་ངོས་འཛིན་འབད་ནི་དང་གཤམ་གཏོགས་འབད་ནིའི་ལམ་ལུ་གསལ་ དེ་ལས་གཤམ་གཏོགས་ཀྱི་ཏུས་ཚོད་དང་བཅའ་སྲིག་ཚུ་རྒྱ་ཚུང་དགོས་ཡིན།
གླིང་ཀ་དང་སློག་ཆགས་རྒྱུན་ལམ་ཡིན་ཚད་ཚུ་གི་མཆར་གཞི་ལས་སྐྱུ་དང་འབྲེལ་ཏེ་ དན་ཐོ་དང་སྤྱོད་ལུ། བསྐྱར་ཞིབ། ཅུས་དཔྱད་འབད་ནི། དེ་ལས་
མཐའ་འཁོར་གནས་སྤངས་དང་མི་སྡེ་འཛིན་སྐྱོང་འཆར་གཞི་འདི་ལོ་བསྟར་བཞིན་ཏུ་ཏུས་མཐུན་བཟོ་དགོས་ཡིན།

སྤྲུལ་བར་ལམ་བརྟན་པ་(བུམ་ཐང་མངའ་སྡེ་ཡིག་ཚང་)གི་དོན་ལུ་སྤྱི་ལོ་ ༢༠༢༦ ཅན་མཐའ་འཁོར་གནས་སྤངས་དང་མི་སྡེ་འཛིན་སྐྱོང་འཆར་གཞི་དགོས་ཡོད་པ་
འི་ལས་སྐྱུ་ཚུ་ཡང་:

༡༽ བསྐྱར་གཏང་དང་སྤྱོད་དེ་བཟེལ་ ཏུ་ཅར་ ༣ གི་ཤིང་བཟུགས་ནི་ལས་ཤིན།

Executive Summary

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

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

An Environmental and Social Management Plan (ESMP) for Biological Corridor (BC) 8, under Bumthang Forest Division, describes mitigation measures/good practices at the activity level that are required as per the screening protocol. All the screened activities that have potential risks to environment and social management have to prepare an ESMP, which includes environment management and mitigation plans during pre-activity, activity implementation, and closing phases. Hence, it contains a description of the detailed actions, including communities, roles, communication, and reporting and monitoring processes required as part of the implementation.

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

The activities that required ESMPs for the year 2026 under BC8 of Bumthang Forest Division are as follows:

1. 3 Ha Plantation at Sektang and Chendebji under BC

1. Introduction

(A) Project Background

The Bhutan for Life (BFL) project aims to ensure a robust network of protected areas and biological corridors that secures human well-being, biodiversity conservation, and increased 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 own financing resources.

BFL seeks to achieve the following objectives:

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

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

(B) Scope of ESMP

The preparation of this Environmental and Social Management Plan (ESMP) was required in order to manage the environmental and social impacts through specific mitigation actions required to implement the project in accordance with the requirements of WWF's 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 implementation and operational phases of the project and are effectively managed. The specific objectives of this ESMP are as hereunder:

- Minimizing any adverse environmental, social and health impacts resulting from the project activities;
- Conducting all project activities in accordance with the relevant RGoB Laws and WWF's safeguard operational policies and guidelines;
- Preventing environmental degradation as a result of either individual subprojects or their cumulative effects;
- Enhancing the positive environmental and social outcomes of project activities;
- Ensuring that the proposed mitigation measures are feasible and cost-efficient;
- Providing an Action Plan to ensure that the project impact mitigation measures are properly implemented and monitored;
- Ensuring that all stakeholders are engaged in the project activities' preparation and implementation, and their concerns are fully addressed.

(D) Applicable law, policies, and regulation

This ESMP is developed by following the guidelines as set forth in the BFL's ESMF.

Applicable RGoB laws and policies include the Constitution of the Kingdom of Bhutan, 2008; legislation on land and moveable property (Land Act of Bhutan 2007; Land Rules, 2007; The Moveable Cultural Property Act of Bhutan, 2005); legislation and regulations on forests and protected areas (National Environment Protection Act, 2007; Forest and Nature Conservation Act of Bhutan, 2023; Forest and Nature Conservation Rules and Regulations of Bhutan, 2023; National Forest Policy, 2011); legislation on water and waste prevention (Water Act of Bhutan, 2011; Waste Prevention and Management Act, 2009); legislative requirements on environmental assessment (Environmental Assessment Act, 2000 and Regulations on the Environmental Clearance of Projects, 2001); and other relevant laws (The Local Government Act of Bhutan, 2009; Livestock Act of Bhutan, 2001; The Biodiversity Act of Bhutan, 2003; The Pesticides Act of Bhutan, 2000; The Penal Code of Bhutan, 2004; National Access and Benefit Sharing (ABS) Policy (Draft), 2014).

WWF's safeguards policies that are relevant to this project are as follows: Policy on Environment and Social Risk Management, Policy on Protection of Natural Habitats, Policy on Involuntary Resettlement, Policy on Indigenous Peoples, Standard on Pest Management, Policy on Accountability and Grievance System, and Standard on Physical Cultural Resources, as well as general standards on occupational and community health and safety and on energy efficiency.

In general, RGoB's laws, policies, and guidelines are in line with the WWF's environmental and social safeguards requirements. However, there are a few differences between the two systems. With regard to environmental impacts, there are no direct contradictions between the RGoB laws and regulations and the WWF's SIPP, but the requirements of the latter are more extensive. All project activities should fully comply with both the RGoB's Regulations on the Environmental Clearance of Projects and with the procedures and mitigation measures prescribed in this ESMF. In case that the WWF's SIPP requirements are more extensive, strict, or detailed than the RGoB legislation and policies, the former will apply to all project activities. With regard to social impacts, the primary discrepancies between the RGoB laws and regulations and the WWF's SIPP refer to the status of non-title holders and informal land use and the commitment to participatory decision-making processes. First, according to the WWF's SIPP, all users of land and natural resources (including people that lack any formal legal ownership title or usage rights) are eligible to some form of assistance or compensation if the project adversely affects their livelihoods. The RGoB laws only recognize the eligibility of land owners or formal users to receive compensation in such cases. Second, the WWF's SIPP requires extensive community consultations as part of the development of various safeguards documents and during project activities. RGoB legislation does not include similar requirements. For the purposes of the BFL project, the provisions of the WWF's SIPP shall prevail over the RGoB legislation in all cases of discrepancy.

