

## **Bhutan for Life**

### **Environmental and Social Management Plan for Watershed Management Division**

#### 1. Introduction

##### (A) Project Background

The Bhutan for Life (BFL) project aims to ensure a robust network of protected areas (PAs) and biological corridors (BCs) 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:

Watershed Management Division (WMD) is one of the six functional divisions under Department of Forests and Park Services with primary responsibility of managing watersheds throughout the Country. WMD will be facilitating implementation of BFL activities in the three Ramsar sites (Khotokha and GanteyPhobji in Wangdue Phodrang Dzongkhag and Bumdeling in Trashigang Dzongkhag) in Bhutan.

### 1. Gangtey-Phobji Ramsar Site

Gangtey-Phobji valley as shown in Figure 1 is a conservation area recognized primarily for its ecological richness and prime winter habitat of the vulnerable Black Necked Cranes (*Grus nigricollis*), supporting approximately 300 cranes every winter.

Gangtey-Phobji is a wide glacial valley with meandering streams through the open grassland and thickets of dwarf bamboo. The Gangtey-Phobji wetland is one of the sources for the tributaries of the river, Puna-tsangchhu (where there is a mega hydropower project being built downstream). The stream serves as a water source for drinking and irrigation purposes for people living in Gangtey-Phobjikha and also downstream. The water drains through the open grassland to the Nakeychhu, Khewangchhu and other small annual and perennial streams. Most of the areas along the streams are marshy covered by grasses, bamboos, and several species of shrub and herbs including thick sphagnum moss. It is an important ecosystem harboring various life forms. Besides providing water, Gangtey-Phobji wetland also serves as a sink for dust and has a cooling effect in the area. Vegetation cover in the wetland helps to conserve water from evaporation effect and prevents soil erosion.



Figure 1: Phobjikha Valley

(October to March). The cranes feed in the agriculture fields on grain residues and on shoots of dwarf bamboo (*Yushaniamicrophylla*) and on tubers and worms. The arrival of the cranes indicates the end of the harvesting season. This unpremeditated timing provides an excellent environment to the peace loving Black Necked Cranes. The cranes roost in several marshy areas, the primary roosting area being at the base of a small knoll (27°28'26.45" N, 90°10'16.80" E).

The repeated grazing of the bamboos by the local cattle and horses in summer prepares the ground for the wintering cranes. The vulnerable Black Necked Cranes heightens the breathtaking scenery of Gangtey-Phobji in the winter months

#### ***Gangtey-Phobji Ramsar Site in brief***

- Ramsar Site no. 2264
- Date of Designation: 2<sup>nd</sup> May, 2014
- Area: 961.55 Ha
- Location: Gangtey & Phobji gewogs under Wangduephodrang Dzongkhag
- Altitude: 2800-2900 masl

There are 44 villages scattered throughout the valley with a population of 4740 people in 645 households depending on the wetlands for water. The residence of Gangtey-Phobji used to practice vertical transhumance - migrating to lower altitudes with their livestock animals during winter months. At present, while some households in Gangtey and Phobji still perform their traditional nomadic practice in winter, some farmers have settled permanently in the valley. Sedentarization of the communities is attributed to the introduction of potato cultivation in early 1980s. Potato cultivation and tourism opportunities have invited settlements from the surrounding Gewogs (Athang, Nyesho, Sephu) and adjoining Dzongkhags.

The livelihood of the community is not directly dependent on the wetlands. The major livelihood for the community is agriculture farming and livestock rearing. Traditionally main crops include wheat, millet, and buckwheat but after the introduction of potatoes in the valley, it became the major cash crop. They depend on the income generated from the annual sale of potatoes for most household expenses. The people in the local community rear livestock animals such as cows, horses, sheep, poultry and piggery. Yak is also reared by a few households.

## 2. Bumdeling Ramsar Site

Bumdeling as shown in Figure 2 is an important wintering ground for some 160 Black-necked Cranes that migrate from the Tibetan plateau each year. Upstream of the Kholong Chhu outside the Ramsar Site, is also the area where Bhutan's national butterfly, *Bhutanitis ludlowi*, endemic to Tashi Yangtse was rediscovered in August 2009 after 75 years by Frank Ludlow and George Sheriff in 1933-1934. It is listed on Appendix II of CITES, restricting any international trade. The habitat of *Bhutanitis ludlowi* is about 6 hours walking distance towards the northern side of the Bumdeling wetland.



