

Executive Summary

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

An Environmental and Social Management Plan (ESMP) for Jigme Dorji Wangchuk National Park (JDNP), describes mitigation measures/good practices at activity level which are required as per the screening protocol. All the screened activities which has potential risks to environment and social management have to prepare ESMP which include environment management and mitigation plans during pre-activity, activity implementation and closing phases. Hence, it contains description of the detailed actions including communities, roles, communication and reporting and monitoring processes required as part of the implementation. In order to ensure that the issues of all stakeholders are taken into account, it includes a stakeholder engagement plan. The plan includes identification of stakeholders, method of engagement, timing and logistics. It is a requirement for all parks and biological corridors to keep record, reporting, review, auditing and update ESMP yearly as per the planned activities.

The activities that required ESMPs for the year 2025 under Jigme Dorji Wangchuck National Park are:

1. Construction of Range Office at Singyethang, Laya
2. Improvement of mineral lick at Chuchurpo
3. Construction of roof reinforcement at Soe, Nago and Lingshi
4. Rainwater harvesting system installation at Yaksa and Dula

བཀོད་ཁྱབ་བཅུད་དོན།

འབྲུག་རྒྱལ་ཡོངས་སྤྱི་ཁྲིའི་ཆོ་སྲོག་མ་དདུལ་འདི་མཐའ་འཁོར་གནས་སྤངས་དང་མི་ཕྱེ་འོས་འབབ་ཅན་གྱི་ལས་འགུལ་གྱི་དབྱེ་ཁག་ ཁ་བ་(Category B) རང་ལུ་ཚུད་དེ་ཡོད་པ་ཡིན། དེ་ཡང་ལས་འགུལ་འདི་ལས་བརྟེན་ཏེ་སྤྱད་སྟོབ་ས་ཁོངས་ནང་སྤྱད་མེད་མི་མེད་དང་ ཡང་ན་ སྤྱད་སྟོབ་ས་ཁོངས་ཀྱི་མཐའ་སྐོར་ཏེ་འཚོ་བ་སྤྱད་སྟོབ་ས་ཁོངས་ལུ་བརྟེན་སྤྱད་མེད་མི་མེད་ ཡང་ན་ གཤམ་ཅན་གྱི་མཐའ་སྐོར་གནས་སྤངས་ཀྱི་ས་ཁོངས་ཚུ་ལུ་གཞོན་པ་འབྱུང་ནི་ཉེན་ཁ་ཡོད་པ་ད་ གཤམ་སྤྱད་གཞོན་པ་འབྱུང་པ་ཅིན་ གཞོན་ཉེན་ཚུ་དམིགས་གསལ་ས་གནས་ནང་རྒྱུ་མ་ཅིག་འབྱུང་ནི་དང་ གཞོན་ཉེན་མར་པ་བ་རྒྱུ་ནི་དང་ ཅ་མེད་ཡང་གཏང་ཚུགས་པ་ཡིན།

དེ་འབད་མ་ལས་ འབྲུག་རྒྱལ་ཡོངས་སྤྱི་ཁྲིའི་ཆོ་སྲོག་མ་དདུལ་ཐོག་ལུ་ རྒྱབ་སྐྱོར་འབད་ཡོད་པའི་ལས་འགུལ་དང་ལས་ལྷན་ཚུ་ མཐའ་འཁོར་གནས་སྤངས་དང་ མི་ཕྱེ་གཉིས་ལུ་ཡུན་བརྟན་གྱི་པན་པ་ཡོད་པ་བཟོ་བ་གི་མ་ཚད་ འབྲུག་རྒྱལ་ཡོངས་སྤྱི་ཁྲིའི་ཆོ་སྲོག་མ་དདུལ་གྱི་སྤྱི་བྱས་ལམ་སྟོན་དང་འབྲེལ་ཐབས་ལུ་ མཐའ་འཁོར་གནས་སྤངས་དང་མི་ཕྱེ་འཛིན་སྐྱོང་འཆར་གཞི་འདི་དགོ་པ་ད་ མི་དམངས་གྲོས་བསྟུན་དང་ ཏུས་དང་ཏུས་ལུ་མི་དམངས་ལུ་གསལ་བ་བཤད་ནི་འདི་དགོ་པ་ཡིན།

རང་བཞིན་གནས་སྤངས་དང་མི་ཕྱེ་འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་ སྤྱི་ཁྲིའི་དང་སྲོག་ཆགས་རྒྱན་ལམ་ཚུ་ནང་ལས་སྤྱ་ཚུ་འབད་བའི་སྐབས་ ཐབས་ལམ་དང་བཟང་སྤྱད་ཚུ་གསལ་སྟོན་འབད་མ་ཡིན་པ་ད་ འདི་ཡང་ལས་སྤྱའི་གདམ་སེལ་ལམ་ལུགས་དང་འབྲེལ་ཏེ་ཡིན། གདམ་སེལ་འབད་ཡོད་པའི་ལས་སྤྱ་གི་ནང་ལས་ མཐའ་འཁོར་གནས་སྤངས་དང་མི་ཕྱེ་ལུ་གཞོན་ཉེན་ཡོད་པའི་ལས་སྤྱ་ཚུ་གི་དོན་ལུ་ མཐའ་འཁོར་གནས་སྤངས་དང་མི་ཕྱེ་འཛིན་སྐྱོང་འཆར་གཞི་བཟོ་དགོ། འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་ ལས་སྤྱ་འགོ་མ་བཅུགས་པའི་ཉེ་མ་གཞི་བཅུགས་འབད་བའི་སྐབས་དང་མཚུགས་བསྟུན་པ་ལུ་ མཐའ་འཁོར་གནས་སྤངས་འཛིན་སྐྱོང་དང་གཞོན་ཉེན་མར་པ་བ་ཀྱི་ཐབས་ལམ་ཚུ་བཅུགས་དགོ་པ་ཡིན།

དེ་འབད་མ་ལས་འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་ ལས་སྤྱ་མི་ཕྱེ་ལུ་འགན། བརྟེན་དང་སྟན་ལྷན་ལུ་དེ་ལས་སྤྱ་རྟོག་ལམ་ལུགས་ཚུ་གི་སྐོར་ལས་འགུལ་བཤད་ཁ་གསལ་ཚུད་དགོ་པ་ཡིན། འཛིན་སྐྱོང་འཆར་གཞི་འདི་ནང་ལུ་ གཤམ་གཏོགས་འབད་དགོ་པའི་ཁེ་གུད་ཡོད་མི་ཚུ་གི་ཉོག་བཤད་ཚུ་ཚུད་དགོ་པའི་ཁར་ ཁེ་གུད་ཡོད་པའི་མི་ཚུ་གི་དོན་ལུ་གཤམ་གཏོགས་འཆར་གཞི་དགོ། གཤམ་གཏོགས་འཆར་གཞི་འདི་ནང་ ཁེ་གུད་ཡོད་མི་ངོས་འཛིན་འབད་ནི་དང་གཤམ་གཏོགས་འབད་ནི་འམ་ལུགས་ དེ་ལས་གཤམ་གཏོགས་ཀྱི་ཏུས་ཚད་དང་བཅའ་སྤྱིམ་ཚུ་ཚུད་དགོ་པ་ཡིན། སྤྱི་ཁྲིའི་དང་སྲོག་ཆགས་རྒྱན་ལམ་ཡིན་ཚད་ཚུ་གི་མཆར་གཞི་ལས་སྤྱ་དང་འབྲེལ་ཏེ་ དུན་ཐོ་དང་སྟན་ལྷན་བསྐྱར་ཞིབ་ ཆིས་དབྱེད་འབད་ནི། དེ་ལས་ མཐའ་འཁོར་གནས་སྤངས་དང་མི་ཕྱེ་འཛིན་སྐྱོང་འཆར་གཞི་འདི་ལོ་བསྟར་བཞིན་ཏུ་ཏུས་མཐུན་བཟོ་དགོ་པ་ཡིན།

འཛིགས་ མེད་རྩི་རྩི་རྒྱལ་ཡོངས་སྤྱི་ཁྲིའི་དོན་ལུ་སྤྱི་ལོ་ ༢༠༢༥ རང་མཐའ་འཁོར་གནས་སྤངས་དང་མི་ཕྱེ་འཛིན་སྐྱོང་འཆར་གཞི་དགོ་པ་ཡོད་པའི་ལས་སྤྱ་ཚུ་ཡང་།