1. Environmental and Socio-Economic Conditions:

BC 08 landscape (577.90 km²) is one of the largest protected areas among 9 BCs in the country and home for several flora and fauna given a wide altitudinal range and forest types. Strategically located in the central part of Bhutan, BC 08 plays significant ecological functions in the Bhutan Biological Conservation Complex. It interconnects Jigme Dorji National Park (JDNP) in the north, Wangchuck Centennial National Park (WCNP) in the north, and Jigme Singye Wangchuck National Park (JSWNP) in the south by three distinct strands that traverse across the administrative jurisdiction of Wangdue and Bumthang Dzongkhags. BC 08's connectivity with JSWNP, which shares its southeastern boundary with Royal Manas National

Park (RMNP) in the tropics, is expected to facilitate the movement of fauna and shift or dispersal of flora in response to changing patterns of climate.

Besides ecological benefits to wildlife, BC 08 also provides space, and it is a source of forest resources for more than 7928 people residing in and around it from Wangdue and Trongsa Dzongkhags. Given a maximum area (469.10 km²) under Wangdue Dzongkhag, it hosts Phobji, Gangtey, Bjena, Dangchu, Sephu Kazhi, and Athang Geogs, while 108.80 km² under Trongsa Dzongkhag is a home for people of Tangsibji and Nubi Geogs. There are 423 households in and around the BC 08 under Trongsa Dzongkhag and 466 households in and around the BC 08 under Wangdue Dzongkhag (Geog, 2018). Figure 1 shows the BC 8 connecting the different parks.

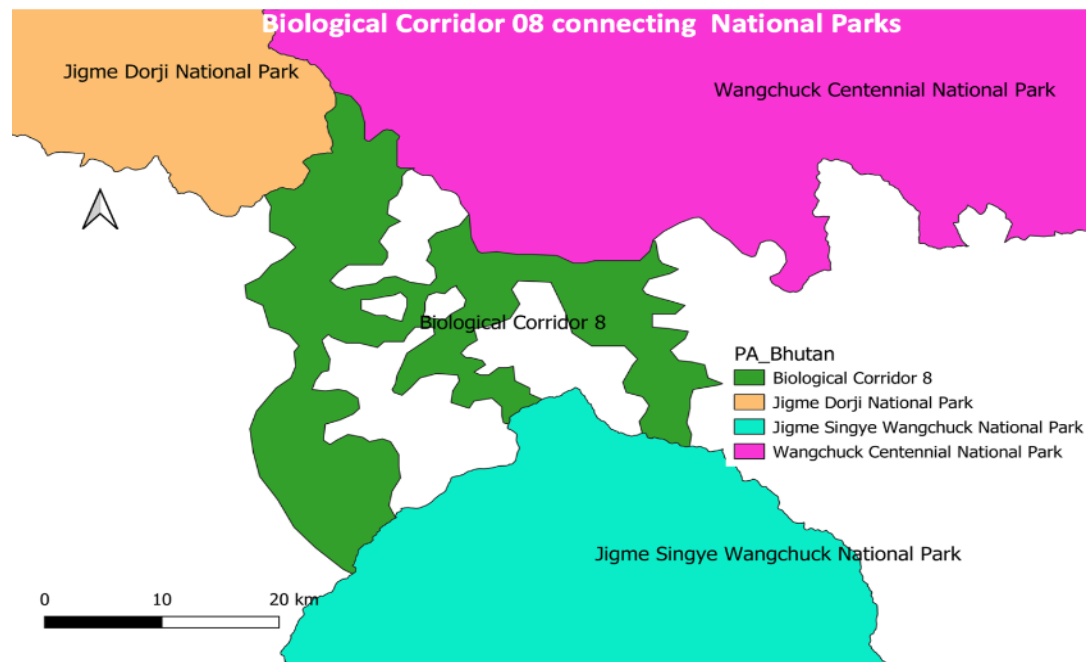


Figure 1: Northern Biological Corridor interconnecting Protected Areas

1.1 Land cover

Biological Corridor 08's landscape has large forest coverage with more than 99% of its total area, 577.90 km², including shrubs and alpine scrubs. Snow glaciers and other geomorphological features that include built-up areas (settlements, roads, and transmission lines) and rocky areas form 0.30% of the total area of BC 08 (fig. 7 below). The land cover distribution is shown in Figure 2.

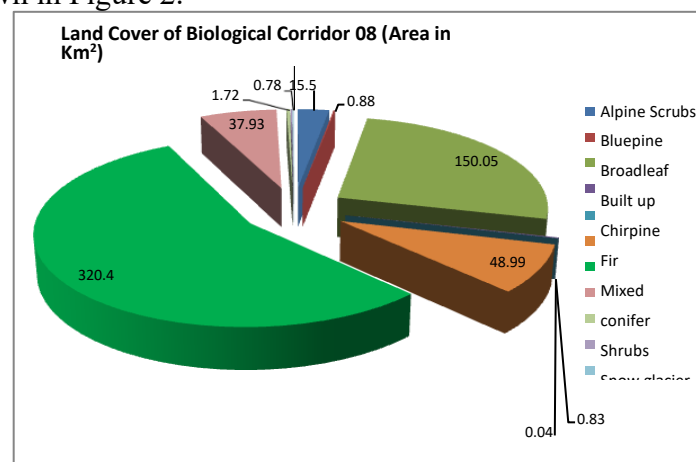


Figure 2. Land cover of BC8

The vegetation of the BC 08 was classified into various forest types in order to give a better picture of it and form heterogeneous habitats for wildlife. The classifications of the forest types were based on the ordination of Rapid Biodiversity Assessment (RBA%) of the entire tree and shrub species in each Geog and also on the cluster dendrogram arbitrarily marked at a 50% similarity threshold (refer to fig. 8 for detail as shown below). Three types of forests in the Biological Corridor 08 chiefly included Hemlock and Fir Forest, Cool broad-leaved forest, and Evergreen oak forest, respectively.

