

# Hariyo Ban Program

## Framework Environmental Mitigation and Monitoring Plan



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## List of Abbreviations and Acronyms

AEPC:	Alternative Energy Promotion Center
AWP:	Annual Work Plan
BSP:	Biogas Support Program
BZ:	Buffer Zone
BZC:	Buffer Zone Committee
BZCFUGs:	Buffer Zone Community Forest Users Groups
CAPA:	Community Adaptation Plan of Action
CBD:	Convention on Biodiversity
CC:	Climate Change
CE:	Categorical Exclusion
CEQ:	Council of Environmental Quality
CF:	Community Forest/Community Forestry
CFCC:	Community Forestry Coordination Committee
CFOP:	Community Forest Operational Plan
CFUGs:	Community Forest User Groups
CoP:	Chief of Party
CHAL:	Chitwan-Annapurna Landscape
CITES:	Convention on International Trade on Endangered Species
CNP:	Chitwan National Park
DCoP:	Deputy Chief of Party
DFO:	District Forest Office/Officer
DoF:	Department of Forest
EA:	Environmental Assessment
EAC:	Environment Assessment Checklist
EIA:	Environmental Impact Assessment
EIS:	Environmental Impact Statement
EMMP:	Environmental Mitigation and Monitoring Plan
EPA:	Environmental Protection Act, 1997
EPR:	Environmental Protection Regulation, 1997
FECOFUN:	Federation of Community Forest User Groups Nepal
FEMMP:	Framework Environmental Mitigation and Monitoring Plan
GHG:	Greenhouse Gas
GoN:	Government of Nepal
HBP:	Hariyo Ban Program
HWC:	Human Wildlife Conflict
IAPS:	Invasive Alien Plant Species
ICS:	Improved Cooking Stove
IGA:	Income Generating Activities
IEE:	Initial Environmental Examination
ILO:	International Labor Organization
ISC:	Impact Scoring Checklist
LAPA:	Local Adaptation Program of Action

M&E:	Monitoring and Evaluation
MEAs:	Multilateral Environmental Agreements
MoEST:	Ministry of Environment, Science and Technology
MoFSC:	Ministry of Forest and Soil Conservation
MoV:	Means of Verification
NAPA:	National Adaptation Program of Action
NRM:	Natural Resource Management
NDC:	Negative Determination with Condition
NGOs:	Non-Government Organizations
NPWC:	National Parks and Wildlife Conservation
NTNC:	National Trust for Nature Conservation
REDD+:	Reduction of Emissions due to Deforestation and Forest Degradation
SFM:	Sustainable Forest Management
TA:	Technical Assistance
TAL:	Terai-Arc Landscape
ToR:	Terms of Reference
UNCCD:	United Nations Convention to Combat Desertification
UNFCCC:	United Nations Framework Convention on Climate Change
USAID:	United States Agency for International Development

## Executive Summary

*The USAID funded Hariyo Ban Program implemented by a consortium of four partners in two very important landscapes of Nepal aims at reducing adverse impacts of climate change and threats to biodiversity at the local level. The purpose of this study is to assess the potential environmental and social impact of the program activities despite the program's orientation to creating strongly positive impact on the environment and on the livelihoods and wellbeing of the people. As per the given ToR, this report provides:*

- *An assessment of the potential environmental and social impacts of Hariyo Ban Program activities,*
- *A Framework Environmental Mitigation Plan,*
- *Recommendations for mechanisms for planning and implementing the Environmental Mitigation and Monitoring Plan, monitoring, reporting and backstopping on the effectiveness of mitigation actions,*
- *Recommendations for necessary coordination and communication mechanism,*
- *Recommendations for mechanisms to ensure environmental compliance,*
- *Assessment of training needs of the core team and consortium partner staff along with a proposal of a training package to enable them to plan and implement EMMPs,*
- *An indication of funds required for the FEMMP implementation*
- *Suggests approaches for environmental compliance reporting.*

*Chapter 2 reviews the compliance requirements for all NDC-marked Hariyo Ban Program activities and provides an assessment of the program and its activities. The assessment has revealed that overall the program is in compliance with the specific congressional earmarks of funding. An assessment of the international environmental conventions/agreements/accords of which Nepal is a party and/or signatory of reveals that Hariyo Ban Program is not only in compliance with relevant international agreements but also contributes significantly to Nepal's efforts to meeting the provisions of these agreements. Hariyo Ban Program, in general is in compliance with relevant environmental policies, acts, rules and guidelines of Nepal. However, 29 out of 41 specific activities need to meet one or the other IEE conditions, and 10<sup>1</sup> out of those*

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<sup>1</sup> biogas, ICS, fire line maintenance, nursery construction, leasehold forestry and piloting of cardamom, ginger, turmeric etc. in CF under sustainable landscape component and species translocation and re-introduction, HWC mitigation, mechanism for biological control and cultivation of cardamom, ginger, turmeric, broom grass under biodiversity conservation component

*29 activities could potentially have significant adverse impacts on environment and/or society in case mitigation measures are not devised. A participatory assessment of these 10 specific activities was undertaken using a purposefully designed Impact Scoring Checklist, field observation, and interaction with relevant beneficiary group members. It revealed that the potential adverse impacts in case these 10 specific activities are localized, are of short term nature and low magnitude. They could be mitigated with minimum efforts in the course of implementation and therefore could not be rated significant.*

*A FEMMP is developed in matrix form (Annex 4) that builds on its desired specific features and comprises, potential environmental impacts, required IEE conditions, specific mitigation actions, indicators of implementation, responsibility and schedule for i) implementation ii) monitoring of implementation and iii) monitoring of the effectiveness of mitigation actions. An elaboration of mitigation actions, implementation and reporting responsibilities, monitoring measures, monitoring implementation and effectiveness of mitigation actions are provided. An analysis of existing coordination and communication mechanism and justification for improvement in identified aspects has been presented. Justification for the budget requirement in specific areas of EMMP planning, implementation and monitoring is provided and a training package for consortium partners' staff for EMMP preparation and implementation is proposed based on a rapid training needs assessment.*

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## **1. Introduction**

### ***1.1 Hariyo Ban Program Overview***

Hariyo Ban Program is a five-year program funded by USAID and being implemented by a consortium of four partner organizations - WWF Nepal, CARE Nepal, NTNC, and FECOFUN<sup>2</sup>. The vision for the program is “restored forest corridors that sequester carbon with enhanced wildlife populations where local communities’ wellbeing is improved and their resilience to climate change enhanced through benefits from natural resources and payments for ecosystem services; women and vulnerable poor, and socially excluded people have improved livelihoods and play active roles in environmental stewardship”.

The overall goal of Hariyo Ban Program is to reduce adverse impacts of climate change and threats to biodiversity in Nepal. The program has three integrated objectives: 1) to reduce threats to biodiversity in target landscapes; 2) to build the structures, capacity and operations necessary for an effective sustainable landscape management, especially REDD+ readiness; and 3) to increase the ability of target human and ecological communities to adapt to the adverse impacts of climate change.

Hariyo Ban Program is being implemented in the Terai-Arc Landscape and Chitwan-Annapurna Landscape. In its 1<sup>st</sup> and 2<sup>nd</sup> year of implementation, it is working in 11 districts from central to far-west Terai and 12 districts north-south in central and western regions. Chitwan and Nawalparasi districts overlap in both landscapes. At the landscape level, the program works with NRM groups and climate vulnerable communities. At the national level, it supports the development of policy and other enabling frameworks and mechanisms by working in partnerships with relevant ministries, departments, civil society organizations, academic institutions and private sector organizations as they contribute in and benefit from the program.

### ***1.2 Assignment and Deliverables***

As is evident from its objectives, Hariyo Ban Program intends to create a strong positive impact on the environment and on the livelihoods and wellbeing of the people in the targeted landscapes. Yet it strives to ensure none of its program activities cause any significant direct, indirect, or cumulative adverse environmental impacts in the short or long term. The program aims to undertake an environmental assessment of program activities, plan and implement mitigation measures for potential adverse impacts, if any, and monitor the effectiveness of the mitigation measures to be implemented parallel to program activities.