༡༥ ལ་ཡ་ སེང་གེ་ ཐང་ ལུ་ རྒྱལ་ཚལ་སྤྱི་ཁྲིའི་འཛིན་ ཡིག་ཚད་བཟོ་བསྐྱར་འབད་ནི།

༢༥ རྒྱ་ཆུར་པོ་ལུ་ གཏེར་རྩིས་/Mineral Lick ལིགས་བཅོས་འབད་ནི།

༣༥ སེའི་དང་ ར་མགོ་ དེ་ལས་ སྤྱི་ཁྲིའི་ལུ་ བྱིམ་ཐོག་སྤྱ་བརྟེན་རྒྱུ་ནི།

༤༥ གཤམ་སྤྱད་དང་ ཏུ་ལུ་ ཆར་ཚུ་བསྐྱུ་གསོག་འབད་ནི་འམ་ལུགས་གཞི་བཅུགས་འབད་ནི།

Bhutan for Life

Environmental and Social Management Plan for

Jigme Dorji National Park (2025)

1. Introduction

(A) Project Background

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

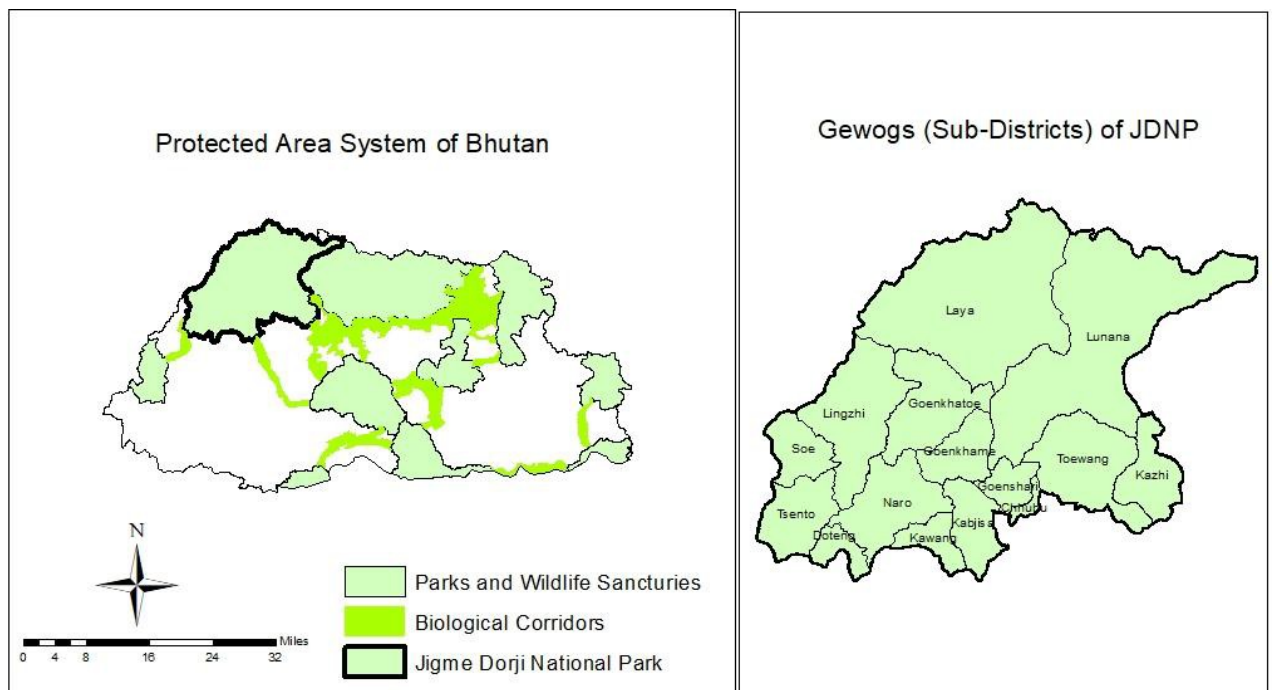


Fig 1: Location of Jigme Dorji National Park

(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 and specific mitigation actions required to implement the project in accordance with the requirements of WWF's Social Safeguards Integrated Policies and Procedures (SIPP), the project's Environmental and Social Management Framework (ESMF), and applicable national legislation and regulations.

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

This ESMP will be implemented by BFL focal person in 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; 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 both with 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 require 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.s.a.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. Tsherimgang (6,650 m/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.

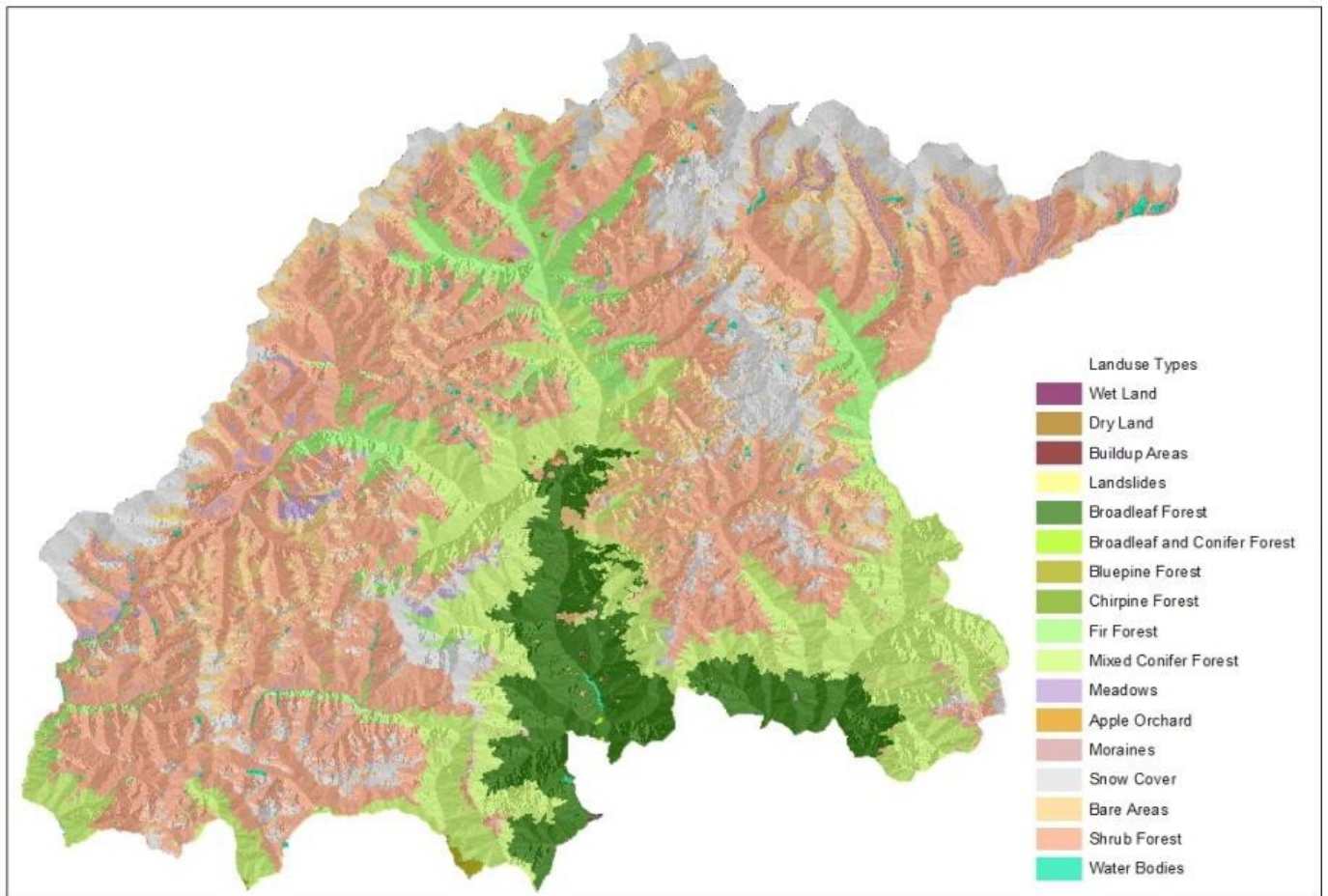


Fig 2: Land use map of Jigme Dorji National Park

(b) Climatic conditions

All places inside the park experience all four seasons. The climate in the lower areas is generally warm and moist with 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 amount of precipitation have not been consistently determined.

The huge variations in topography, elevations, and climate conditions have direct influence on vegetation types and 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.