1.1.1 Cool broad-leaved forest (2000-2900 masl)

The cool broad-leaved forests of Nubi, Athang, and Dangchu were classified under forest type I, and this type of forest occurred on moist exposed slopes above the warm broad-leaved forests. On the drier site the species composition was dominated by *Castanopsis* or *Quercus* species, and in the wetter site, oak-laurel was mostly associated with dense shrubs, climbers, and many epiphytes. The two types of forest intergrade with each other, and the characteristic species were *Acer* spp., *Exbucklandia populnea*, *Quercus* spp., *Betula alnoides*, etc. The annual rainfall reported in such forest types is about 250-500 cm.

a. Hemlock & Fir Forest (2800-3800 masl)

The Hemlock and Fir forests of Tansibji, Kazhi, Phobji, Bjena, Gangteng, and Sephu were classified under forest type II, and this type of forest occurred at a higher altitude on the main mountain ridges. Fir forests formed the highest tree line forested ridges throughout Bhutan, where dominant stands of fir with dense canopy provided a humid environment for luxurious undergrowth of *Rhododendron* and other shrubs. The formation of considerable mist precipitation harbors a mossy forest floor with so many small herbs, e.g., *Primula* species, *Bryocarpum himalaicum*, epiphytic and terrestrial ferns, lichens, bryophytes, etc. The characteristic species recorded were *Tsuga dumosa*, *Abies densa*, *Juniperus* spp., *Rhododendron* spp., *Viburnum* spp., etc. The annual precipitation is about 130-200 cm in this type of forest.

b. Evergreen oak forest (1800-2600)

The evergreen oak forests of Nyisho were classified under forest type III, and these forests apparently received a rainfall of 200-300 cm in a year. At lower elevations *Castanopsis hystrix* and *C. tribuloides* were often dominant, while at higher elevations *Quercus lamellosa* were most common. On the drier site more xerophytic *Quercus* species were the characteristic species, with occasional appearances of *Pinus wallichiana* species and *Acer* spp.

2.1.2. Floral diversity

Endowed with a wide altitudinal range, the BC 08 was reported for rich diversity of flora that were distributed across warm broadleaf through alpine scrub. During the survey that was conducted between May and June 2019, we recorded at least 297 species of plants (Appendix I). Out of these many plant species, there were 10 species of conifer evergreen trees, 30 species of broadleaf evergreen trees, 68 species of deciduous trees, 27 evergreen shrub species, and 11 deciduous shrub species. The rest of the list included herbaceous plants, bamboo, and orchids.

a. Floral species composition

In BC 08, five life form compositions vastly included evergreen conifer trees, deciduous trees, evergreen tree, ever green shrubs, and deciduous shrubs. The overall life-form composition appeared to be a considerable proportion of evergreen conifer trees with 50.51%, evergreen trees 28.47%, deciduous trees 19.99%, evergreen shrubs 0.93%, and deciduous shrubs 0.11% for 17 Geogs as shown in Table 1.

Phobji Geog forest was predominantly composed of evergreen conifer trees, with more than 93%, while Athang and Dangchu Geogs forests hosted relatively more deciduous trees that were composed of *Prunus* species, *Betula alnoides*, *Betula utilities*, *Acer* species, *Juglans*

regia, *Alnus nepalensis*, *Sorbus insignia*, etc. Nubi and Nyisho Geogs were dominated by evergreen trees that largely included various *Rhododendron species*, *Symplocas species*, *Quercus lamellosa*, *Quercus lanata*, *Quercus semicarpifolia*, *Quercus glauca*, *Lyonia ovalifolia*, *Persea species*, etc. While deciduous shrubs were barely recorded across all 10 Geogs, evergreen shrubs were recorded in warmer regions from the forests of Nyisho and Sephu Geogs.

Table 1: Geog-wise life form composition derived from the sum of RBA

Geogs	Evergreen Conifer Tree	Deciduous Tree	Evergreen Tree	Evergreen Shrub	Deciduous Shrub
Nubi	2.40	15.52	82.09	0.00	0.00
Tangsibji	57.53	9.19	33.28	0.00	0.00
Athang	0.00	60.70	39.30	0.00	0.00
Bjena	90.26	0.58	9.16	0.00	0.00
Dangchu	8.48	54.34	36.91	0.00	0.26
Gangteng	84.36	8.14	7.50	0.00	0.00
Kazhi	72.35	8.01	19.64	0.00	0.00
Nysho	27.26	0.71	69.71	2.31	0.00
Phobji	93.30	1.70	5.00	0.00	0.00
Sephu	75.90	14.46	9.31	0.52	0.25

