

# **Bhutan for Life Environmental and Social Management Plan for Biological Corridor 4 (2022)**

## **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.

### **(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.

2. Environmental and Socio-Economic Conditions

Biological Corridor 4 (BC 4) covers an area of 594 sq.km and the elevation ranges from 228-4570 masl and it is largest of the biological corridors in Bhutan. It has 94 species of vascular plants, 25 species of mammal and 150 species of birds. The management of the BC 4 is managed by Zhemgang Forest Division, and there are four technical sections. Two range offices from Zhemgang Forest Division and one from Bumthang Forest division are immediate implementation of conservation works as shown in figure 1.

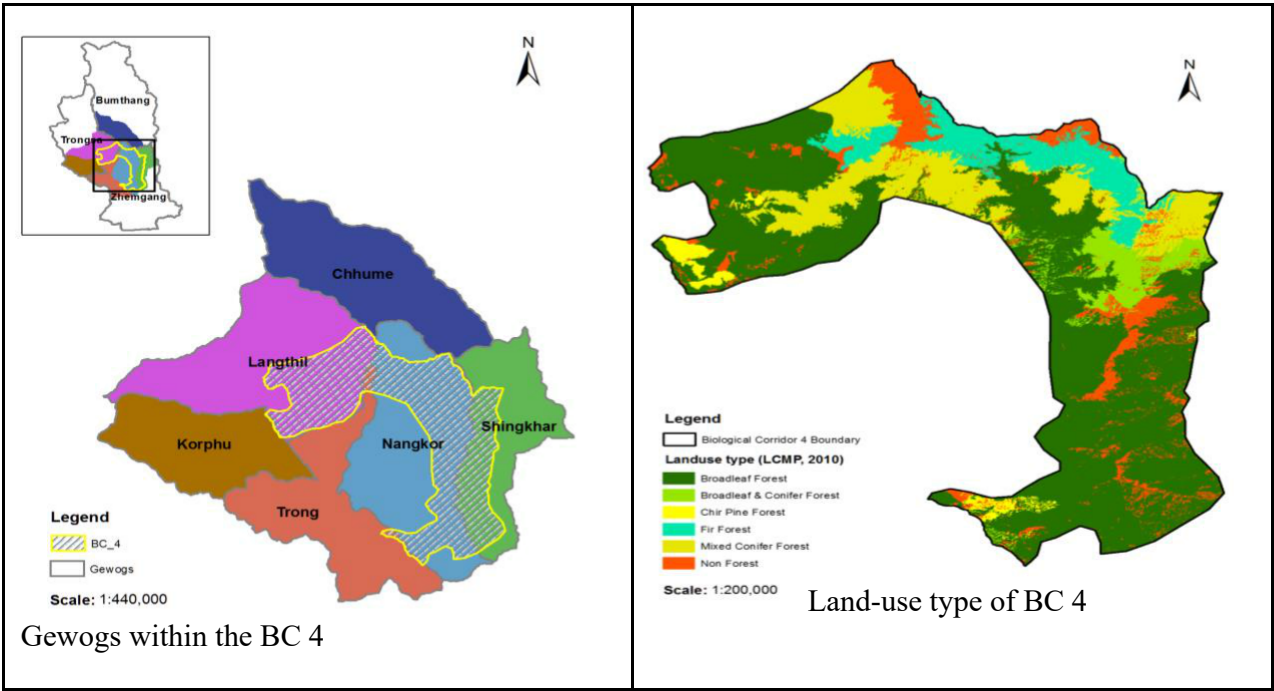


Figure 1: Maps of BC 4

Mammals recorded from the photographic capture as provided under the Figure 2 are: Tiger, Asiatic golden cat, marbled cat, Sambar deer (female & male), red panda, black bear, long tail shrike, whiskered Yuhina, Long tail minivet, Himalayan monal Pheasant and blood pheasant.