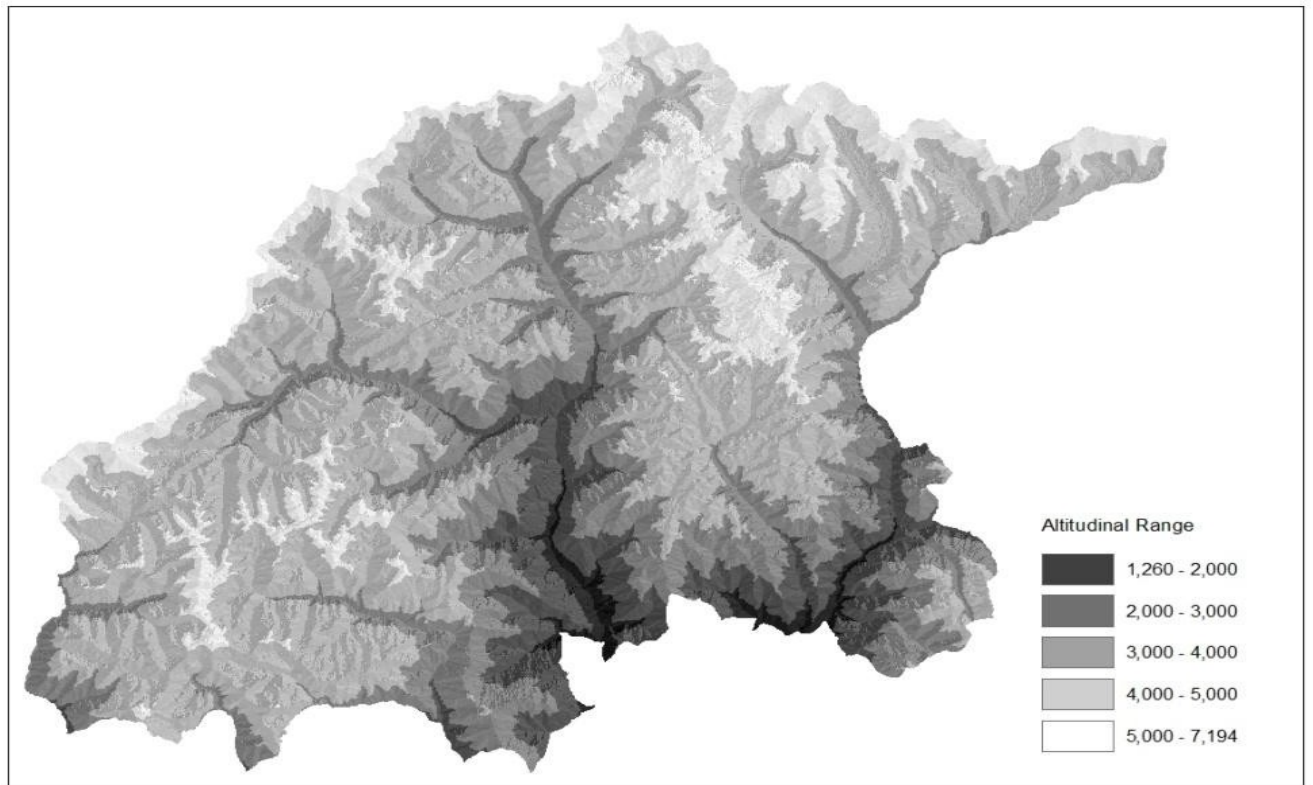


Fig 3: Elevation range under Jigme Dorji National Park

(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 colour 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. Sale of electricity generated from these power stations account for a huge percentage of the gross domestic product (GDP).

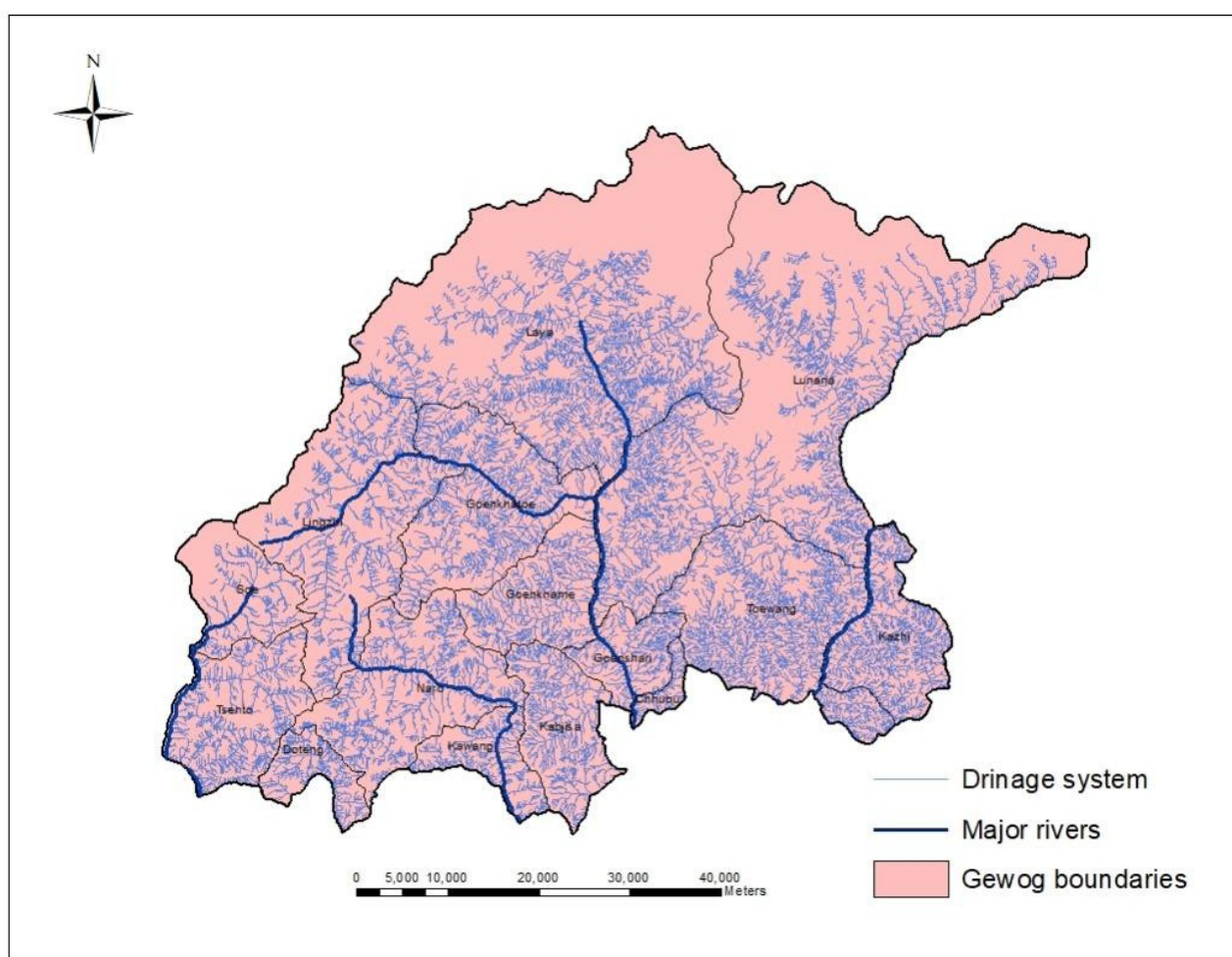


Fig 4: Riverine system of Jigme Dorji National Park

(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 temperate warm broadleaved 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 chirpine forest that are usually fire prone with scanty undergrowth.

Between 2,000 to 3,500 meters, one can see temperate cool broadleaved 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 broadleaved 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 by 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*), different species of bamboos and rhododendrons. Collectively, this ecoflouristic zone is known as sub-alpine 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*) and riverine willow (*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 presence of generally lush undergrowths 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 caterpillar (*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.



Fig 5: Floral diversity of Jigme Dorji National Park

Much as 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, and of which eight species are listed in the Schedule I of FNCA, 1995. The endangered Black-necked Crane (*Grus nigricolis*) 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.