2.1.3 Faunal diversity

Information about faunal diversity was exclusively on mammals and avifauna in the BC08. From the camera trap survey (May–July 2019), 5 felid species such as Asiatic golden cat (*Catopuma temmincki*), clouded leopard (*Neofelis nebulosa*), tiger (*Panthera tigris*), leopard cat (*Prionailurus bengalensis*) and marbled cat (*Pardofelis marmorata*); 3 canid species—wild dog (*Cuon alpinus*), red fox (*Vulpes vulpes*) and domestic dog (*Canis lupus familiaris*); 1 viverrid species (weasel), which was unidentified; 1 ursid—Himalayan black bear (*Ursus thibetanus*); 2 cervid species—barking deer or muntjak (*Muntiacus muntjak*) and sambar (*Rusa unicolor*); 2 caprine species under bovid family—Himalayan serow (*Capricornis thar*) and Himalayan goral (*Naemorhedus goral*); 2 bovid species—yak (*Bos grunniens*) and other cattle (local and mithun breed); 1 equid—domestic horse (*Equus caballus*); 1 moschid—Himalayan musk deer (*Moschus chrysogaster*); 1 ailurid (*Ailurus fulgens*); 1 primate species—Assamese macaque (*Macaca assamensis*); 1 mustelid—Himalayan yellow-throated marten (*Martes flavigula*); 1 suid—wild pig (*Sus scrofa*); and 3 rodents—Indian porcupine (*Hysterix indica*), including squirrels and rats—were recorded.

Not even a single image of a common leopard was captured from the area under both the divisions for an unknown reason during the survey that was carried out in the summer. Mammal species of conservation significance in the Biological Corridor 08 are as shown in the table below, with IUCN status.

Table 2: Species of conservation significance in Biological Corridor

Sl No.	Common name	Scientific name	IUCN status	Image captured (June - August 2019)
1	Tiger	<i>Panthera tigris</i>	Endangered	Recorded in both the divisions
2	Dhole (wild dog)	<i>Cuon alpinus</i>	Endangered	Recorded in both the divisions
3	Red panda	<i>Ailurus fulgens</i>	Endangered	Recorded in Wangdue division
4	Himalayan musk deer	<i>Moschus chrysogaster</i>	Endangered	Recorded in both the divisions
5	Clouded leopard	<i>Neofelis nebulosa</i>	Vulnerable	Recorded in Bumthang division
6	Sambar deer	<i>Rusa unicolor</i>	Vulnerable	Recorded in both the divisions
7	Asiatic golden cat	<i>Catopuma temminckii</i>	Near threatened	Recorded in both
8	Marbled cat	<i>Pardofelis marmorata</i>	Near threatened	Recorded in Wangdue
9	Himalayan serow	<i>Capricornis thar</i>	Near threatened	Recorded in both

A total of 264 bird species, including four near-threatened species like the Himalayan vulture, Satyr tragopan, Ward's trogon, and Yellow-rumped honey guide, were recorded during the survey carried out in June and July 2019 across two divisions in the BC 08. The highest number of species recorded was in Wangdue Division as presented in the table below.

Table 3: Total bird species recorded under respective territorial division

Sl #	Division	Total species
1	Wangdue	189
2	Bumthang	118

At least four globally threatened bird species were recorded during the short span of survey time. The survey might have overlooked other avifauna species, including the species of conservation significance, due to weather conditions in summer despite time and effort dedicated by the survey team. Table 4 shows the details of significant avifauna recorded across two divisions in the Biological Corridor.

Table 4: Birds of conservation significance in BC 08

Common name	Count	IUCN status	Name of place recorded	Habitat/forest type
Himalayan Vulture	9	Near threatened	Tshelatop & Sephu Wangdue division	under Mixed conifer, meadows and cool broad-leaved forest
Satyr Tragopan	37	Near threatened	Phobjikha, Sephu, Tshelatop, Gogona, Shobla and Longmey Drangichu and Dranglajem top under Bumthang division	Mixed conifer, Alpine Scrub, Cool broad-leaved forest and Meadows

Ward's Trogon 4	Near threatened	Nobding under Wangduep	Cool broad-leaved forest
Yellow-rumped 7	Near threatened	Nobding under Wangdue	Cool broad-leaved forest
Honeyguide		division	

2.2 Socioeconomic characteristics:

Agriculture and livestock farming practices are integral components of socio-economic characteristics of 423 households in and around BC 08 under Trongsa Dzongkhag and 466 households in and around BC 08 under Wangdue Dzongkhag (Geog, 2018). the farmers in rural areas. Some households in BC 08 were found engaged in private entrepreneurship or small-scale business. Almost all the villages were reported having government employees, including military personnel, that contribute to forming a diverse composition of socio-economic characteristics. Dependence on forest resources was unavoidable, and farmers living in and around biological corridors were reported to utilize timber, firewood, and non-wood forest products. For instance, *Cordyceps* and *Paris polyphylla* appeared to contribute significantly to the livelihood of people in BC 08.

2.1.2. Agricultural farming

Most commonly cultivated cereal crops across two divisions were found to be paddy and maize in the lower elevations, while wheat was found largely in the highlands. Maize was barely cultivated, while rice, as a staple food, was vastly cultivated by farmers of Trongsa. Wheat and barley were grown across two Dzongkhags and used to brew local beverages and as a feed for cattle. Farmers also cultivated potatoes as a cash crop, while radishes and turnips were grown both for consumption and to feed the cattle. Increasing chili cultivation was largely known for consumption and commercial purposes. Tseri or shifting cultivation was not reported in the biological corridor. Therefore, local extinction of some agricultural crop varieties was reported by people for a discontinued shifting cultivation practice over the last two decades.

2.2.2. Livestock farming

Livestock farming was reported as one of the key components of agriculture and thus a main source of livelihood for subsistence farmers in this biological corridor. Farmers across two Dzongkhags were reported for rearing various types of livestock for food (butter and cheese), draught power, means of fertilizers, raw materials for clothes, and transportation. As a result, livestock farming appeared to form an integral part of rural poverty reduction strategies (RNR statistics, 2015). Largely, farmers reared traditional cattle breeds across the country, forming 52% of livestock composition in general. Farmers of Wangdue reared huge numbers of local cattle compared to farmers of Trongsa. The reason for rearing the local cattle was the rugged terrain that is very difficult to adapt to by the improved breed.