Figure 2: Bumdeling

The Kholong Chhu River meanders as it flows through Bumdeling gewog (block) and forms a natural island while it branches out and again rejoins as it reaches the southern bridge (Dung Zam). This then creates a near-perfect and safe winter-roosting ground for migratory birds. The current roosting area lies on the west bank of Kholong Chhu, just above the confluence of the Nagpola Chhu and Kholong Chhu.

### ***Bumdeling Ramsar site in brief***

Ramsar Site no. 2032

Date of Designation: 5<sup>th</sup> July, 2012

Area: 141.5 Ha

Location: Bumdeling gewog under Trashiyantse Dzongkhag

Altitude: 1900-2000 masl

The fairly isolated valley of Bumdeling is at a much lower altitude than the other crane wintering areas in Bhutan. The wetland site is a wide U-shaped valley which comprises of mostly paddy fields before the floods and is one of the glacial valleys in Bhutan.

The feeding grounds extend from Japang village (near Kangteng Zam) in the North to Chorten Kora (in Trashi Yangtse town) in the South where there are paddy fields and farm lands in the vicinity providing food for the cranes. Apart from Black-necked Cranes, other water birds such as Mallard, Gadwall,

Common Teal, Crested Kingfisher White-throated Kingfisher, Ibis bill, and Great Cormorant. are also present in the marshes which are potentially important. The biodiversity is rich. There are more than thirty lakes upstream of the wetland sites that are hydrologically the main sources of the river, apart from the melting snow. There is a presence of a huge landslide on the north west of the wetland area. Apart from the water body (river, lake and streams), the other land use types in the designated site are paddy fields, meadow, marshes, forested areas, sandy banks and settlements. Over the years, there were series of flood that permanently destroyed the vast paddy field leaving only few that are still being cultivated which has been limiting the feeding grounds for the cranes to a few areas.

### 3. Khotokha Ramsar Site

Khotokha valley as pictured in Figure 3 is one of the sources for the tributaries of the Puna Tsang Chhu (river flowing through Wangdue Phodrang district). The sub-alpine shrub marshes consisting of peat bogs and fens, is one of the larger marshes that are typically present in sub-alpine regions of Bhutan. The wetland is covered in mist in the summer season and attracts a lot of butterflies,

insects and birds which is very different from its situation in the winter when it is cold and the Black Necked Cranes are the only prominent bird. It is surrounded by pine and oak forests and many historical and cultural sites which are considered very important to the Bhutanese communities. The water seeping out of the marshes form small gully streams that accumulate to form a larger stream and flow down south providing water for irrigation, drinking and other domestic purposes. Streams in Bhutan are generally considered clean and is tapped for agriculture and household purposes. They hydrologically flow from a higher point and is considered cleaner and more useful.



Figure 3: Khotokha Valley

Khotokha is one of the unique places of Bhutan where summer-winter migration of farmers is practiced. The main source of income for the farmers are from dairy farming, potato farming and logging activities. All agriculture land in Khotokha is dry land. The important crops are wheat, buckwheat, potato, and chili. The valley is too high in altitude for rice to grow. The valley is surrounded by 6 religious sites and 13 Buddhist temples which are considered important by the Bhutanese. The local community also believes that the Black Necked Cranes are auspicious and therefore, they do not harm them. The birds feed in the farms freely. The absences of the cranes are believed to be an ill omen to the local people.

***Khotokha Ramsar Site in brief***

Ramsar Site no. 2033

Date of Designation: 7<sup>th</sup> May, 2012

Area: 126.59 Ha

Location: Bjena & Ruepisa gewogs under Wangdue phodrang Dzongkhag

Altitude: 2500-2700 masl

### 3. Planned activities in Year 2020

The planned activities of WMD for 2020 which requires ESMP is:

1. Setting up hydromet stations at the Ramsar sites

This is a new activity of setting up hydromet stations in the respective Ramsar sites (Khotokha

and Gantey-Phobji in Wangdue Phodrang Dzongkhag and Bumdeling in Trashigang Dzongkhag) in Bhutan. These sites are designated as Ramsar sites- wetlands of international importance. The setting up of hydromet stations as seen Figure 4 can be integrated to a network of stations maintained by National Center for Hydrology and Meteorology (NCHM) is expected to support in monitoring the long-term impact of climate on the wetlands. It would be crucial to provide accurate weather parameters information to the communities. These stations will be expected to support in getting the information on how the weather is changing over the years (long term monitoring). The capital investment set is USD 75,000.



