Bhutan for Life

Environmental and Social Management Plan for

BC-02 (2024)

1. Introduction

(A)Project Background

The Bhutan for Life (BFL) project aims to ensure a robust network of protected areas and biological corridors that 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 (PAS);

• 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.

(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). 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.

The occupational health and safety of workers in construction will be in compliance with Labour and Employment Act-2007, Regulation on Occupational Health, Safety and Welfare, 2012 and any other national documents. The list of the OHS requirements shall be attached along the Bill of Quantities (BoQ) along with an appropriate item description to allow the bidder to quote reasonably against the item, and to enable strict compliance and ease the monitoring during the project implementation time

2. Environmental and Socio-Economic Conditions:

Background

Biological Corridor 2 was first designed to allow movement and/or occupancy of red panda (*Ailurus fulgens*) and musk deer (*Moschus leucogaster*). While red panda presence has been confirmed from the northern regions of this corridor, musk deer presence has not been yet confirmed from the corridor, although a habitat suitability analysis indicates presence of musk deer habitat in the north-western part of the corridor. Camera trap and occupancy surveys have confirmed the presence of tigers (*Panthera tigris*) in several places of the corridor. Thus, tiger was included as a focal species for corridor management. Two other habitat specialist landscape species, clouded leopard (*Neofelis nebulosa*) and Rufous-necked hornbill (*Aceros nipalensis*) were also included in the suite of focal species because the corridor includes a large swathe of intact temperate broadleaf forests, which are preferred habitat for both species.

Objective 1. *To ensures ecological connectivity between Jigme Dorji National Park and Jigme Singye Wangchuck National Park, and provides resilience to changing climate and land use.*

Objective 2. *To reduces the direct and indirect threats to focal species, other biodiversity and ecosystems in the corridor*.

Objective 3. *Sustain livelihood of local communities through sustainable forest management, to look into objectives from other approved BC mgt plan.*

Geological and topographical condition of Biological Corridor 2

The 60 km long Biological Corridor 2 links Jigme Dorji National Park with Jigme Singye Wangchuck National Park. In the north, close to Jigme Dorji National Park, the corridor is about 6 to 7 km wide, but narrows to an average width of about 4 km as it traverses southwards. Corridor lies within the Wangdue Dzongkhag with recent validation of BC boundary. As it traverses across the mountains that separate the Punatsang Chhu-Mo Chhu and Dang Chhu and Wang Chhu drainages, the corridor crosses about 5 to 7 east-west directed mountain ranges which adds to the topographic complexity of the corridor's landscape. Most of the corridor is between 2,000 and 3,500 masl in elevation and most slopes are between 21 and 40 degrees Steep slopes are distributed through the corridor, but the southern areas of the corridor have more steep-sloped areas (Fig. 1)

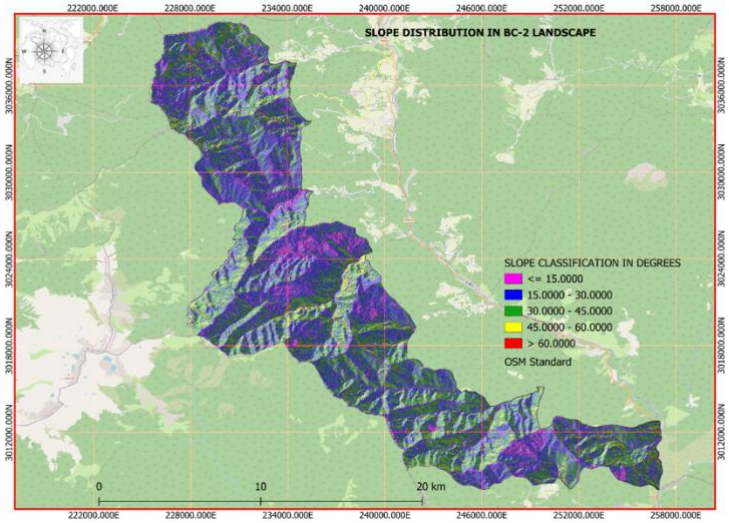
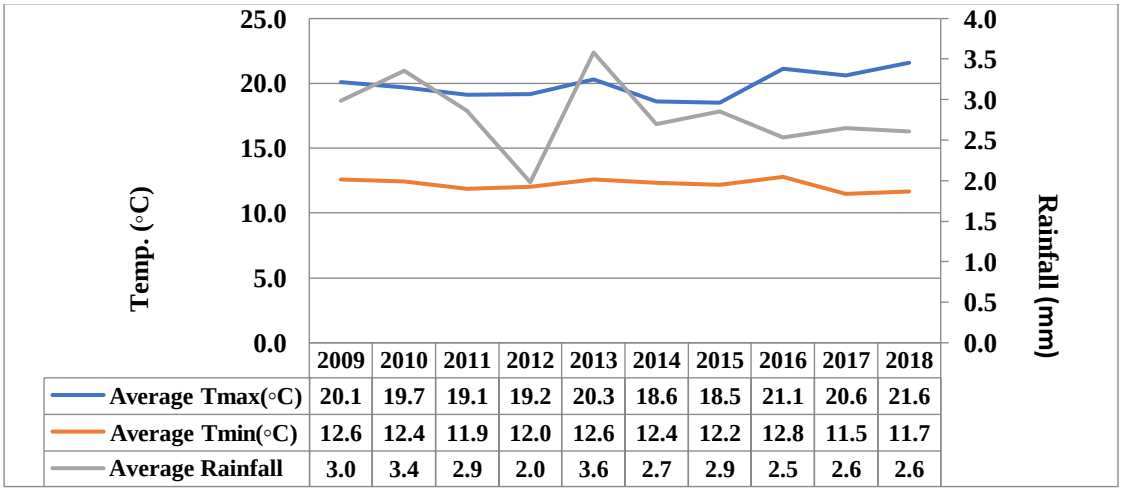


Fig 1. *Distribution of slope categories in Biological Corridor 2 landscape*

Climatic conditions

Meteorological data has been derived from station record of Punakha (Thinleygang) and Wangduephodrang (Gasello) from the Meteorology Section, Department of Hydro met Services, Ministry of Economic Affairs Thimphu (Fig 2)