Farmers from Trongsa were seen to take part in rearing Brown Swiss and Jersey breeds due to warm climatic conditions. Thus, improved breeds appeared to contribute 25% of livestock composition across two Dzongkhags. Yak and mithun breeds were reported as diminishing year after year in Wangdue dzongkhag due to rising alternative livelihood sources. In the highlands, Brown Swiss cattle were reported for taking a faster pace to replace local cattle. Some farmers from Wangdue reared caprines (sheep) for wool production, which was largely used for weaving yathra. Table 5 shows the number of farmers rearing different cattle and breeds in Wangdue Phodrang and Bumthang.

Table 5: Livestock composition (number of heads) across BC

Division	Traditional cattle	Improved breed	Mithun breed	Yak	Equine	Caprine
Wangdue	613	76	26	476	32	121
Bumthang	324	457	5	0	9	0

2.2.3. Livelihoods of people

About 70% of the respondents under Wangdue division reported that agriculture crop cultivation in their own land was a main source of livelihood composition and therefore a top priority. For less than 5% respondents, agriculture farming was secondary while more than 15% respondents reported Cordyceps and weaving yathra were main livelihood sources. At least 10% respondents asserted that livestock farming was their integral component of livelihood composition. Farmers under this Dzongkhag division never went out for casual labor and therefore it was not a part of their livelihood composition.

For the farmers of Trongsa, agriculture farming was an integral part of livelihood composition. About 40% of the respondents ranked agriculture farming as top priority while for 14% respondents it was a secondary. At least 20% respondents asserted that livestock farming was their top priority while it was tertiary for about 17% respondents. Unlike farmers of Wangdue, at least 7% of respondents asserted that the main source of livelihood was casual labor for farmers of Trongsa.

2.2.4 Food security

Farmers are worried about the food grain self-sufficiency in the two Dzongkhags in the biological corridor. Almost 99% respondents from Wangdue and 84% from Trongsa reported the purchase of food grains. Only less than 1% respondents from Wangdue and 16% respondents from Trongsa reported self-sufficient grain production from their own land. Places where rice was not grown for unfavorable climatic conditions like Phobji, Gangtey and Sephu, farmers have to purchase the grains.

Food security was also determined from the perspective of vegetable, cheese and butter self-sufficiency for a household. In this regard, 90% respondents from Wangdue reported that they largely produce vegetables from their own garden for home consumption and the same was the case with butter and cheese production. Purchases of cheese and butter are reported by about 30% respondents from Wangdue.

In the case of farmers of Trongsa, they produced sufficient vegetables for their home consumption according to about 95% respondents while primary sources of vegetables were forest and shops for at least 5% respondents. About 65% of respondents reported that their secondary source of vegetables was shop. More than 65% respondents from Trongsa reported self-sufficient butter and cheese production while more than 8% respondents said that they purchased from other farmers in the village.

2.2.5 Cash income sources

Cash income sources of the farmers in BC 08 varied from labor for agriculture, sale of forest products, sale of livestock products, casual labor, business, weaving, salary of employee, and house rent and. Out of these many sources, in the case of Wangdue farmers, sale of agriculture products was the predominant income source for 55% of respondents. For about 30% respondent's livestock product was secondary cash income source, and forest products that vastly included Cordycep was reported as primary income source for more than 15% respondents from Sephu and Dangchu Geogs. The agriculture labor and casual labor were absolutely insignificant income sources for this segment of people. Overall, agriculture

products were a main source of cash income followed by livestock products, which include butter, cheese and milk, and forest products for the farmers of Wangdue.

Farmers of Trongsa generated cash income predominantly from agriculture and livestock products as well. More than 48% respondents reported agriculture products as primary cash income source while about 26% asserted it as secondary income source. More than 39% of respondents reported livestock as primary and secondary income source. In general, livestock products (basically a sale of butter and cheese) is inarguably a vital cash income source according to assertion made by 79% respondents followed by agriculture products and casual labor with 74% and 22% respectively in case of farmers of Trongsa. Non-Wood Forest Products (NWFPs) was a tertiary cash income source according to less than 1% respondents from Trongsa. Only 2% of respondents from Trongsa reported forest products as one of the cash income sources.

2. **Planned activities in 2026:** Activities that are planned in BC 8 for 2026 - 2027 include the following:

Activity 3.1. *Plantation of High Value Timber Species (Pinus wallichinan, Tsuga dumosa, Cupressus spp and Larix griffithii)*

Budget: Nu. 750,000

Timeline: August 2026- June 2027

Location: Zhitsetengkha, Tangsibji (27.508445° 90.364490°)

Activity Description: The proposed plantation site is located at Zhitsetengkha under Tangsibji geog. The plantation activity is planned for implementation between August 2026 - June 2027 with an estimated budget of Nu. 0.75 million. The activity aims to establish a plantation of high-value timber species like *Pinus wallichinan*, *Tsuga dumosa*, *Cupressus spp* and *Larix griffithii* to enhance forest productivity, support sustainable timber resources, and improve ecological resilience in the area.

The plantation will cover suitable degraded and open forest areas identified through field assessment. Site preparation, pit digging, transportation of seedlings, planting, and post-plantation maintenance activities will be carried out during the implementation period. Approximately 15 - 20 local workers, primarily from nearby communities, will be engaged in the activity, providing short-term employment opportunities and promoting community participation in forest management.

The activity will require water for seedling establishment and maintenance during the initial planting phase. Seedlings of approved high-value timber species will be procured from authorized nurseries, while all tools and materials required for plantation works will be procured following government procurement procedures and approved quotation rates.

The plantation site is located 3 km away from major settlements, and it is about 5-10 meters away from the road point. No adverse impacts on local livelihoods, access to natural resources, or daily activities of nearby residents are anticipated. Community members residing in the vicinity will continue to have unrestricted access to existing public facilities and services. The activity is expected to generate positive environmental benefits through increased forest cover, enhanced carbon sequestration, improved watershed protection, and long-term timber production.