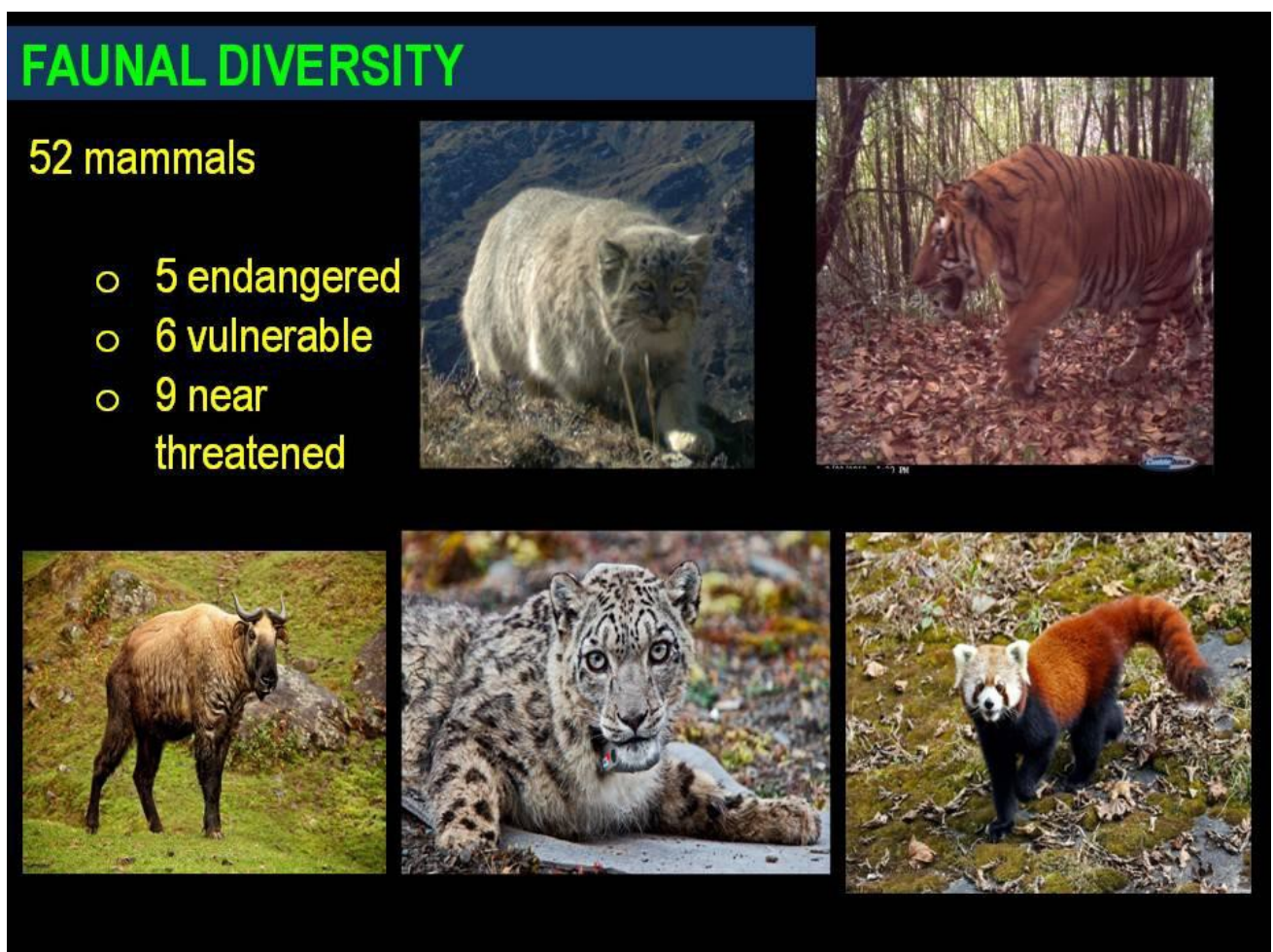


Fig 6: Faunal diversity of Jigme Dorji National Park

(d) Socio-economic conditions

Through support from Bhutan for Life Project, we carried out 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 male and 2485 female population. The mean for both the 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 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 as the stable source of livelihood. 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 agro- pastoralist or mixed farming lifestyle wherein agriculture is the mainstay of livelihood and domestic cattle are raised for dairy products and farmyard manure.

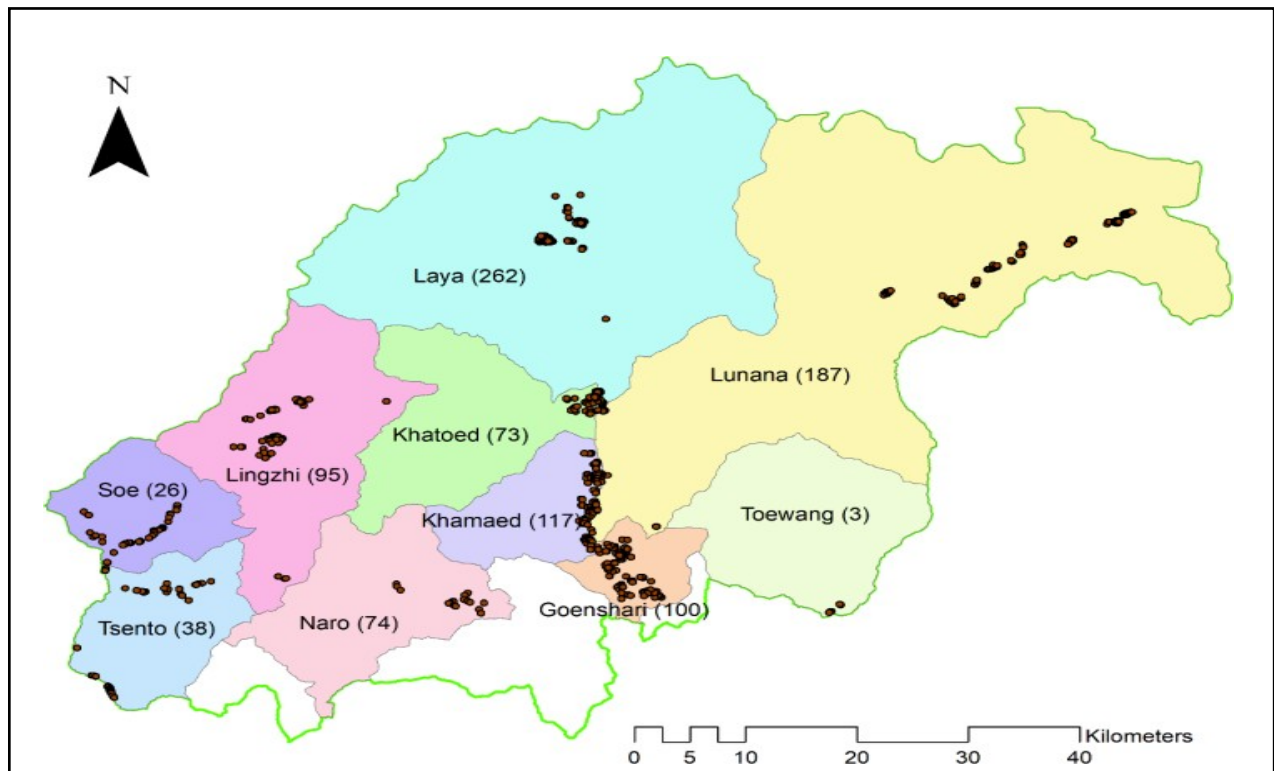


Fig 7: JDNP boundary (green lines) and settlements (brown dots). Figures in the bracket are the number of households in each gewog. The hollow polygons (white) within the park boundary are the gewogs falling inside the park with no resource allocation and monitoring activities (the gewogs are Chubu,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

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
TOTAL	975	83.75	2542	2484	5026	404.21	21.68

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

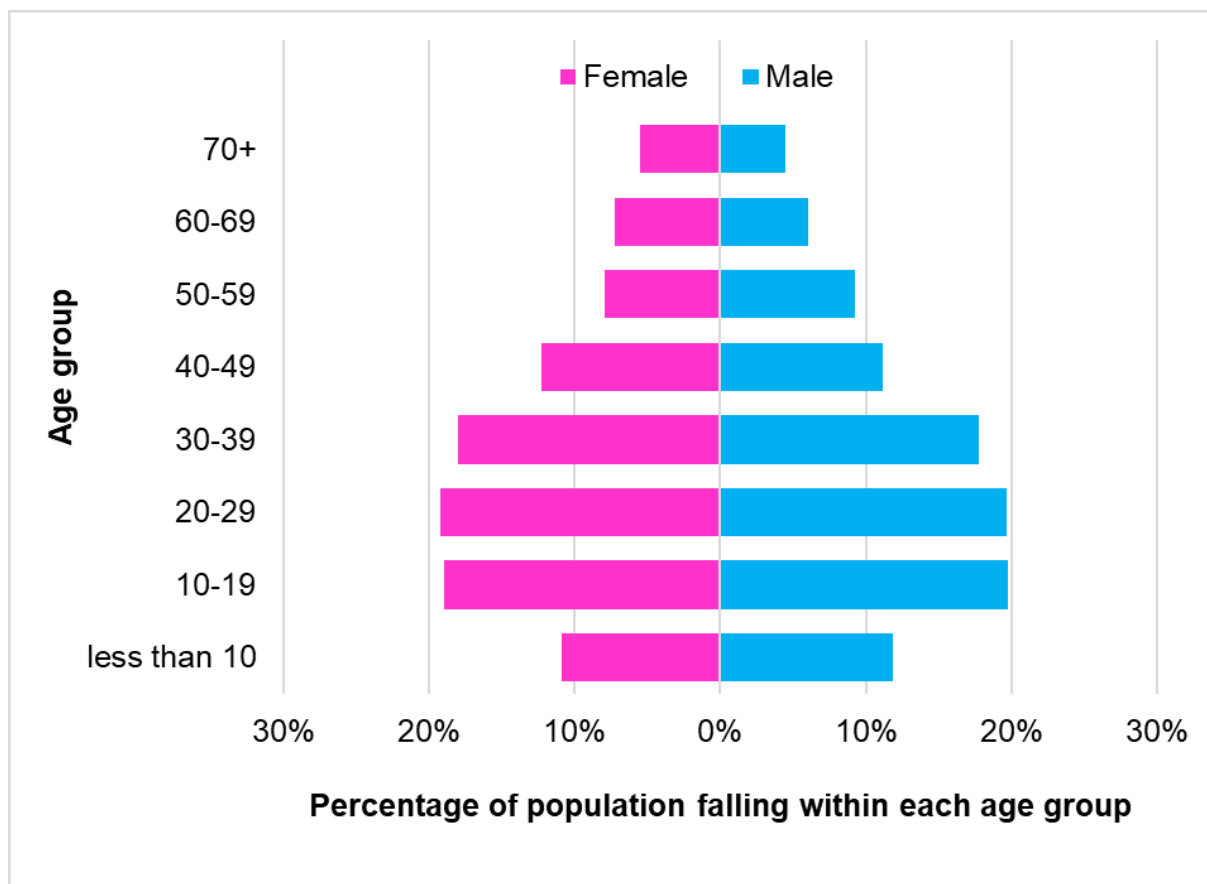


Fig 8: Distribution of population according to age group and gender in JDNP 2020.

