

Bhutan for Life

Environmental and Social Management Plan for Biological Corridor 1 (2020)

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 1 is located between Jigme Dorji National Park (JDNP) and Jigme Khesar Strict Nature Reserve (JKSNR). The area was declared as a corridor based on the examination of satellite image and detailed land use maps as well as field verification, which confirmed its suitability as a corridor. This corridor is 30 kilometers in length and has an area of 149 sq. km.

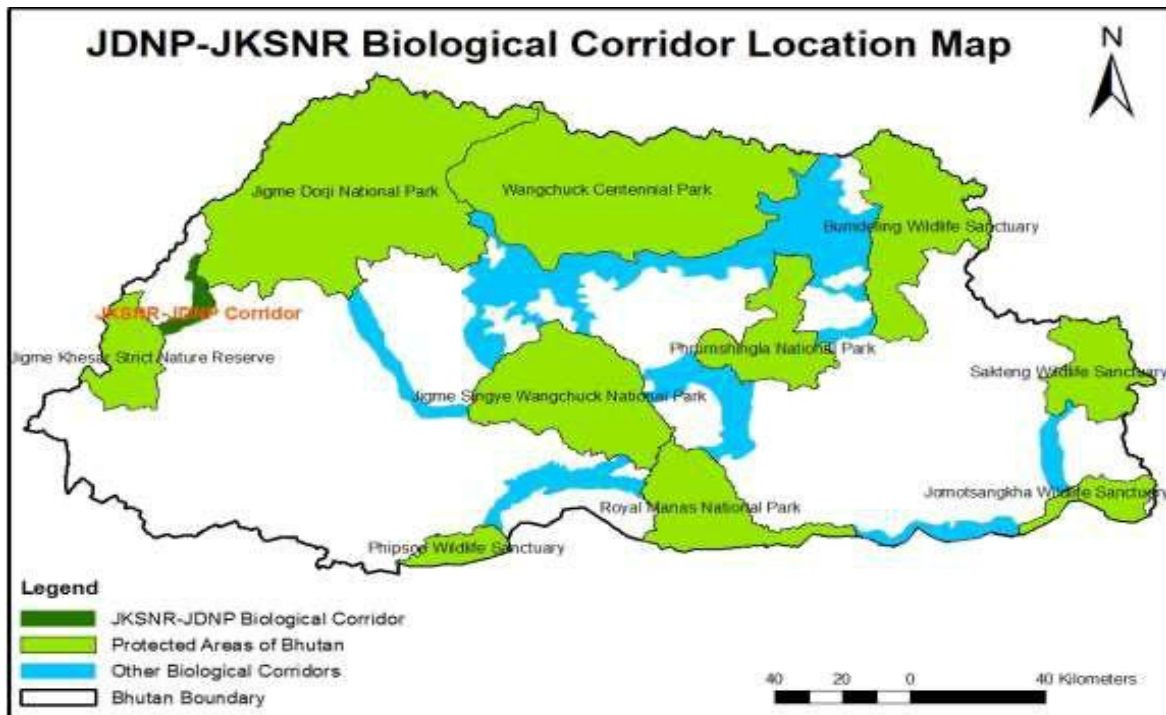


Figure 1: Map showing BC 1

Mammal survey detected evidences of 20 different species including endangered species like Tiger, Snow leopard, Musk deer and Wild dogs. BC 1 is also a home to other important cat species like Asiatic golden cat, Leopard cat and common Leopard. This corridor is home to around 178 bird species. It is an important habitat for vulnerable bird species like *Gallinagonemorica* (Woodsnipe) and totally protected bird species.

A total of 20 tree species, 41 shrub species, 93 herb species, 4 climber species, 6 fern species and 8 orchid species are found in the area. From the recorded floral listings, 71 medicinal plants were also identified.

BC 1 covers one Gewog each under Paro and Haa Dzongkhags. Tsento Gewog under Paro dzongkhag is constituted by 5 Chiwogs and 18 villages with 905 households. The population of the Gewog as per the report of Population and Housing Census of Bhutan (PHCB) 2017 is 5,946. Bjee gewog under Haa dzongkhag is comprised of 9 chiwogs and 25 villages with a total of 279 households with a population recorded as 3230 as per the PHCB 2017.

The main occupation of the people residing in both the gewogs is agriculture (main crops grown are wheat and barley), followed by livestock rearing (yak, jersey cross, local cattle, poultry, pig, horses and mules).