The work will be implemented under the supervision of the Division Forest Office, Bumthang and relevant forestry officials, ensuring compliance with technical specifications and environmental safeguards. No significant wildlife habitats or environmentally sensitive areas are expected to be affected by the plantation activity.



Figure 3. Plantation site

The potential environmental impact of the plantation work is expected to be very minimal and it includes the following:

- 1. Soil Disturbance:** during bush clearing, pit digging and site preparation, soil disturbance is expected which may lead to localized soil erosion, especially on steep slopes and temporary disturbance to existing ground vegetation and understory species.
- 2. Waste Generation:** Minor generation of waste materials such as seedling containers, plastic bags, and packaging materials.
- 3. Potential impact on local hydrology:** bare soil exposure during planting can temporarily increase surface runoff and minor localized erosion and water source contamination, if any.
- 4. Wildlife and domestic animal barrier:** Fencing around plantation sites shall be constructed there by restricting entry of wildlife and domestic animals.
- 5. Trampling of seedlings:** while collecting leaf molds from the forest, there is a perceived risk of trampling seedlings in the wild impacting natural regeneration.

The potential social impacts of the plantation work are expected to be very minimal. The proposed 3 ha plantation block is on a gentle slope in CBL forest terrain. About ten to 15 HH are located approximately 3 km away from the proposed plantation site and depend on agriculture and livestock grazing. The household does not rely on the plantation-covered areas for their daily subsistence, such as fodder and wood collection. However, the following social issues are foreseen and need to be addressed:

- 1. Locally agreed grazing route:** The proposed 3 ha plantation sites might be used as seasonal grazing route by local herders.
- 2. Potential restriction of local resources access:** While no impediment is foreseen, the barbed-wire fencing could impede existing walking or livestock routes. Local communities and livestock owners should be consulted before fencing is erected.

3. Mitigation Measures for Environmental and Social Impacts.

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

1. *Plantation of High Value Timber Species*

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Costs
Activity	<i>Plantation of High Value Timber Species (Pinu wallichinan, Tsuga dumosa, Cupressus spp₅ and Larix griffithii)</i>			Nu. 750,000/-
Soil and hydrology Disturbance	Short term Minor	• Proper layout and alignment shall be carried out to prevent soil erosion. • Planting pits shall be laid along the contour and not across the contour as part of soil and water conservation. • Mulching of planting pits shall be carried out with leaf mold and grass. • Soil and water conservation measures on sloping areas will be adopted at the site.	BFL Focal/Plantation Focal/Chendebji FMU In-charge & Contractor.	To be incorporated in the bidding document/contract document.
<i>Waste:</i> generation of waste as a result of plantation activities	Short term Minor	• The wastes such as damaged polypot bags, old green nets, bottles, plastics, etc shall be collected and disposed of in the waste bins and disposed at designated land fill • The workers/labourers shall be briefed to bring back the food waste wrappers, plastics and mineral water bottles, etc. after the daily work • Burning of waste should be prohibited; • Dumping of waste on the sides of the road, on private land, or in other non-designated places will be prohibited.	BFL Focal/Plantation Focal/Chendebji FMU Incharge & Contractor.	To be incorporated in the bidding document/contract do

Wildlife and domestic animal barriers	Short term Minor	- Existing wildlife movement corridors will be identified during planning and implementation of plantation fencing works. Such wildlife corridors shall be left unfenced for safe movement of wildlife. - Traditional migration routes and domestic animal trails will be avoided.	BFL Focal/Plantation Focal/Chendebji FMU In-charge & Contractor.	To be incorporated in the bidding document/contract document.
Trampling of seedlings	Short term Minor	- Leaf mold collection should be carried out from areas there are high forests with less regeneration. - Workers should be guided to prevent the uprooting of seedlings/saplings from the topsoil and leaf mold collection site - Monitor and supervise the soil and humus collection to reduce negative environmental impact.	BFL Focal/Plantation Focal/Chendebji FMU In-charge & Contractor.	To be incorporated in the bidding document/contract document.
Locally agreed grazing route	Short term Minor	Traditional migration routes and animal trails will be avoided. Where traditional routes are disrupted, alternative pathways for livestock movement will be identified.	BFL Focal/Plantation Focal/Chendebji FMU In-charge & Contractor.	To be incorporated in the bidding document/contract document.
Potential restriction of local resources access		- Community consultations will be conducted before project implementation. - Community concerns and suggestions will be incorporated into project design and implementation. - Facilitate access to alternative sources for fuelwood, fodder, timber, or water where restrictions occur. - Local communities should be informed of the plantation objectives, species selection, fencing layout, and likely future forest-based livelihood opportunities.	BFL Focal/Plantation Focal/Chendebji FMU Incharge & Contractor.	To be incorporated in the bidding document/contract document.

		● Community clearance or social clearance for the land will be sought from the community.		
Workers' health and safety		● Plantation workers shall be advocated and instructed to comply with basic safety gears such as gum boots, long sleeve shirts, trouser jackets etc. ● Ensure that no underage workers, or children are engaged in plantation works. ● Basic first Aid kits box shall be made available at the plantation site such as detox, cotton wool, sterilized cotton wool, bandages, PCM, burnt ointment, insect repellent). ● Workers are employed on the principle of equal opportunity and fair treatment, and there is no discrimination with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to job assignment, termination of employment or retirement, and disciplinary practices; ● A grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns should be in place.	BFL Focal/Plantation Focal/Chendebji FMU In-charge & Contractor.	To be incorporated in the bidding document from the activity cost.