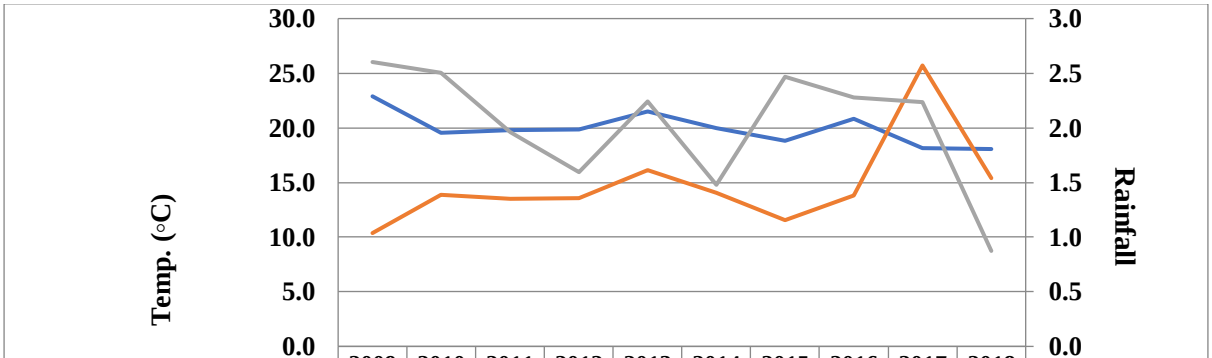


	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Average Tmax(◦C)	20.1	19.7	19.1	19.2	20.3	18.6	18.5	21.1	20.6	21.6
Average Tmin(◦C)	12.6	12.4	11.9	12.0	12.6	12.4	12.2	12.8	11.5	11.7
Average Rainfall	3.0	3.4	2.9	2.0	3.6	2.7	2.9	2.5	2.6	2.6

Figure 2 *Avg. maximum, minimum temperatures and avg. rainfall from Thinleygang weather station*.

Temperature was received maximum in the year 2018 with 21.6 °C and the lowest temperature in the year 2017 with 12.15°C (Figure 2). Highest rainfall was received in the year 2013 with

3.6 mm and was received lowest in the year 2012 with 2.00 mm towards northern part of Biological Corridor C-02 (Figure 2). Northern part of Biological Corridor-02 was reference from Thinleygang meteorological data station, Punakha Dzongkhag.



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Average Tmax(◦C)	22.9	19.6	19.8	19.9	21.5	20.0	18.8	20.8	18.1	18.1
Average Tmin(◦C)	10.4	13.9	13.5	13.6	16.1	14.1	11.6	13.8	25.7	15.4
Average Rainfall(mm)	2.6	2.5	2.0	1.6	2.2	1.5	2.5	2.3	2.2	0.9

Figure 3 *Avg. maximum, minimum temperatures and avg. rainfall from Gasello weather station.*

Towards southern part of Biological Corridor-02, maximum and minimum temperature was received in the year 2009 with 22.9 °C and 10.4 °C (Figure 10). Highest rain fall was received in the year 2009 with 2.6 mm and the lowest rainfall received was in the year 2018 with 0.99 mm (Figure 3). Southern part of Biological Corridor-02 was reference from Gasello meteorological data station, Wangdue Dzongkhag.

Hydrological conditions

There are 3 streams which flow through biological corridor 02 and finally drain out to Punatsang Chhu river but the source is beyond BC 02 boundary. Till now the management could not conduct any sort of study related to water morphology due to lack of facility such as ***water testing kids*** and other necessary requirements. If the funding agency could supply us equipment for the same purposes; following activities will be initiated;

1. Overall water quality both through bio and chemical monitoring.
2. Water quality in response to human interference.
3. Overall macro-invertebrates diversity within BC 02.
4. Maro-invertebrates diversity in response to seasonal changes.
5. Macro-invertebrate diversity in different variables such as;
   5.1 Riffle
   5.2 Pool
   5.3 Course organic particulate material (COPM)
   5.4 Run
   5.5 Cascade.

Till now, due to lack of equipment as well the expertise, we could not conduct any sort of water study within BC 02. In future, if the fund is supported from BFL, the above listed activities are put into account as the water is one of the major component for livelihood.

Flora and fauna diversity

Floral diversity

The national land use and land cover map (2010) identifies several forest types in the corridor, with the broadleaf forests pre-dominating the vegetation types. The floral richness in the corridor forests can be extrapolated from surveys conducted in Jigme Singye Wangchuck National Park and Jigme Dorji National Park, since the vegetation and species composition can be expected to be similar.

The corridor spans across three eco-regions, notably the Eastern Himalayan Broadleaf Forests, Eastern Himalayan Subalpine Forests, and the Himalayan Subtropical Pine Forests eco-regions. Within this hierarchical structure, the broadleaf forests can be categorized as Warm Broadleaf Forests up to about 2000m in elevation, and Cool Broadleaf Forests that grow in the higher elevations above 2000m, to about 2900 m. Other forest types include the Mixed Conifer Forests that include both broadleaf and conifers that transition to Blue Pine Forests in the higher elevations of the northern sections of the corridor. Chir Pine Forests grow in the exposed, drier slopes in the southern sections of the corridor.

Warm Broadleaf Forests

These species-rich temperate forests are characterized by species of Lauraceae, Moraceae, Euphorbiaceae, Leguminosae (Fabaceae), Combretaceae and Theaceae.The dominant tree species include *Schima wallachii*, *Castanopsis tribuloides*, *Lyonia ovalifolia*, *Rhododendron arboretum*, *Myrsine semiserrata*, *Ostodes paniculata*, *Castanopsis hystrix*, *Neocinnamomum caudatum*, and *Elaeocarpus sikkimensis*. Smaller trees, shrubs, and herbs in the understory include species such as *Ardisia* spp, *Piper suipigua*, *P. mellesua*, *P. peepuloides*, *Smilax lanceifolia*, *Brugmansia sauveolens*, *Barleria cristata*, *Boehmeria glomerulifera* and *Dendrocni desinuata.*

Cool Broadleaf Forests

This forest community, above the warm broadleaf forests, is considered to be a transition between the Warm Broadleaf Forests and the temperate conifers in the higher elevations. The forest community is dominated by Oaks, such as *Quercus semicarpifolia*, and *Quercus griffithii*, and species of Ericaceae, including *Rhododendron arboreum*, *R. kesangiae*, and *Lyonia ovalifolia*. Occasional, scattered Himalayan hemlock trees (*Tsuga dumosa*) are found in this forest type. The understory species include *Holboellia latifolia*, *Elaeagnus parvifolia*, *Berberis aristata*, and *Daphne bholua*.

Mixed Conifer Forest

These forests are on the higher elevations, between 2700m and 3200m, and are a transition from broadleaf to conifer forests. Trees such as *Rhododendron arboreum*, *Tsuga dumosa*, Fir (*Abies densa)*, spruce (*Picea spinulosa*), and juniper (*Juniperus indica)* dominate the upper storey, while *Rosa sericea*, *Smilax ferox*, *Vaccinium nummularia*, *Daphne bholua*, and *Lonicera acuminata* are some of the more common shrub species.

Blue Pine Forest

There is a large patch of Blue Pine forest in the northwestern part of the corridor, essentially composed of monospecific stands of *Pinus wallichiana*, with *Elaeagnus parvifolia*, *Parthenocis sussemicordata*, *Rubia manjit*, and *Berberis aristata* in the understory.