3. Planned activities in Year 2020

Activities that require ESMP are:

(i) Improvement of waterhole and salt licks

The sites are located within BC 1 at Tsento in Paro and Bjee in Haa Dzongkhag. The current land use pattern of these areas is forested. These sites were selected because these are forested areas with scarce water but important wild life habitats as shown in Figure 2. There is high competition of grazing between yak and other wild animals. The yaks will also be benefitted with access to water. The waterholes and saltlicks will be dug manually. There are 18 households at the project site area. They are primarily dependent on livestock products. These areas are slightly degraded due to over-grazing and seasonal landslides. However, both wildlife habitat and households will not be affected by these activities since they are not directly depended on the area for their livelihoods. There will be 29 workers and will stay overnight for 5 days.

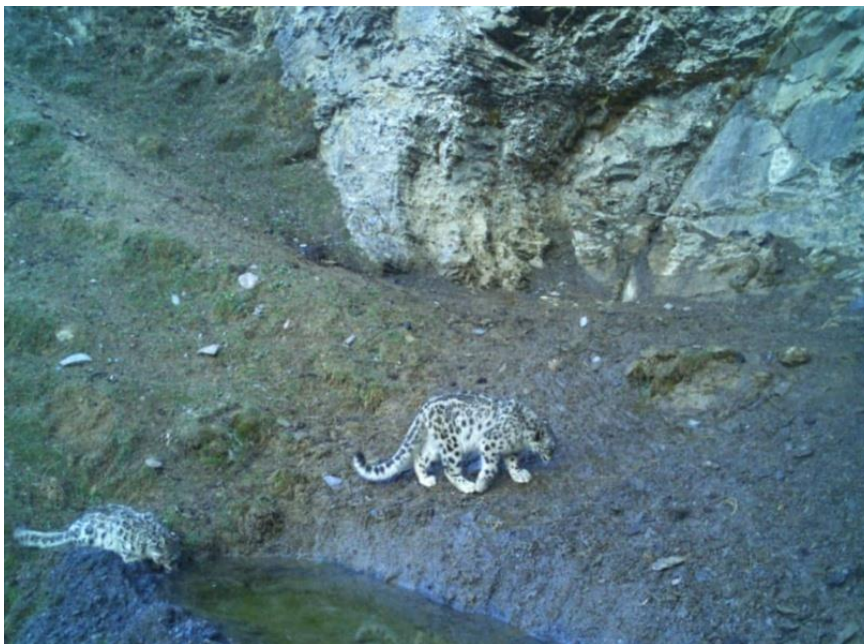


Figure 2: The leopards captured near the waterhole

(ii) Construction of beat office

The construction of beat office is located at Jetsephu at Namji, Phangdo under Tsento Gewog in Paro Dzongkhag. The site area is 0.73 acres. This area is selected as it is a barren land registered in the name of the Divisional Forest Office, Paro. This is a spillover activity from 2019 and is ongoing as shown in Figure 3.

There are more than 40 households within the vicinity of the project site area. The primary livelihood of the communities are business and rental income. There is a stream water running distance of 17 m nearby. This may entail risk to aquatic flora and fauna due to release of wastewater. There may be permanent change in land use/land cover or topography due to the construction of the structure in the barren land. They will be manually digging. It is expected to have about 20 to 30 temporary workers.

The water will be sourced from the stream, and the expected quantity of water to be used by the project during construction and operation is 5000 liters daily. While the construction materials required will be stones (237.57 MT), aggregates (436.79 MT), sand (322.60 MT), and cement (102.87 MT). These will be procured from Natural Resources Development Corporation Limited (NRDCL) and agents. Solid and food waste is expected such as from the

construction (rod, cement), and food and garbage. Emission generation is expected from cooking. It is expected there will be discharge of sewage and other effluents to water or land from toilet in the nearby stream. It is expected there will be noise generation from the construction and plant operation (while using the cement, sand mixture and carpentry machine).



Figure 3: Ongoing construction progress at site

4. Environmental and Social Impacts and Mitigation Measures

(i) Improvement of waterholes and salt licks

For the improvement of waterholes, some of the potential environmental and social impacts are the following:

- Wastes: Soil from excavation activities and waste from construction activities
- Workers' health and safety
- Increased poaching because there will be more animals gathered in one spot so it becomes high risk for poaching.