3. Planned activities in Year 2025

Activity: Construction of Laya Range Office

- **Budget:** Nu. 5.460 M
- **Timeline:** July 2025- June 2026
- **Location:** Singyethang, Laya

Activity Description

The Laya Park Range Office is located in Laya Gewog, a highland community comprising 262 households with a total population of approximately 1,093 individuals. It is one of the largest sub-districts within Jigme Dorji National Park. Consequently, the construction of a new Range Office is deemed necessary. The new office will be constructed at Singyethang on land registered under Jigme Dorji National Park. The construction site falls within a multiple-use zone in the Laya Gewog settlement. This alpine zone is characterized by sparse shrubs and herbs, surrounded by majestic mountains and clustered settlements. Notably, the Laya Central School, Gewog Office, and Basic Health Units are located nearby.

For the construction of the Range Office, locally available materials such as sand, stones, and timber will be sourced from the Local Forest Management Area of Laya Gewog. The structure will adhere to traditional architectural styles to preserve the region's cultural aesthetics. Stone requirements will be met through surface collection, with no quarrying involved.

The new two-storied building will include a Range Office, a Visitor Information Center (VIC), and staff quarters. The first floor will house two office units: the Range Officer's office, a general staff office, and a VIC, which will help raise awareness about conservation and the significance of the park, particularly during the Royal Highland Festival when national and international tourists gather. It will feature posters, a library, and audio-visual presentations. The second floor will serve as a staff quarter for six rangers stationed in this remote area, providing accommodation as their families cannot reside with them in Laya. Rangers are sacrificing comfort, modern facilities, and their family to serve in remote location, and providing them with comfortable living space will motivate them to work.

To maintain cleanliness and prevent livestock from entering the compound, a perimeter fence will be constructed. Water for the construction and labor camp will be sourced from the existing office's supply system, and the site will be electrified to facilitate work and provide amenities for staff and laborers. The project also involves dismantling an old house at Singyethang, although the current Range Office will remain intact. Locally available materials such as sand, stones, and timber will be used, while other necessary construction materials will be procured from markets. The estimated material requirements include 1,000 kiloliters of water, 20 truckloads of sand, 10 truckloads of stones, and 4,000 cubic feet of timber. A workforce of 10-15 local workers will commute daily from their homes, while 10 international workers (Indian labors) will be accommodated in a laborers' camp with water and electricity supplied from the existing office.

Waste generated from dismantling old structures and excavation work will be managed efficiently. Soil debris will be disposed of in a designated dumping yard, while plastic waste will be transported to the Gewog disposal yard. Due to the remote location, plastic and solid waste will be incinerated, while organic waste will be disposed of in fields. Air and noise pollution will be addressed by using power chain saws in working hours only for sawing timber, regular water spraying to control dust emissions, and manual construction with strict timing regulations to minimize noise, especially since a school is nearby. The project will also positively impact the community, which consists of approximately 100 households that rely on livestock and non-wood forest products for their livelihood. The construction will create transportation opportunities for moving goods and materials from road points to the site, with no adverse impact on local structures or livelihoods anticipated.

Occupational health and safety will be prioritized, with a dedicated budget for safety gear, including helmets, safety boots, jackets, goggles, and gloves for all workers. Laborers will have free medical access at the nearby Basic Health Unit, and the laborers' camp will be equipped with water and electricity supplied from the

existing office. The construction of the new Range Office at Singyethang will enhance conservation efforts, provide necessary facilities for park staff, and contribute to the overall development of Laya Gewog while preserving its cultural and environmental integrity.

The location of office construction is institutional land belonging to JDNP management. The old structure has been handed over to Department of Public Property (DPP) for auctioning to dismantle. The old structure currently used as Range Officer quarter is old Laya Range office. The old structure is now no more usable as it is in deteriorated condition.

Potential environmental and social impacts from the activity

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

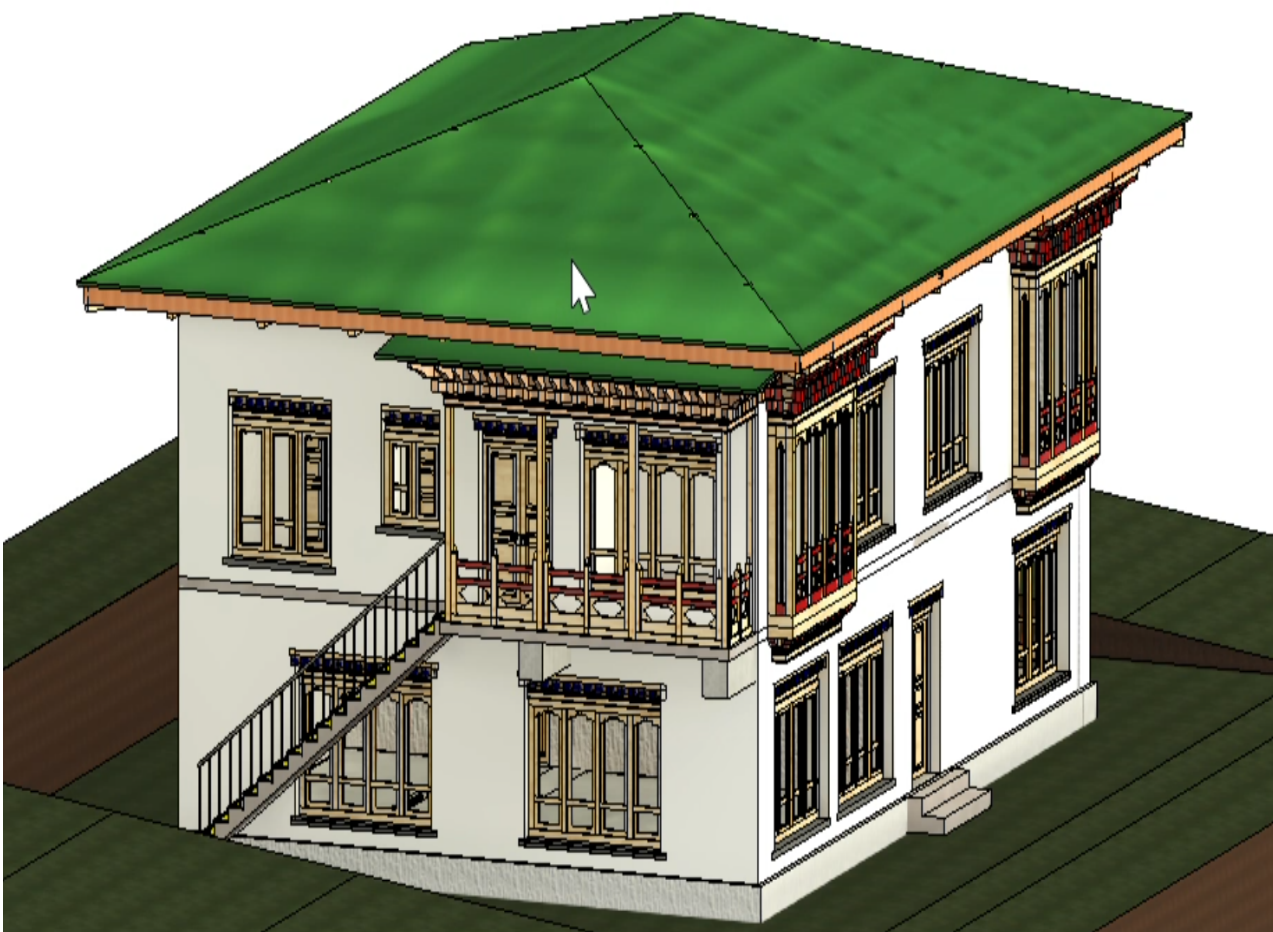


Fig. Drawing of Laya Range Office

Activity: Waterholes and Salt lick development at Chuchurpo (Winter takin habitat)-JDNP

- **Budget:** Nu. 0.08 M
- **Timeline:** July to September 2025
- **Location:** Chuchurpo, Khatoe

Activity Description: A mineral lick, also known as a salt lick, is a natural site where animals obtain essential mineral nutrients from deposits of salts and other minerals. The Chuchurpo, which literally translates to "salty water" or "mineral spring," is a crucial mineral source for the Bhutan Takin. While numerous mineral springs exist in the alpine regions of their summer habitat, the Chuchurpo is the only mineral lick available in their lowland winter habitat. However, recent landslides have severely degraded this mineral spring, making its restoration essential to ensure its availability for the Takin in key areas such as Gathanana, Chuthana, and Kabena.