The purpose of this assignment is to prepare a FEMMP and recommend overall mechanism in Hariyo Ban Program (between center and field and among the consortium partners) for sufficient and effective environmental compliance (ToR in ANNEX 3). The specific objectives transformed in to the key deliverables are:

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<sup>2</sup> Refer to Hariyo Ban Program Technical Application Document

- 1) Prepare FEMMP through review and identification of potential negative impacts (both environmental and social) likely in each category of activities, in consultation with Hariyo Ban Program core team and consortium partners in Kathmandu and the field
- 2) Recommend an overall practical mechanism between the center and fields in all consortium partner organizations for preparation of site specific mitigation plans, its implementation, monitoring, reporting, and feedback
- 3) Recommend an effective communication and coordination mechanism among consortium partners for sharing their concerns, best practices, and lessons learnt in the context of environmental compliance
- 4) Recommend a mechanism to be established for ensuring environmental compliance of the activities under window of opportunity
- 5) Recommend any training that may be required to build capacity of the staff of the core team or consortium partners at different levels, for assessing impacts, mitigating them and reporting in accordance with both national and international environmental obligations
- 6) Estimate budget required for implementing mitigation and monitoring plan of each category of activity. Also indicate and estimate where additional funds are needed for environmental compliance as prescribed by USAID.
- 7) Prepare environmental compliance report for submission to USAID and for use by Hariyo Ban Program and its consortium partners

### ***1.3 Methodology***

1) **Review:** Following categories of documents (listed in reference) were reviewed:

- Relevant documents of Hariyo Ban Program - RFA, Program Document, AWP of Year 1 and 2, M&E Plan, EMMP and IEE factsheet from USAID;
- Relevant international (multi-lateral) environmental conventions/accords/agreements which Nepal needs to comply with including 22 CFR 216 of the funding government – the USA.
- Relevant environment, climate change, forest and biodiversity related national policies, acts and regulations of Nepal.
- Web-based literature on environmental and social impacts of specific activities

2) **Identification and assessment of potential adverse environmental and/or social impacts of program activities:**

- Potential adverse environmental and social impacts of NDC-marked program activities were identified and assessed on the basis of review work and consultation with core team. A draft FEMMP matrix was prepared. It contained potential adverse impacts of NDC marked activities, their likely significance, required IEE conditions and specific mitigation actions. The draft FEMMP matrix was shared with all coordinators and further refined after incorporating their comments.
- The draft FEMMP, speculates that activities such as support for biogas and ICS installation, fire line maintenance, species translocation and re-introduction, power fencing, leasehold forestry promotion in community forests may have likely significant adverse impacts. In order to further verify this, an ISC (Annex 2) was developed for the participatory assessment of significance of impacts. The purpose was to further assess likely impacts based on field observation of the modality of implementation and a participatory assessment of impact by the field staff responsible for activities implementation.

### **3) Consultation meetings with Hariyo Ban Program core team and field staff in two landscapes:**

- Two meetings were held with core team and telephonic consultations were held with HBP focal persons in CARE Nepal and FECOFUN in the course of review and identification of potential adverse impacts of program activities.
- Consultations were held with consortium partner's staff at landscape levels. An interaction with field staff and NGO personnel working in Gorkha and Lamjung districts was organized in Gorkha. In landscape level consultations, an overview of the FEMMP and the draft matrix was presented, the need to deeply probe into the significance of impacts of selected activities and how to do that in the impact scoring checklist was also explained. The landscape level team agreed to undertake a participatory assessment of significance of impact and include it in the ISC and return it to the consultant. Accordingly, filled in ISC were received (Annex 2) which formed the basis for further refinement of the FEMMP.
- A second objective of landscape level consultation was to probe into the already existing knowledge, skills and experience of the consortium partner field staff with respect to identification of likely adverse impacts of activities and planning and implementing mitigation actions along with activities implementation.
- A third purpose of the landscape level consultation was to understand the existing coordination and communication mechanism including their effectiveness in order to recommend further refinement in existing mechanism to facilitate sharing and lesson

learning in the course of the implementation of FEMMP. A set of questions (Annex 3: checklist for information generation at landscape level) was framed for the 2<sup>nd</sup> and 3<sup>rd</sup> purposes and used during consultation. The outcome of consultation formed the basis for recommendation.

**4) Field observation of selected on-going activities, informal interaction with community members and further validation of likely impacts and their significance:**

- Activities being implemented in the field e.g., biogas and toilets, fire line maintenance, livelihoods enhancement activities, power fencing etc. were observed during field visits in Kaski, Gorkha, Tanahu, and Banke districts and Chitwan National Park area. The purpose was to understand the approaches and modalities involved in the implementation of specific activities and further assess the likeliness of adverse impacts including their significance.
- Target community members available during the field visits were also informally consulted. The focus of the consultations revolved around their knowledge, awareness and perceptions about the likely benefits and negative effects of the activities they were involved in with support from Hariyo Ban Program. A report on the findings from the field visit has also been prepared and submitted.

**5) Finalization of FEMMP matrix and preparation of draft FEMMP report**

FEMMP matrix was completed and a draft FEMMP (ANNEX 4) was prepared based on the analysis of the findings from the field visits. The FEMMP report and the matrix have been finalized and submitted based on comments from the core team and consortium partner focal persons.

## **2. Compliance Assessment of Hariyo Ban Program**

### ***2.1 Provisions for Compliance as per 22 CFR 216***

22 CFR 216<sup>3</sup> of the funding agency - the United States' Government - provides a general procedure to ensure environmental factors and values are incorporated in the development projects planned and implemented in developing countries abroad through USAID assistance. It has 10 chapters starting from introduction to reports and records.

“Environment” as defined in 22 CFR 216 means *natural and physical environment*, and the “significant effect” with respect to the effects on environment is defined as the *significant harm likely to cause to the environment due to a proposed action*.

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<sup>3</sup> Refer to [www.law.cornell.edu/cfr/text](http://www.law.cornell.edu/cfr/text)

The procedure defines Initial Environment Examination as the first review of the reasonably foreseeable effects of a proposed action on the environment. IEE provides a brief statement of the factual basis for a *threshold decision* as to whether an Environmental Assessment or an Environmental Impact Statement will be required.

**Council of Environmental Quality Regulations** forms the basis for determining the potential environmental consequences of a program, project or activity. The procedure provides a set of criteria based on which a program/project or its specific activity could be classified into i) Categorical Exclusion ii) Negative Determination with Condition or iii) Positive Determination.

### **Categorical Exclusion (CE)**

As indicated in the IEE factsheet of Hariyo Ban Program activities identified under all objectives that are related to technical assistance, research, assessments, workshops, meetings, training, issue-based discussions, policy formulation, and associated analysis, dialogue, and partnerships at national, landscape and community levels including documentation and information dissemination” are recommended as CE. They do not have an effect on the natural or physical environment as per the provisions of 22 CFR 216.2c (2) (i), (iii), and (v).

**22 CFR 216.3** section (a) provides general procedures under which sub-section (1) deals with preparation of IEE, (2) with threshold decision, (3) with negative declaration, (4) with scope of EA or EIS, (5) with preparation of EA and EIS, and it goes on up to (8) monitoring, (9) revision and (10) other approval documents.

### **Negative Determination with Condition**

For Hariyo Ban Program activities, threshold decision has been taken as per 216.3(a) 2(iii)<sup>4</sup>, and all activities not categorized as CE under all objectives have been recommended as NDC considering that these might have environmental impacts in case they are not in compliance with the Government of Nepal’s environmental protection acts, rules and regulations and also with the relevant international environmental conventions/accords/agreements, of which Nepal is party to. The program must also comply with the conditions of the USG Congressional Earmarks for a) biodiversity, b) GCC sustainable landscapes and c) GCC adaptation. Hariyo Ban Program will need to plan and implement mitigation measures for the activities likely to make potential

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<sup>4</sup> 216.3(a) 2(iii) states “A positive threshold decision shall result from a finding that the proposed action will have a significant impact on the environment. An EIS shall be prepared if required pursuant to 216.7. If an impact statement is not required, an EA will be prepared in accordance with 216.6. The cognizant Bureau or Office will record NDC if the proposed action will not have a significant effect on the environment.”

adverse impact on environment (and/or society), and prepare an EAC provided in the IEE factsheet.

The subsequent sub-sections 2.2 and 2.3 below provide a brief analytical account of the Hariyo Ban Program's compliance as per the 22 CFR 216.

### ***2.2 Compliance as per U.S.G. Congressional Earmarks***

This section is intended to assess whether the Hariyo Ban Program design meets the conditions set in the USG Congressional Earmarks.

**Biodiversity Earmark:** Hariyo Ban Program has explicit biodiversity objectives. Its activities are defined based on biodiversity threat assessment/analysis in target landscapes. Indicators to be monitored are explicit to biodiversity conservation, and site-based program activities are specifically undertaken in biologically significant areas to positively impact biodiversity. The biodiversity component fully complies with the earmark by meeting all the four criteria of compliance (*refer to M&E Plan of the Program*)

**Sustainable Landscapes Earmark:** The sustainable landscape component is fully in compliance with the earmark. It has explicit GCC objective, and it meets all criteria under policy priorities like contributing in creation of national and sub-national level REDD+ strategies, GHG accounting, forest carbon market readiness and field demonstration of REDD+. As per the M&E Plan, the program has standard GCC indicator for policy, capacity and CO<sub>2</sub>, and annual reporting can be done on all four specified points including how the activity supports USG commitments under UNCCC.

**Adaptation Earmark:** This component of Hariyo Ban Program also meets the funding, objective, indicators and outcome criteria to a large extent. Program's M&E plan provides standard GCC indicator and is able to measure the impact of activities. The focus of the component is on reducing the climate change induced vulnerabilities on human and natural systems. It reveals the full compliance of the component with the Adaptation Earmark.