Chir Pine Forests

These subtropical conifer forests usually grow in drier areas, especially on south- and southeast-facing slopes that receive more isolation. In this corridor, large patches grow in the southern area. Chir Pine forests are dominated by *Pinus roxburghii*, with a few scattered oaks (mostly *Quercus griffithii*), and a sparse understory of *Dohaldia cappa*, *Indigofera dosua*, *I. autopuperea*, *I. decora*, *Woodfordia fruticosa*, and *Phoenix loureiri*.

Faunal diversity

Camera trap surveys, conducted in the corridor have confirmed the presence of 15 mammal species and 145 species of birds. Although red panda and musk deer two of the original focal species for justification of this corridor were not recorded from the corridor during the recent surveys (conducted in 2017/18/19/20), previous data have confirmed the presence of the elusive red panda from the northern parts of the corridor, close to Jigme Dorji National Park. Red panda have also been confirmed from the northern areas of Jigme Singye Wangchuk National Park, and a habitat suitability map shows the presence of good red panda habitat along the mid and upper sections of the corridor. The analysis also indicates that the southernmost region of the corridor seems unsuitable for red panda, but there is good habitat in the south-western regions outside the corridor, and these habitats are contiguous with the habitat inside the corridor, extending northwards all the way to Jigme Dorji National Park. There are no point locations available for musk deer from the corridor, but because musk deer have been identified as a focal species for this corridor, a habitat suitability model based on expert opinion was used to assess habitat availability in the corridor. The analysis indicates that the suitable habitat for musk deer is restricted to the north-western part of the corridor; i.e., to the mixed conifer and Blue Pine forests. But most of the suitable habitat for musk deer is outside this corridor, and in eastern corridor complex between Jigme Dorji National Park and Jigme Singye Wangchuck National Park.

The tiger is another important focal species for this corridor, and has been confirmed from the corridor. A habitat suitability model indicates there is good tiger habitat through the corridor, except for the southern regions, where it connects with Jigme Singye Wangchuck National Park.

Camera trap surveys have also confirmed the presence of other wide-ranging, area-sensitive species like the common leopard (*Panthera pardus*), clouded leopard (*Neofelis nebulosa*), Asiatic black bear, and wild dog (*Cuon alpinus*) throughout the corridor. Tiger prey species, especially sambar (*Rusa unicolor*), barking deer (*Muntiacus muntjak*), and wild pig (*Sus scrofa*) have also been confirmed from throughout the corridor. These prey species are a vital ecological resource for tigers, and is one critical indicator of tiger occupancy.

Common leopards were confirmed from about 1,900 m to 3,040 m, while wild dogs were found within a narrower range, between about 2,020 to 3,000 m. Both species are known from lower elevations in Bhutan, and elsewhere in their wide range distribution, and the sampled area extended to 1,070 m, below the minimum elevation where both species were observed. It is likely that survey effort in the lower elevations were inadequate. Another possible reason could be that these species are being displaced from the lower elevations due to anthropogenic activities, but both are usually tolerant of relatively high human presence and activities.

Figure 4: Royal Bengal Tiger

Figure 6: Himalayan Black Bear

Figure 5: Asiatic Golden Cat

Bird diversity

Many of the birds recorded from the corridor have wide elevational distributions. But some, like the Common rose finch (*Carpodacus erythrinus*), Blood pheasant *(Ithaginis cruentus*), and Crimson breasted wood pecker (*Dendrocopos cathpharius*) were recorded from a narrow elevation band. Other species, such as the Himalayan Cutia (*Cutia nipalensis*), goldenbabbler (*Cyanoderma chrysaeum*), streaked laughing thrush (*Trochalopteron lineatum*), yellow cheeked tit (*Parus spilonotus*), bar-winged flycatcher-shrike (*Hemipus picatus*), Ward's trogon. (*Harpactes wardi*), wedge-tailed green pigeon (*Treron sphenurus*), White-browed shrike- babbler (*Pteruthius aeralatus*), were only found in the lower elevations. Studies of montane bird assemblages in Nepal have recorded several resident and migratory bird species over 300 m above their previous known distributions (Katuwal et al. 2016). Some of these species included White-browed Fulvetta (*Alcippe vinipectus*), Rufous Sibia (*Heterphasia capistrata*), Spotted Nutcracker (*Nucifraga caryocatactes*), and Large-billed Leaf Warbler (*Phylloscopus magnirostris).* These are also birds that recorded from this corridor. The range shift exhibited by birds in the Nepal study was tentatively attributed, at least in part, to climate change (Katuwal et al. 2016).

Thus, the corridors in Bhutan, including Biological Corridor 2 could become important climate corridors for birds and other flora and fauna. The study also showed that insectivorous birds responded more strongly to seasonal changes, brought about by monsoonal rains, which affected species richness of the bird assemblages due to migrations and altitudinal movements.

Thus, elevation and seasonality combine to influence bird species assemblages through food availability, and habitat corridors are important to allow these ecological behaviours to persist in mountain areas.

Socio-economic conditions

Respondents from 82 households in and around the corridor were interviewed during socio-economic surveys conducted for the BC2 management plan. Assuming that the respondent group is representative of the human population in the corridor, the average household size is 4 members, with an average of 1.8 males to 2.3 females, for a male: female ratio of 0.76. If the respondents represent a representative demographic of the human population in the corridor, most are middle aged, being between 35 and 65 years of age (Figure 17). Most (77%) of the respondents were engaged in agriculture (Figure 18). Other livelihoods included employment, labour, and dependency on livestock. Seventy-one of the 82 households interviewed held livestock, with 70 (85%) owning cattle and twenty-three households (28%) kept poultry, but in small numbers (X = 4).

Most of the respondents practiced Kamzhing and Chuzhing agricultural practices. The extent of Tseri, or shifting cultivation, was very small. Some respondents' own orchards. Sixty-one respondents grew paddy as the primary crop, while 17 grew potatoes. Other primary crops included apple, strawberry, and radish, but there were grown by very few respondents. Thirty-seven of the 82 respondents said that wildlife crop depredation was the primary issue with agriculture, and 10 said the lack of water was the primary constraint. Other issues were infertile soils, insufficient land for cultivation, lack of marketing options, lack of money to invest more in agriculture, and lack of labour. Sambar and wild pig were considered to be the primary animals responsible for crop depredation by the majority (75%) of the respondents.

