

འབྲུག་ཆེ་སློག་མ་དངུལ།

Bhutan for Life

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

Environmental and Social Management Plan

འཛིགས་མེད་དོན་ཤིང་རྒྱལ་ཡོངས་གླིང་གཡིག་ཚང ༢༠༢༦།

Jigme Dorji National Park for 2026

གོ་དོན་ཐབས་བྱུང་དོན།

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

ནང་ལུ་ཚུད་དེ་ཡོད་པ་ཡིན། དེ་ཡང་ལས་འགུལ་འདི་ལས་བརྟེན་ཏེ་སྤངས་སྐྱོབ་ས་ཁོངས་ནང་སྤོང་མིའི་མི་སེར་དང་ ཡང་ན་

སྤངས་སྐྱོབ་ས་ཁོངས་ཀྱི་མཐའ་སྐྱོར་ཏེ་འཛོལ་སྤངས་སྐྱོབ་ས་ཁོངས་ལུ་བརྟེན་སྤོང་མིའི་མི་སེར་ ཡང་ན་

གཞུང་གི་མཐའ་སྐྱོར་གནས་སྤངས་ཀྱི་ས་ཁོངས་ཚུ་ལུ་གཞོན་པ་འབྱུང་ནིའི་ཉེན་ཁ་ལོད་པ་དང་ གཞུང་གི་གཞོན་པ་འབྱུང་པ་ཅིན་

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

དེ་འབད་མ་ལས་ འབྲུག་ཆེ་སློག་(BFL) མ་དངུལ་ཐོག་ལུ་ རྒྱུ་སྐྱོར་འབད་ཡོད་པའི་ལས་འགུལ་དང་ལས་སྐྱུ་ཚུ་ མཐའ་ལོའོར་གནས་སྤངས་དང་ མི་སྡེ་གཉིས་ལུ་ཡུན་བརྟན་གྱི་ཕན་པ་ཡོད་པ་བཟོ་བགི་མ་ཚད་ འབྲུག་ཆེ་སློག་མ་དངུལ་གྱི་སྤོང་བྱས་ལམ་སྟོན་དང་འབྲེལ་ཐབས་ལུ་

མཐའ་ལོའོར་གནས་སྤངས་དང་མི་སྡེ་འཛིན་སྐྱོང་འཆར་གཞི་འདི་དགོས་དེ་ མི་དམངས་མྱོས་བསྐྱུན་དང་

དུས་དང་དུས་སུ་མི་དམངས་ལུ་གསང་བ་བཤད་ནི་འདི་དགོས་ཡིན།

འཛིགས་མེད་དོན་ཤིང་རྒྱལ་ཡོངས་གླིང་གཡིག་ཚང་ནང་རང་བཞིན་གནས་སྤངས་དང་མི་སྡེ་འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་གླིང་ཀ་དང་སློག་ཆགས་རྒྱུན་ལམ་ཚུ་ནང་ ལས་སྐྱུ་ཚུ་འབད་བའི་སྐབས་ ཐབས་ལམ་དང་བཟང་སྤྱོད་ཚུ་གསལ་སྟོན་འབད་མ་ཡིན་པའི་དེ་ཡང་ལས་སྐྱུ་ཚུ་གཏང་མ་སེལ་ལམ་ལུ་གསལ་དང་འབྲེལ་ཏེ་ཡིན། གཏང་མ་སེལ་འབད་ཡོད་པའི་ལས་སྐྱུ་གི་ནང་ལས་ མཐའ་ལོའོར་གནས་སྤངས་དང་མི་སྡེ་ལུ་གཞོན་ཉེན་ཡོད་པའི་ལས་སྐྱུ་ཚུ་གི་དོན་ལུ་ མཐའ་ལོའོར་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་བའི་སྐབས་དང་མཇུག་བསྐྱུལ་དུ་

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

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

དེ་ལས་ལྟ་རྟོག་ལམ་ལུ་གསལ་ཚུ་གི་སྐོར་ལས་འབྲེལ་བཤད་ཁ་གསལ་ཚུ་དགོས་ཡིན། འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་ལུ་

གཞུང་གི་གསལ་འབད་དགོ་པའི་ཁེ་གཏང་ཡོད་མི་ཚུ་གི་ཉེན་ཁ་བཤད་ཚུ་ཚུད་དགོ་པའི་ཁར་ ཁེ་གཏང་ཡོད་པའི་མི་ཚུ་གི་དོན་ལུ་གཞུང་གི་གསལ་འཆར་གཞི་དགོ།

གཞུང་གི་གསལ་འཆར་གཞི་འདི་ནང་ ཁེ་གཏང་ཡོད་མི་དོས་འཛིན་འབད་ནི་དང་གཞུང་གི་གསལ་འབད་ནིའི་ལམ་ལུ་གསལ་

དེ་ལས་གཞུང་གི་གསལ་གྱི་དུས་ཚོད་དང་བཅའ་སྤྱི་གཞུང་ཚུ་ཚུད་དགོས་ཡིན། གླིང་ཀ་དང་སློག་ཆགས་རྒྱུན་ལམ་ཡིན་ཚད་ཚུ་གི་མཆར་གཞི་ལས་སྐྱུ་དང་འབྲེལ་ཏེ་

བན་ཐོན་དང་སྟན་ལཱ། བསྐྱར་ཞིབ། ཅིས་དཔྱད་འབད་ནི། དེ་ལས་

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

འཛིགས་མེད་དོན་ཤིང་རྒྱལ་ཡོངས་གླིང་གཡིག་ཚང་དོན་ལུ་སྤྱི་ལོ་ ༢༠༢༦ ནང་མཐའ་ལོའོར་གནས་སྤངས་དང་མི་སྡེ་འཛིན་སྐྱོང་འཆར་གཞི་དགོས་ཡོད་པའི་ལས་སྐྱུ་ཚུ་ ཡང་།

༡) ཚུ་དོང་ལེགས་བཅོས་ལཱ་འདི་རྒྱ་མཚོ་དང་མེ་ཚུ་སྐྱུག་ དེ་ལས་གཞུང་གི་སྐོར་ན།

༢) ཡུན་བརྟན་མཐོ་སའི་ རྒྱ་ཐང་བསྐྱར་གསོ་འཛིན་སྐྱོང་གི་ལཱ།

## Executive Summary

BFL has been categorized as a Category B project, as the potential adverse environmental and social impacts on the population within the Protected Areas or those living around who depend on the PA for their livelihoods or environmentally important areas are site-specific, reversible, and can be readily mitigated. Therefore, to ensure that all BFL-funded projects and programs are environmentally and socially sustainable as well as in line with BFL's policies and guidelines, an Environmental and Social Management Plan (ESMP) involving stakeholder participation and timely public disclosure is required.

An Environmental and Social Management Plan (ESMP) for Jigme Dorji National Park 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 Jigme Dorji National Park are as follows:

1. Waterhole improvement shall be carried out *Jatsho*, *Rimchu-top*, and *Kewana* and,
2. Restoring Alpine Meadows for Sustainable Habitat Management at *Tsharijathang*, *Magathang*, and *Shingchela*.

## 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.

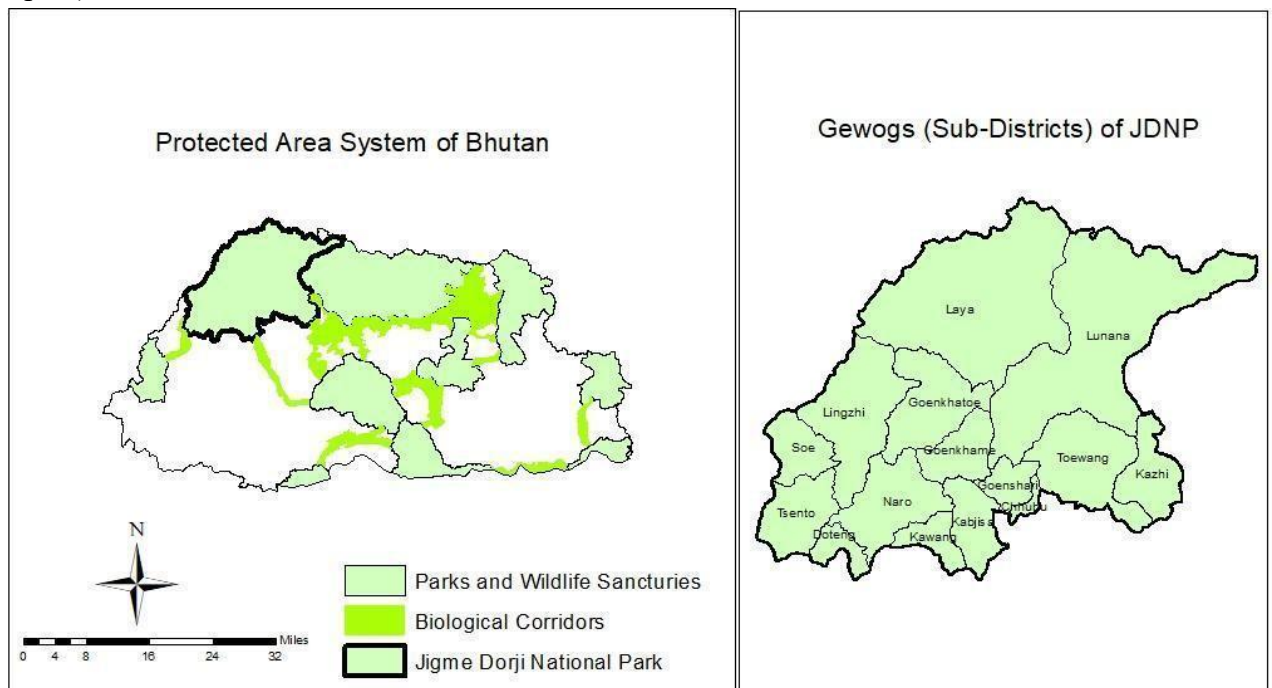


Fig 1: Location of Jigme Dorji National Park

### (B) Scope of ESMP

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

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

This ESMP will be implemented by the BFL focal person in 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, 1995; Forest and Nature Conservation Rules and Regulations of Bhutan, 2017; 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; and Local Government Act of Bhutan, 2009.