### ***2.3 Compliance as per National Environmental Acts and Rules***

Hariyo Ban Program has categorically been designed to respond to the conservation and management needs of Nepal's forests including diverse and unique biological resources. Technically sound forest and biodiversity management in Nepal is vital to maintaining ecological processes and species, including environmental goods and services on which millions of rural Nepalis depend. In addition, the unpredictable climate change impacts impose added threats and vulnerabilities on ecosystems, communities of plants and wildlife and forest-dependent communities at large. The program objectives and outcomes have broadly been formulated in line with Nepal's environmental policies, legal/institutional frameworks and international environmental obligations. Hence, a desired level of environmental compliance has been

factored into the Hariyo Ban Program design. Nevertheless, the likeliness of adverse environmental effects of specific program activities cannot fully be ruled out unless the local environmental context in which the activities are implemented, and its likely consequences are carefully assessed. In this backdrop, a critical review of Nepal's key environmental policies, acts rules and guidelines given below reveals that Hariyo Ban Program activities are in compliance with them in general although mitigation measures will need to be taken while implementing many identified program activities.

***Environment Protection Act, 1997*** promulgated on January, 1997 aims at maintaining healthy environment and protecting human beings, wildlife, plants, nature and physical infrastructure through sustainable management and wise use of natural resources in line with the principles of sustainable development. With the implementation of this Act:

- IEE of development project proposals is mandatory as per Article 3.
- Prior approval for implementation of development projects from GoN/MoE is mandatory as per Article 4.
- Project proponents must submit their proposal including the IEE report to the GoN and get approval prior to project implementation as per Article 5.
- In case a full EIA is deemed necessary by relevant GoN ministry and/or expert committee appointed by the GoN, the project proponent shall be notified accordingly as per Article 6.
- Article 7 articulates the prevention and control of pollution and adverse environmental impact from all sorts of development projects. Environmental inspection of prescribed mitigation measures in IEE and EIA reported is detailed out in Article 8.
- Article 9 has obligatory provision on the project executing agency(s) to ensure cultural and natural heritage sites within the project area are protected including the outstanding objects within them e.g., places, plants and animals.
- Remaining 15 articles of this act provide detailed provision for legal, institutional and procedural matters for effective implementation of this act.

***Environment Protection Rules, 1997*** is the legal instrument to implement the EPA, 1997. Under its Schedule 1 and 2, EPA provides the size and nature of the projects for which IEE and/or EIA shall be mandatory. Activities e.g., plantation of indigenous species, imported species and handing over of forests for leasehold forestry, forest roads and fire line construction with specified limits are subject to IEE and/or EIA. Plans for watersheds, forests and protected area management are also subject to IEE. A review of the forestry sector activities listed for IEE (Schedule 1) and for EIA (Schedule 2) (***ANNEX I***) reveals that a set of activities planned under three components of Hariyo Ban Program (Table 1 below) will need to meet certain IEE conditions to comply with EPA 1997. Accordingly, specific mitigation actions will have to be planned and implemented for many of those activities as proposed in the FEMMP.

**Table 1: Hariyo Ban Program activities that require meet defined IEE conditions as per Nepal’s EPA and EPR, 1997**

↓ Activities	→ Program Components	
Climate Change Adaptation	Sustainable Landscape	Biodiversity Conservation
CAP and LAPA preparation and implementation on case to case basis	<ol style="list-style-type: none"> <li>1. Forest Carbon Inventory Training</li> <li>2. Support to AEPC and BSP</li> <li>3. Fire line maintenance in CFs</li> <li>4. Nursery establishment</li> <li>5. Support for plantation</li> <li>6. Support to reduce degradation and forest degradation</li> <li>7. Leasehold forestry in CFs</li> <li>8. Revision/amendment of CFOP</li> <li>9. Piloting of cardamom, ginger, turmeric and broom grass cultivation</li> <li>10. Support for green enterprises development</li> <li>11. Development of 2<sup>nd</sup> gold standard for biogas TAL</li> </ol>	<ol style="list-style-type: none"> <li>1. Species re-introduction</li> <li>2. HWC mitigation</li> <li>3. Mechanism for biological control of invasive alien species</li> <li>4. Wetland restoration and management</li> <li>5. Support to implement sub-watershed management plan</li> <li>6. Cardamom, Ginger, Turmeric and Broom grass cultivation – support</li> <li>7. Promotion of community managed tourism</li> <li>8. Micro-credit and IGA</li> <li>9. Swertia cultivation</li> <li>10. Bamboo plantation and handicraft</li> <li>11. Conservation plantation and handicraft</li> </ol>

**Regulations relevant to forest and wildlife protection:** As per Section (68) of the Forest Act 1993, any part of a forest in any category could be released for any program of national priority provided it assures no significant adverse environmental impact on forests. So the development projects related to forest and forestry and not likely to create any adverse environmental impact indicated by an IEE could be implemented provided any mitigation actions deemed necessary are also planned and implemented side by side. The National Park and Wildlife Conservation Act, 1973, a key regulatory framework intended at the protection of faunal diversity of Nepal has a range of provisions that prohibit activities likely to cause adverse environmental impact. The rules and regulations framed under Forest Act and NPWC Act provide the detailed procedure for the implementation of these acts to protect wildlife and the natural environment where they exist. Section 4 and 5 of the Aquatic Animals Protection Act, 1961 including its First Amendment, 1998 imposes prohibition on catching, killing and/or harming protected aquatic life by poisoning and/or using pesticides in their natural environment. The Water Resources Act, 1993 provides for i) environmental standard for utilization of water resources (Section 18), ii) mandatory EIA

for projects utilizing water resources (Section 20) and iii) prohibits all kinds of water pollution beyond the approved environmental standard (Section 24).

*Nepal Biodiversity Strategy, 2002* is the blue print of protection and sustainable use of Nepal's rich and diverse biological resources. The strategy is built around the fact that Nepal's biological resources remains at the center stage of the people's livelihood security and national economy. Nepal's unique and significant biological diversity is showcased in agriculture, wetlands, rangelands, and forest ecosystems across its physiographic regions and along the species, genetic, habitat and ecosystem levels in landscapes. Accordingly, this strategy emphasizes a threat based approach to biodiversity conservation from species to landscape level through people's wider participation, cross-sector integration and legal/institutional refinements – all of which are adequately captured in Hariyo Ban Program design.

*National Wetlands Policy, 2012* replaces Nepal's Wetland Policy, 2002 and emphasizes on cross-sector approach to wetlands conservation. Development interventions in and around a wetland needs to use environmentally friendly technology and ensure that wetlands functions and services remain intact as per Article 5.1.14 which requires the projects to identify issues facing wetlands due to climate change impacts and undertake effective mitigation measures. Conservation and sustainable use of wetland resources shall be subject to maintenance of its floral and faunal diversity and richness (Article 5.2.2). Polluting wetlands in any ways or heavy exploitation of ground water surrounding wetlands has to be discouraged and controlled ( Article 5.2.3). As per Article 5.1.8, development interventions likely to make significant environmental impact on wetland structures, diversity and functions must undergo an IEE, and as required, a full EIA as appropriate and implement mitigation measures. In case of Hariyo Ban Program activities, withdrawal of water from natural water sources, retention of water in man-made ponds, check dams construction and many wetlands restoration related activities like cleaning of biomass from the water bodies including some construction related activities as might be necessary for CAPA implementation, will need to take specific mitigation measures even when they remain within the legal compliance level.

*Climate Change Policy, 2011* of Nepal is promulgated with a mission to address the adverse impacts of climate change and utilize the opportunities created from it to improve livelihoods and achieve climate-friendly physical, social and economic development. It has seven policy objectives. Hariyo Ban Program has internalized these seven policy objectives in its formulation. It strives to build capacity to adapt to climate impacts, build resilience through improved forest and biodiversity management, enhance forest carbon stock through REDD+ activities and above all, generate knowledge for climate sensitive green development policy innovations.

*National Adaptation Program of Action: Synthesis Report on Forest and Biodiversity, 2010* has identified many climate impacts on forest and biodiversity that are likely to have serious implications on livelihoods of forest dependent people. Its findings are based on literature review

and stocktaking of forestry sector, multi-disciplinary participatory vulnerability assessment in the representative areas of Koshi, Gandaki and Karnali basins and experiences of experts involved in the sector. It provides a range of adaptation actions most of which form the basis of Hariyo Ban Program interventions on climate adaptation.

Hariyo Ban Program's specific climate change adaptation activities e.g. planning and implementation of CAP and LAPA will follow the general guidelines provided by NAPA. However, specific CAP and/or LAPA activities planned in case of different sites are likely to generate direct or indirect adverse impacts at local level. Specific mitigation measures based on the defined IEE conditions will have to be planned and implemented under such circumstances.