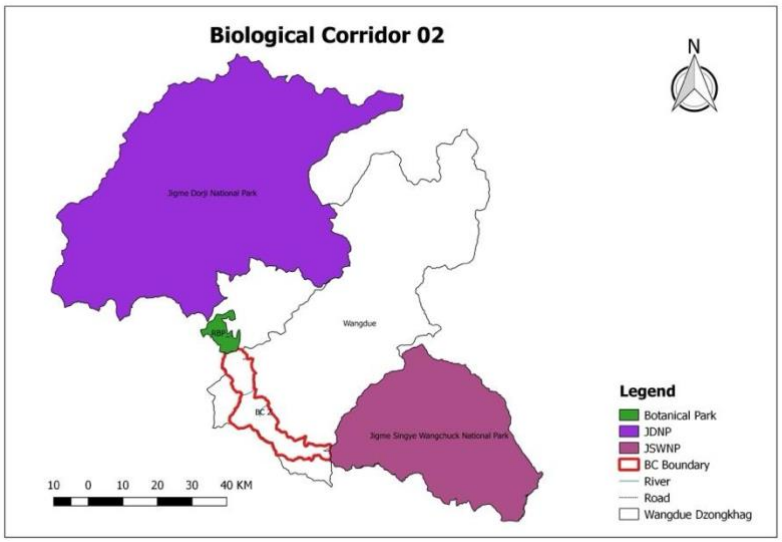


Figure 7: Map showing BC-02

3. Planned activities in Year 6 2024-2025

Given the scale of the project, these risks are expected to be minimal, site-specific and those for which mitigation measures can easily be developed through standard and applicable regulations. These impacts are again site-specific, reversible and can be minimized/mitigated by developing appropriate measures. Specifically, to address these concerns, the project will comply with the relevant Acts and Rules and Regulations of the Kingdom of Bhutan.

The activities that are planned in BC-02 that require ESMP are:

1. **Maintenance of Dikchhu Park (Reviving of Dikchhu stream flow)**

Budget: 2.355 Million
Timeline: October, 2024 to Jan, 2025
Location: Dikchu Park, Athang Gewog, Wangdue Phodrang

Situated near the confluence of Dikchhu stream and Punatsangchhu River, with an area of 195 acres, the Dikchhu Park is an important habitat for Golden Mahseer which visits the confluence from February to October and migrate downstream in the other months. The Park is also visited occasionally by Common Leopard, Grey Langur, Barking Deer, Samber Deer, Assamese Macaque, White Bellied Heron and Indian Rock Python. Currently the habitat at the confluence is disturbed by the seasonal flood which diverts the river course. The activity will include streamlining of the main course of the Dikchhu stream. 4 to 5 temporary workers will be used for the work with deployment of heavy machine for boulder works.

The activity includes the following:

1. Clearing of river pathway with clear width of minimum 5m and maximum of 7m with a length 665 m,
2. Constructing boulder barrier at side with minimum height of 2.5 m and maximum of 3m. the boulder from river to be used for stacking using excavator.
3. Boulder stacking at 30–45-degree inclination to the river alignment and width of the boulder stacking not less than 2000mm.
4. The excavator or heavy machinery likely to be deployed for clearing and stacking.

Mitigation measures will include the following:

1. As the work involves the habitat of Golden Mahseer, it will be done during the time when the Golden Mahseer have migrated downstream which is from October to January. The workers will be sheltered near the visitors' guest house to avoid conflict with the wildlife. Contract agreement will be drawn with the contractor where the workers won't disturb the wildlife in the area. The heavy machinery will be used during the day so as not to disturb the wildlife.
2. Safety gears and equipment will be provided for the safety of the workers.
3. The wastebin will be provided and construction waste will be disposed of away from the river and wildlife habitat.
4. The machineries documents are updated as per the rules for emissions.

2. Maintenance of Wangdue Range Office

Budget: 1.5 million
Timeline: October 2024 to June, 2025
Location: Bajo, Thedtsho Gewog, Wangdue Phodrang

Wangdue Range Office was constructed sometimes in 2009. The walls of the structure deteriorated over time which causes inconveniences to the staff and visitors. The maintenance work could not be carried out due to fund constraints through RGoB which requires prioritization.

Recognizing the dire need for maintenance, a minor maintenance budget was approved and work was carried out in 2017. Due to lack of adequate funding, major maintenance could not be carried out then, which was a short-term measure. Despite the minor maintenance, the issue persisted, and major maintenance is deemed necessary. In the due course of time, the cement plaster in the internal wall has been damaged severely. The internal wall damage has contributed significantly to the paint deterioration.

The ceiling is damaged due to rainwater leakage in some parts of the office structure. This has led to the damage of the roof truss and ceiling ply woods. This increases the safety risk to staff and people visiting the Range Office.

Similarly, the electrical connection wires and fittings have also deteriorated over the years. This increases the chances of electrical short circuits of the office. To ensure safety of the office from electrical lines, the re-electrification of the office is necessary. This would avoid undesired disaster in the times to come. Due to the lack of adequate funding the electrification works could not be carried out.

With fund from BFL, we expect to carry out the following works as per the engineer's estimate:

1. Dismantling of old plaster in all the rooms,
2. Deduction of doors in all the rooms
3. Providing and laying cement plaster, one coat of primer and putty in 377.6 sq. meters
4. Providing and laying CPVC pipes and GI pipes
5. Dismantling existing flooring works and laying new flooring.
6. Providing and fixing wooden frames for ceiling
7. Providing and fixing prelaminated particle board lining
8. Construction of drain
9. Providing and fixing panel doors and windows shutters
10. Dismantling of existing wirings
11. Wiring for fans, socket, light etc
12. Supplying and fixing switch boxes, sockets, MCB, distribution board, energy meter, HDPE pipe
13. Supplying and fixing LED luminaires
14. Providing and fixing earthing

The office structure is currently being used as office space and one unit is designated as Range Officers quarter. The office caters forestry services to 11 gewogs, Thedtsho, Rubesa, Kazhi, Nyishog, Phangyul, Bjena, Gase Tshogogm, Gase Tshowogm, Nahi, Daga and some parts of Athang through its three Beat Offices. The office is located on gentle slope at 1231m from the sea level with North-West aspect.

During maintenance work period, the office and the staff quarter shall be shifted temporarily to Wangduephodrang Dzongkhag Store which is located adjacent to the Range Office. This would ensure the timely provision of the Forestry Services by assuring right visiting address of the office during maintenance period and staff is not affected by the work.

There will be 8 temporary workers who will be engaged with contract period of 6 months and they will be sheltered in the office vicinity with water resources will be used from the office. The workers will be provided with OHS equipment by the contractor as mandated by the rules and laws.

There are 20 households around the vicinity sharing land demarcation boundary with the Range Office with nearest falling 1metre from the office. There is police office, Thedtsho Gewog Administration, Dzongkhag Administration store, private car workshop, 2 shops, one three storied residential building, Bhutan Power Corporation colony and 2 one storey residential house. The office falls under the Wangdue Municipality, availing services from the Municipality. There is no presence of endangered flora and fauna, water sources or streams in the office area.