Asiatic Golden cat



Marbled cat



Sambar deer (Female)



Sambar deer (Male)



Red Panda



Black Bear



Bhutan Laughing Thrush



Long tail shrike





Whiskered Yuhina



Long tail minivet



Himalayan Monal Pheasant



Blood Pheasant

Figure 2: Photos of mammals, birds and plants species in BC 4

BC 4 covers four Gewogs as given in the Table 1. People in the area are mostly Khengpa. It has 74 households permanently inside the BC4 and 250 households in its buffer area. Socio Economic Survey conducted from the year 2015-2016 reveals that there are two dialect speaking community living in and around the corridor boundary. It holds a population of 7653. The ratio of men and women are almost equivalent with 3869 men and 3784 women as seen in the graph in the Figure 3.

Table 1: Four gewogs covered by BC 4

Sl. No.	Geogs inside BC 4	Dzongkhag
1	Langthel	Trongsa
2	Trong	Zhemgang
3	Nangkhor	Zhemgang
4	Shingkhar	Zhemgang

The major source of livelihood for the communities residing inside and along the buffer (5 km outside the boundary) of the corridor is from agriculture and livestock rearing. Livestock rearing is more than a source of income to household as it provides food for nutrition and manure for agriculture. Agricultural farms and meadows form about 10 sq. km of the total area. Occasionally, additional income is also generated from sale of non-wood forest products and daily wage labour.

There are three types of agriculture which can be categorized in the BC region: wetland (chhuzhing), dry land (kamzhing) and Tseri (swidden agriculture). The wetland is the most productive of these and requires a good deal of water. As a result, it is not very widespread and can only be found in those parts that have good irrigation facilities.

*Kamshing* or dryland cultivation is the most common as can be seen in land holding graph under Figure 3. It is practiced by nearly every household in the Chiwog. Tseri cultivation is also commonly seen in patches though the government has discouraged such practices due to impact of environment damage.

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

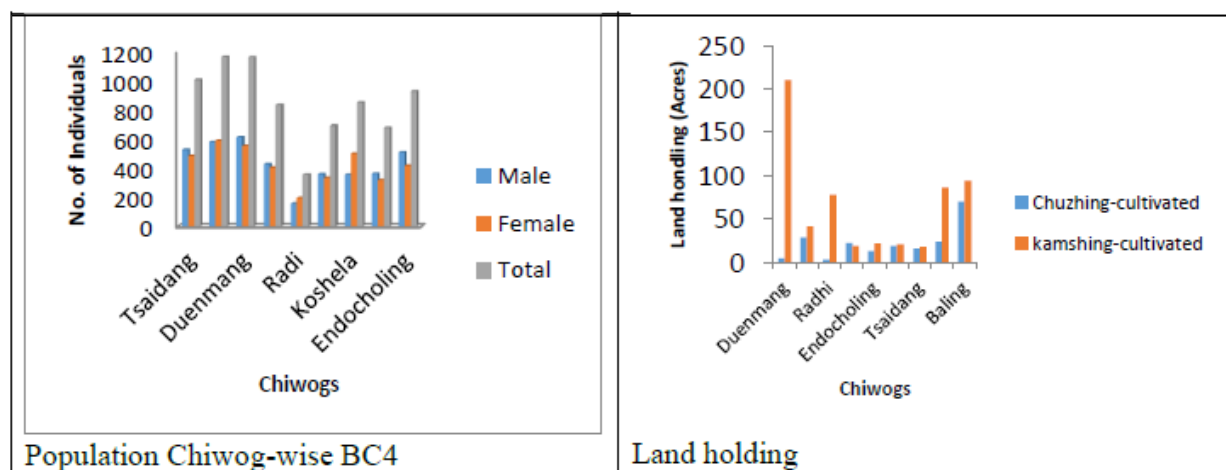


Figure 3: Population and landholding details in BC 4

- **Planned activities in Year 2022**

The planned activities that require ESMP are as follow:

**Activity 1. Construction of Toilet & maintenance of Homestay at Buli**

*Proposed budget: Nu. 798,212.00*

*Activity timeline: Year 4 (August – December, 2022)*

*Location: BC4 (Buli)*

Human-wildlife conflict is increasingly a becoming serious issue in Zhemgang. Both life and property are affected through day-to-day confrontations between humans and wildlife. In 2018, eight people were injured by Himalayan black bear, 15 livestock killed and 5 badly wounded by a lone male tiger. Many instances of crop loss to wildlife remain unrecorded in the absence of any incentives. This is proving to be a critical situation as rural people are losing huge income due to wildlife depredation. Though not evident as of today, it is likely that people will resort to lethal means to protect their life and property. In the process, retaliation actions can be expected and some important wildlife species will be affected. Though we do not have comprehensive inferential data to determine primary causes of Human-wildlife issues, the provable reasons are people's traditional dependency on natural resources; overlapping of habitat for wildlife and livestock; sparse settlement pattern; poor livestock herding practices; and high abundance of wildlife.