#### ***2.4 Compliance as per Multilateral Environmental Agreements of which Nepal is a signatory***

Nepal is party to 22 different international/multi-lateral environmental agreements (MoEST, 2008). The most relevant conventions that merit an assessment in the context of Hariyo Ban Program are:

- 1) Convention on Biological Diversity, 1992
- 2) United Nations Framework Convention on Climate Change, 1992 and the Kyoto Protocol, 1997
- 3) Convention on Wetland of International Importance especially as Waterfowl Habitat (Ramsar Convention) 1971
- 4) United Nation's Convention to Combat Desertification, 1994
- 5) Convention on the International Trade in Endangered Species of Wild Fauna and Flora 1973
- 6) Plant Protection Convention, 1951
- 7) Plant Protection Agreement for Asia and Pacific Region, 1956
- 8) Convention concerning the Protection of World Cultural and Natural Heritage, 1972
- 9) ILO 169 Convention on Indigenous Communities and Tribal Peoples

***Conservation of Biological Diversity, 1992*** makes it obligatory for its country parties to i) conserve biodiversity, ii) take measures and ensures sustainable use of its components, and iii) ensure fair and equitable sharing of the benefits arising out of the utilization of genetic resources. CBD Article 6 requires the country parties to integrate conservation and sustainable use as far as possible and as appropriate in all its sectors and cross-sector policies, plans and programs. As per Article 7, the country parties are obliged to identify components of biodiversity, monitor them, attend to those requiring urgent conservation measures, identify processes and categories of activities likely to have significant adverse impacts on biodiversity and monitor the effects of such impacts. Article 8 emphasizes on *in-situ* conservation of biodiversity from species to ecosystem level adopting all possible measures and mechanism. Article 10 emphasizes on all possible measures to be taken to promote conservation and sustainable use through impact abatement, development efforts and improvements in customary use practices.

Biodiversity conservation at species, genetic and ecosystem level is a major program component of Hariyo Ban Program. It strives to implement the provisions made especially in Articles 6 to 10. Program activities are categorically selected to reduce all possible threats to floral and faunal biodiversity at community of species, ecosystem and landscape level.

Hariyo Ban Program has activities for the conservation of all major faunal species protected under the NPWC Act and listed in the IUCN RED List of Endangered Species including the Royal Bengal Tiger, One-horned Rhinoceros, Asiatic Wild Elephant, Black Buck, Wild Water Buffalo, Snow Leopard. These major species are also indicators of the good health of habitats and ecosystems. Maintenance of population of these species therefore also indicates the improved protection status of other nationally protected and IUCN red-listed flora and fauna.

*United Nation's Framework Convention on Climate Change, 1992* aims at achieving stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, and ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner. As per Article 4 (1), country parties must take diverse programmatic measures to mitigate the climate change impacts.

Despite the fact that Nepal's contribution in GHG emissions is almost negligible, climate change has emerged as a major threat to its people and biodiversity. As an Annex 1 country party, Nepal faces acute vulnerabilities specially in agriculture, forests, water, energy, health and overall in livelihoods and economy. Nepal urgently requires take all possible measures both on adaptation and mitigation fronts to address climate change impacts.

Climate change adaptation is a major component of Hariyo Ban Program. It interfaces with biodiversity conservation and sustainable landscape management components to address climate change issues on land, flora and fauna, soil and water including associated poverty and vulnerabilities in its target landscapes. Program activities are specifically identified to raise awareness, build capacities at local community level to promote innovative and locally viable sustainable resource use and management measures. As per the Kyoto Protocol Article 2, Hariyo Ban Program activities focus on most measures included under 1(a) and 3 contribute in Nepal's National Adaptation Program of Action (NAPA/MoEST, 2010).

*The Copenhagen Accord, 2009* specifies the responsibilities and commitments of both the developed and developing nations as to how they would contribute in cutting deep on global emissions. Article 5 to 12 provide the role to be played by Annex 1 and Non-Annex 1 country parties in securing funding for REDD+, adaptation and mitigation and low emission development policies. Nepal is prepared to tap financing available to implement its NAPA. Accordingly, Hariyo Ban Program is one such slot under which piloting of REDD+, capacity

building at all levels, and planning and implementation of CAPA and LAPA some major intervention support.

***Ramsar Convention, 1971 (amended in 1982 and 1987)*** recognizes the fundamentally unique ecological functions played by river systems including the associated water bodies and wetlands as water regime and habitat regulators. Wetlands are the depository and evolution grounds for floral/faunal communities while they also constitute a resource of great economic, cultural, scientific and recreational values. Country parties are obliged to conserve their wetlands and associated flora and fauna, and promote wise and sustainable use of wetland resources through appropriate policy and programmatic innovations.

Nepal holds most of central and parts of eastern Himalaya which have eight of the highest peaks of the world. The Himalaya and the Tibetan Plateau form the water towers of Asia from where originate the key Asian river systems holding water bodies and wetlands of international significance. Hariyo Ban Program activities are focused in parts of Seti/Madi, Marsyangdi and Kali Gandaki river systems' watersheds and smaller watersheds and wetlands in TAL, integrating adaptation to reduce human vulnerabilities, maintenance of ecosystem services and biodiversity conservation. Compliance of program with the Ramsar Convention is clearly visible.

***United Nations Convention to Combat Desertification, 1994*** aims at combating desertification and mitigating draught in countries, through effective action at all levels in the framework of an integrated approach that is consistent with Agenda 21. The focus of the Convention lies in i) rehabilitation and improved productivity of land, ii) conservation and sustainable management of land and water resources leading to improved living conditions at community level. The Convention consists of separate regional implementation appendices for Africa and Asia. In Asia it guides to plan and implement program of action in countries having highly diverse topography, biodiversity, land use and socio-economic conditions, heavy pressure on natural resources for livelihood, widespread poverty and constrained production systems. These conditions fit well in case of Nepal although at this stage Nepal is not facing any serious draught and/or desertification situation.

Hariyo Ban Program strives to i) institutionalize sustainable land, forest and water management at landscape level, ii) conserve biodiversity from species to ecosystem level and iii) institutionalize adaptation to climate change impacts. Program activities are geared towards addressing poverty, strengthening climate resilient livelihoods and achieving natural resources and associated biodiversity conservation. Hariyo Ban Program activities of all three components are logically integrated and local communities are at the center of implementation with due focus on their capacity building. This reveals a rationalized compliance of Hariyo Ban Program with UNCCD provisions.

***Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973 - amended in 1979)*** aims at protecting the illegal trade of species presently threatened with extinction and/or likely to be so in near future or species which any country party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restoring its exploitation, and as needing the co-operation of other parties in the control of trade. The three appendices that provide the list of faunal and floral species based on the level of threat and risk of extinction they are subjected to forms the basis of this convention.

Some flagship species that face severe conservation threats in the two landscapes of Hariyo Ban Program are the One-horned Rhinoceros, Royal Bengal Tiger, Asiatic Wild Elephant, Red Panda, Snow Leopard, Himalayan Brown Bear and the Gangetic River Dolphin. Additionally, a wide range of avifauna, herpeto-fauna and plant communities are also facing threat of extinction in these landscapes.

Hariyo Ban Program is geared at strengthening the on-going efforts to control the illegal trade of wildlife and particularly to double the number of tigers by 2022. It plans to build local capacities and further expand the successful community-based anti-poaching units outside protected areas. These activities are fully in compliance with CITES.

***Plant Protection Convention, 1951 (1979 amendments enforced in 1991, 1997 amendments came to enforcement in 2005)*** aims at controlling pests and diseases of plants and in preventing their introduction and spread across national boundaries. Parties are obliged to adopt legislative, technical and administrative measures to implement the intent of this convention.

***The International Plant Protection Agreement for Asia and Pacific Region, 1956*** aimed more specifically at preventing introduction into and spread within the region of destructive plant diseases and pests. This agreement established a Regional Plant Protection Commission, and mechanism for certification, prohibition, inspection, disinfection, quarantine and destruction were introduced for regulating trade of plants and plant products.

Hariyo Ban Program activities do not have any plans or provisions to import any plant and/or plant products over the life of the project except for scientifically assessing the feasibility of introducing a biological control agent to eliminate some invasive plant species from biodiversity hotspots in the targeted landscapes. “Adverse impacts unlikely” of the biological control agent and its compatibility with the native plants and animal community will remain the bottom line for such introduction. Hariyo Ban Program is supporting control of exotic invasive plant species e.g., *Pontederia crassipes* (Water Hyacinth), *Eupatorium* and *Lantana* species (Banmara) which suppress the native plant communities and adversely impact on people’s livelihoods.

***Convention Concerning the Protection of World Cultural and Natural Heritage, 1972*** aims to promote cooperation between country parties to protect the cultural and natural heritage of the world that are of outstanding universal values and must be conserved for present and future

generations. Country parties are legally bound to undertake appropriate legal, scientific, technical, administrative and financial measures necessary for identification, protection, conservation and rehabilitation of their cultural and natural properties. They are obliged to refrain from any deliberate measures detrimental to such properties within and outside their territories.

Within the TAL, lie a Natural Heritage Site, the Chitwan National Park (CNP) site and a Cultural Heritage Site, Lumbini – the birth place of Siddhartha Gautama Buddha. Under biodiversity component, Hariyo Ban Program activities focus on reducing threats to the iconic mega fauna e.g. Royal Bengal Tiger, One-horned Rhinoceros and the Asiatic Wild Elephants due to poaching, technical and scientific support for conservation especially for the rapidly on-going terrestrial and wetland habitat destruction due to invasion of alien species. Program activities support the GoN and complement its efforts towards the fulfillment of country's commitment as a party to the World Heritage Convention.