For the improvement of salt licks, some of the potential environmental impacts are the following:

- Degradation of soil and vegetation around the saltlicks
- Increased poaching (because there will be more animals gathered in one spot so it becomes high risk for poaching)

(ii) Construction of beat office

The construction of the beat office has followed relevant Acts and Rules and Regulations of the Kingdom of Bhutan in obtaining clearances from the competent Authorities. Some of the adverse environmental and social impacts for the activity are described below.

Environmental Impacts: The negative environmental impacts from the project are anticipated to be minimal. These are impacts, which are likely to be site-specific and could potentially include:

- Construction-related impacts arising from excavation, waste and material management at site;
- Noise pollution during construction phase
- Extraction (excessive) of water and forest resources;

Social Risks/Impacts: Although most of the measures have taken into account prior to construction, some of the measures have to be taken into consideration as the project is just at the beginning phase. Some of the social risks associated with the project include:

- Noise disturbance: Possible noise disturbance as a result of outdoor equipment usage and transportation vehicles driving around the construction site
- Air quality: dust pollution is likely as a result of construction works and possible emissions from transportation vehicles
- Waste: generation of waste as a result of construction activities
- Workers' health and safety

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

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

1. Construction of beat office

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Costs
Construction of beat office				US\$71,600/-
Noise disturbance: Possible noise disturbance as a result of outdoor equipment usage and transportation vehicles driving around the construction site	Short term Minor	There are more than 40 households within the vicinity of the construction site, and thus noise disturbance is likely to be minimal. To minimize the noise disturbance for the workers, the following mitigation measures need to be undertaken: <ul style="list-style-type: none"> • 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 	BFL focal person in BC 1 Contractor	To be incorporated in the bidding document. From the activity cost.

		be provided to workers on site.		
Air quality: dust pollution is likely as a result of construction works and possible emissions from transportation vehicles	Short term Minor	<ul style="list-style-type: none"> • 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; • Burning of debris from ground clearance shall be prohibited. 	BFL focal person in BC 1 Contractor	To be incorporated in the bidding document. From the activity cost.
Waste: generation of waste as a result of construction activities	Short term Minor	<ul style="list-style-type: none"> • 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 regularly on a weekly basis; • Possible hazardous waste (motor oils, vehicle fuels, etc.) should be collected separately and authorized collector and transporter should be sub-contracted to transport and 	BFL focal person in BC 1 Contractor BFL focal person Contractor	Wastes collection: Nu. 10,000 = USD 141.84

		<p>finally dispose;</p> <ul style="list-style-type: none"> 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. <p><i>After construction:</i></p> <ul style="list-style-type: none"> All waste shall be removed from the project site. 		
Workers' health and safety	Short term Minor	<ul style="list-style-type: none"> Comply with the BFL's occupational 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 point in [BC1] Contractor	To be incorporated in the bidding document.

2. Improvement of water holes and salt licks

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Cost
Improvement of waterholes				US\$4,761.9
Waste: soil from excavation activities and	Short term Minor	<ul style="list-style-type: none"> Proper containers/waste bins should be provided at the project site; Dumping of waste in the waterholes, 	BFL focal person in BC 1	To be incorporated in the bidding

waste from construction activities		<p>on the sides of the road, on private land, or in other non-designated places should be strictly prohibited;</p> <ul style="list-style-type: none"> • Dumping of 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 carried out on a daily basis and not left in the protected areas; • Burning of construction waste should be prohibited. 	Contractor	document/workers contract agreement. From the activity cost.
Workers' health and safety	Short term Minor	<ul style="list-style-type: none"> • 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, and promotion, termination of employment or retirement, and disciplinary practices; • Provide workers with an incident report book and ensure that they are aware of the project's grievance redress mechanism and can use it to raise workplace concerns. 	BFL focal person in BC 1 Contractor	To be incorporated in the bidding document. From the activity cost.
Increase poaching (because there will be more animals gathered in one spot so it becomes high risk for poaching)	Short term Minor	<ul style="list-style-type: none"> • Construct waterholes in areas where poaching is limited • BC authorities shall carry out increased patrolling during and after the waterhole construction 	BFL focal person in BC 1 Contractor	To be incorporated in the regular patrolling.