6. ESMP Implementation arrangements

The implementation of project activities will be carried out by the plantation and concerned site in-charge guided by BFL focal person in BC 8. 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 PA will sign with the Contractor(s) for implementation of the planned activities in BC 8 in 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., records on OHS information sessions performed for all workers before start of activities, all developed EHS plans, etc.). An OHS information session should be organized by the Contractor for all workers prior to starting the project activities and prior to any specific tasks with high health risks.**

The BFL focal or plantation focal in BC 8 needs to monitor the implementation of proposed measures by the Contractor 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-compliances should be reported to the ESS officers immediately, and the ESS officer will report it to the PCU (M&E Officer). Each non-compliance should be closed with appropriate measure/s and the evidence should be kept. Disbursement of project funds to the PA will be contingent upon their full compliance with the safeguard's requirements.

4. ESMP monitoring arrangements

The BFL focal person in BC 8 will closely monitor the implementation of all planned activities and the required mitigation measures, and ensure that they fully comply with this ESMP and with the terms and conditions included in the environment clearances issued by RGoB's national authorities.

BC 8 is also fully responsible for the compliance of all external contractors and service providers working in the BC 8 with the safeguards requirements outlined in the ESMP.

The monitoring of activities under this ESMP will be carried out in the following manner:

Sl. No	Activities	Monitoring team	Timeline		Location	Means of Verification
			Start	Complete		
1	<i>Plantation of High Value Timber Species (Pinus wallichianan, Tsuga dumosa, Cupreuss spp and Larix griffithii)</i>	Site Focal: BFL focal/Plantation focal/Concerned site in charge.	August 2026	June 2027	Zhitsetengkha, Tangsibji	Monitoring reports and pictures
		ESS focal from PMU	August 2026	June 2027	Zhitsetengkha, Tangsibji	

5. Capacity Need and Budget

Activities under this ESMP will be implemented by the BFL focal/Plantation focal/Concerned site in-charge and a contractor that will employ workers as mentioned in the contract agreement.

The budget for the activities is:

Sl. No	Activity	Amount (Nu.)	Budget for ESS mitigation
1	Plantation of High Value Timber Species (<i>Pinus wallichina</i> , <i>Tsuga dumosa</i> , <i>Cupressus sp</i> and <i>Larix griffithii</i>)	750,000	Budget to be meet from activity cost

6. Consultation and Disclosure Mechanisms

This ESMP has been prepared in a participatory manner, and a community consultation will be carried out as mentioned in section 9 to inform local communities regarding the planned project activities, solicit their opinions, and enable them to question proposed mitigation measures. The detailed minutes of the consultation meeting will be kept, along with a full list of participants (disaggregated by gender and age). The full English version of this ESMP, as well as an executive summary in Dzongkha, shall be disclosed on the website of MoENR, BFL and WWF, Bhutan Program. Hard copies of the ESMP should also be available at the PA Management Office and at the PCU Office.

7. Stakeholder engagement plan

The local community that resides in the vicinity of the planned BFL activities in BC 8 will be engaged throughout the implementation of these activities.

1. Plantation
2. Dates of consultation: 19 August, 2026
3. Agenda: Information on *Plantation of High Value Timber Species*.
4. Location: Zhitsetengkha, Tangsibji.

The BFL focal person has to submit the official minutes of consultation meetings (along with a list of participants, disaggregated by gender and age) to ESS consultants within one week after the completion of the consultation. The ESS consultants will submit the consultation reports to the PCU (M&E officer) one week after their receipt. The PCU (M&E officer) will report to the Secretariat on a semi-annual basis.

9. Grievance Redressal Mechanisms

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 for any grievance related to implementation of the project activities.

WWF Grievance Mechanism

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

Email: SafeguardsComplaint@wwfus.org

Mailing address:

Project Complaints Officer

Safeguards Complaints,

World Wildlife Fund

1250 24th Street NW

Washington, DC 20037

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

GCF Independent Review Mechanism

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

10. Certification of Mitigation Measures and Approvals for ESMPs

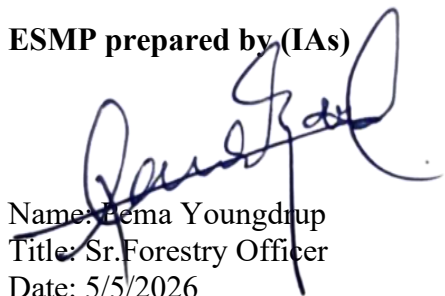
This section serves to clarify that the Environmental and Social Management Plan (ESMP) and its associated mitigation measures are fully compliant with the BFL Environmental and Social Management Framework (ESMF) and have undergone the intensive review and approval process.

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

1. **Screening and Scoping Tools (SST):** The identification of potential impacts and subsequent mitigation measures are derived from the approved SST submitted to the PCU by IAs and approved by ESS & GESI experts in the WWF-US AE team.
2. **Site-specific template and endorsement from implementing agencies (IAs):** all mitigation actions are formulated as per the approved SST, ensuring they are mitigation prescriptions that are site-specific and relevant to the planned activities and are further endorsed from IAs for implementation.

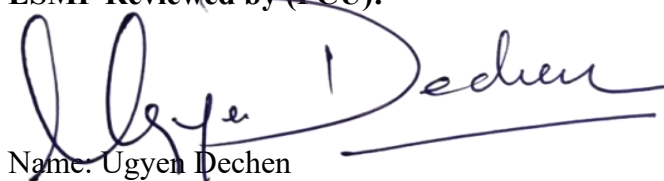
This ESMP is hereby certified for implementation. All parties involved in the execution of the project activities are obligated to perform all proposed preventive and mitigation measures as detailed in the plan, and compliance with these measures is the prerequisite for the disbursement of project funds.