The following mitigation measures will be carried out:

1. The construction works will be done from 7am to 7pm to avoid noise disturbance to the vicinity.
2. Construction materials which emit dust will be covered and the dusty road will be sprayed with water.
3. Earplugs and protective device will be provided to the workers
4. Proper waste bins to be allocated at the site and all the construction waste will be removed once the construction works is completed.
5. The timber and sand will be purchased through permit and field staff will monitor the timber permit.
6. Consultation with the public will be done soon before the construction.
7. The Occupational health and safety of workers to be taken care by the contractor and safety gears and equipment will be provided.






4. Environmental and Social Impacts and Mitigation Measures

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Cost
Activity1 : Maintenance of Dikchhu Park				
Noise disturbance: Possible noise disturbance as a result of outdoor equipment usage and transportation vehicles driving around the construction site	Short term Minor	*Pre-construction:* requirements to limit noise pollution should be included in the bidding documents, as a precondition for the contractor's selection *During* construction*:* ● Noise level control should be performed before the startup of construction activities; ● The equipment should be fitted with appropriate noise devices that will reduce sound level; ● The construction work should not be permitted during the nights, the operations on site shall be restricted to the hours 7am—7pm; ● Vehicles that are excessively noisy shall not be operated until corrective measures have been taken; ● Earplugs and protecting devices shall be provided to workers on site.	BFL focal and Contractor	To be met by the contractor
Air quality: dust as a result of construction works and possible emissions from transportation vehicles	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; ● Construction materials should be stored in appropriate and covered places to minimize dust;	contractor	Cost to be met by the contractor

		● Before allowing vehicles on site, fitness and emission test of the vehicle shall be performed; ● Vehicle loads likely to emit dust need to be covered; ● Workers should wear protective masks if dust appears; ● Vehicle speed should be restricted within the construction site; ● Regular maintenance of the vehicles and construction machinery should be performed in order to reduce any leakages of motor oils, emissions and dispersion of pollution; ● Burning of debris from ground clearance shall be prohibited.		
Waste: generation of waste as a result of construction 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 *During* construction*:* ● Identification of the different waste types at the project site (soil, asphalt, food, etc.); ● Ensure that camps are located away from existing stream, river, or water sources, and that no discharge from camps is made into nearby water bodies; ● Proper containers/waste bins should be provided at the project site; ● Dumping of waste on the sides of the road, on private land, or in other non-designated places should be prohibited; ● Dumping waste shall be prohibited on fragile slopes, forests, religious or other culturally sensitive areas or areas where livelihood is derived; ● Collection, transportation and final disposal of all waste should be undertaken weekly or monthly depending on the quantity of wastes generated. ● Possible hazardous waste (motor oils, vehicle fuels, etc.) should be collected separately and authorized collector and transporter should be sub-contracted to transport and finally dispose;	BFL focal and contractor	

		● All construction materials should be covered during the transportation to avoid waste dispersion; ● The options for reuse/recycling of the generated waste streams should be taking into consideration (e.g. excavated soil, etc.). ● Burning of construction waste should be prohibited. *After construction:* ● All waste shall be removed from the project site.		
Workers' health and safety	Short term Minor	● Comply with the workers' health and safety guidelines ● Ensure regular health screening for the workers pre and during construction activities ● Ensure that no underage workers, or children are engaged ● Ensure decent work conditions, including an appropriate salary, working hours, accommodation and food for workers shall be provided to all workers ● Ensure that workers are employed on the principle of equal opportunity and fair treatment, and there is no discrimination with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices. ● Implement a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns	BFL focal and Contractor	20,000 separate from ESS budget
Human Wildlife Conflict	Short term minor	● Implement the activity when the Golden Mahseer has migrated to the south ● Avoid feeding of wildlife and fishing ● Avoid disturbance to the wildlife and hunting	Contractor	To be included in the contract agreement

Activity2 : Maintenance of Wangdue Range Office				
Waste: generation of waste as a result of construction 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 *During* construction*:* ● Identification of the different waste types at the project site (soil, asphalt, food, etc.); ● Ensure that camps are located away from existing stream, river, or water sources, and that no discharge from camps is made into nearby water bodies; ● Proper containers/waste bins should be provided at the project site; ● Dumping of waste on the sides of the road, on private land, or in other non-designated places should be prohibited; ● Dumping waste shall be prohibited on fragile slopes, forests, religious or other culturally sensitive areas or areas where livelihood is derived; ● Collection, transportation and final disposal of all waste should be undertaken weekly or monthly depending on the quantity of the wastes generated ● Possible hazardous waste (motor oils, vehicle fuels, etc.) should be collected separately and authorized collector and transporter should be sub-contracted to transport and finally dispose; ● All construction materials should be covered during the transportation to avoid waste dispersion; ● The options for reuse/recycling of the generated waste streams should be taking into consideration (e.g. excavated soil, etc.). ● Burning of construction waste should be prohibited. *After construction:* ● All waste shall be removed from the project site.	BFL Focal and Contractor	Cost to be met by the contractor

Noise disturbance: Possible noise disturbance as a result of outdoor equipment usage and transportation vehicles driving around the construction site	Short term Minor	*Pre-construction:* requirements to limit noise pollution should be included in the bidding documents, as a precondition for the contractor's selection *During* construction*:* ● Noise level control should be performed before the startup of construction activities; ● The equipment should be fitted with appropriate noise devices that will reduce sound level; ● The construction work should not be permitted during the nights, the operations on site shall be restricted to the hours 7am—7pm; ● Vehicles that are excessively noisy shall not be operated until corrective measures have been taken; ● Earplugs and protecting devices shall be provided to workers on site.	BFL focal and Contractor	To be met by the contractor
Air quality: dust as a result of construction works and possible emissions from transportation vehicles	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; ● Construction materials should be stored in appropriate and covered places to minimize dust; ● Before allowing vehicles on site, fitness and emission test of the vehicle shall be performed; ● Vehicle loads likely to emit dust need to be covered; ● Workers should wear protective masks if dust appears; ● Vehicle speed should be restricted within the construction site; ● Regular maintenance of the vehicles and construction machinery should be performed in order to reduce any leakages of motor oils, emissions and dispersion of pollution;	contractor	Cost to be met by the contractor

		Burning of debris from ground clearance shall be prohibited.		
Social impacts				
Workers' health and safety	Short term Minor	● Comply with the workers' health and safety guidelines ● Ensure regular health screening for the workers pre and during construction activities ● Ensure that no underage workers, or children are engaged ● Ensure decent work conditions, including an appropriate salary, working hours, accommodation and food for workers shall be provided to all workers ● Ensure that workers are employed on the principle of equal opportunity and fair treatment, and there is no discrimination with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices. ● Implement a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns	Contractor	*Nu 20,000*
Local community's health and safety	Short term Minor	● Ensure the safety of all project-related equipment, in line with the requirements above ● Minimize the use of hazardous materials, and ensure that community members are not exposed to them. In case that the use of such materials is necessary, provide sufficient notice to local community members and inform them on safety and protection measures. ● Avoid dumping any waste or otherwise contaminating community sources of water supply and water quality. ● Provide information to local communities on construction activities and plans	BFL focal and contractor	*Nu 10000 for consultation*

5. ESMP Implementation Arrangements

The implementation of project activities will be carried out by the BFL focal person in BC2. 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 BC2 in 2024. 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 workers prior start the project activities and prior any specific tasks with high health risks.