The project site is located near the Mochu River within a cool warm broad-leaved forest, characterized by the presence of under shrubs and herbaceous fodder species. The mineral lick area itself is situated at the valley bottom, with dominant tree species including *Alnus nepalensis*, *Quercus* spp., and *Litsea* spp. Falling within a buffer zone, the project focuses on habitat improvement activities that will not cause major disturbances to the ecosystem. Given its significance as a critical winter habitat for the Takin, restoring the Chuchurpo mineral spring is vital for their survival.

The Chuchurpo mineral salt lick serves as the only accessible site for Takin during the winter months, as they heavily rely on mineral-rich springs for sustenance. However, landslides have significantly damaged the existing salt lick, necessitating urgent restoration efforts. To protect and revive this critical habitat, several measures will be implemented, including the protection of existing salt lick sites by planting native species around the area to prevent further degradation. Additionally, artificial saltwater ponds will be constructed to ensure a consistent and accessible source of mineral water, especially given the region's steep terrain and limited water storage options. Furthermore, waterholes will be created near the salt lick sites to support the Takin's hydration needs. Trail development will also be undertaken to facilitate better monitoring and management of the area, while land terracing will be employed to stabilize the terrain and prevent further landslides.

As the project follows a nature-based approach to habitat restoration, there will be no significant alterations to the land terrain. Locally available materials, such as stones and deadwood, will be used to construct artificial ponds and stabilize landslide-prone areas. Stones will be collected from surface deposits within the project site to meet construction requirements. The timing of the restoration activities is planned to take place before the Takin arrive at their winter habitat, ensuring that the target species will not be disturbed. The habitat improvement work will be carried out by a team of five local workers and seven forestry officials, with the Gasa Prak Range Office overseeing project execution.

The local community, primarily residing in Khatoed Gewog, relies on agriculture and livestock rearing, with the nearest settlement being Gasa Tshachu, approximately three kilometers from the project site, while Khatoed Gewog lies about five to ten kilometers away. Workers, including both local laborers and forestry officials, will commute from their homes to the project site daily. To ensure safety, hand gloves, gumboots, and face masks will be provided from the project budget. Given these precautions, there will be no significant safety concerns for workers or forestry officials involved in the restoration efforts.

Potential environmental and social impacts from the activity

- Generation of wastes during waterholes development
- Occupational Health and Safety of the Worker's



Fig. Takin at Chuchurpo area in April 20

Activity: Construct concrete band to reinforce roof of house in storm prone areas, JDNP

- **Budget:** Nu. 0.30 M
- **Timeline:** January to March 2026
- **Location:** Soe, Naro, and Lingzhi

Activity description: The Climate Vulnerability and Capacity Analysis (CVCA) was conducted across the protected area network, leading to the development of the Climate Change Adaptation Plan for Jigme Dorji National Park (2022) after extensive stakeholder and community consultations. One of the key adaptation measures identified in this plan is the construction of concrete bands to reinforce roofs in storm-prone areas. As a pilot initiative, concrete bands will be installed in five households each in Soe, Naro, and Lingzhi to prevent roofs from being blown off during strong windstorms. Traditional CGI sheet roofing is particularly vulnerable to storm damage, making this intervention crucial for enhancing structural resilience.

The project sites are located within multiple-use zones across three gewogs. Since the construction activity is limited to rooftops, there will be no adverse environmental impact. High-altitude regions frequently experience strong windstorms, which often cause severe roof damage. To mitigate this risk, concrete bands will be installed to provide additional stability and prevent wind uplift. The process will involve procuring essential materials such as cement, gravel, sand, rods, and bolts. These materials will be distributed to the selected 15 households at designated road points, from where individual households will be responsible for transporting them to their respective sites.

The selected sites in Naro, Soe, and Lingzhi gewogs are located in alpine regions, characterized by alpine meadows and shrubland. Since the activity will take place on private homes, there will be no direct impact on surrounding vegetation. Resource requirements include 1,000 liters of water, 2 truckloads (TL) of gravel, and 2 TL of sand. Additionally, 50 bags of cement, along with necessary rods and bolts, will be procured from cement agents and hardware stores.

The construction of the concrete bands will follow a cost-sharing model, where each household will contribute labor for the installation. Additionally, four to five local workers will be hired per household to assist with the construction. Safety measures will be strictly implemented, with all workers provided with gumboots, hand gloves, face masks, and safety ropes, which are essential when working on rooftops. Since only local workers will be involved, waste generation will be minimal, ensuring a low environmental impact.

Potential environmental and social impacts from the activity

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

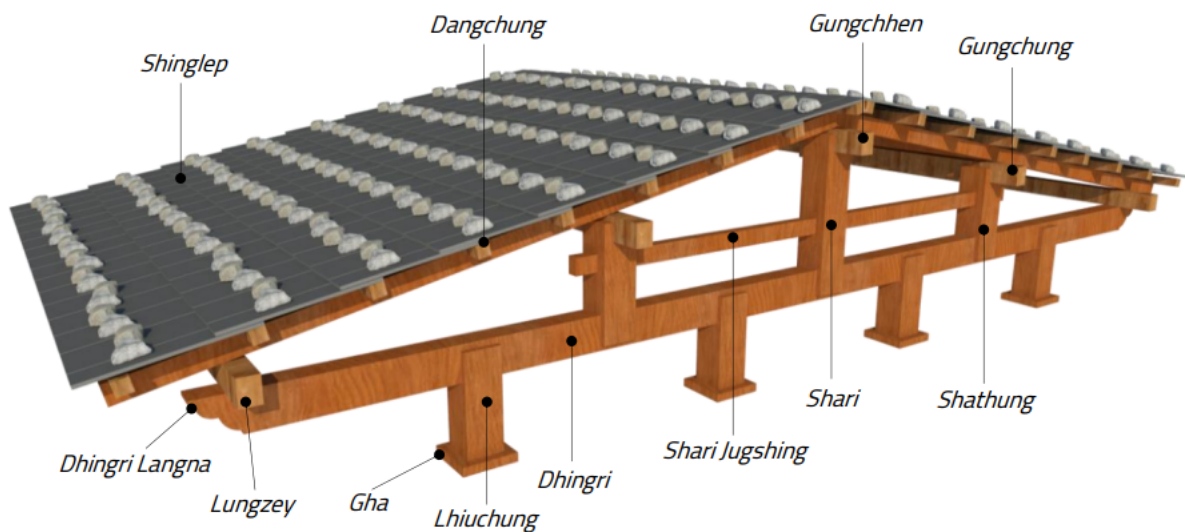


Fig. Similar to stone band, the concrete band shall be placed on roof top.

Activity: Water harvesting (herder camps with drinking water issues), JDNP

- **Budget:** Nu. 0.90 M
- **Timeline:** January to March 2026
- **Location:** Yaksa and Dula

Activity description

The Climate Vulnerability and Capacity Analysis (CVCA) was conducted across the protected area network, leading to the development of the Climate Change Adaptation Plan for Jigme Dorji National Park (2022) after extensive stakeholder and community consultations. One of the key adaptation measures identified in this plan is the implementation of water harvesting techniques to address acute water shortages faced by herders in their pastureland (Tsamdro). Climate change has increasingly impacted water availability in herder camps, creating significant challenges and burdening herders, particularly women, with the time-consuming task of water collection. This issue threatens the continuity of migratory herding practices. To mitigate water stress, reduce the workload for women, and support the preservation of herding culture as a livelihood activity, a total of 15 herders will be provided with water harvesting techniques.