ESMP prepared by (IAs)



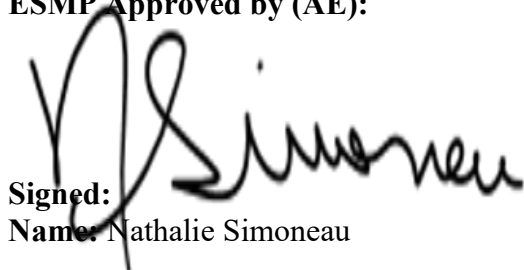
Name: Pema Youngdrup
Title: Sr. Forestry Officer
Date: 5/5/2026

ESMP Reviewed by (PCU):



Name: Ugyen Dechen
Title: Project Officer
Date: 25th June 2026

ESMP Approved by (AE):



Signed:
Name: Nathalie Simoneau

Title: Senior Director – Gender, Social Inclusion & Safeguards
Date: June 29, 2026

Annexure 1

BFL: Suggested Occupational Health and Safety Standards

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

This section provides guidance and examples of reasonable precautions to implement in managing principal risks to occupational health and safety. It is based on the IFC's Environmental, Health, and Safety Guidelines (April 30, 2007) and the Occupational Health and Safety Guidelines of Bhutan's Construction Development Corporation Ltd., which relies on the national Regulation on Occupational Health, Safety and Welfare 2012, Regulation on Working Conditions 2012 and Labour Act 2007, and 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 stall be not more than 200m from any working place.
- First aid kits include all equipment outlined in Annex 1 to these Guidelines.
 - Remote sites should have written emergency procedures in place for dealing with cases of trauma or serious illness up to the point at which patient care can be transferred to an appropriate medical facility. Work Uniform
 - The contractor shall provide a working uniform to each worker.
 - All workers shall be required to attend the duty in proper uniform unless otherwise instructed by the Contractor.

Air Supply

- Sufficient fresh air should be supplied for indoor and confined workspaces. Factors to be considered in ventilation design include physical activity, substances in use, and process related emissions. Air distribution systems should be designed so as not to expose workers to draughts.

- Re-circulation of contaminated air is not acceptable. Heating, ventilation and air conditioning (HVAC) systems should be equipped, maintained and operated so as to prevent growth and spreading of disease agents (e.g. *Legionella pneumophila*) or breeding of vectors (e.g. mosquitoes and flies) of public health concern.

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

- The Contractor is responsible to hold an information session to familiarize all workers with the OHS procedures specified in these guidelines, in order to ensure they are apprised of the basic site rules of work at / on the site and of personal protection and preventing injury to fellow workers.
- The information session should consist of basic hazard awareness, site-specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. Any site-specific hazard or color coding in use should be thoroughly reviewed as part of orientation training.

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

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

Working Environment Temperature

Exposure to hot or cold working conditions in indoor or outdoor environments can result in temperature stress-related injury or death. Use of personal protective equipment (PPE) to protect against other occupational hazards can accentuate and aggravate heat-related illnesses.

Extreme temperatures in permanent work environments should be avoided through implementation of engineering controls and ventilation. Where this is not possible, such as during short-term outdoor work, temperature-related stress management procedures should be implemented which include:

Monitoring weather forecasts for outdoor work to provide advance warning of extreme weather and scheduling work accordingly

- Providing temporary shelters to protect against the elements during working activities or for use as rest areas
- Use of protective clothing
- Providing easy access to adequate hydration such as drinking water or electrolyte drinks, and avoiding consumption of alcoholic beverages

Ergonomics, Repetitive Motion, Manual Handling

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

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

Working at Heights

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

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

Illumination

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

- Use of energy efficient light sources with minimum heat emission
- Undertaking measures to eliminate glare / reflections and flickering of lights
- Taking precautions to minimize and control optical radiation including direct sunlight.

- Exposure to high intensity UV and IR radiation and high intensity visible light should also be controlled
- Controlling laser hazards in accordance with equipment specifications, certifications, and recognized safety standards. The lowest feasible class Laser should be applied to minimize risks.

Personal safety equipment for workers

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

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

- Always wear 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. 18

- The practice of “hot-bedding” is prohibited.
- There is a minimum space of 1 meter between beds.
- The use of double deck bunks is minimized.
- If double deck bunks are in use, there is enough clear space between the lower and upper bunk of the bed.
- Workers are provided with comfortable mattresses. Workers may be expected to use their own pillows and bed linens.
- Workers wash bed linen frequently and applied with adequate repellents and disinfectants (where conditions warrant).
- Adequate facilities for the storage of personal belongings are provided.
- Separate storages for work clothes and PPE and depending on condition, drying/airing areas are provided.

8. Sanitary and toilet facilities

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

9. Cooking and laundry facilities

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

10. Leisure, social and telecommunications facilities

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

Contents of first aid box or cup-boards

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

Annexure II- BFL specific GRM Brochure



HOW TO FILE YOUR COMPLAINT

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

HEAD OFFICE

- Pema Choki
- 03-631182/17430686
- pchoki374@gmail.com
- Forest Division, Bumthang, Post Box No. 104

CHENDEBJI RANGE OFFICE

- Pema Tenzin
- 17780504
- pematenzin585@gmail.com
- In-charge FMU, Chendebji, Trongsa

TANGSIBJI BEAT OFFICE

- Tobgay
- 17415460
- dolextob0015@gmail.com
- In-Charge, Tashiling, Tangsibji Gewog, Trongsa

NUBI BEAT OFFICE

- Thering Chopel
- 17784580
- artist9216@gmail.com
- Forest Beat Office, Nubi Gewog, Trongsa

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

Nubi Gewog - 17759216

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)

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

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

Write to the WWF GCF Accredited entity at:
SafeguardsComplaint@wwfus.org
Project Complaints Officer, Safeguards Complaints, World Wildlife Fund 1250 24th Street NW Washington, DC 20037

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

- Sending it by mail or email at irm@gcfund.org
- Sending a voice or video recording
- Filling out the online complaints form available at:
<https://gcf.isight.com/external/case/new/group=Complaint>

A complaint for IRM should generally include:

- Name, address and contact information
- A description of the programme (caused adverse impacts to the complainant)
- A description of how the complainants have been/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.