The BC2 Supervising 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-compliances 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's requirements.

6. ESMP monitoring arrangements

The BFL focal person in BC-02 will closely monitor the implementation of all planned activities and the required mitigation measures, and ensure that they fully comply with this ESMP and with the terms and conditions included in the environment clearances issued by RGoB's national authorities.

BC-02 is also fully responsible for the compliance of all external contractors and service providers working in the BC-02 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	Maintenance of Dikchhu Park	Field focal	October, 2024	Jan, 2025	Dikchhu, Athang Gewog, Wangdue Phodrang	Field visit and field report
		ESS focal	October, 2024	November, 2024		
		BFL FS	November, 2024			
2	Maintenance of Wangdue Range Office	Field focal	Oct, 2024	June, 2025	Bajo, Thedtsho Gewog, Wangdue Phodrang	Field visit
		ESS focal	Oct, 2024	Dec, 2024		Field report
		BFL FS	Oct, 2024	Dec, 2024		Field report

Monitoring Arrangement for Maintenance of Dikchhu park and Wangdue Range Office under BC2:

- Monitoring by implementing entities:
  - At least weekly field visits
  - Monthly reports prepared by implementing entities and submitted to ESS officer at PCU
- Monitoring by ESS officer at PCU:
  - At least quarterly field visits by ESS officer
  - Quarterly reports by ESS officer to the PCU (M&E officer)
- Quarterly reports by PCU (M&E officer) to Secretariat
- Bi-annual reports of the Secretariat to WWF US (as part of mid-year and final APRs)

7. Capacity Need and Budget

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

A separate budget of Ngultrum Thirty thousand (Nu. 30000) is required for implementing ESS mitigation measures.

Sl.No	Activity	Amount (Nu.)	Budget for ESS mitigation
1	Maintenance of Dikchhu Park	2.355 million	20,000
2	Maintenance of Wangdue Range Office	1.5 million	30,000
	Total	**3.855**	**30,000**

8. Consultation and Disclosure Mechanisms

This ESMP is prepared by BC 2 implementing entity under the supervision of Chief Forestry Officer of Divisional Forest Office, Wangdi. The full English version of this ESMP, as well as an executive summary in Dzongkha, shall be disclosed on the website of MoENR, BFL and WWF, Bhutan Program. Hard copies of the ESMP should also be available at the Division Forest Office and at the PCU Office.

The maintenance of Wangdue Range Office consultation will be conducted soon with the household nearby within this financial year. The minutes and photos will be shared with the ESS focal.

For the maintenance of the Dikchhu Park, the consultation is not required as there is no communities nearby.

9. Grievance Redressal Mechanisms

This ESMP and its mitigation measures are required to be disclosed to communities for 30 days prior to the start of implementation of activities.

In addition, the BFL focal point is responsible for making local communities aware of the grievance mechanisms: the BFL-specific grievance mechanism, WWF's Grievance Mechanism, and the GCF Independent Review Mechanism.

BFL-specific Grievance Mechanism

A grievance redressal mechanism (GRM) is in place to address any grievances arising from the implementation of BFL activities, on resources, non-performances of project obligation including safeguards, violation of law and/or corruption, project governance and implementation, fair access and benefit sharing, stakeholder engagement, labor-related issues and incidents, gender related issues and others.
If the stakeholders have any grievances related to the BLF project they can report their grievances via letter, phone call or verbally to nearby gewog or forest offices. The report can also be sent to the BFL PCU office or WWF office. The specific brochure for the GRM is attached in the annexure for any grievance related to implementation of the project activities.

WWF Grievance Mechanism

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

Mailing address:

Project Complaints Officer

Safeguards Complaints,
World Wildlife Fund
1250 24th Street NW
Washington, DC 20037

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

GCF Independent Review Mechanism

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

Stakeholder Engagement Plan

- Local communities nearby will be consulted and their feedback and comments will be sought and solicited.
- Forest office – necessary clearance will be sought
- Local government – necessary clearance will be sought

Annexure I

BFL: 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)[1] 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 climatic conditions, and have acceptable light and noise conditions.

• Fire resistant, noise-absorbing materials should, to the extent feasible, be used for cladding on ceilings and walls.

• Floors should be level, even, and non-skid.

• Heavy oscillating, rotating or alternating equipment should be located in dedicated buildings or structurally isolated sections.

Severe Weather and Facility Shutdown

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

Workspace and Exit

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

Fire Precautions

The workplace should be designed to prevent the start of fires. Other essential measures include:

• The workplace shall be provided with adequate means of protection and escape in case of fire.

• The workplace shall be provided with adequate number of relevant fire extinguishers.

• Workers shall wear shoes without iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction.

• Smoking, lightening, or carrying of matches, lighters or smoking materials shall be prohibited within and around the construction sites.

All other precautions, as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks, overheated surfaces of machinery or plant, chemical or physical, chemical reaction and radiant heat.

• At every workplace adequate provision of water supply for firefighting shall be provided and maintained.

• Facilities shall be equipped with firefighting equipment (e.g., fire extinguishing bottle). The equipment should be maintained in good working order and be readily accessible. It should be adequate for the

dimensions and use of the premises, equipment installed, physical and chemical properties of substances present, and the maximum number of people present.

• Manual firefighting equipment shall be easily accessible and simple to use.

• Fire extinguishers and emergency alarm systems that are both audible and visible should be in place.

• Fire exits should be identified and marked in Dzongkha and English- all workers should be made aware of the fire exits.

Lavatories and Showers

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

Potable Water Supply

• Adequate supplies of clean drinking water should be provided to workers at the work site.

Clean Eating Area

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

Lighting

• Workplace should receive adequate natural light and if required supplemented with artificial illumination to promote worker's safety and enable safe equipment operation.

• Emergency lighting of adequate intensity should be provided in case of failure of the powerline.

Safe Access

• Passageways for pedestrians and vehicles within and outside buildings should be segregated and provide for easy, safe, and appropriate access.

• Equipment and installations requiring servicing, inspection, and/or cleaning should have unobstructed, unrestricted, and ready access.

• Covers need to be provided where ever necessary, if there is risk of falling of overhead object.

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

First Aid

• The employer should ensure that qualified first-aid can be provided at all times. A sufficient number of first aid boxes or cupboards shall be provided and maintained so as to be readily available during all working hours, provided that the distance of the nearest first aid box or a cupboard stall be not more than 200m from any working place.

• First aid kits include all equipment outlined in Annex 1 to these Guidelines.