***ILO Convention 169 on Indigenous Communities and Tribal Peoples*** is an international instrument dedicated to improving the living conditions of Indigenous Peoples worldwide. Enacted in 1957 and revised and renamed in 1989, this convention recognizes Indigenous Peoples' right to self-determination within a nation state, while setting standards for national governments regarding Indigenous Peoples' economic, socio-cultural and political rights, including the right to land base and natural resource use. It has 44 articles organized in ten categories that outline the minimum standards of the rights of Indigenous Peoples. These articles among other things enable Indigenous Peoples "to exercise control over their own institutions, ways of life and economic development and to maintain and develop their identities, languages and religions, within the framework of the states in which they live". The convention guarantees Indigenous Peoples the right to participate in decision-making on activities that may impact their own societies and territories, such as natural resource extraction, while maintaining the integrity of their societies, territories and culture. It further recognizes their right to prioritize their own development needs (Article 7). The Convention calls upon governments to uphold these rights and to recognize Indigenous Peoples' unique historical and socio-economic position within the state and their integral connection to their territories, and protects them against displacement. It further guarantees Indigenous Peoples' rights to equal and fair employment opportunities (Articles 20 – 23), rights to health care (Articles 25), and education (Article 27), including education in one's own language (Article 28). Nepal ratified this Convention in 2007 and it got enacted since 2008.

With regards to the Hariyo Ban Program, local program beneficiaries who engage in planning and implementation of SFM, biodiversity conservation and CC adaptation activities remain in the center stage of activities implementation, as per their socio-economic and cultural values and norms. Hariyo Ban Program respects the differences in resource use patterns guided by the ethnic and cultural diversity of the target beneficiaries. Multi-stakeholder, participatory and all-

inclusive approach to decision-making in Hariyo Ban Program activities is institutionalized to respect and ensure the rights of indigenous communities in the intent of the ILO Convention 169.

### **3. Framework Environmental Mitigation and Monitoring Plan**

#### ***3.1 Features and Structure of FEMMP***

As per the IEE factsheet of Hariyo Ban Program, activities under all three program components were categorized as CE or NDC using a set of criteria provided by the CEQ regulations and procedures.

**CE and NDC:** Activities under all three program objectives e.g. TA, research, assessments, workshop, meeting, training, issue based discussions, policy analysis and formulation, dialogue and partnerships, documentation and information dissemination are not considered to have any adverse environmental/social impact and hence marked CE. The rest of the activities are marked NDC considering that they might have adverse impacts in case they are not in compliance with GoN's legal/institutional arrangements, relevant MEAs of which Nepal is a party to, and/or required compliance with USG congressional earmarks.

**Environmental Compliance Assessment** (Chapter 2 above) provides a general compliance status of Hariyo Ban Program as per funding agency's requirements, national environment related legal/institutional provisions and Nepal's international environmental obligations. Mitigation measures need to be taken for the activities that are likely to have any kind of environmental and/or social impacts (site specific or wide spread, reversible or irreversible, significant or likely to be significant) as indicated by the basic minimum IEE conditions of the activities.

Hariyo Ban Program has altogether 41 NDC marked specific activities (CC adaptation – 5, sustainable landscape – 14 and biodiversity conservation – 22) under 16 major categories of activity (CC adaptation 3, sustainable landscape 5 and biodiversity conservation 8) being implemented till program Year 2. Most of these specific activities are likely to be repeated in Year 3, 4 and 5.

This FEMMP is prepared for these 41 NDC marked activities. Any new activity planned in subsequent years and likely to have environmental/social impact will require preparation and implementation of FEMMP accordingly.

FEMMP should have three specific features:

- 1) A framework and basis for translating the IEE and EA conditions (which often tend to be very general) into specific, implementable and verifiable actions;
- 2) Indicators or criteria to be used to monitor whether the mitigation actions are i) being implemented, ii) effective and adequate;

- 3) Specify the parties responsible for implementing, monitoring, reporting and verifying the effectiveness of monitoring actions including time schedule;

The proposed FEMMP follows the structure provided by the ENCAP Factsheet Environmental Mitigation and Monitoring Plans of USAID. It is presented in the form of a matrix that incorporates the aforementioned three features in its structure as elaborated below:

- 1) **NDC marked activities** of the AWP of Year 1 and 2 have been included;
- 2) **Potential environmental and/or social impacts** likely in case of each activity have been elaborated based on the existing experiences, relevant secondary sources and the compliance requirements as per existing legal provisions;
- 3) **Significance of potential adverse impact** have been assessed based on the field observation of selected activities under implementation, reactions of the target beneficiaries of the activities and a filled in impact scoring checklist from the field staff of all consortium partners;
- 4) **IEE condition** has been elaborated considering the basic minimum requirements for mitigation by avoiding, minimizing, restoring and/or offsetting potential adverse impacts;
- 5) **Specific mitigation actions** provide specific actions to be taken to meet/satisfy the IEE conditions;
- 6) **Responsibility and schedule** as to who will implement the mitigation actions and when is specified;
- 7) **Means of verification of the implementation of mitigation actions** provides the indicators and criteria of whether the mitigation actions have been implemented;
- 8) **Person responsible to monitor the effectiveness of monitoring action and timing** specifies who will monitor whether the actions taken are proving effective and when;

### ***3.2 Participatory Assessment of Significance of Impacts for Inclusion in FEMMP***

Out of 41 NDC-marked specific activities (in 16 activity categories) of all three components:

- 19 specific activities were found to not have any likely adverse environmental and/or social impacts
- 8 of these 19 activities however, need to meet certain IEE conditions for implementation.
- 29 specific activities in total (including the 8 mentioned above) needed to meet certain IEE conditions
- Activities under CC adaptation component in general do not indicate any likelihood of significant adverse environmental and/or social impacts. At this stage however, it is not clear what activities will be included in site specific community and local adaptation plan of action (CAPA and LAPA). These plans are likely to have small construction works e.g. check dams, water conservation ponds, small levees and many other activities that potentially could have

significant adverse environmental and/or social impacts. This includes potential downstream impacts. The program will therefore need to:

- i) provide expert facilitation in site specific CAP/LAPA planning process as per the NAPA guidelines to ensure activities likely to have adverse impacts are avoided or replaced by appropriate environmentally sound alternatives,
  - ii) assess the potential adverse impacts of all activities included in those plans to find out whether they need to meet any specific IEE conditions
  - iii) plan and implement the specific mitigation actions accordingly through annual FEMMP.
- Out of 14 specific activities (in 5 activity categories) in sustainable landscape component, 6<sup>5</sup> are considered to have likely significant adverse impact.
  - Out of 22 specific activities (in 8 activity categories) in biodiversity conservation component 4<sup>6</sup> were considered likely to have significant adverse impact.

Ten specific activities (*refer to foot notes 4 and 5*) considered likely to have significant adverse impact needed a further in-depth understanding of the likely impact to justify the environmental assessment. For this purpose i) an ISC is to be filled by the consortium partner staff as a team at landscape level was developed; ii) field observation of the implementation of these activities and interaction with concerned community members was planned.

The impact scoring checklist allows for a participatory assessment of i) which element of environment/society is likely to be affected; ii) what is the a) nature, b) time scale, c) magnitude/intensity, and d) probability of occurrence of the impact, and iii) is mitigation required.

A team of landscape level consortium partner staff undertook the participatory impact assessment of relevant activities in both landscapes (refer to Annex 3). Most activities (*listed in footnotes 4 and 5*) considered likely to have significant adverse impact were found to not have likely significant adverse impact based on findings of field observation, interaction with beneficiaries and participatory assessment of significance of impacts.

Accordingly, the potential impact, IEE conditions, specific mitigation actions and other columns of the FEMMP have been further refined.

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<sup>5</sup> biogas, ICS, fire line maintenance, nursery construction, leasehold forestry and piloting of cardamom, ginger, turmeric etc. in CF;

<sup>6</sup> species translocation and re-introduction, HWC mitigation, mechanism for biological control and cultivation of cardamom, ginger, turmeric, broom grass;

### ***3.3 Monitoring Measures, Monitoring, Reporting and Feedback – Responsibility and Timeline***

#### **1) Monitoring Measures**

The proposed FEMMP provides monitoring measures for all 29 activities for which certain IEE conditions have to be met. Monitoring measures are of four distinct characteristics:

- i. Activities screening guidelines to be used by the consortium partner staff in the field
- ii. User's guidebook/guidelines
- iii. Reports: assessments, periodic field reports by consortium partner team leaders/field staff
- iv. Community and/or CFCC minutes

#### **2) Mitigation Actions Implementation and Reporting Responsibility**

##### ***CC Adaptation Component***

- Thematic Coordinator is exclusively responsible for two activities and jointly with landscape coordinator for another two activities.
- Landscape Coordinator together with relevant consortium partner field staff is responsible for four activities.

##### ***Sustainable Landscape Component***

- Thematic Coordinator is exclusively responsible for 4 activities and jointly with landscape coordinator for 2 activities.
- Landscape coordinator jointly with consortium partner staff is responsible for 8 activities and with thematic coordinator for 2 activities.
- In case of one activity, CoP or DCoP is responsible jointly with thematic and monitoring coordinators.