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.

## **2. Environmental and Socio-Economic Conditions:**

### **(a) Geological and topographical conditions**

The topography of landscape features in Jigme Dorji National Park is generally rugged, with the hills rising from south to north, and likewise, the elevation changes from 1,200 m.a.s.l. (meters above sea level) in the south to 7,314 m.a.s.l. in the north. The areas above 6,000 meters remain permanently covered with snow. Most of Bhutan's popular snow-capped mountain peaks, such as Mt. Jomolhari (7,314 m/23,996 ft), Mt. Jichudrakey (6,794 m/22,290 ft), Mt. Tsheringang (6,650 masl/21,818 ft), Mt. Gangchentag (6,794 m/22,290 ft), Mt. Matsangang (7,194 m/23,602 ft), Mt. Tsendagang (6,994 m/22,946 ft), Mt. Jaikangphugang (7,194 m/23,602 ft), and Mt. Gangchensingye (a.k.a. Table Mountain; 7094 m/23,274 ft), are all found inside JDNP along the international border with China. At the base of almost all these peaks huge glacier lakes are formed.

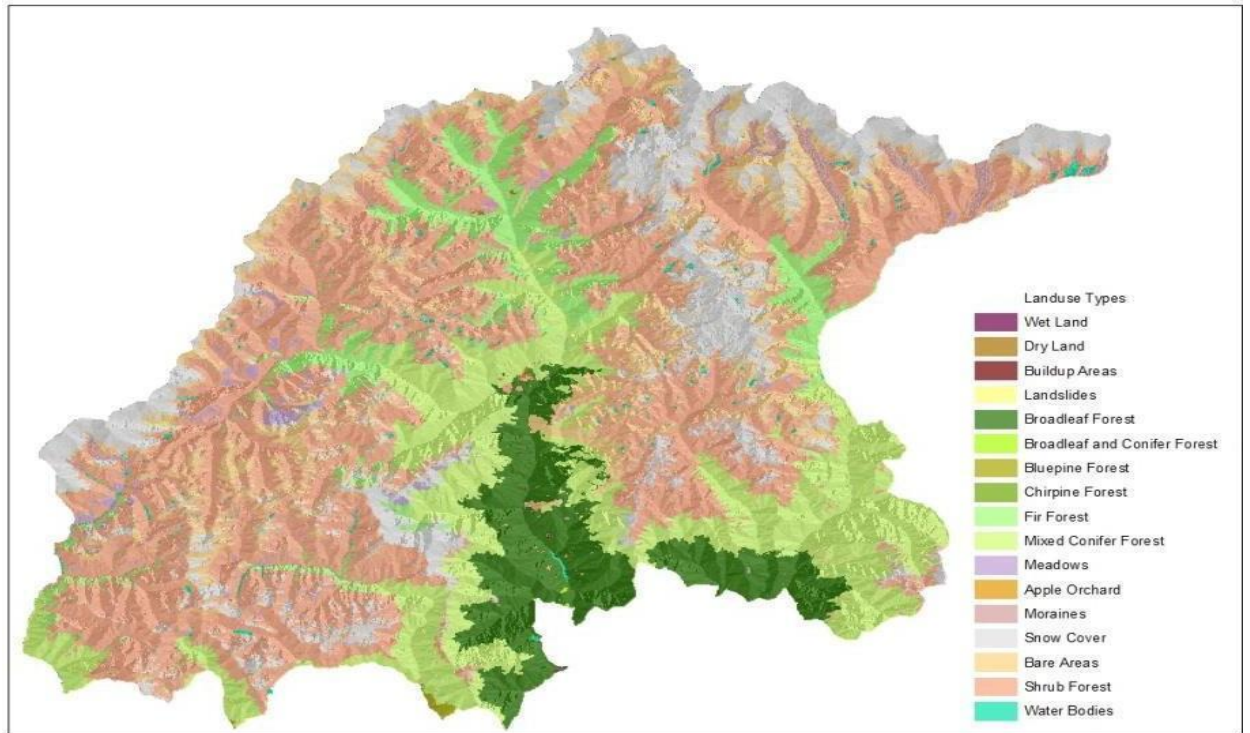


Fig. 2: Land use map of Jigme Dorji National Park

#### (b) Climatic conditions

All places inside the park experience all four seasons. The climate in the lower areas is generally warm and moist with a good amount of rainfall in summer and cold and dry in winter, whereas in the uplands it is cool and moist in summer and extremely cold and snowy in winter. Due to the absence of permanent weather stations in the park, area-wise amounts of precipitation have not been consistently determined.

The huge variations in topography, elevations, and climate conditions have a direct influence on vegetation types and the livelihood of the people, and these factors explain the existence of types of vegetative covers and livelihood patterns of people living in different vegetation zones. These geophysical features also pose serious challenges in terms of difficult working conditions for the park staff.