- Each first aid box or a cupboard shall be distinctly marked "FIRST AID"

Air Supply

• Workplace should have adequate ventilation for fresh air

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

2. 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.

3. The information session should consist of basic hazard awareness, site-specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. Any site-specific hazard or color coding in use should be thoroughly reviewed as part of orientation training.

3. Physical Hazards

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

Rotating and Moving Equipment

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

• Designing machines to eliminate trap hazards and ensuring that extremities are kept out of harm's way under normal operating conditions. Examples of proper design considerations include two-hand operated machines to prevent amputations or the availability of emergency stops dedicated to the machine and placed in strategic locations.

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

Noise

• No worker should be exposed to a noise level greater than 90 dB(A) for a duration of more than 8 hours per day without wearing ear plugs/ear muffs.

• Exposures to impulsive or impact noise shall not exceed 140dB(A).

• For every 3 dB(A) increase in sound levels from the permissible limit of noise, the 'allowed' exposure period or duration should be reduced by 50 percent.

• Where it is not practicable to reduce the noise, the employer must limit the duration of time persons employed or working in the workplace are exposed to the noise so that such persons are not exposed to excessive noise.

• Prior to the issuance of hearing protective devices as the final control mechanism, use of acoustic insulating materials, isolation of the noise source, and other engineering controls should be investigated and implemented, where feasible.

• Periodic medical hearing checks should be performed on workers exposed to high noise levels.

Vibration

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

Electrical

Exposed or faulty electrical devices, such as circuit breakers, panels, cables, cords and hand tools, can pose a serious risk to workers. Overhead wires can be struck by metal devices, such as poles or ladders, and by vehicles with metal booms. Vehicles or grounded metal objects brought into close proximity with overhead wires can result in arcing between the wires and the object, without actual contact. Recommended actions include:

• Marking all energized electrical devices and lines with warning signs

• Locking out (de-charging and leaving open with a controlled locking device) and tagging-out (warning sign placed on the lock) devices during service or maintenance

• Checking all electrical cords, cables, and hand power tools for frayed or exposed cords and following manufacturer recommendations for maximum permitted operating voltage of the portable hand tools

• Double insulating / grounding all electrical equipment used in environments that are, or may become, wet; using equipment with ground fault interrupter (GFI) protected circuits

• Protecting power cords and extension cords against damage from traffic by shielding or suspending above traffic areas

• Appropriate labeling of service rooms housing high voltage equipment (‘electrical hazard’) and where entry is controlled or prohibited
• Establishing “No Approach” zones around or under high voltage power lines
• Conducting detailed identification and marking of all buried electrical wiring prior to any excavation work
• Every person who is working on an electric supply line or apparatus or both shall be provided with tools and devices such as gloves, rubber shoes, and safety belts, ladders, earthing devices, helmets, line testers, hand lines whichever is relevant for protecting him/her from mechanical and electrical injury.

Eye Hazards
Solid particles from a wide variety of industrial operations, and/or a liquid chemical spray may strike a worker in the eye causing an eye injury or permanent blindness. Recommended measures include:
• Use of machine guards or splash shields and/or face and eye protection devices, such as safety glasses with side shields, goggles, and/or a full-face shield. Frequent checks of these types of equipment prior to use to ensure mechanical integrity is also good practice.
• Where machine or work fragments could present a hazard to transient workers or passers-by, extra area guarding or proximity restricting systems should be implemented, or PPE required for transients and visitors.

Welding / Hot Work
Welding creates an extremely bright and intense light that may seriously injure a worker’s eyesight. In extreme cases, blindness may result. Additionally, welding may produce noxious fumes to which prolonged exposure can cause serious chronic diseases. Recommended measures include:
• Provision of proper eye protection such as welder goggles and/or a full-face eye shield for all personnel involved in, or assisting, welding operations. Additional methods may include the use of welding barrier screens around the specific work station.

Working Environment Temperature
Exposure to hot or cold working conditions in indoor or outdoor environments can result temperature stress-related injury or death. Use of personal protective equipment (PPE) to protect against other occupational hazards can accentuate and aggravate heat-related illnesses. Extreme temperatures in permanent work environments should be avoided through implementation of engineering controls and ventilation. Where this is not possible, such as during short-term outdoor work, temperature-related stress management procedures should be implemented which include:
• Monitoring weather forecasts for outdoor work to provide advance warning of extreme weather and scheduling work accordingly
• Providing temporary shelters to protect against the elements during working activities or for use as rest areas
• Use of protective clothing
• Providing easy access to adequate hydration such as drinking water or electrolyte drinks.

Ergonomics, Repetitive Motion, Manual Handling
Injuries due to ergonomic factors, such as repetitive motion, overexertion, and manual handling, take prolonged and repeated exposures to develop, and typically require periods of weeks to months for recovery. These OHS problems should be minimized or eliminated to maintain a productive workplace. Controls may include:
• Use of mechanical assists to eliminate or reduce exertions required to lift materials, hold tools and work objects, and requiring multi-person lifts if weights exceed thresholds (adult man- 50kg, adult female-25kg)
• Selecting and designing tools that reduce force requirements and holding times, and improve postures
• Incorporating rest and stretch breaks into work processes, and conducting job rotation
• Implementing quality control and maintenance programs that reduce unnecessary forces and exertions

Working at Heights

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

• Installation of guardrails with mid-rails and toe boards at the edge of any fall hazard area
• Proper use of ladders and scaffolds by trained workers
• Use of fall prevention devices, including safety belt and lanyard travel limiting devices to prevent access to fall hazard area, or fall protection devices such as full body harnesses used in conjunction with shock absorbing lanyards or self-retracting inertial fall arrest devices attached to fixed anchor point or horizontal life-lines

Appropriate training in use, serviceability, and integrity of the necessary PPE

• Inclusion of rescue and/or recovery plans, and equipment to respond to workers after an arrested fall

Illumination

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

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

4. Personal safety equipment for workers

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

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

Workers are instructed regarding safety equipment as follows:

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

5. Standards for workers' accommodation[2]

1. General living facilities

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

2. Drainage

• The site is adequately drained.

Heating, air conditioning, ventilation and light

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

4. Water

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

5. Wastewater and solid waste

• Wastewater, sewage, food and any other waste materials are adequately discharged in compliance with national and/or international standards and without causing any significant impacts on camp residents, the environment or surrounding communities.
• Specific containers for waste collection are provided and emptied on a regular basis.

6. Rooms/dormitories facilities

• Rooms/dormitories are kept in good condition. They are aired and cleaned at regular intervals.
• Rooms/dormitories are built with easily cleanable flooring material.
• Rooms/dormitories and sanitary facilities are located in the same buildings.
• Residents are provided with enough space.
• The number of workers sharing the same room/dormitory is minimized.
• Doors and windows are lockable and provided with mosquito screens when necessary.
• Separate sleeping areas are provided for men and women.
• A separate bed is provided for every worker and use of double deck bunks is minimized.
• Workers are provided with comfortable mattresses. Workers may be expected to use their own pillows and bed linens.
• Adequate facilities for the storage of personal belongings are provided.
• Separate storages for work clothes and PPE and depending on condition, drying/airing areas are provided.