##### ***Biodiversity Conservation Component***

- Thematic Coordinator and Landscape Coordinators are jointly responsible for 9 exclusive activities
- Landscape Coordinator and consortium partner staff are jointly responsible for 3 activities
- ✚ **Timing of the implementation of mitigation actions** is proposed to coincide with planning and implementation of the concerned program activity itself.

- ✚ **Reporting responsibility** lies with whoever is primarily responsible for implementing the mitigations action in tandem with the activities implementation;
- ✚ **Timing for reporting** is proposed to be the same as regular progress reporting of the program activity. However, in special circumstances immediate reporting is advised to seek advice/instructions as required.
- ✚ **Responsibility of providing timely feedback on reporting** lies with immediate supervisors and more generally with the Landscape and Thematic Coordinator whoever has been reporting on mitigation action implementation status.

### 3) **Monitoring the effectiveness and adequacy of mitigation actions and timeline**

- In general, concerned thematic coordinators in collaboration with monitoring coordinator and/or his/her team is responsible for monitoring the effectiveness and adequacy of mitigation actions.
- The Landscape Coordinator is responsible for providing guidance, supervising and monitoring the effectiveness of the implementation of mitigation actions in a planned manner and report to the thematic and monitoring coordinator in the program office accordingly, for the mitigation actions to be implemented in the field by all consortium partner staff.
- CoP and DCoP are proposed to follow up with and guide the concerned thematic coordinators and monitor the effectiveness of mitigation actions, for mitigation actions to be implemented from the program office.
- Timing for monitoring the effectiveness and adequacy of mitigation actions should remain flexible in general, and should coincide with the reporting of implementation status.

## ***3.4 Budget Estimation for FEMMP Implementation***

### **1) CC Adaptation Component**

- Proposed specific mitigation actions in all 4 activities are in-built in to the activities themselves. Hence no additional fund is required to implement the FEMMP provisions.
- However, owing to the special attention required to ensure the activities implemented are mitigation sensitive, and to supervise and monitor the compliance, additional staff time involvement is likely to cost funds.

### **2) Sustainable Landscape Component**

- Seven specific activities<sup>7</sup> do not seem to need additional funds for implementing mitigation actions.
- Five specific activities<sup>8</sup> need to have guidelines to be used by the field staff, service providers and/or the beneficiaries to ensure potential adverse impacts are avoided as per the FEMMP provisions. This is likely to cost additional fund either in the form of staff time or consultant's input or both in some cases.

### 3) Biodiversity Conservation Component

- Nine out of 22 specific activities do not require any mitigation actions as there are no likely adverse impact of these activities noted.
- Mitigation actions in case of activities e.g., species re-introduction in alternative habitat and wetland restoration are also not likely to cost additional funds since the former activity requires to be abided by the IUCN species re-introduction guidelines and the later requires to be abided by the Ramsar Guidelines for Wetlands Restoration.
- Mitigation actions for 5 specific activities<sup>9</sup> require development of screening checklists for each one of them. Most of these checklists are required to be simple and could be developed and approved internally. They might however, require additional staff time or could be outsourced. In either case they would require additional funds.
- In case of biological control of IAPS, field testing of the biological control agent is likely to cost additional funds.

Estimation of additional budget as explained in this sub-section is proposed to be done jointly with relevant staff member of the program office as unit costs for staff and consultant involvement and other costs would need to be estimated as per the norms of the program.

### 4. Mechanism for Effective Implementation of FEMMP

**Existing program implementation mechanism** reveals that:

- Program implementation follows an AWP developed in a participatory manner jointly with stakeholders/beneficiaries and consortium partner staff at landscape and central level;

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<sup>7</sup> They are FC inventory training, support to AEPC and BSP, nursery establishment, plantation support, CFOP revision, developing 2<sup>nd</sup> gold standard biogas, and biogas PDD validation

<sup>8</sup> They are biogas promotion, fire line maintenance, support to reduce D and FD, leasehold forestry promotion, piloting of cardamom, turmeric and ginger cultivation in CF

<sup>9</sup> They are bamboo based handicraft, agro-enterprises and Swertia cultivation promotion, IGAs and sub-watershed management activities

- Some activities e.g. policy, research, assessments, studies, capacity building are implemented directly from the program office in Kathmandu. Field level activities are implemented by consortium partners and by other partners including GoN agencies and beneficiary/users committees with the technical and funding support from relevant consortium partners and their field staff, and selected service provider companies, CFCCs and NGOs in coordination with Landscape Office;

### **Proposed mechanism for the implementation of FEMMP**

- Prepare annual EMMP at landscape level for site level specific activities included in the FEMMP with specific mitigation actions recommendation to meet the elaborated IEE conditions. The program office will ensure EMMP is prepared at landscape level and funding is made available for its implementation.
- Link the planning and implementation of annual EMMP with that of the AWP including the responsibility, timeline, budget etc. as is practiced.
- Responsibility of implementing the relevant EMMP actions should remain with the consortium partner/staff and other partners responsible for implementing the activity with which the specific mitigation action is associated.
- Ensure annual EMMP implementation is in synergy with AWP implementation.
- Backstop the EMMP implementation and monitor as done in case of AWP with clear responsibility and timeline specified in FEMMP and annual EMMP. It is proposed to keep the participatory monitoring at community level and progress monitoring at landscape level consortium partners' and program level staff the same.
- Report the status of EMMP implementation together with that of AWP progress reporting.
- Thematic Coordinators together with Landscape Coordinators will be responsible for monitoring the effectiveness and adequacy of mitigation actions as per FEMMP and as applicable.
- At the sub-IR and IR level the effectiveness monitoring of randomly selected mitigation actions should be done and/or cross-checked by the M&E Coordinator/unit on quarterly basis.
- Environmental compliance reporting should be done together with quarterly/periodic progress reporting by the M&E unit based on the assessment of the incoming EMMP progress/monitoring reports from two landscape and component coordinators including the findings of unit's own effectiveness monitoring missions.

## **5. Mechanism for Effective Coordination among Consortium Partners**

### **Existing Coordination mechanism**

For smooth implementation of the program, both landscapes have landscape level offices in the leadership of a Landscape Coordinator. Additionally, each consortium partner has a team of field staff led by a team leader. Once the joint AWP is finalized, the landscape level activities are implemented by respective consortium partners' landscape team, and their team leaders with reporting on a quarterly basis directly to the M&E Coordinator at Hariyo Ban Program office.

CHAL as a landscape is new for all consortium partners however, NTNC, FECOFUN and CARE have been working in most districts and places of this landscape since a long time. Hariyo Ban Program is on its way to developing an in-depth understanding of river basins, watersheds and sub-watersheds for desired level of intensive and sustainable impact in CHAL. So Hariyo Ban Program consortium partners are working to establish an appropriate efficient coordination mechanism and develop synergy in activities implementation through:

- Monthly, quarterly and bi-annual coordination meetings, frequently at site levels and occasionally at river-basin and landscape levels to review and plan the implementation of activities;
- Informal contact between staff from all consortium partners to share and support each other on program matters as and when required.

Nevertheless, some areas of improvement suggested here should be considered for effective coordination and communication, e.g.:

- ✚ The landscape office should receive all partners' quarterly progress related data/information from the program office for documentation and follow-up purposes. The reason being it does not exist in loop of consortium partner team leader's quarterly progress reporting. This poses limitations in timely coordination and communication;
- ✚ FECOFUN has been given the responsibility from WWF of promoting biogas in CHAL. However, the field staff during consultation in Gorkha informed the consultant that all consortium partners are involved in all program activities in different sites though they avoid possible activity overlap in same community. Whatever be the case, the knowledge of program implementation responsibility and coordination mechanism must be uniform among field staff of all consortium partners;
- ✚ Involvement of different facilitating agencies in one single activity also bears the risk of creating confusion among target beneficiaries. Facilitating agencies involved in biogas for instance are CFUG, local cooperatives, a biogas company and one consortium partner at the local level and program office, AEPC and BSP from central level. Biogas companies are said

to have often not performed according to the given responsibility, and have refrained from being accountable to their clients – the biogas installing households. These aspects need timely correction.

WWF Nepal has been working in TAL well before Hariyo Ban Program kicked off. Buffer zones around protected areas have well established buffer zone committees. The BZC is the apex body of BZC-FUUGs that works as their moderating agency. A Buffer Zone Development Plan is prepared and implemented in close coordination with concerned park authorities. Coordination for Hariyo Ban Program in this case has got integrated within the existing program delivery mechanism of protected areas and buffer zone program implementation. As regards to other contiguous forest corridors where Hariyo Ban Program is being implemented, there exists institutionalized Community Forestry Coordination Committees. These CFCCs take the lead in joint/coordinated annual planning of Hariyo Ban Program activities, coordinate among the CFUGs and community based anti-poaching units, locally active youth clubs and other NGOs for the cause of conservation and development. They also coordinate with district level government and development agencies on behalf of CFUGs. WWF and CARE provide funding to CFCCs for selective activities in certain districts based on contracts signed as per the AWP, and their field staff provides technical assistance at target beneficiary's level. Working through CFCCs in TAL has advantages from three different perspectives:

- It is claimed to have contributed in fostering good governance at target beneficiary's level;
- The roles of supporting consortium partners is clear as they become involved in providing technical assistance;
- This modality is claimed to be effective in keeping local stakeholders well informed and target beneficiaries empowered.