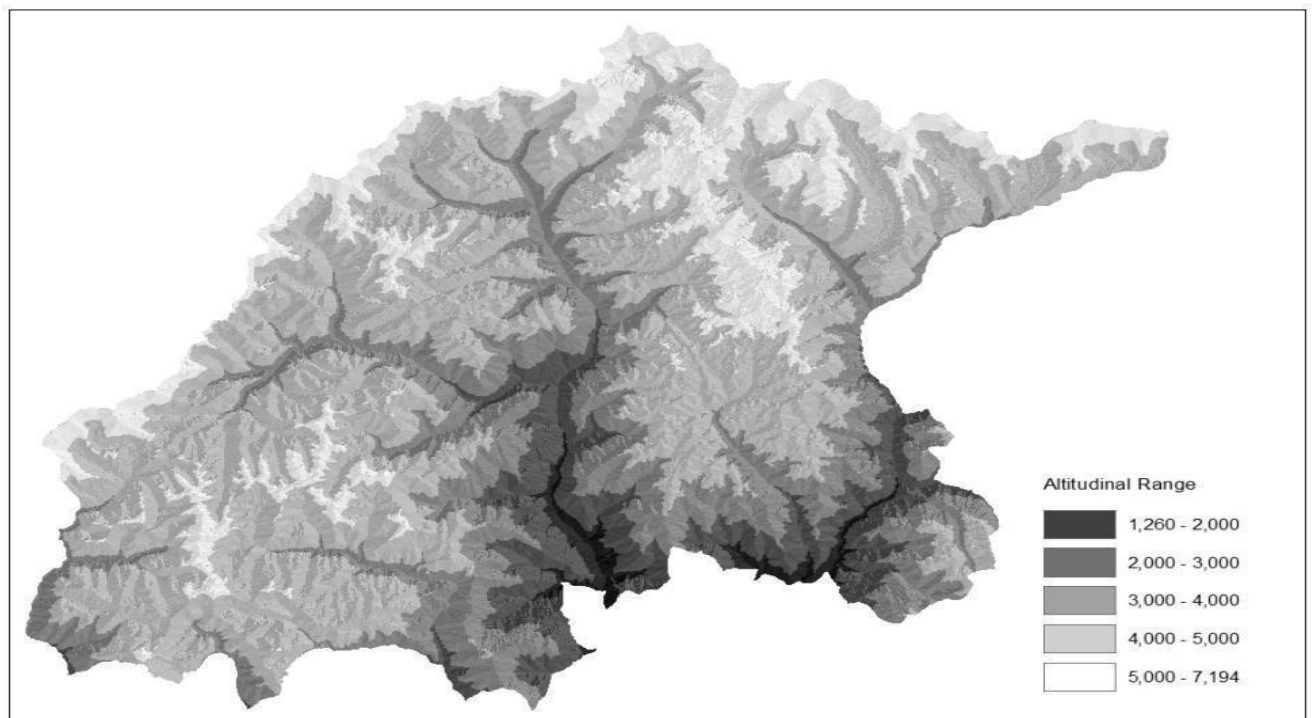


Fig. 3: Elevation range under Jigme Dorji National Park

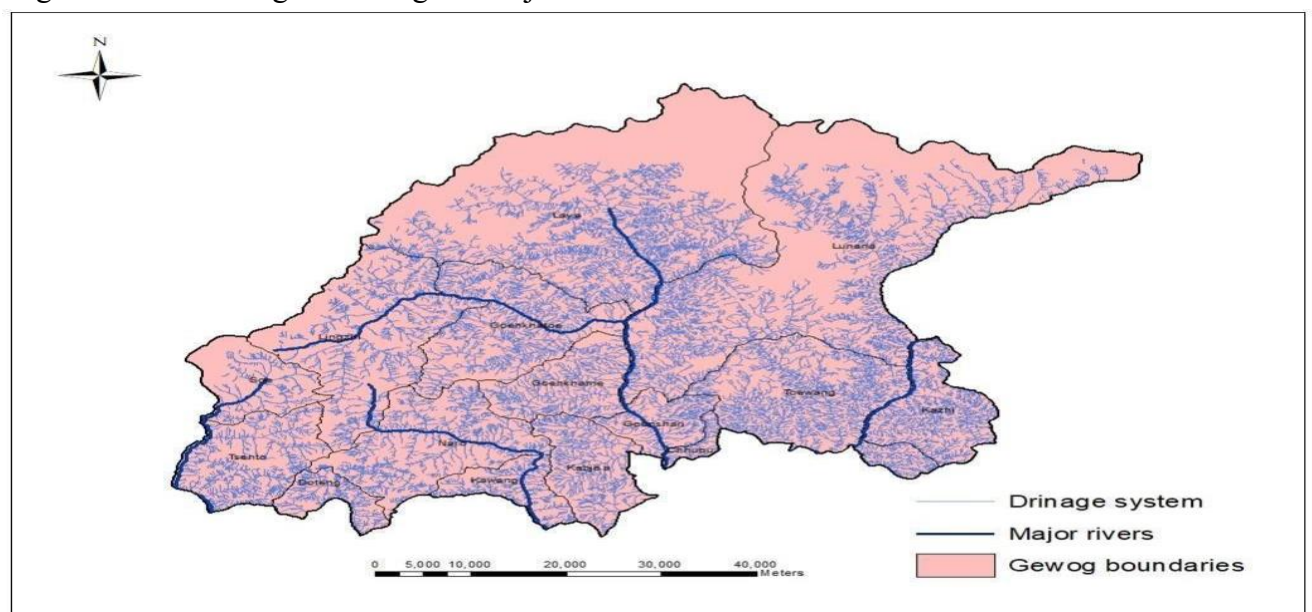


Fig 4: Riverine system of Jigme Dorji National Park

### (c) Hydrological conditions

JDNP is also famous for many alpine lakes. Most of these lakes are formed in deep valleys where huge quantities of water are impounded. The color of the lakes varies from dark grey to reddish to turquoise blue. The lakes serve as natural reservoirs of water for downstream valleys and as habitat for many alpine birds and animals.

Hydrologically, the park constitutes the water tower and major watershed for four major rivers of the country: Pachhu, Wangchhu, Phochhu, and Mochhu. On the downstream courses of these rivers, mega hydropower projects have been built, and some are in the process of being built. The sale of electricity generated from these power stations accounts for a huge percentage of the gross domestic product (GDP).

### (c) Flora and fauna

In total, the park has 1,434 species of vascular plants belonging to 144 families and 563 genera (9 genera and 13 species of gymnosperms and 554 genera and 1,421 species of angiosperms) (JDNP 1996). The park has many types of vegetation and land-use types, which is largely due to dramatic changes in elevation and climatic conditions (JDNP 1996).

In the lowest areas of the park, one can find warm temperate broadleaf forests that are dominated by tall and voluminous trees with broad leaves, particularly belonging to the families of Lauraceae, Moraceae, Euphorbiaceae, Leguminosae (Fabaceae), and Combretaceae. The lower areas facing south with mostly dry conditions are dominated by chirping forests that are usually fire-prone with scanty undergrowth.

Between 2,000-3,500 meters, one can see cool temperate broadleaf forests that are characterized by oaks, such as *Quercus semicarpifolia* and *Quercus griffithii*, and some species of rhododendrons, such as *Rhododendron arboreum*. Pure stands of broadleaf and coniferous forests are hard to find, but in some areas where humans traditionally managed forests for leaf litter collection, there are pure stands of oak.

In areas between 3,500 - 4,000 meters, the vegetation gradually transitions into mixed conifer forest interspersed with hemlock (*Tsuga dumosa*), fir (*Abies densa*), spruce (*Picea spinulosa*), and juniper (*Juniperus indica*). In most areas, the vegetative cover transitions from dominant stands of hemlock to fir to juniper. Also found interspersed in these forest types are Campbell's maple (*Acer campellii*), Himalayan birch (*Betula utilis*), larch (*Larix griffithii*), and different species of bamboos and rhododendrons. Collectively, this ecofloristic zone is known as a subalpine forest.

Ascending above 4,000 meters until 5,000 meters, one encounters thickets of stunted junipers; small-leaved rhododendrons (such as *Rhododendron ciliatum* and *R. setosum*); riverine willows (*Salix sikkimensis*); and *Lyonia ovalifolia*. In areas cleared for grazing, the alpine pastures and meadows are dominated by species of *Potentilla*, *Geranium*, *Primula*, *Juncus*, and *Pedicularis*.

Areas immediately below the snow line are commonly known as alpine screes where dominant herb species of *Draba*, *Corydalis*, *Saxifraga*, *Androsace*, and *Geocarpus* abound.

Due to the presence of generally lush undergrowth and grasses, grazing by domestic cattle is prevalent in almost all vegetation zones of the park.

Around 300 species of medicinal plants are expected to be found inside the park, mostly in the alpine region. Most valuable and widely collected are Chinese caterpillars (*Ophiocordyceps sinensis*), *Picrorhiza kurroa*, and *Aconitum laciniatum* and *A. patulum*. In the lower areas, Himalayan yew (*Taxus baccata*) and several species of *Artemisa* (e.g., *A. dubia*, and

*A.myriantha*) are believed to have chemical contents that can cure many diseases.



Much like the floristic diversity, the faunal diversity of JDNP is astounding, with species from both the Palearctic and Indo-Malayan biogeographic realms (Wangchuk et al. 2004). So far, the park management has uncovered the presence of mostly the vertebrates. Except for a few butterflies and a few insects, the park has yet to dive into the world of invertebrates.

As of now, 52 species of mammals belonging to 19 families and 43 genera are confirmed to be present inside JDNP. Of these, five are endangered, six are vulnerable, and nine are near threatened as per the International Union for Conservation of Nature's (IUCN) Red List of Threatened Species (IUCN 2014). In addition, 10 of these species are listed in the Schedule I of the Forest and Nature Conservation Act (FNCA) of 1995.

A total of 373 species of birds have been documented, of which eight species are listed in Schedule I of FNCA, 1995. The endangered Black-necked crane (*Grus nigricollis*) makes an occasional visit to the national park during its migration to and from China. The critically endangered White-bellied Heron has feeding and nesting sites along the Phochhu and Mochhu rivers, especially in the three Gewogs of Toewang, Chubu, and Goenshari under Punakha Dzongkhag.

## FAUNAL DIVERSITY

### 52 mammals

- 5 endangered
- 6 vulnerable
- 9 near threatened



Fig 6: Faunal diversity of Jigme Dorji National Park

### Socio-economic conditions

Through support from the Bhutan for Life Project, we carried out a socio-economic survey in Year 2, where we obtained a population estimate of 5026 people in 975 households living in 138 villages in 43 chiwogs under 10 gewogs administered by park management. There is a total of 2542 males and 2485 females in the population. The means for both household and population size are highest in Laya and Lunana. The population density is highest in Goenshari and Khamaed gewogs.

People residing in the park above 4,000 meters practice a somewhat semi-nomadic pastoralist livelihood, primarily subsisting on raising yaks. It is typical of a yak herder to own more than 100 yaks, which are considered the stable source of livelihood. The number of yaks owned is considered a status symbol among the yak herding communities.

As opposed to the popular trademark of yak herding, some upland communities grow wheat and vegetables during the short growing period in summer to supplement their diet and to grow fodder for their yaks.

Lowland people are those residing below 4,000 meters in the park. They subsist on an agro-pastoral or mixed farming lifestyle wherein agriculture is the mainstay of livelihood and domestic cattle are raised for dairy products and farmyard manure.