Finding appropriate tools to reduce HWC has become the need of the hour. In order to improve livelihoods as well as reduce dependency on natural resources harvesting, the ecotourism initiatives for communities in rural areas has been identified as an important tool to reduce HWC. As part of establishing ecotourism infrastructure and products, support to improving homestays are crucial.



Buli in Nangkor Gewog in Zhemgang is popularly known for scenic beauty and presence of Buli tsho for local pilgrimage across the country. To support both domestic and international tourists, the Dzongkhag has identified 13 households' potential for homestay business, of which only two households received certification. The rest of the households were asked to improve their facilities to complete their certification process. One of the households headed by Aum Tshewang Lhamo has been identified and require improvement of facilities to receive certification TCB. However, she does not have funds to build any additional facilities.

In 2016, Aum Tshewang's father Kinzang Tashi was mauled by Himalayan Black Bear and lost his one eye-sight and ears permanently though he managed to survive after immediate medication. Today, Aum Tshewang Lhamo is a single mother of two children who also has to care for her father. She currently works on her farms and it is not enough to support her family. Before the requirement of certification, she catered lodging services (three rooms with 10 beds) to officials, tourists and local pilgrimage has three rooms with 10 beds.

Improvement of toilet facilities, sanitation in kitchen and room heating system are some of the immediate proposals to improve facilities for her guests. With these facilities, her homestay will be certified and she earn additional income to meet the educational expenses of her children.

## 1. Mitigation Measures for Environmental and Social Impacts

### Activity 1: Construction of Toilet & Maintenance of Homestay at Buli

The identified site for construction of toilet and maintenance of homestay is located in Buli village and it is connected with road. The existing homestay is surrounded by other neighboring houses which are less than 15 meters apart.

The construction materials like stone, gravel, sand and timbers will be extracted from the nearby areas after obtaining the permit from the forest office at Buli. Other materials like CGI sheet, cement, rod, toilet pot, toilet flush, nails, electric bulb, wires, window glasses, ply wood will be transported from Zhemgang town. The people residing in the village will be engaged as temporary labor during the entire period of implementation of the activity. People mostly depends on subsistence farming and animal husbandry for living and the income earn from this project will be additional income for the family members.

The potential social and environmental impacts that could arise from construction of toilet and maintenance of homestay are as follows:

- Construction-related impacts arising from excavation, waste and material management at site
- Noise pollution during construction phase
- Occupational health and safety hazards, especially for construction workers and local communities.

Therefore, for all the potential adverse impacts of environment and social related to each activity, mitigation measures have been prepared as shown below:

Potential impact	Impact scale	Proposed mitigation measures
<b>Activity 1: Construction of toilet and maintenance of homestay at Buli</b>		
Worker's health and safety	Short term minor	<ul style="list-style-type: none"> <li>• Comply with the workers' health and safety guidelines</li> <li>• Ensure that no underage workers, or children are engaged;</li> <li>• Ensure decent work conditions, including an appropriate salary, working hours, accommodation and food for workers shall be provided to all workers;</li> </ul>

		<ul style="list-style-type: none"> <li>• 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;</li> <li>• terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices;</li> </ul>
Waste from workers camp site	Short term minor	<ul style="list-style-type: none"> <li>• Dumping of waste generated from the construction site will be regulated and restrict from dumping in the nearby areas.</li> <li>• Collection, transportation and final disposal of all waste should be carried out after completion of the work</li> </ul>
Noise disturbance: Possible noise disturbance as a result of outdoor equipment usage and transportation vehicles driving around the construction site	Short term Minor	<p>There are many neighboring households within the vicinity of the construction site, and thus noise disturbance is likely. To minimize the noise disturbance for the workers, the following mitigation measures need to be undertaken:</p> <ul style="list-style-type: none"> <li>• Noise level control should be performed before the startup of construction activities;</li> <li>• The equipment should be fitted with appropriate noise devices that will reduce sound level;</li> <li>• The construction work should not be permitted during the nights, the operations on site shall be restricted to the hours 7am-7pm; and</li> <li>• Vehicles that are excessively noisy shall not be operated until corrective measures have been taken.</li> </ul>

However, 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. The 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. ESMP is prepared as per requirement based on ESMF to ensure adequate mitigation measures.