### **Proposed mechanism for improving coordination and communication among consortium partners**

- Institutionalize a simple quarterly progress reporting, progress review and sharing meeting mechanism at landscape level program office. This is expected to increase the effectiveness of sharing, learning, joint monitoring and progress reviewing processes at landscape level;
- Ensure the regularity and consistency of existing site and river-basin level periodic coordination meetings;
- CFs in hilly areas are functioning in isolation with each other despite the fact that all CFs located in one sub-watershed hold ecological similarities and huge potentialities of economy of scale deemed crucial for business oriented scientific management of forest and associated

resources. Future of CF management lies in maximizing the productivity of all natural resources based products and services available from CF areas, and creating niche for community-private partnership in developing green economy. Such a strategic orientation of CF management is possible through:

- Networking of CFUGs in identified sub-watersheds,
- Enabling them to develop and implement a joint strategic periodic plan for all CFs in single sub-watershed. Such a strategic plan should be geared at making the maximum out of the existing ecological similarity and potentiality of the existing economy of scale.

Although the district and range post level FECOFUN chapters are in place to move CFs in a sub-watershed in this direction, they are neither oriented nor seem to have desired motivation to do so. Moreover, CFUGs located in one sub-watershed are better placed to realize their common strength and potentiality and get motivated to move in this direction.

- Consider exploring possibilities of institutionalizing something similar to CFCC at least as a pilot program in identified sub-watersheds of CHAL as it fits well with the integrated outcome of its three components (SFM, REDD+, adaptation, biodiversity conservation, watershed resilience and over all the livelihoods improvement). This is expected to not only increase the effectiveness of coordination and communication in immediate term, but also to create a niche for consortium partners to plan and work towards sustainable landscape management even after the phasing out of the Hariyo Ban Program.
- Involvement of all consortium partners in all program activities even though in different sites involves differences in modality of assistance. This is likely to cause confusion at beneficiary's end. It also bears the risk of unintended competition among field staff while they need to cooperate with and support each other. Effective coordination demands clarity in roles of all players perceived at the client's end as well.
- Organization of at least two landscape level team building workshops every year for consortium partner staff with focus on enhancing coordination, and the quality and standard of program delivery is expected to contribute in fostering and maintaining enhanced communication and coordination;

## **6. Training Needs and Training Package Associated with Planning and Implementation of FEMMP**

Majority of consortium partner field staff come with a NRM background. They have basic understanding of the inter relationship between forest, soil, water, and human wellbeing. Most of

them have basic knowledge of vulnerabilities induced due to changing climatic trends and their impact on forest, aquatic and agro-ecosystems and people's livelihoods<sup>10</sup>.

The desired level of knowledge and skills for them in this case will be impact assessment and mitigation planning. They need to learn the concepts of impact of management interventions, mitigation and approaches to mitigation planning and monitoring. They also need to demonstrate the ability to interpret and analyze the relevant environmental policies, acts and regulations with regards to impact identification and environmental assessment, and skills needed for mitigation and monitoring planning and implementation.

A five-day training package is proposed below to address the afore-mentioned training needs. This package could be adjusted and reduced to a three-day program based on availability of time and resources.

It is recommended to circulate the training package two weeks in advance to the potential participants and request them to suggest if the training package will help them develop EMMP or they would like to subtract and add some topics to be able to prepare and implement an EMMP. The training content could then be adjusted to a possible extent depending on the available time and resources.

It is proposed that this training be organized during the AWP exercise at landscape level. This will provide an opportunity to the landscape level team of field staff with technical background to engage in a hands-on exercise of preparing the EMMP of the AWP they engage in preparation.

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<sup>10</sup> Refer to the report on findings of the field visit provided separately

## Proposed Training Package

### **Training on Environmental Assessment, and Mitigation and Monitoring Planning (A 5-Day Course for Hariyo Ban Program Consortium Partners' Field Staff)**

**Training Objective:** To prepare the consortium partners' field staff to undertake impact assessment of HBP activities, and prepare and implement annual EMMP

**Learning Objective:** The participants will be able to:

- 1) Explain a) concept of environmental effects and their assessment with respect to development interventions; b) concept, principles, hierarchies and approaches of mitigation, c) concept of mitigation planning and monitoring the mitigation action including criteria and indicators;
- 2) Demonstrate knowledge of Nepal's environmental policies, acts and regulations with respect to environmental assessment and mitigation
- 3) Develop an EMMP of the annual work plan of Hariyo Ban Program or demonstrate skills required for it;

#### **Training Content**

1. Concept of dynamic nature of environment, climate change impacts on ecosystems, life forms and livelihoods; impact of development interventions, impact identification and environmental assessment; positive and negative changes in i) bio-physical conditions, ii) structure and function of ecosystems, iii) human wellbeing, iii) social and gender relationships
2. Definition of technical terms associated with EMMP e.g., impact – scope, coverage, intensity, magnitude, frequency, benchmark, compliance, ecological restoration, mal-adaptation, indicators, effectiveness etc.
3. Nepal's natural resources related policies and strategies -forests, biodiversity, wildlife, water, climate change agriculture, tourism; environmental policies e.g. climate change, environment protection acts, regulations and guidelines;
4. Mitigation – concept, purpose, main elements, principles of mitigation application, framework for systematic identification of mitigation measures,
5. Mitigation and monitoring planning – Determinants of effective mitigation and monitoring (e.g., targeted, preventive, realistic, implementable, adequacy of funds etc.), defining IEE conditions, selecting mitigation actions, defining indicators of implementation, defining indicators of effectiveness of mitigation actions, clarifying responsibilities of implementing mitigation actions and monitoring the implementation, clarifying responsibilities of monitoring the effectiveness and adequacy of mitigation actions
6. Hands-on exercise on preparation of annual EMMP of field site level activities that need mitigation actions.

## 7. Environmental Compliance Reporting Arrangements

The IEE factsheet for Hariyo Ban Program provided by the USAID (page 26, point 4) states that *“..... the recipient will employ a qualified, MEO-approved, part-time Environmental Impact Professional who will assess and recommend environmental actions for each planned activity under each objective that falls within the NDC category and will coordinate implementation of mitigation measures, monitoring and reporting. The EIP, with support and guidance from designated AOTR, will complete the Environmental Assessment Checklist, provided in Annex 1 for all specific activities with their potential impact on environment and recommend possible mitigation measures. This checklist will be shared with field staff and followed while implementing activities in the field.”*

The consultant, in this case understood as the EIP, has prepared and submitted the FEMMP for Hariyo Ban Program with this report. This FEMMP contains the three basic elements of EAC mentioned in Annex 1 of IEE factsheet: i) planned activities, ii) potential adverse environmental/social impacts, and iii) recommended mitigation measures. This FEMMP is subject to approval by concerned authorities. After approval, annual EMMP will have to be prepared, resourced and implemented as indicated in the text underlined above. It is evident that it is too early to prepare an environmental compliance report at the FEMMP preparation stage.

In the context of environmental compliance, the IEE fact sheet (page 31, paragraph iii) states that *“The environmental compliance status of the project will be prepared periodically during the implementation by means of routine site visits by the EIP, AOTR and other responsible USAID staff. Any required correction in the implementation will be made on the basis of these findings and in accordance with the environmental guidelines. A sample Environmental Assessment Compliance Checklist has been provided in Annex – 2 for this purpose”* This statement further clarifies that an environmental compliance report is neither expected nor possible at this stage.

Hariyo Ban Program Cooperative Agreement (page 8, point 8) further clarifies that *“an environmental compliance report should be a regular feature of the quarterly progress reporting”*.

On the above grounds the consultant suggests that once the FEMMP is approved, an EMMP of the current fiscal years AWP be prepared, resourced and implemented. The next step will be to compile the implementation status of EMMP, verify and report together with the periodic progress report. This could be done either by the M&E unit or by procuring the services of a part-time consultant EIP as mentioned in the IEE factsheet (page 26, point 4).