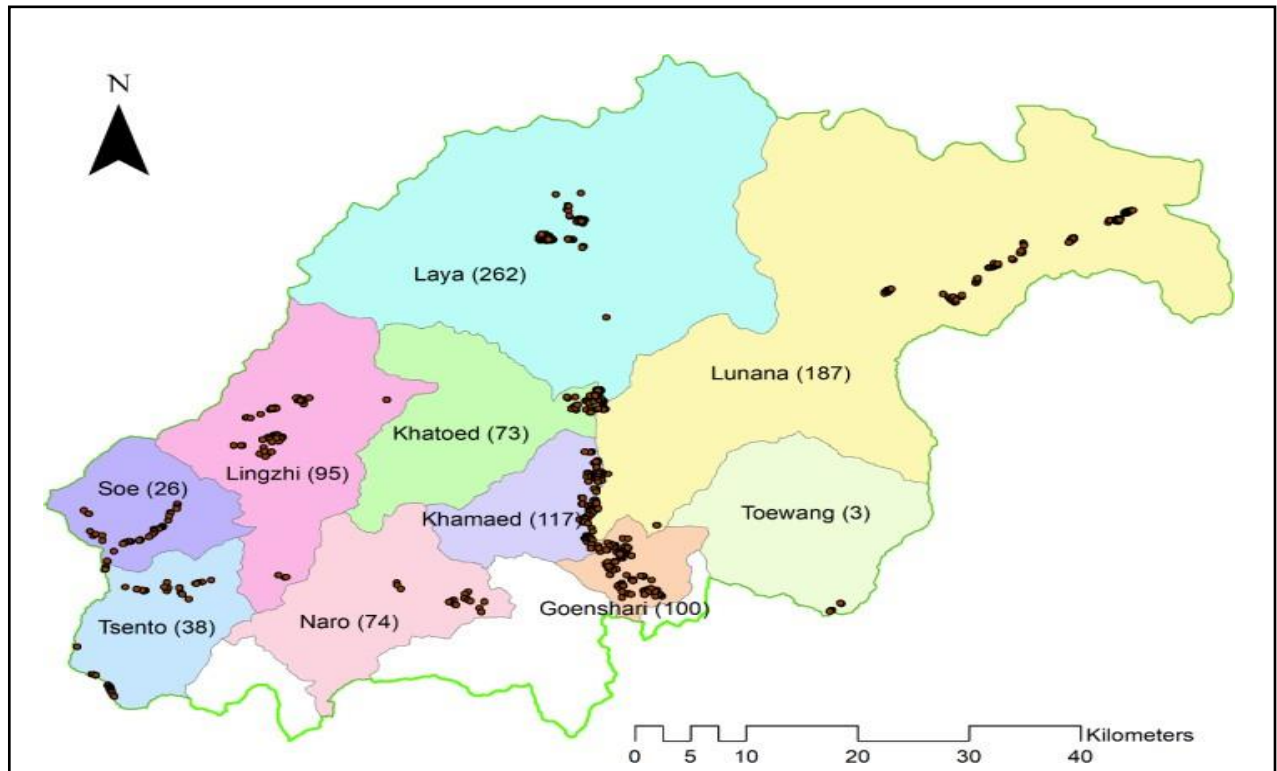


Fig 7: JNP boundary (green lines) and settlements (brown dots). The figures in the bracket are the number of households in each gewog. The hollow polygons (white) within the park boundary are the gewogs falling inside the park with no resource allocation and monitoring activities (the gewogs are Chubu, Doteng, Kawang and Kabjisa)

Table 1: Population estimates for resident communities of park-administered gewogs, 2020

| Gewog        | Total Household | Mean Household | Estimated Population |             |             | Mean population | Population density (per sq. km) |
|--------------|-----------------|----------------|----------------------|-------------|-------------|-----------------|---------------------------------|
|              |                 |                | Male                 | Female      | Total       |                 |                                 |
| Goenshari    | 100             | 3.4            | 351                  | 377         | 728         | 25.1            | 8.42                            |
| Khamaed      | 117             | 4.5            | 382                  | 413         | 795         | 30.6            | 5.33                            |
| Khatoed      | 73              | 5.2            | 222                  | 189         | 411         | 29.4            | 1.43                            |
| Laya         | 262             | 32.8           | 554                  | 540         | 1094        | 136.8           | 1.13                            |
| Lingzhi      | 95              | 9.5            | 240                  | 200         | 440         | 44.0            | 1.14                            |
| Lunana       | 187             | 14.4           | 392                  | 420         | 812         | 62.5            | 0.65                            |
| Naro         | 74              | 5.3            | 166                  | 126         | 292         | 20.9            | 1.06                            |
| Soe          | 26              | 3.7            | 103                  | 116         | 219         | 31.3            | 1.33                            |
| Toewang      | 3               | 1.5            | 4                    | 2           | 6           | 3.0             | 0.02                            |
| Tsento       | 38              | 3.5            | 128                  | 101         | 229         | 20.8            | 1.17                            |
| <b>TOTAL</b> | <b>975</b>      | <b>83.75</b>   | <b>2542</b>          | <b>2484</b> | <b>5026</b> | <b>404.21</b>   | <b>21.68</b>                    |

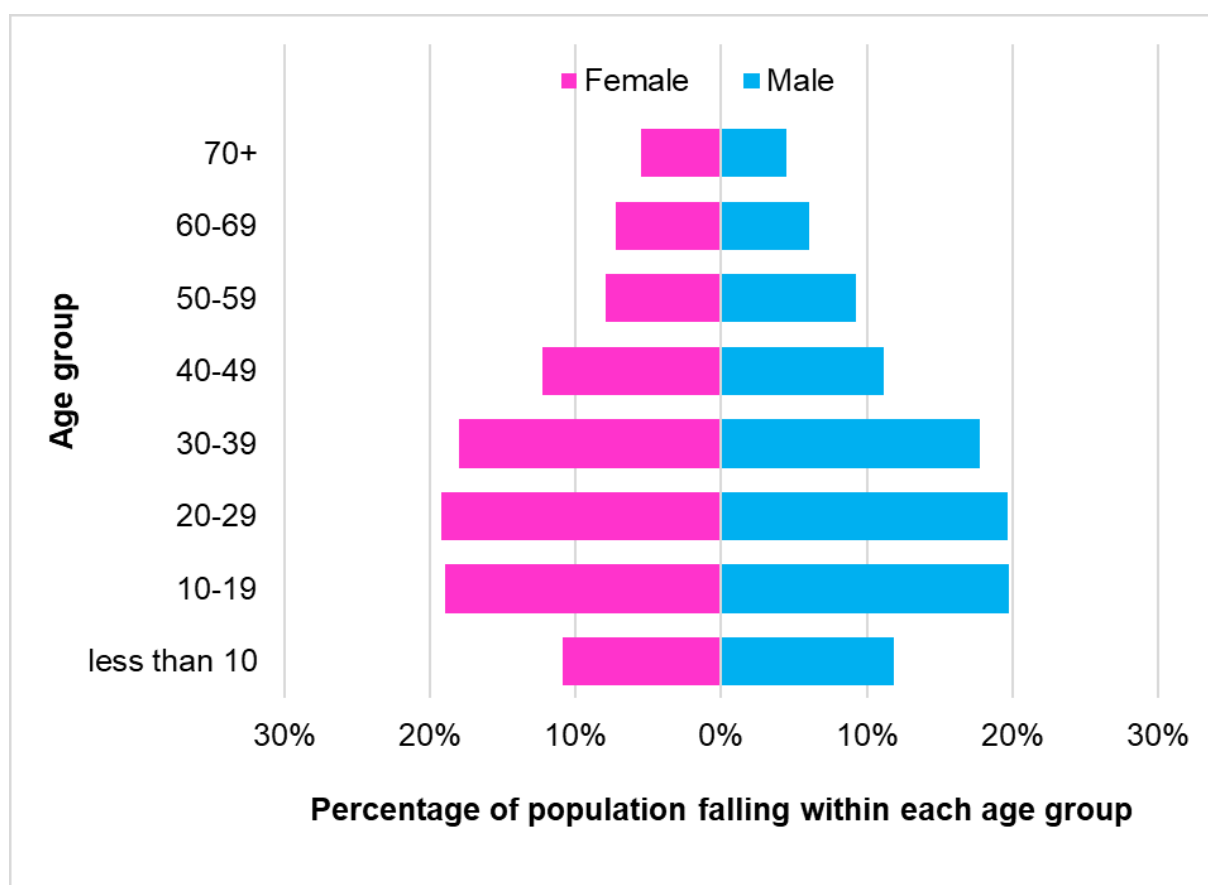


Fig 8: Distribution of population according to age group and gender in JDNP 2020.

### 3. Planned activities in the years 2026-2027

#### *Activity 3.1: Improvement of Waterholes at Rimchu top & Kewana (Approved ESMP 2020)*

- **Budget:** Nu. 300,000/-
- **Timeline:** April 2027-June 2027
- **Location:**
  - I. Jatsho: (GPS: 27.825763, 89.720049)
  - II. Rimchu Top: (GPS: 27.678637, 89.766401)
  - III. Kewana: (GPS: 27.696537, 89.945478)

#### **Activity Description**

Waterholes are a critical resource for sustaining wildlife populations, particularly during the dry season when natural sources become scarce. In recent years, many natural waterholes within the park have either dried up or become less reliable due to changing rainfall patterns, increasing temperatures, and sedimentation. As a result, wildlife species are forced to travel longer distances in search of water, increasing the risk of human wildlife conflict and disturbance to their natural movement patterns. Improving and maintaining waterholes is therefore essential to ensure year-round water availability for wildlife, reduce habitat stress, and support overall ecosystem resilience. The initiative also contributes to enhancing biodiversity conservation and promoting climate adaptation measures within the park landscape.