The activities will be implemented in registered private pasturelands in the alpine region, characterized by dominant vegetation of alpine meadows and grasslands. The mountainous terrain and retreating glaciers further exacerbate water stress in the area. Access to drinking water is a significant challenge for yak herders in the Dula and Yaksa regions, where collecting water consumes considerable time, with the burden often falling on women and children. To address this issue, rainwater harvesting has been identified as an effective solution for providing water for drinking and cleaning. The project will involve the procurement of 500-liter water storage tanks, pipes, and CGI sheets, which will be used to install rainwater harvesting systems near herder camps, ensuring easy access to water. These systems will be portable to accommodate the migratory nature of herding, helping to alleviate water shortages for both the herders and their livestock.

The required materials will be sourced from hardware shops and supplied to the selected 15 herders at designated road points. The transportation costs will be borne by the herders, while engineers and forestry officials will assist with the installation of the rainwater harvesting systems. The activity will be implemented by the Soe Park Range Office in collaboration with the Forest Resources Planning and Management Section.

Since the installations will take place near herder camps, no negative environmental impacts are anticipated. The project does not involve excavation or permanent installations, minimizing any adverse effects. Additionally, vegetation clearing is unnecessary, as herder camps are mostly located in open areas. Since the collected water will be stored in storage tanks, soil erosion is not a concern, and any excess harvested water will be stored in artificial ponds for livestock consumption.

The selected herders are located far from settlements, with no neighboring communities other than fellow herders. In terms of occupational health and safety, there are no major concerns apart from the transportation of materials from road points to herder camps, which will be facilitated using horses. The installation process is relatively simple and does not pose significant hazards. However, safety gear, including gumboots and hand gloves, will be provided for the installation process. The activity will not result in air or noise pollution, ensuring a sustainable and environmentally friendly solution to water scarcity in the region.

Potential environmental and social impacts from the activity

- Generation of wastes during installation of water harvesting system
- Occupational Health and Safety of the Worker's

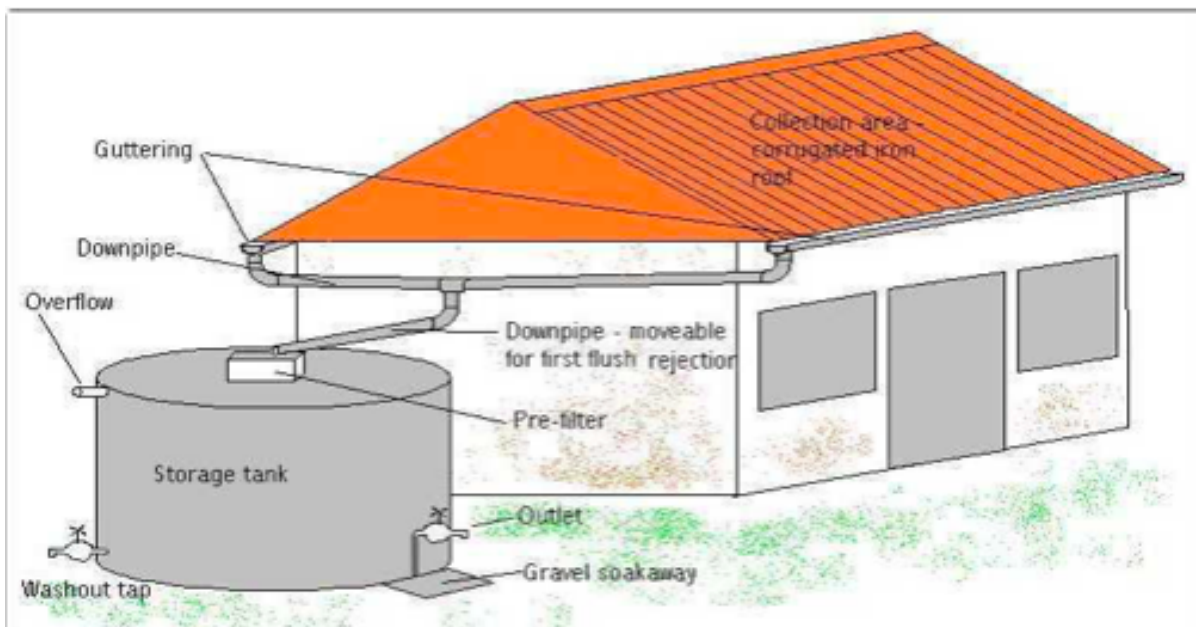


Fig. Similar technique shall be applied for rain water harvesting in herder camp

5.Mitigation Measures for Environmental and Social Impacts

Potential impact	Impact scale	Proposed mitigation measures	Responsible Party	Costs (million)
<i>Activity 1: Construction of Laya Range Office</i>				Nu.
Air quality: dust as a result of construction and dismantling of old structures	Short term minor	Pre-construction: - Requirements to limit emissions should be included in the bidding documents, as a precondition for the contractor's selection During Construction: - Construction site, transportation routes and materials handling sites should be water-sprayed on dry and windy days - The soil from digging of foundation shall be disposed at designated dumping sites to reduce dust and runoff due to erosion.	Laya Park Range Office, Gasa Dzongkhag, and Gewog engineer and JDNP HQ	NA
Waste: generation of waste as a result of activities	Short term minor	Pre-construction: Requirements for appropriate waste management should be included in the bidding documents, as a precondition for the contractor's selection	Lunana Park Range, Toedwang Gewog administration	NA

		During construction: • Identification of the different waste types at the project site (construction waste and waste from workers) • Proper containers/waste bins should be provided at the project site and ensure waste are disposed at Laya Gewog waste disposal sites and incinerated. • Dumping of waste around construction site and labor camp shall be monitored during 9th on every month as part of departmental cleaning day. After Construction: • All waste shall be removed from the project site and dump in the waste dumping yard of Laya Gewog. After cleaning of sites only hand-over-take-over of office shall be initiated.		NA
Workers' health and safety	Short term minor	• Comply with the workers' health and safety guidelines and it shall be part of the bidding document. • The hand gloves, helmets, safety jackets, safety boots, and face mask shall be provided. • Ensure that no underage workers, or children are engaged. • Ensure that workers are employed on the principle of equal opportunity and fair treatment • Implement a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns. • The labor shelters shall be constructed with access to clean water, electricity and toilet facilities.	Dzongkhag engineer and Laya Range Officer	

Potential impact	Impact scale	Proposed mitigation measures	Responsible Party	Costs (million)
Activity 2: Waterholes and Salt lick development at Chuchurpo (Winter takin habitat)-JDNP				
Waste: generation of waste from workers	Short term minor	During project • Identification of the different waste types at the project site (plastics, papers, and debris) • Dumping of waste on the sides of the river, on private land, or in other non-designated places should be prohibited • All waste shall be removed from the project site and shall be disposed at Gasa Dzongkhag waste dump yard. • All the laborers shall be briefed to carry their waste back home while returning home.	Gasa Park Range Office	NA
Workers' health and safety	Short term minor	• Comply with the workers' health and safety guidelines • Ensure that no underage workers, or children are engaged • Ensure that workers are employed on the principle of equal opportunity and fair treatment • Implement a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns. • Brief the worker about maintaining safety Provided with safety gloves, boots and facemask.	Gasa Park Range Office	NA

Potential impact	Impact scale	Proposed mitigation measures	Responsible Party	Costs (million)
Activity 3: Construct concrete band to reinforce roof of house in storm prone areas, JDNP				
Waste: generation of waste construction of concrete beam	Short term minor	During project • Identification of the different waste types at the project site (plastics, papers, and debris) • Dumping of waste on the sides of the river, on private land, or in other non-designated places should be prohibited • All waste shall be removed from the project site and shall be disposed at designated gewog waste dump yard	Soe Park Range & Lingzhi Park Range	NA
Workers' health and safety	Short term minor	• Comply with the workers' health and safety guidelines • Ensure that no underage workers, or children are engaged • Ensure that workers are employed on the principle of equal opportunity and fair treatment • Implement a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns. • Brief the worker about maintaining safety Provided with safety gloves, boots and facemask.	Soe and Lingzhi Park Range Office	NA

Potential impact	Impact scale	Proposed mitigation measures	Responsible Party	Costs (million)
Activity 4: Water harvesting (herder camps with drinking water issues), JDNP				
Waste: generation of waste construction of water harvesting system	Short term minor	During project • Identification of the different waste types at the project site (plastics, papers, and debris) • Dumping of waste on the sides of the river, on private land, or in other non-designated places should be prohibited • All waste shall be removed from the project site and shall be disposed at designated sites and incinerated. Since waste generation will be minimal and remote location, taking waste to dumping yard is impossible.	Soe Park Range	NA
Workers' health and safety	Short term minor	• Comply with the workers' health and safety guidelines • Ensure that no underage workers, or children are engaged while installation and transportation • Ensure that workers are employed on the principle of equal opportunity and fair treatment • Implement a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns. • Brief the worker about maintaining safety Provided with safety gloves, boots and facemask.	Soe Park Range	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 contract that the PA will sign with the Contractor(s) for implementation of the planned activities in JDNP in 2025. The Contractor is obligated to perform all proposed preventive or mitigation environmental and social measures in this plan and to keep the evidence of any documents related to applying these measures (e.g., letter asking the municipality for disposal of inert waste, records on OHS information session performed for all workers before start of activities, all developed EHS plans, etc.). An OHS information session should be organized by the Contractor for all worker's prior to start the project activities and prior any specific tasks with high health risks.