For all the potential adverse impacts of environment and social related to each activity, mitigation measures have been prepared as shown below:

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Costs
<b>Activity 1: Construction of toilet and maintenance of homestay at Buli</b>				
<b>Workers' health and safety</b>	Short term minor	<ul style="list-style-type: none"> <li>• Comply with the workers' health and safety guidelines.</li> <li>• Access to health facilities for the workers pre and during construction activities need to be available and ensure first aid kit is available at construction site all the time- Basic health unit (BHU) needs to be available in walkable distance or the</li> </ul>	Buli Beat Office BFL focal Homestay owner	Workers' health and safety gears (Occupational health and safety): Nu.10,000 (embedded in



		<p>workers need to be checked once in a month by authorized medical doctor.</p> <ul style="list-style-type: none"> <li>• Ensure that no underage workers, or children are engaged</li> <li>• Ensure decent work conditions, including an appropriate salary, working hours, accommodation and food for workers shall be provided to all workers</li> <li>• Ensure decent work conditions, including an appropriate salary, working hours, accommodation and other essential amenities as per the Operational Health and Safety Guidelines are available for workers.</li> <li>• 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, and disciplinary practices.</li> <li>• Implement a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns- the worker with grievance shall report in their grievance to Range/beat/ HQ or gewog office. All workers shall be briefed about the GRM before the starting the work.</li> <li>• Strictly abide by COVID prevention protocols (use masks, maintain distance, wash hands regularly etc.), and disciplinary practices;</li> </ul>		the activity budget)
<b>Waste from workers campsite</b>	Short term minor	<ul style="list-style-type: none"> <li>• <b>Pre-construction:</b> Requirements for appropriate waste management should be in place before start of construction.</li> <li>• <b>During construction:</b> Identification of the different waste types at the project site (soil, construction waste, asphalt, food, etc.).</li> <li>• Proper containers/waste bins should be provided at the project site;</li> <li>• Dumping of waste on the sides of the road, on private land, or in other non-designated places should be prohibited;</li> <li>• Dumping waste shall be prohibited on fragile slopes, forests, religious or other culturally sensitive areas or areas where livelihood is derived;</li> <li>• Collection, transportation and final disposal of all waste should be undertaken regularly [specify: bi-weekly]</li> </ul>	<p>Buli Beat Office</p> <p>BFL focal</p> <p>Homestay owner</p>	To be incorporated into workers contract agreement

		<ul style="list-style-type: none"> <li>• All construction materials should be covered during the transportation to avoid waste dispersion;</li> <li>• The options for reuse/recycling of the generated waste should be taking into consideration (e.g., excavated soil, etc.)</li> <li>• Burning of construction waste should be prohibited.</li> </ul>		
<b>Noise disturbance: Possible noise disturbance as a result of outdoor equipment usage and transportation vehicles driving around the construction site</b>	Short term minor	<ul style="list-style-type: none"> <li>• The laborers will be briefed and restrict the working hours from 7.00AM – 7.00PM</li> </ul>	Buli Beat Office	

## 5. ESMP Implementation Arrangements

The implementation of project activities will be carried out by the owner of the homestay with supervision from the Buli Beat Office. The homestay owner along with the Buli Beat Office 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 office will sign with the owner for implementation of the planned activities. The Contractor/ homestay owner 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/homestay owner for all workers prior to start the project activities and prior any specific tasks with high health risks.

The Supervising Engineer needs to monitor the implementation of proposed measures by the Contractor/Homestay owner with visual checking, reviewing the records of evidence that the measures have been applied and ask the contractor/home stay owner 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 focal immediately, and the ESS focal 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 will be contingent upon their full compliance with the safeguard's requirements.