## **1. Revival of Kewana waterholes**

The Kewana Waterhole Restoration Project was initiated in 2019 with financial support from BFL to enhance wildlife habitat in an area that was experiencing seasonal drying and lacked a reliable water source. The primary objective of the project is to create and maintain waterholes that provide a dependable source of water for wildlife, particularly during the dry season.

The waterholes were last monitored and restored in January 2024. However, during a recent field monitoring visit, it was observed that two of the three existing ponds had dried up, necessitating further restoration works. These water sources are frequently utilized by several wildlife species, including barking deer, serow, goral, sambar deer, Asiatic black bear, and wild pig.

The project site is located at Kewana Top within a State Reserved Forest and constitutes an important habitat for the aforementioned wildlife species. No alternative sites have been identified, as the existing three waterholes were selected based on field assessments and their ecological significance. Restoration of these waterholes is consistent with the habitat management objectives outlined in the Conservation Management Plan of Jigme Dorji National Park (2021).

The site lies in the lower region of the park and is characterized by hilly and mountain-top terrain covered predominantly by warm broadleaf and cool broadleaf forests. The area has no known archaeological, cultural, or historical significance. The nearest settlement, Kewana village, is located approximately 15 km away; therefore, no adverse social impacts are anticipated from the proposed activities.

The restoration work will involve manual excavation and improvement of three shallow ponds, each measuring approximately 12–16 feet in width, in accordance with the Habitat Management Guidelines (2021). Tarpaulin sheets will be laid at the base of each pond and covered with sand, stones, and grass to enhance water retention. Approximately 4 cubic meters of stone will be required for the construction of retaining walls and will be sourced from nearby areas. Excavated soil will also be utilized in strengthening the retaining structures around the ponds.

Following completion of the restoration works, the use of the waterholes by wildlife will be monitored through the installation of Panthera camera traps. The activity will be carried out by a team comprising five local residents and four forestry officials from the Lunana Park Range Office.

All waste generated during the implementation of the activity will be collected and transported to the Toedwang Gewog waste disposal site for proper disposal. As the activity involves minimal occupational hazards, basic personal protective equipment, including gumboots and hand gloves, will be provided to all workers to ensure their safety.



Fig.9 Kewana top waterhole

## **2. Restoration of Jatsho, Jabisa**

Within the park, a naturally occurring small lake serves as an important water source for a variety of wildlife species, including barking deer, sambar deer, wild pig, goral, and serow. The lake plays a critical ecological role by providing year-round drinking water and supporting surrounding vegetation that offers forage and shelter for wildlife.

In recent years, the condition of the lake has deteriorated due to the accumulation of debris and sediments, as well as gradual infilling caused by surface runoff and soil erosion from the surrounding catchment area. As a result, the water depth and storage capacity of the lake have been significantly reduced, affecting its ability to retain water during the dry season. This decline has diminished the suitability of the site as a wildlife waterhole and increased pressure on other limited water sources within the area.

To address these concerns, restoration interventions are proposed to rehabilitate the lake and improve its ecological function. The activities will include the removal of accumulated debris and sediments, stabilization of the lake banks, and improvement of inflow and outflow channels to enhance water retention. These measures are expected to restore the lake's natural hydrological functions, improve water availability throughout the year, and enhance habitat quality for wildlife.

As all lakes in Bhutan are regarded as sacred, a local deity appeasing ceremony will be conducted prior to the commencement of restoration activities in accordance with local customs and traditions.

The restoration works will not involve the extraction or use of natural resources such as sand and stones. The project site is located within a cool broadleaf forest ecosystem and is situated approximately 10 km from the nearest human settlement. Therefore, no adverse social impacts are anticipated.

The restoration activities will be implemented by a team comprising five local workers and three forestry

officials from the Khamoed Beat Office. The work poses minimal occupational risks, and workers will be provided with basic personal protective equipment, including hand gloves and gumboots. The use of flotation devices is not considered necessary, as the lake is relatively small, measuring approximately 10 meters in width and having a maximum depth of about 1 meter. The local workers will come from their homes to the work site, and there is no need to provide shelter.



Fig.10 Current situation of Jatsho waterhole with accumulated debris



Fig.11 Example for lake restoration

### **3. Restoration of Rimchu Top Waterholes**

The proposed waterhole restoration site is located along a major wildlife corridor used by tigers within Jigme Dorji National Park (JDNP), making it an ecologically significant area for wildlife conservation. The existing waterhole serves as the only permanent water source in the surrounding landscape and provides essential drinking water for a variety of wildlife species. Frequent signs and tracks of wild pig, sambar deer, barking deer, and Asiatic black bear have been observed in and around the site, indicating its importance as a wildlife congregation area.

Situated on a ridge-top landscape, the waterhole plays a critical role in supporting wildlife movement, habitat use, and survival, particularly during the dry season when alternative water sources become scarce. Over time, however, the waterhole has gradually deteriorated due to sediment accumulation, deposition of organic debris, and a reduction in its water retention capacity. Consequently, restoration measures are required to improve its ecological function and ensure continued availability of water for wildlife.

The proposed intervention will involve desiltation and removal of accumulated debris to restore the waterhole's storage capacity and maintain a clean and reliable water source. In addition, a shallow pond measuring approximately 12 feet in width will be excavated immediately below the existing water source to enhance water availability. Excavated soil and stones will be utilized for the construction of retaining walls around the pond. To improve water retention, a tarpaulin lining will be placed at the base of the pond and subsequently covered with soil, stones, and grasses to blend with the natural environment and protect the lining material.

The restoration site is located approximately 15 kilometers from the nearest human settlement and lies within a core wildlife habitat area. The proposed activity is not expected to have any adverse impact on local livelihoods, cultural resources, or historical sites.

The restoration work will be carried out by four local workers and four forestry officials from the Ruecheyna Park Range Office. The activity involves minimal occupational risks, and workers will be provided with basic personal protective equipment, including gumboots and hand gloves. Workers will commute from their homes during the implementation period, and waste generation is expected to be minimal. Any plastic waste generated during the activity will be collected and transported to the Goenshari Gewog waste disposal site for proper disposal.

The restoration of this waterhole is expected to enhance habitat quality, improve water availability, and contribute to the long-term conservation of wildlife within this important ecological corridor.

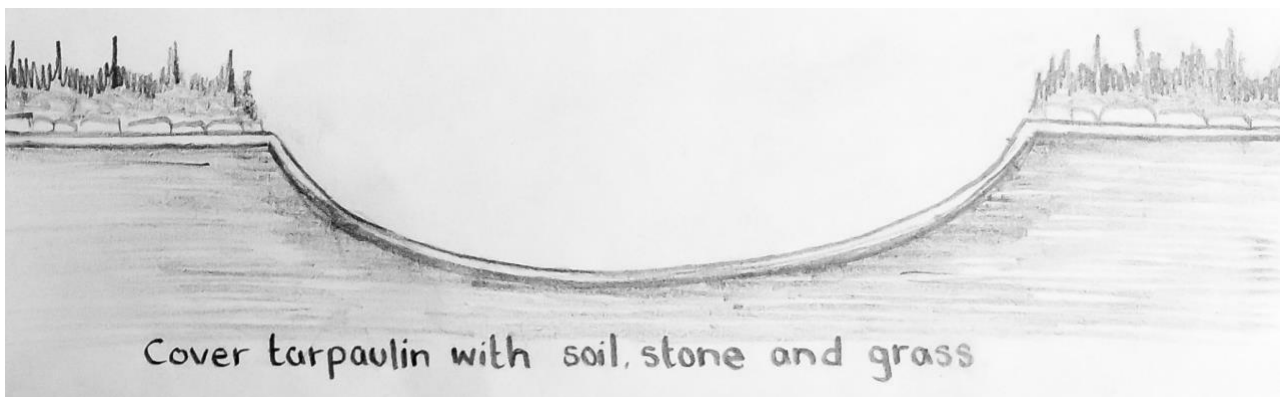


Fig.12 Design of waterhole

### ***Potential environmental and social impacts from the activity***

- Generation of wastes during activity implementation
- Occupational Health and Safety of the Workers

### **Activity 3.2: Restoring Alpine Meadows for Sustainable Habitat Management-Restoration of 12 hectares of alpine meadow for wildlife and livestock in three locations (Tsharijathang, Shingchela, and Magathang)**

- **Budget:** Nu. 900,000/-
- **Timeline:** October 2026 to March 2027
- **Location:** Tsharijathang (8 Ha): (GPS: 27.977270, 89.530573)  
Magathang (2.01 Ha): (GPS: 27.749091; 89.299035)  
Shingchela (2 Ha): (GPS: 28.061798; 89.562068)

### **Activity description:**

Laya Gewog has 54 yak herders, but the tradition of yak herding is declining each year. The gewog has 298 households, and in previous decades, nearly all households relied on yaks for their livelihood. This shift in

livelihood is driven by income from cordyceps collection and the increasing challenges associated with herding. Rising temperatures and melting glaciers have allowed rhododendron shrubs to rapidly encroach on alpine meadows, reducing grazing land for both livestock and wildlife. Therefore, prescribed burning is proposed to restore the alpine meadows.