8. Sanitary and toilet facilities

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

• An adequate number of hand wash basins and showers/bathrooms facilities are provided.

9. Cooking and laundry facilities

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

Annex 1. Contents of first aid box or cup-boards

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

1. Small sterilized dressings (12)

2. Medium size sterilized dressings (6)

3. Large size sterilized dressings (6)

4. Large size sterilized burn dressings (6)

5. (1/2 oz.) Sterilized cotton wool (6 packets)

6. (2oz.) Bottle containing a two per cent alcoholic solution of iodine (1)

7. (2oz.) Bottle containing Betadine (antiseptic solution) having the dose and mode of administration indicated on the label (1)

8. Roll of adhesive plaster (1)

9. A snake bite lancet (1)

10. Torch light (1)

11. Pair of scissors (1)

12. Tablets Aspirin (5gms) 2 dozen

13. Burn Ointment (2 tubes)

14. Dettol (2 phial, about 2 ozs)

15. Bandages 4 inches wide

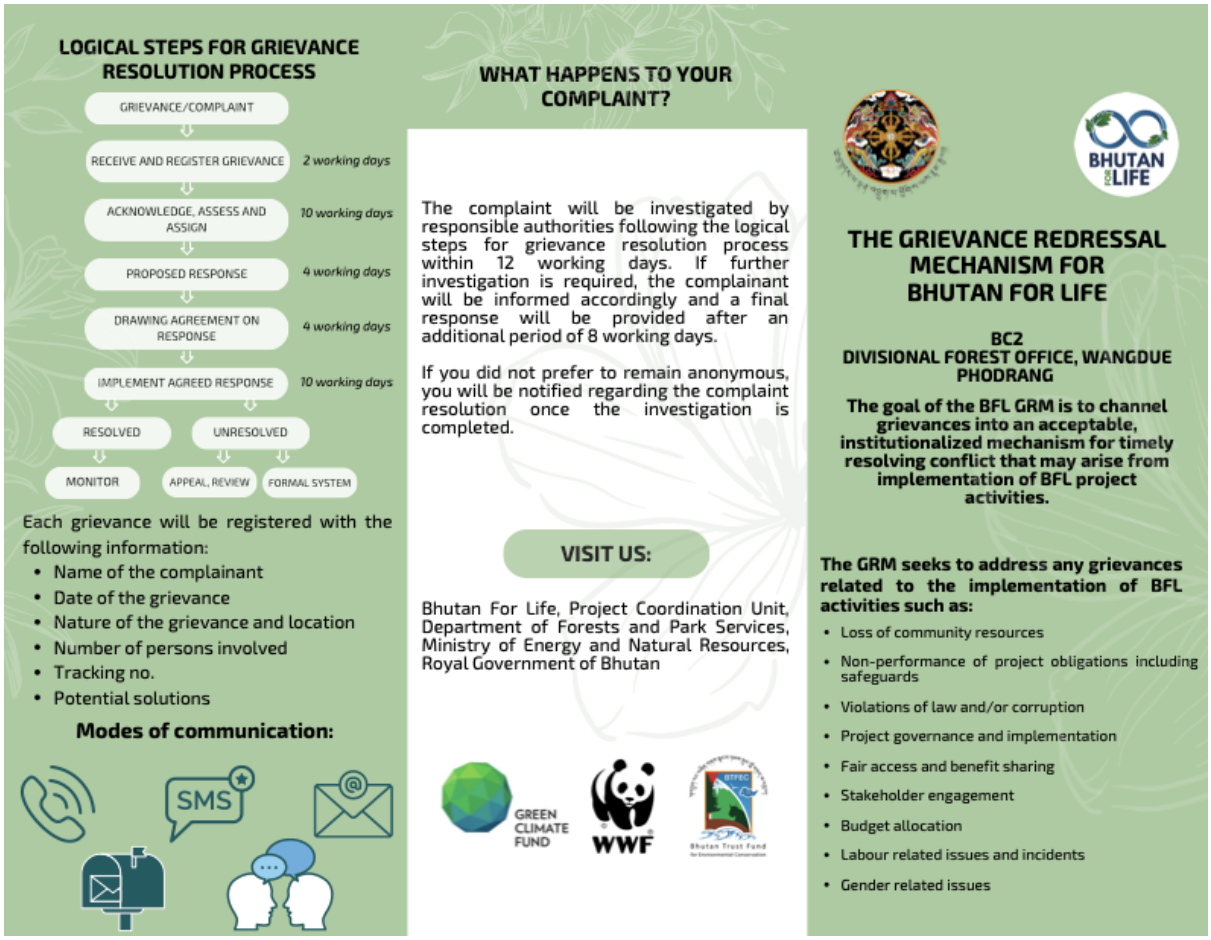
16. Bandages 2 inches wide

17. Triangular bandages (2)

18. Packets of safety pins (1)

19. A supply of suitable splint

Annexure II - BFL specific GRM Brochure



HOW TO FILE YOUR COMPLAINT

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

BFL FOCAL OFFICER

Tsheringla
17978388
wangdue-forest-division@googlegroups.com
Wangdue Divisional Forest Office, Lobesa, Punakha

WANGDUE RANGE OFFICE

Sangay Norbu
17290497
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Wangdue Forest Range Office, Wangdue

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17560810
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Nar Bahadur Pradhan
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khotokha-fmu@googlegroups.com
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GASELLO BEAT OFFICE

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kelwangs1984@gmail.com
Gasello Forest Beat Office, Petakarp, Wangdue

KAMICHU BEAT OFFICE

Lham Tshering
17284103
namgang20@yahoo.com
Kamichu Forest Beat Office, Kamichu, Wangdue

GANGTEY-PHOBJI BEAT OFFICE

Yeshey Namgyel
17881256
yeshinamgyel1989@gmail.com
Gangtey-Phobji Forest Beat Office, Phobjikha, Wangdue

YOU MAY ALSO CONTACT THE BFL PROJECT COORDINATION UNIT (PCU) OR FUND SECRETARIAT (FS) AT:

BFL FUND SECRETARIAT (FS)

Kuenzang Tobgay
17750414
kuenzangtobgay@bfl.org.bt
Bhutan For Life Fund Secretariat, Royal Textile Academy, Thimphu

BFL PROJECT COORDINATION UNIT (PCU)

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

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

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

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

- Sending it by mail or email at irm@gcfund.org
- Sending a voice or video recording
- Filling out the online complaints form available at:

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

A complaint for IRM should generally include:

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

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

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

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

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

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