Figure 4: Sample picture of hydromet station to be set up in respective sites

This is a wetland area with water bodies and streams forming wetlands and all three sites are home to Black Necked Cranes. The setting up of hydro met stations is not expected to have any detrimental effects. And, the integrated watershed management plans for all three sites are under way.

There are few religious sites around the buffer zone area. The existing infrastructure are roads, educational facility, health centers, other industries, commercial area etc.

There are 100 households who depend on agriculture farming for Biological Corridor 2 (BC 2) area, but it will not be affected by the activity. No temporary workers are expected as the stations will be set up by the WMD and NCHM staffs. And, no natural resources are required.

Some of the environmental and social impacts include:

- Stations being set up near religious sites
- Occupational health and safety of workers

#### 4. Environmental and Social Impacts and Mitigation Measures

##### 1. Setting up of Hydromet station in the Ramsar Sites

Potential impact	Impact scale	Proposed mitigation measures	Responsible party	Cost
<b>Activity: Setting up of Hydromet stations in the Ramsar sites</b>				<b>US\$75,000</b>
Stations being set up near religious sites- gangtey phoji-	Long term Minor	<ul style="list-style-type: none"> <li>• All project activities will only be undertaken upon consultation with local communities, local authorities and other members of the public. This is to ensure that all locations the stations are set up are agreed upon among community members.</li> </ul>	BFL focal person in WMD, BC 2 and BWS	Consultations  BC2 100HHs*215= Nu.21500/70.5 =US\$312.06

Workers' health and safety	Short term Minor	<ul style="list-style-type: none"> <li>• Comply with the workers' health and safety guidelines;</li> <li>• Ensure regular health screening for the workers pre and during construction activities;</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> <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>• 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.</li> </ul>	BFL focal person in WMD, BC 2 and BWS	To be part of worker agreement. From the activity cost.
----------------------------	------------------	---	---------------------------------------	---

## 5. ESMP Implementation Arrangements

The implementation of project activities will be carried out by the BFL focal person in WMD. 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/BC will sign with the Contractor(s) for implementation of the planned activities 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 WMD focal needs to monitor the implementation of proposed measures. 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 WMD in coordination with the BWS and BC2 where the activity will be carried out will have to 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.

WMD is also fully responsible for the compliance of all external contractors and service providers working in the PA and BC with the safeguards requirements outlined in the ESMP.

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

### 1. Setting up of hydro met stations at the Ramsar sites

- Monitoring by implementing entities:
  - Field visits at least twice - during the intervention and within three months after the intervention - September 2020, December 2020
  - Reports by the implementing entities submitted to ESS consultants within a week after each field visit - September 2020, December 2020
- Monitoring by ESS consultants:
  - Field visits by ESS consultants - at least once during the intervention, together with the implementing agency - October 2020
  - Reports by ESS consultants to the PCU (M&E officer) - within one week after the field visit and within three months after the intervention - November 2020 in addition to the annual progress report submitted in December 2020.
- Annual Report by PCU (M&E officer) to Secretariat
  - Annual Progress Report - 15 January, 2021
- Annual Report of the Secretariat to WWF US
  - Annual Progress Report - 30 January, 2021

## 7. Capacity Need and Budget

Activities under this ESMP will be implemented by the BFL focal person in WMD, BC 2 and BWS. The budget for setting up hydro met station is US 75,000.

A separate budget of USD 304.96 will cover the implementation of the ESMP mitigation measures.

## 8. Consultation and Disclosure Mechanisms

This ESMP has been prepared in a participatory manner with the implementing and collaborating agencies. A community consultation should be carried out as soon as the budget is released to inform local communities regarding the planned project activities, solicit their opinions, and enable them to question proposed mitigation measures. The main issues raised by the local community during the consultation should be recorded and the detailed minutes



of the consultation meeting should be 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 BC2 and BWS will be engaged throughout the implementation of these activities.

1. Community consultation:
  - Date: August 30, 2020
  - Agenda: Awareness and information related to the set-up of hydromet station
  - Location: Phobjikha, Wangdue
  
2. Community consultation
  - Date: September 1, 2020
  - Agenda: Awareness and information related to the set-up of hydromet station
  - Location: Khotokha, Wangdue
  
3. Community consultation
  - Date: September 5, 2020
  - Agenda: Awareness and information related to the set-up of hydromet station
  - Location: Bumdeling, Trashiyangtse

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 a semi-annual basis.