The Alpine meadow improvement activities involve selective thinning and pruning of unwanted shrubs, including those dense overgrowths of Rhododendron, that are encroaching on alpine meadows. Since these shrubs are unpalatable to wildlife, their removal will create openings or microclimates beneath the remaining sparse shrubs, promoting the growth of palatable herbs and grasses. This, in turn, enhances grazing ground for both wildlife and livestock. The local residents are semi-nomadic and rely primarily on yaks for their livelihood.

### **1. Tsharijathang (ESMP approved in 2021)**

During the first phase of the BFL project, Jigme Dorji National Park (JDNP) identified Tsarijathang as a priority site for alpine habitat restoration and implemented a series of interventions aimed at restoring and maintaining high-altitude ecosystems for alpine flora and fauna. Tsarijathang is internationally recognized as the principal summer habitat of Bhutan's National Animal, the Bhutan Takin (*Budorcas taxicolor whitei*). The area provides extensive grazing grounds where takins congregate and remain for approximately four months during the summer season. In addition to takins, the area supports several other important wildlife species, including snow leopards, dholes, musk deer, and blue sheep.

Recognizing the increasing pressures on the habitat from tourism, livestock movement, and human activities, the park management initiated a community-based habitat management approach. Following a series of consultations with local yak herders, the herders expressed strong interest in participating in habitat conservation and subsequently formed the Tsarijathang Alpine Meadow Habitat Management Group. As an incentive and to support conservation efforts, activities such as trail widening and construction of a bridge at Thangka Zam were implemented through the herder community. With the completion of these works, tourist, porter, yak, horse, and human traffic has been successfully diverted away from the core summer habitat of the Bhutan takin, thereby reducing disturbance to this critical conservation area.

The project site is located in the alpine region of the park and is characterized by mountainous terrain, alpine meadows, and rhododendron scrub vegetation. The area contains a natural salt lick associated with saline water sources that attract takins, particularly during dawn and dusk. The saltlick is a key ecological feature and an important component of the species' habitat requirements.

The proposed activities include restoration and maintenance of alpine meadows through prescribed burning, replacement of damaged signboards, construction and maintenance of a wooden bridge along the rerouted trekking trail, and maintenance of the alternative trekking route. Habitat improvement activities will involve the removal of rhododendron scrub and other non-palatable woody vegetation to promote the regeneration and growth of palatable grass and herbaceous species preferred by herbivores. Approximately two hectares of rhododendron scrub will be cleared as part of the restoration program.

The site is located approximately two days' walking distance from Laya Gewog and does not contain any known archaeological, cultural, or historical sites. The proposed activities are not expected to adversely affect local communities or livelihoods. The Jomolhari Trek Route and the Lingzhi–Laya Trek Route pass near the project area; however, implementation of the activities will not interfere with trekking operations or visitor movement.

As Tsarijathang represents the primary summer habitat of the Bhutan takin, all habitat management activities will be undertaken during the winter season when takins migrate to lower elevations in Gasa District. Potential environmental risks associated with prescribed burning include temporary air pollution and accidental fire spread. To mitigate these risks, all burning operations will strictly adhere to the Use of Prescribed Burns in High-Altitude Rangeland Areas: Standard Operating Procedure (2025). Adequate fire lines will be established before ignition, and post-burn suppression activities will utilize approximately 500

liters of water. Given the alpine environment and the implementation of control measures, the likelihood of uncontrolled fire spread is considered low.

No sand, stone, or aggregate extraction will be required for the proposed activities. However, approximately 90 cubic feet of timber will be utilized for the maintenance of the wooden bridge along the alternative trekking route.

The Tsarijathang Alpine Meadow is managed by a group of eleven yak herders under the approved Tsarijathang Management Group Plan and Bylaws (2020). Maintenance activities will continue to be carried out by the herder group in accordance with these bylaws and the approved management plan. In addition, three forestry officials from the Laya Park Range Office will provide technical oversight and monitoring in accordance with the Guidelines for Habitat Management (2021).

The activities are expected to generate only minimal quantities of solid waste. Any waste produced during implementation will be collected and transported to the Laya Gewog waste disposal site for proper disposal.

No adverse impacts on native biodiversity are anticipated. Currently, much of the alpine meadow is dominated by non-palatable shrub species, including *Lyonia* species and other woody vegetation that provide limited forage value for wild herbivores and livestock. Prescribed burning and shrub removal are therefore necessary to restore native grassland ecosystems and encourage the growth of palatable herbaceous species. These interventions will improve habitat quality for wildlife and increase grazing resources for livestock.

The project is expected to generate positive socio-economic benefits for local communities through improved grazing areas for yaks and enhanced tourism opportunities associated with trekking and wildlife conservation. Similar alpine meadow restoration activities have been implemented by the park in partnership with local communities in the past, with no reported occupational health and safety incidents. Local herders are highly familiar with the terrain, environmental conditions, and management activities. Nevertheless, workers will be provided with appropriate personal protective equipment, including hand gloves, gumboots, and face masks.

The risk of gender-based violence associated with the activity is considered negligible, as the participating members comprise a close-knit community of traditional yak herders who possess customary grazing rights in the area. Furthermore, the activity aligns with national priorities aimed at sustaining Bhutan's traditional yak-herding culture and supporting high-altitude livelihoods. The Department of Livestock is also actively supporting complementary initiatives, including private pasture improvement through the provision of fencing materials and improved pasture seeds.





Fig.13 Tsharijathang alpine meadow, wooden bridge at alternative trekking route, and sign board.

## 2. Shingche La alpine meadow improvement (New sites)

Laya Gewog currently has 54 yak-herding households; however, the tradition of yak herding has been steadily declining over the years. Of the 298 households in the gewog, nearly all families traditionally depended on yak husbandry as their primary source of livelihood. In recent decades, this dependence has decreased due to alternative income opportunities, particularly from cordyceps collection, as well as the increasing challenges associated with managing yak herds in high-altitude environments.

Climate change has further exacerbated these challenges. Rising temperatures and glacial retreat have facilitated the rapid expansion of rhododendron and other woody shrub species into alpine meadows, resulting in the gradual loss of productive grazing lands for both livestock and wild herbivores. Consequently, restoration of degraded alpine meadows has become necessary to maintain grazing resources and ecological integrity. Prescribed burning and shrub removal are therefore proposed as management interventions to restore the affected alpine grasslands.

The proposed site is located below Shingchela Pass and is commonly used by eleven yak herders for seasonal grazing. The area is characterized by gentle slopes and is presently dominated by dense rhododendron scrub. Situated within the alpine zone of Jigme Dorji National Park, the surrounding landscape consists of alpine meadows, mountain ridges, and rhododendron shrublands. According to local herders, the area was historically dominated by productive alpine grasslands; however, over recent decades, rhododendron encroachment has significantly reduced the extent and quality of grazing areas available for yaks.

The site is exclusively used as a grazing ground and contains no known archaeological, cultural, or historical resources. The land falls within a state reserved forest and is traditionally utilized by nomadic communities for yak grazing. Since the site has been selected based on its suitability and priority for meadow restoration, no alternative locations have been considered.

The proposed activity will involve the cutting and removal of *Rhododendron* spp. and *Salix* spp., followed by prescribed burning of the resulting biomass to promote the regeneration of native alpine grasses and herbaceous vegetation. All prescribed burning operations will be conducted in strict accordance with the Use of Prescribed Burn in High-Altitude Rangeland Areas: Standard Operating Procedure (2025) and the Guidelines for Habitat Management (2021). Prior to implementation, a preliminary assessment of flora and fauna will be conducted to identify any environmental sensitivities and guide site-specific mitigation measures.

Although no major adverse environmental impacts are anticipated, appropriate safeguards will be implemented. Fire lines will be established around the treatment area to prevent the spread of fire beyond designated boundaries. Approximately 200 liters of water will be maintained on-site for post-burn mopping-up operations and fire suppression, if required. No sand, stone, timber, or other construction materials will

be used during the implementation of the activity.

The restoration activities will be carried out by eleven local herders, with technical supervision and monitoring provided by three forestry officials from the Laya Park Range Office. Workers will commute daily from their herding camps located approximately two kilometers from the site; therefore, no temporary labor camps or associated infrastructure will be required. Minimal solid waste is expected to be generated, and any waste produced during implementation will be collected and transported to the Laya Gewog waste disposal site for proper disposal.

Prescribed burning will result in the temporary release of carbon dioxide and smoke into the atmosphere. However, prescribed burning remains one of the most effective and ecologically appropriate methods for restoring degraded alpine meadows and controlling shrub encroachment in high-altitude rangelands.

No adverse impacts on native biodiversity are anticipated. Currently, much of the grassland is dominated by non-palatable shrub species, including *Lyonia* spp., *Rhododendron* spp., and other woody vegetation that provide limited forage value for herbivores. Native herbaceous species persist only in small patches beneath the shrub canopy. The proposed shrub removal and prescribed burning will facilitate the regeneration of native and palatable grass and herb species, thereby improving habitat quality for both wildlife and livestock.