<i>Improvement of salt licks</i>				
Degradation of soil and vegetation around the saltlicks	Long term Minor	<ul style="list-style-type: none"> Place the salt on an environmentally-friendly platform (e.g., stone or piece of wood) to avoid direct connection with the soil and surrounding vegetation Use environmentally-friendly salt 	BFL focal person in BC 1	To be incorporated in the bidding document. From the activity cost.
Increase poaching because there will be more animals gathered in one spot so it becomes high risk for poaching)	Short term Minor	<ul style="list-style-type: none"> Saltlick shall be constructed in areas where poaching is limited Increased patrolling of BC authorities should be carried out during and after the waterhole construction 	BFL focal person in BC 1	To be incorporated in the regular patrolling budget.

5. ESMP Implementation arrangements

The implementation of project activities will be carried out by the BFL focal person in BC 1. The focal person will be responsible for compliance with all procedures outlined in this ESMP, as well as compliance with any requirements to obtain clearances, permits, approvals, or consent documents from relevant authorities and stakeholders.

This ESMP should be part of the contract that the PA will sign with the Contractor(s) for implementation of the planned activities in BC 1 in 2020. 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 BC 1 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 consultants immediately, and the ESS consultants 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 safeguards requirements.

6. ESMP monitoring arrangements

The BFL focal person in BC1 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. BC1 is also fully responsible for the compliance of all external contractors and service providers working in the BC1 with the safeguards requirements outlined in the ESMP.

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

1. Construction of office:

- Monitoring by implementing entities:
 - At least weekly field visits - January 2020 until completion
 - Monthly reports prepared by implementing entities and submitted to ESS consultants - July 2020 until completion
- Monitoring by ESS consultants:
 - At least quarterly field visits by ESS consultants - January 2020
 - Quarterly reports by ESS consultants to the PCU (M&E officer) - June 2020, October 2020, APR 2020
- Bi-annual reports by PCU (M&E officer) to Secretariat- July 15, 2020, January 15, 2021
- Bi-annual reports by the Secretariat to WWF US (as part of mid-year and final APRs)- July 30, 2020, January 30, 2021

2. Waterhole and salt lick management:

- Monitoring by implementing entities: September 2020
 - Field visits at least twice - during the intervention and then monthly as part of the “SMART patrolling” activity (please adapt based on field conditions, and also based on the availability of SMART patrolling activities) - August 2020, September 2020
 - Reports by the implementing entities submitted to ESS consultants weekly during the intervention and then monthly after the intervention completion- August 2020, September 2020
- Monitoring by ESS consultants:
 - Field visits by ESS consultants - at least once during the intervention - August 2020
 - Reports by ESS consultants to the PCU (M&E officer) - within two weeks after the field visit including annual reporting - September 2020 and December 2020
- Annual report by PCU (M&E officer) to Secretariat - January 15, 2020
- Annual report by the Secretariat to WWF US (as part of mid-year and final APRs) - 30 January 2021

7. Capacity Need and Budget

Activities under this ESMP will be implemented by the BFL focal person, supervising engineer, and a contractor that will employ 20-30 workers.

The budget for each of the activities is:

- (i) Improvement of waterhole, salt licks, and enrichment plantation: US\$4761.9
- (ii) Construction of beat office: US\$71600/-

8. Consultation and Disclosure Mechanisms

This ESMP has been prepared in a participatory manner, and a consultation with the Gewog was carried out on January 28, 2019 in Tsento Gewog to inform regarding the planned project activity (construction), solicit their opinions, and enable them to question proposed mitigation measures. The main issues that were raised during the consultation meeting include the following:

The BC1 informed the Gewog about the construction, and sought for their clearance. The Gewog office provided clearance for construction on January 28, 2019. The Gewog office did

not have any issues and concerns regarding the construction so they provided clearance to construct.

The detailed minutes of the consultation meeting are attached to this ESMP, along with a full list of participants (disaggregated by gender and age). The full English version of this ESMP, as well as an executive summary in Bhutanese, shall be disclosed on the website of 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 in BC 1 will be engaged throughout the implementation of these activities.

- For all construction activities (construction of offices and riverbank protection) - one consultation meeting has to be organized during the intervention period, and subsequent consultations have to be held annually (these can be combined with consultations for other BFL or non-BFL activities). Construction (consultation completed)
 - For activities that have no direct impact on communities (waterhole rehabilitation) - consultation meetings have to be organized once a year (can be combined with consultations for other BFL or non-BFL activities).
- Water holes (August 2020) with the respective community
 - Second and final consultation for construction will be in July - August 2020 with the Gewog.

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




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