The site Engineer needs to monitor the implementation of proposed measures by the Contractor and Contractor's subcontractors with visual checking, reviewing the records of evidence that the measures have been applied and ask the Contractor to apply the measures as soon as possible. Non-compliances should be recorded and the Report on any non-compliance should be reported to the ESS officer immediately, and the ESS officer will report it to the PCU (M&E Officer). 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	Laya Range Office construction	BFL focal	August 2025	June 2026	Laya	Monitoring reports and pictures
		ESS focal/BFL-PCU	May 2026	May 2026		
2	Waterholes and Salt lick development at Chuchurpo (Winter takin habitat)-JDNP	BFL focal	July 2025	September 2025	Chuchurpo	Monitoring report and pictures
		ESS focal/BFL-PCU	Virtual			
3	Construct concrete band to reinforce roof of house in storm prone areas, JDNP	BFL focal	January 2026	March 2026	Soe, Lingzhi, Nario	Monitoring report and pictures
		ESS focal/BFL-PCU	March 2026	April 2026		
4	Water harvesting (herder camps with drinking water issues), JDNP	BFL focal	January 2026	March 2026	Dula and Yaksa	Monitoring report and pictures
		ESS focal/BFL-PCU	March 2026	April 2026		

8.Capacity Need and Budget

Activities under this ESMP will be implemented by the BFL focal person, supervising engineer/staff, and a contractor that will employ workers as mentioned in the contract agreement. The monitoring shall be conducted during implementation of activities, in between, and the after completion of activities. Further, monitoring shall be conducted by field offices.

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

Sl. No	Activity	Amount (Nu.)	Budget for ESS mitigation
	Laya Range Office construction	5.460M	0
	Waterholes and Salt lick development at Chuchurpo (Winter takin habitat)-JDNP	0.08M	10,000
	Construct concrete band to reinforce roof of house in storm prone areas, JDNP	0.30M	0
	Water harvesting (herder camps with drinking water issues), JDNP	0.90M	0

9.Consultation and Disclosure Mechanisms

This ESMP has been prepared in a participatory manner involving concerned Section Heads and Range Officers. A community consultation will be carried out as described in section 9. 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 Bhutanese, shall be disclosed on the website of MoENR, BFL and WWF, Bhutan Program. Hard copies of the ESMP should also be available at the PA Management Office and at the PCU Office.

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.

For following activities—one consultation meeting will be organized during the intervention period:

- The Laya Range Office construction, JDNP shall work in close collaboration with Gasa Dzongkhag administration. The tendering process shall be processed with help of dzongkhag and thus consultation meeting shall be held with Dzongda, engineer and tendering committee of dzongkhags on July 2025.

- The Soe, Naro, and Lingzhi LG members shall be engaged for selection of household for piloting concrete beam construction on pilot basis. The five households from storm prone area will be selected in consultation with local leaders and respective range offices of Soe and Lingzhi. The consultation shall be held on January 2026.
- The consultation for rain water harvesting system installation will be held with Tsento gewog administration and Soe Park Range offices. Upon discussion beneficiaries shall be selected based on the criteria set by committee. The consultation shall be held on January 2026.

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, on resources, non-performances of project obligation including safeguards, violation of law and/or corruption, project governance and implementation, fair access and benefit sharing, stakeholder engagement, labor-related issues and incidents, gender related issues and others.

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

WWF Grievance Mechanism

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

Email: SafeguardsComplaint@wwfus.org

Mailing address:

Project Complaints Officer

Safeguards Complaints,

World Wildlife Fund

1250 24th Street NW

Washington, DC 20037

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

GCF Independent Review Mechanism

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

Annexure 1

BFL: Suggested Occupational Health and Safety Standards

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

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

1. General Facility Design and Operation

Integrity of Workplace Structures

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

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

Severe Weather and Facility Shutdown

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

Workspace and Exit

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

Fire Precautions

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

- The workplace shall be provided with adequate means of protection and escape in case of fire.
- The workplace shall be provided with adequate number of relevant fire extinguishers.

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

Lavatories and Showers

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

Potable Water Supply

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

Clean Eating Area

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

Lighting

- Workplaces should, to the degree feasible, receive natural light and be supplemented with sufficient artificial illumination to promote workers' safety and health, and enable safe equipment operation. Supplemental 'task lighting' may be required where specific visual acuity requirements should be met.

- Emergency lighting of adequate intensity should be installed upon failure of the principal artificial light source to ensure safe shut-down, evacuation, etc.

Safe Access

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

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

First Aid

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

Work Uniform

- The contractor shall provide a working uniform to each worker.
- All workers shall be required to attend the duty in proper uniform unless otherwise instructed by the Contractor.

Air Supply

- Sufficient fresh air should be supplied for indoor and confined workspaces. Factors to be considered in ventilation design include physical activity, substances in use, and process related emissions. Air distribution systems should be designed so as not to expose workers to draughts.
- Re-circulation of contaminated air is not acceptable. Heating, ventilation and air conditioning (HVAC) systems should be equipped, maintained and operated so as to prevent growth and spreading of disease agents (e.g. Legionella pneumophila) or breeding of vectors (e.g. mosquitoes and flies) of public health concern.

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

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

3. Physical Hazards

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

Rotating and Moving Equipment

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

Recommended

protective measures include:

- Designing machines to eliminate trap hazards and ensuring that extremities are kept out

of harm's way under normal operating conditions. Examples of proper design considerations include two-hand operated machines to prevent amputations or the availability of emergency stops dedicated to the machine and placed in strategic locations.

- Where a machine or equipment has an exposed moving part or exposed pinch point that may endanger the safety of any worker, the machine or equipment should be equipped with, and protected by, a guard or other device that prevents access to the moving part or pinch point. Guards should be designed and installed in conformance with appropriate machine safety standards.

Noise

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

Vibration

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

- Marking all energized electrical devices and lines with warning signs
- Locking out (de-charging and leaving open with a controlled locking device) and tagging-out (warning sign placed on the lock) devices during service or maintenance
- Checking all electrical cords, cables, and hand power tools for frayed or exposed cords and following manufacturer recommendations for maximum permitted operating voltage of the portable hand tools
- Double insulating / grounding all electrical equipment used in environments that are, or may become, wet; using equipment with ground fault interrupter (GFI) protected circuits

- Protecting power cords and extension cords against damage from traffic by shielding or suspending above traffic areas
- Appropriate labeling of service rooms housing high voltage equipment ('electrical hazard') and where entry is controlled or prohibited
- Establishing "No Approach" zones around or under high voltage power lines
- Rubber tired construction or other vehicles that come into direct contact with, or arcing between, high voltage wires may need to be taken out of service for periods of 48 hours and have the tires replaced to prevent catastrophic tire and wheel assembly failure, potentially causing serious injury or death
- Conducting detailed identification and marking of all buried electrical wiring prior to any excavation work

Eye Hazards

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

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

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

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

Working Environment Temperature

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

- Monitoring weather forecasts for outdoor work to provide advance warning of extreme weather and scheduling work accordingly
- Providing temporary shelters to protect against the elements during working activities or

for use as rest areas

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

Ergonomics, Repetitive Motion, Manual Handling

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

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

Working at Heights

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

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

Illumination

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

Controls should include:

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

recognized safety standards. The lowest feasible class Laser should be applied to minimize risks.

Personal safety equipment for workers

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

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

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

5. Standards for workers' accommodation

1. General living facilities

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

2. Drainage

- The site is adequately drained.

3. Heating, air conditioning, ventilation and light

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

4. Water

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

5. Wastewater and solid waste

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

6. Rooms/dormitories facilities

- Rooms/dormitories are kept in good condition.
- Rooms/dormitories are aired and cleaned at regular intervals.

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

7. Bed arrangements and storage facilities

- A separate bed is provided for every worker.
- 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



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

- Sangay Tenzin
- 17965855
- gasasangay2006@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

- Bep Tshering
- 17246100
- beptshering1989@gmail.com
- Park Range Office, Lingzhi Range, Drubday

LUNANA PARK RANGE OFFICE

- Leki Wangdi
- 17112159/17500002
- 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
- Sending a voice or video recording
- Filling out the online complaints form available at:

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

A complaint for IRM should generally include:

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

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

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

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

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

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