The activity is expected to generate positive socio-economic benefits for local communities by increasing the availability of grazing resources and supporting the continuation of traditional yak-herding practices. Similar meadow restoration activities have been implemented by the park in partnership with local communities in the past, with no reported occupational health and safety incidents. Local herders possess extensive knowledge of the terrain, environmental conditions, and prescribed burning practices. Nevertheless, all workers will be provided with appropriate personal protective equipment, including hand gloves, gumboots, and face masks. First-aid kits will also be made available on site to address any minor injuries that may occur during implementation.

The risk of gender-based violence associated with the activity is considered negligible, as the participating individuals belong to a close-knit yak-herding community with longstanding social and cultural ties. Overall, the proposed activity will contribute to the restoration of alpine ecosystems, improvement of grazing resources, conservation of biodiversity, and the long-term sustainability of traditional yak-herding livelihoods in Laya.



Fig.14 Example of prescribed burning at Magathang

### 3. Alpine meadow improvement of Magathang (Approved ESMP 2024)

The Magathang alpine meadow is a traditional winter grazing ground used by livestock owners of Jumphu Chiwog under Soe Gewog. Owing to its proximity to human settlements and regular livestock use, there is limited evidence of wildlife utilization within the area. In recent decades, however, the meadow has experienced significant encroachment by non-palatable shrub species, particularly *Salix bhutanensis* and *Berberis* spp., which now cover approximately 70 percent of the grazing area. This encroachment has substantially reduced the availability and quality of forage for livestock, necessitating habitat management interventions to restore the meadow's productivity.

To address this issue, the park has adopted the slashing-and-burning technique as an effective habitat improvement measure. Prescribed burning is recognized as a safe and efficient method for restoring degraded alpine meadows and controlling the spread of woody shrub species in high-altitude rangelands. Following extensive consultations with the local community, the Magathang site was selected for habitat restoration.

An area of approximately 2.104 hectares was initially treated in September 2024 through slashing of shrub vegetation with the participation of 14 local residents representing households that traditionally use the grazing area. The slashing operation was undertaken as a preparatory measure because direct burning was not feasible due to the density and moisture content of the vegetation.

The proposed activity represents a follow-up intervention at the same location to consolidate the gains achieved under the 2024 restoration effort and ensure long-term success of the meadow improvement program. The follow-up activities will include additional slashing and prescribed burning of regenerating *Salix* spp. and *Berberis* spp. vegetation. According to the 2026 field assessment, the previous intervention achieved approximately 90 percent success, with only limited regrowth of non-palatable shrub species observed in certain areas. The proposed follow-up treatment is therefore required to achieve complete restoration of the grazing habitat.

The site is located approximately three kilometers from the nearest settlement at Jumphu and is used by 14 herders for winter livestock grazing. The area does not contain any known archaeological, historical, cultural, or religious resources. The terrain is generally gentle and open, with surrounding vegetation comprising alpine meadows, juniper stands, and patches of *Salix* species.

The restoration activities will be implemented in accordance with the Guidelines for Habitat Management (2021) and the Use of Prescribed Burns in High-Altitude Rangeland Areas: Standard Operating Procedure (2025). Prior to implementation, the site will be assessed to identify any environmental sensitivities and ensure that all necessary mitigation measures are in place.

No significant adverse environmental impacts are anticipated. Fire lines will be established around the treatment area to prevent the accidental spread of fire, and adequate water will be kept on-site for post-burn mopping-up operations. The prescribed burning will be carefully supervised and carried out only under suitable weather conditions. No sand, stones, aggregates, timber, or other construction materials will be required for the activity.

The restoration work will be carried out by local herders who traditionally use the grazing area, with technical guidance and monitoring provided by forestry officials from the Soe Park Range Office. Workers will commute daily from nearby settlements; therefore, no temporary labor camps or associated infrastructure will be required. Minimal solid waste is expected to be generated during implementation, and any waste produced will be collected and transported to the designated waste disposal facility in Soe Gewog.

The activity is expected to generate positive ecological and socio-economic outcomes. Removal of non-palatable shrub species will promote the regeneration of native alpine grasses and herbaceous vegetation, thereby increasing forage availability for livestock and improving the overall condition of the grazing land. As the area is primarily used for livestock grazing and contains limited wildlife activity, no adverse impacts on wildlife habitats are anticipated.

The intervention will directly benefit local herders by improving winter grazing resources and supporting the sustainability of traditional livestock-rearing practices. Similar meadow restoration activities have been successfully implemented in other alpine grazing areas with active community participation and without any reported occupational health and safety incidents. Local participants are familiar with the terrain and restoration techniques; nevertheless, workers will be provided with appropriate personal protective equipment, including hand gloves, gumboots, and face masks. First-aid kits will also be made available on-site to address any minor injuries that may occur during implementation.

Overall, the proposed follow-up restoration activity will contribute to the long-term recovery and sustainable management of the Magathang alpine meadow while enhancing grazing opportunities for local livestock owners.

***Potential environmental and social impacts from the activity***

- Generation of wastes during construction of concrete band
- Occupational Health and Safety of the Worker's
- Air pollution



Fig.15 Magathang pastureland

## 5. Mitigation Measures for Environmental and Social Impacts

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

| Potential impact                                                              | Impact scale     | Proposed mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Responsible Party                  | Costs (million) |
|-------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-----------------|
| <b>Activity 1: Improvement of Waterholes Rimchu top, Kewana, &amp; Jatsho</b> |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                    |                 |
| Waste: generation of waste as a result of activities                          | Short-term minor | During creation of waterholes: <ul style="list-style-type: none"> <li>Excavated Soil waste shall be used to build retaining wall for the pond.</li> <li>Solid and plastic waste from Workers shall be transported back to Toedwang, Goenshari, and Khamoed gewog waste disposal sites.</li> </ul>                                                                                                                                                                                                                                                                  | Gasa and Lunana Park Range Officer | NA              |
| Workers' health and safety                                                    | Short-term minor | <ul style="list-style-type: none"> <li>Comply with the workers' health and safety guidelines</li> <li>The hand gloves &amp; gumboots shall be provided.</li> <li>A basic first aids kit shall be provided</li> <li>Ensure that no underage workers, or children, are engaged.</li> <li>Ensure that workers are employed on the principle of equal opportunity and fair treatment</li> <li>Implement a grievance redressal mechanism for workers (and their organizations, where they exist) to raise workplace concerns and maintain a proper registry.</li> </ul> | Gasa and Lunana Park Range Officer | NA              |

| Potential impact                                                                                                                                                                                                    | Impact scale     | Proposed mitigation measures                                                                                                                                                                   | Responsible Party                  | Costs (million) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-----------------|
| <b>Activity 2: Restoring Alpine Meadows for Sustainable Habitat Management-Restoration of 12 hectares of alpine meadow for wildlife and livestock in three locations (Tsharijathang, Shingchela, and Magathang)</b> |                  |                                                                                                                                                                                                |                                    |                 |
| Waste: generation of waste as a result of activities                                                                                                                                                                | Short-term minor | During improvement of alpine meadows: <ul style="list-style-type: none"> <li>Solid and plastic waste from Workers shall be transported back to respective gewog waste disposal site</li> </ul> | Gasa and Lunana park Range Officer | NA              |
| Workers' health and safety                                                                                                                                                                                          | Short-term minor | <ul style="list-style-type: none"> <li>Comply with the workers' health and safety guidelines</li> <li>The hand gloves &amp; gumboots shall be provided.</li> </ul>                             | Gasa and Lunana Park Range Officer | NA              |

|                     |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                       |    |
|---------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|----|
|                     |                  | <ul style="list-style-type: none"> <li>● A basic first aid kit shall be provided</li> <li>● Ensure that no underage workers, or children, are engaged.</li> <li>● Ensure that workers are employed on the principle of equal opportunity and fair treatment</li> <li>● Implement a grievance redressal mechanism for workers (and their organizations, where they exist) to raise workplace concerns and maintain a proper registry.</li> </ul> |                                       |    |
| Risk of forest fire | Short-term minor | <ul style="list-style-type: none"> <li>● Strictly follow the procedure of "use of prescribed high-altitude rangelands areas: the standard operating procedure 2025. "</li> <li>● Create fire line where deemed necessary</li> <li>● Use backpack water pump for post-burn mopping</li> </ul>                                                                                                                                                    | Gasa and Lunana<br>Park Range Officer | NA |

## 6. ESMP Implementation arrangements

The implementation of project activities will be carried out by the BFL focal person JDNP. 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 annual work plan of JDNP for implementation of the planned activities in JDNP in 2026. **The BFL focal and concern Range office 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 EHS plans, etc.).