## 6. ESMP Monitoring Arrangements

The BFL focal person in BC 4 and Buli Beat Office 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 4 is also fully responsible for the compliance of all external contractors and service providers working in the BC 4 with safeguards requirements outlined in the ESMP.

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

Sl. No.	Activities	Monitoring team	Timeline		Location	Means of Verification
			Start	Complete		
1	Construction of toilet and maintenance of homestay	Field focal	July, 2022	December, 2022	Buli	Progress report
		ESS officer	July, 2022	December, 2022		Monitoring report

#### For all activities:

Monitoring by implementing entities:

- o Field visits at least twice - during the intervention and within three months after the intervention – July, 2022 and October, 2022.
  - o Reports by the implementing entities submitted to ESS focal within a week after each field visit – August, 2022 and November, 2022
- Monitoring by ESS focal:
  - o Field visits by ESS consultants - at least once during the intervention, together with the implementing party - October, 2022
  - o Reports by ESS focal to the PCU (M&E officer) - within one week after the field visit – August, 2022 – November, 2022
- Bi-annual Reports by PCU (M&E officer) to Secretariat
  - o Annual Progress Report - 15 January, 2023
  - o Semi-Annual Progress Report - 15 January 2022
- Bi-annual reports of the Secretariat to WWF US (as part of mid-year and final APR)
  - o Annual Progress Report - 31 January 2023
  - o Semi-Annual Progress Report – 15 January, 2023

## 7. Capacity Need and Budget

Activities under this ESMP will be implemented by the Buli Beat Office, BFL focal person, and a contractor/homestay owner. The budget for the activities is Nu. 0.650 million.

Sl. No.	Sub-Activity	Amount (Nu.)	ESS Budget
1	Construction of toilet construction and homestay maintenance	798,212.00	Nil (will embedded in the activity cost)
<b>Total</b>		<b>798,212.00</b>	

## 8. Consultation and Disclosure Mechanisms

The beneficiary is a single headed women with two children and old aged father who was mauled by Himalayan Black Bear and lost his one eye-sight and ears permanently though he managed to survive after immediate medication in 2016. The beneficiary is consulted and selected as she is the severely affected victim of Human Wildlife Conflict. Once the ESMP is approved the Local Government officials, the beneficiary and relevant stakeholders will be consulted. During the consultation meeting, the mitigation measures for potential environmental and social impacts will be discussed.

This ESMP is prepared by BC 4 implementing entity under the supervision of Chief Forestry Officer of Zhemgang Forest Division. The full English version of this ESMP, as well as an executive summary in Bhutanese, shall be disclosed on the website of MoAF, BFL and WWF,

Bhutan Program. Hard copies of the ESMP should also be available at the PA Management Office and at the PCU Office.

## **9. Stakeholder Engagement Plan**

The local community that resides in the vicinity of the planned BFL activities will be consulted before the implementation of the activities. The following stakeholder will be engaged during the implementation of the activity

### **Local Governance:**

- Initiate discussion with the local government officials
- Act as bridge between the local communities and the implementing partners

### **Dzongkhag Engineering Sector:**

- One Engineer from the Dzongkhag Engineering Sector will be engaged to provide technical support required during the implementation of the activity

### **Zhemgang Divisional Forest office (including the BFL focal):**

- Ensure that all the safeguard measures are practiced during implementation of the activity
- Monitoring & Evaluation on regular basis
- Liaison with all the stakeholders

Submission of progress report to BFL

## **10. Disclosure and Grievance 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**

If the stakeholders have any grievances related to the BLF project they can report their grievances via letter, phone call or verbally to following offices

- i. Respective nearby gewog office
- ii. Nearby Forest Range/Beat office
- iii. Zhemgang Divisional Forest headoffice
- iv. BFL, PCU at Nature Conservation Division (BFL Monitoring & Evaluation Officer, +975 02325042, [bflmonitoringofficer@gmail.com](mailto:bflmonitoringofficer@gmail.com))

### **WWF Grievance Mechanism**

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

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

Mailing address:

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