The BFL focal needs to monitor the implementation of proposed measures by the Range officer and forestry staff with visual checking, review the records of evidence that the measures have been applied, and ask the Range officer to apply the measures as soon as possible. Non-compliances should be recorded, and the report on any non-compliance should be reported to the BFL Focal Officer immediately, and the BFL Focal Officer will report it to the PCU (ESS&GESI 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 requirement

## 7. ESMP monitoring arrangements

The BFL focal person in JDNP 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. JDNP is also fully responsible for the compliance of all external contractors and service providers working in the JDNP with the safeguard's 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     | Improvement of Waterholes Rimchu top, Kewana, & Jatsho                                                                                                                                            | Range Officer              | October 2026  | March 2027 | Jatsho, Kewana, Rimchu                | Monitoring reports and pictures<br>PCU team will monitor virtually, while ESS focal officer go for monitoring    |
|       |                                                                                                                                                                                                   | ESS focal                  | October 2026  | March 2027 |                                       |                                                                                                                  |
|       |                                                                                                                                                                                                   | PCU: ESS&GESI, M&E Officer | February 2027 |            |                                       |                                                                                                                  |
| 2     | Restoring Alpine Meadows for Sustainable Habitat Management- Restoration of 12 hectares of alpine meadow for wildlife and livestock in three locations (Tsharijathang, Shingchela, and Magathang) | Range Officer              | March 2027    | June 2027  | Tsharijathang, magathang, Shinhcheyla | Monitoring report and pictures<br><br>PCU team will monitor virtually, while ESS focal officer go for monitoring |
|       |                                                                                                                                                                                                   | ESS focal                  | March 2027    | June 2027  |                                       |                                                                                                                  |
|       |                                                                                                                                                                                                   | PCU: ESS&GESI, M&E Officer | April 2027    |            |                                       |                                                                                                                  |

## 8. Capacity Need and Budget

Activities under this ESMP will be implemented by the BFL focal person and concerned range officer under supervision of the chief forestry officer.

*The budget for each of the activities is:*

| Sl.No | Activity                                                                                                                                                                                         | Amount (Nu.) | Budget for ESS mitigation         |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------|
| 1     | Improvement of Waterholes Rimchu top, Kewana, & Jatsho                                                                                                                                           | 0.3 M        | Budget to meet from activity cost |
| 2     | Restoring Alpine Meadows for Sustainable Habitat Management-Restoration of 12 hectares of alpine meadow for wildlife and livestock in three locations (Tsharijathang, Shingchela, and Magathang) | 0.9M         | Budget to meet from activity cost |

## 9.Consultation and Disclosure Mechanisms

This ESMP has been prepared in a participatory manner involving section heads and range officers. The disclosure community consultation shall be carried out. This is mainly to inform local communities regarding the planned project activities, solicit their opinions, and enable them to question proposed mitigation measures. The main issues that were raised during the consultation meeting include the following:

- The detailed minutes of the consultation meeting will be kept as a requirement for this ESMP, 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 the national language, shall be disclosed on the websites of MoENR, DoFPS, and BFL and WWF. Hard copies of the ESMP should also be available at the PA Management Office and at the PCU Office.

## 10. Stakeholder engagement plan

The local community that resides in the vicinity of the planned BFL activities in JDNP will be engaged throughout the implementation of these activities. One consultation meeting will be organized during the intervention period:

- Improvement of Waterholes Rimchu Top, Kewana, & Jatsho, JDNP, shall work in close collaboration with concerned park range offices. Implementation shall strictly follow the guidelines for habitat management 2021.
- Restoring Alpine Meadows for Sustainable Habitat Management For the restoration of 12 hectares, BFL Focal shall work in close collaboration with concerned range officers and beneficiaries, especially the yak herders. The implementation shall follow strictly guidelines for habitat management 2021 and the protocol for prescribed burning 2025.

The BFL focal person will submit the official minutes of consultation meetings (along with a list of participants, disaggregated by gender and age) to ESS officers 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.

## **11. 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, resources, non-performance of project obligations including safeguards, violation of law and/or corruption, project governance and implementation, fair access and benefit sharing, stakeholder engagement, labor-related issues and incidents, gender-related issues, and others.

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

### ***WWF Grievance Mechanism***

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

Email: [SafeguardsComplaint@wwfus.org](mailto: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>.

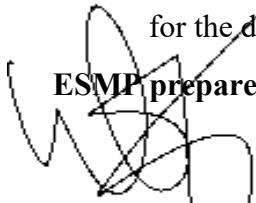
### **Certification of Mitigation Measures and Approvals for ESMPs**

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

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

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

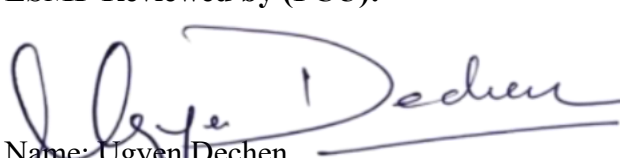
#### **ESMP prepared by (IAs)**

  
**Name:** Wangchuk

**Title:** Sr. Forestry Officer

**Date:** 5/5/2026

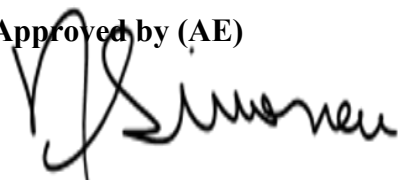
#### **ESMP Reviewed by (PCU):**

  
**Name:** Ugyen Dechen

**Title:** Project Officer

**Date:** 29<sup>th</sup> 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 an adequate number of relevant fire extinguishers.
- Workers shall wear shoes without iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction.
- Smoking, lightening, or carrying of matches, lighters or smoking materials shall be prohibited.
- All other precautions, as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks, overheated surfaces of machinery or plant, chemical or physical, chemical reaction and radiant heat.
- At every workplace adequate provision of water supply for firefighting shall be provided and maintained.
- Equipping facilities with firefighting equipment (e.g., fire extinguishing bottle). The equipment should be maintained in good working order and be readily accessible. It should be adequate for the dimensions and use of the premises, equipment installed, physical and chemical properties of substances present, and the maximum number of people present.
- Manual firefighting equipment shall be easily accessible and simple to use.
- Fire extinguishers and emergency alarm systems that are both audible and visible should be in place.

#### Lavatories and Showers

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

#### Potable Water Supply

- Adequate supplies of potable drinking water should be provided to workers at the work site.

#### Clean Eating Area

- Where there is potential for exposure to substances poisonous by ingestion, suitable arrangements are to be made for provision of clean eating areas where workers are not exposed to the hazardous or noxious substances.

#### Lighting

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

#### Safe Access

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

#### **First Aid**

- The employer should ensure that qualified first-aid can be provided at all times. A sufficient number of first aid boxes or cupboards shall be provided and maintained so as to be readily available during all working hours, provided that the distance of the nearest first aid box or a cupboard 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 over glasses 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.
- The practice of “hot-bedding” is prohibited.
- There is a minimum space of 1 meter between beds.
- The use of double deck bunks is minimized.
- If double deck bunks are in use, there is enough clear space between the lower and upper bunk of the bed.
- Workers are provided with comfortable mattresses. Workers may be expected to use their own pillows and bed linens.
- Workers wash bed linen frequently and applied with adequate repellents and disinfectants (where conditions warrant).
- Adequate facilities for the storage of personal belongings are provided.
- Separate storages for work clothes and PPE and depending on condition, drying/airing areas are provided.

#### 8. Sanitary and toilet facilities

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

#### 9. Cooking and laundry facilities

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

#### 10. Leisure, social and telecommunications facilities

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

#### Contents of first aid box or cup-boards

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

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

## Annexure II- BFL specific GRM Brochu



### HOW TO FILE YOUR COMPLAINT

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

#### BFL FOCAL OFFICER

- Wangchuk
- 17407265
- wangchu77m3@gmail.com
- Jigme Dorji National Park, Damji, Gasa

#### RUECHEYNA PARK RANGE OFFICE

- Sonam Norbu
- 17510448
- gfhola55@gmail.com
- Ruecheyna Park Range Office, Goenshari

#### GASA PARK RANGE OFFICE

- Sonam Yonten
- 17408514
- sonamyounten87@gmail.com
- Park Range Office, Gasa Range, Gasa

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, Taba, Thimphu

#### LINGZHI PARK RANGE OFFICE

- Sonam Jamtsho
- 17656137
- sonamjamtsho58@gmail.com
- Park Range Office, Lingzhi Range, Drubedy

#### LUNANA PARK RANGE OFFICE

- Norbu Dorji
- 17541189
- luckywangs07@gmail.com
- Ranger Office, Lunana Range, Lhedi, Gasa

#### LAYA PARK RANGE OFFICE

- Sherub Tenzin
- 17405901
- sherubt@moenr.gov.bt
- Ranger Office, Laya Range, Gasa

#### SOE PARK RANGE OFFICE

- Tandin Dorji
- 17171669
- tandindorji70@gmail.com
- Ranger Office, Soe Range, Jangothang

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. Goen Shari Gewog – 17114566
2. Khatoed Gewog – 17292327
3. Lingzhi Gewog – 17117266/17606516
4. Lunana Gewog – 17589593
5. Laya Gewog – 17405538
6. Soe Gewog – 17172340
7. Tsento Gewog – 17394376

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](mailto: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/gu/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.