## 9. References

1. BSP Nepal, 2005: Environmental Mitigation and Monitoring Plan, Biogas Sector Partnership Nepal.
2. GoN, 2011: Climate Change Policy of Nepal (unofficial translation), Ministry of Environment, Science and Technology, Kathmandu, Nepal.
3. GoN, 2010: National Adaptation Program of Action to Climate Change. Kathmandu, Nepal.
4. Hariyo Ban Nepal Ko Dhan Program, Technical Application (RFA-367-11-000001)
5. Initial Environmental Examination Factsheet For Hariyo Ban Program , USAID NEPAL
6. ENCAP Factsheet – Environmental Mitigation and Monitoring Plans, USAID Nepal
7. Hariyo Ban Program FY1 - 2012 Annual Work Plan
8. Hariyo Ban Program FY 2 – 2013 Annual Work Plan
9. List of Hariyo Ban Program Year II Activities categorized under NDC
10. MCC/USA, 2007: Guidelines for Environment and Social Assessment. Guidance for Compact Eligible Countries, 2007, Reducing Poverty through Growth, Millennium Challenge Corporation, USA
11. Nepal Environment Protection Rules, 1997
12. Nepal Environment Protection Act, 1997
13. Bhatta, R and Khanal S.N. (2009): Environmental Impact Assessment System in Nepal: An Overview of Policy, Legal Instruments and Process; Kathmandu University Journal of Science, Engineering and Technology, Vol.5, No. II Sept. 2009.
14. The Glacier Trust, 2012: Forest Conservation and Improved Cooking Stoves Program, phase 2 Interim Report.
15. [www.encapafrika.org](http://www.encapafrika.org): Principles of Environmental Mitigation and Monitoring. USAID staff Environmental Training, Tanzania, 2008
16. [www.gov.bc.ca/emv/emop](http://www.gov.bc.ca/emv/emop): Procedures for Mitigating Impacts on Environmental Values. Working Draft, 2012
17. All relevant International/Multilateral Environmental Agreements/Conventions/Accords mentioned in this report downloaded and reviewed from websites.
18. Hariyo Ban Program related relevant documents e.g.,
  1. Hariyo Ban Nepal Ko Dhan Program RFA 367-11-000001 Technical Application
  2. WWF- Hariyo Ban Award Final, 2011
  3. Hariyo Ban Program Year 1 Annual Work Plan, 2012
  4. Hariyo Ban Program Year 2 Annual Work Plan, 2013
  5. Hariyo Ban Program, Monitoring and Evaluation Plan, Revised version 2012

## **ANNEX 1: FORESTRY SECTOR PROJECTS THAT REQUIRE IEE AND EIA**

### **Environment Protection Rules, 1997**

#### **Schedule -1 (Pertaining to Rule 3): Forestry Sector Proposals Requiring IEE**

- 1) Plantation of indigenous plants of a single species in a single block of 50-100 hectares in the Terai and 25-50 hectares in the Hills.
- 2) Plantation of such imported species of plants as are deemed suit for the purpose, following their test in the concerned place, on a single block of 10-50 hectares in the Terai and 5-25 hectares in the Hills.
- 3) Handover of forests with an area ranging between 25-100 hectares in the Terai and 5-25 hectares in the Hills as leasehold forests.
- 4) Clear feeling or rehabilitation of national forests with an area of not more than 5 hectares.
- 5) Establishment of saw-mills with capacity to process 5,000-50,000 cubic feet of timber per year.
- 6) Collection of 5-50 tons of non timber forest products per year.
- 7) Establishment or expansion of national parks, wildlife sanctuaries and conservation areas or environmental conservation zones.
- 8) Coppicing shoots of foots of trees which have been felled, removal of leaves (in such a manner as to turn trees into stumps), extraction of seeds of lichens or orchids from trees and collection of Sal (*Shorea robusta*) seeds.
- 9) Formulation of watershed management plans.
- 10) Construction of new botanical gardens or zoos outside the forest areas by the public or private sector.
- 11) Reestablishment of imported wildlife of various species.
- 12) Preparation of management plans of national parks, wild life sanctuaries, conservation areas and their buffer zones or launching of development and construction activities specified in such plans.
- 13) Establishment of medicinal herbs centers for commercial production of medicinal herbs and aromatic plants in public scrubland.
- 14) Commercial collection or industrial processing of non-polluting medicinal herbs and aromatic plants.
- 15) Construction of forest paths up to 5 kilometer in length and of fire protection lines up to 10 kilometers in length.
- 16) Collection of boulders, gravel and sand and extraction of coal and other minerals from forest areas.

#### **Schedule 2: Forestry Sector Proposals requiring EIA**

- 1) Plantation of indigenous plants of a single species in a single block covering an area of more than 100 hectares in the Terai and 50 hectars in the Hills.
- 2) Plantation of such imported species of plants that are deemed suitable for the purposes, following their test, in the concerned place, in an area of more than 50 hectares in the Terai and 25 hectares in the Hills

- 3) Handover of forests with an area of more than 100 hectares in the Terai and 25 hectares in the Hills as leasehold forests.
- 4) Clear felling or rehabilitation of forests with an area of more than 5 hectares.
- 5) Establishment of saw-mills processing more than 50 cubic ft. of timber per year.
- 6) Collection of forest related products except more than 50 tons of wood.
- 7) Formulation and implementation of forest management plans.
- 8) Clearing of public forests and establishment of new medical herbs center for commercial production.
- 9) Rosin and Turpentine, Rubber, Plywood and Veneer, Catechu, and timber-based matches, pulp and paper industries to be established within 1 kilometer inside the forest area that depend on forests for their raw material, and use processing techniques, and Cardamom and medium and large tea industries which use large quantities of firewood.
- 10) Commercial and industrial processing of medicinal herbs and aromatic plants which produce garbage and emit pollution.
- 11) Establishment of saw-mills, bricks and tiles factories and tobacco processing industries within 5 kilometers from the forest boundaries.
- 12) Establishment of hotels, resorts, safaris, educational institution, hospital and industries of other construction activities inside forest areas, national parks, sanctuaries, conservation areas, buffer zones and environment conservation zones.

**ANNEX 2: IMPACT SCORING CHECKLIST AND FILLED IN CHECKLISTS**

**Impact Scoring Checklist**

**(To be filled by program and consortium staff in the field)**

- **This checklist is to be filled for only those activities that are likely to have significant adverse impact on environment and/or society and require mitigation measures.**
- **Program/consortium partners staff are requested to kindly take time out and fill this checklist for the activities listed for potential adverse impact**

**Landscape:----- Site:-----**

**Responsible staff/partner..... Implementing**

<b>Planned Activity</b>	<b>Potential Effects</b>	<b>Affected</b>	<b>Time scale</b>	<b>Magnitude</b>	<b>Probability of Occurrence</b>	<b>Mitigation</b>
Activity 1			Short term or Permanent	Local or wide spread	Low, medium or high	Yes or No
	Effect 1	Human beings				
	Effect 2	Flora/fauna				
	Effect 3	Soil and air				
	Effect 4	Water/wetlands				
	Effect 5	Ecosystem processes/function				
	Effect 6	Physical infrastructure				
	Effect 7	Gender and social aspects				
	Effect 8	Other indirect/secondary impact				
Activity 2						

## 1. Impact Scoring Checklist

(To be filled by program and consortium staff in the field)

**Landscape: Terai Arc Landscape    Site: Chitwan**

**Responsible Implementing staff/partner: WWF**

Planned Activity	Potential Effects	Affected	Time scale	Magnitude	Probability of Occurrence	Mitigation
			Short term or Permanent	Local or wide spread	Low, medium or high	Yes or No
Grants to local communities for biogas plant establishment in CHAL (650), Toilet construction support in TAL (1500)						
	Creates hassles	Human beings	Short term	Local	Medium	Yes
	Fodder highly needed	Flora/fauna	Permanent	Local	Medium	Yes
	NA	Soil and air	NA	NA	NA	NA
	Water requiring plant	Water/wetlands	Permanent	Local	Low	No
	Pressure on forest for fodder	Ecosystem processes/functions	Short term	Local	Low	Yes
	NA	Physical infrastructure	NA	NA	NA	NA
	Women work load increased	Gender and social aspects	Short term	Local	Medium	Yes
	NA	Other indirect/secondary impact	NA	NA	NA	NA
ICS, smoke hood/metal stove, iron prayer flag establishment support						
	Less cost effective	Human beings	Short term	Local	High	Yes
	Decreased in forest density	Flora/fauna	Permanent	Wide spread	High	Yes
	Soil degradation	Soil and air	Permanent	Wide spread	High	Yes

Planned Activity	Potential Effects	Affected	Time scale	Magnitude	Probability of Occurrence	Mitigation
			Short term or Permanent	Local or wide spread	Low, medium or high	Yes or No
	and low air quality					
	NA	Water/wetlands	NA	NA	NA	NA
	It has negative impact on forest ecosystem	Ecosystem processes/functions	Permanent	Wide spread	High	Yes
	NA	Physical infrastructure	NA	NA	NA	NA
	Work load to women	Gender and social aspects	Short term	Local	Medium	Yes
	NA	Other indirect/secondary impact	NA	NA	NA	NA
Green enterprise development support	Work load increase	Human beings	Short term	Local	Medium	Yes
	Demand increase	Flora/fauna	Short term	Local	Medium	Yes
	NA	Soil and air	NA	NA	NA	NA
	NA	Water/wetlands	NA	NA	NA	NA
	NA	Ecosystem processes/functions	NA	NA	NA	NA
	NA	Physical infrastructure	NA	NA	NA	NA
	Women work load increase	Gender and social aspects	NA	NA	NA	NA
	NA	Other indirect/secondary impact	NA	NA	NA	NA
Ghariyal						
	NA	Human beings	NA	NA	NA	NA
	NA	Flora/fauna	NA	NA	NA	NA
	NA	Soil and air	NA	NA	NA	NA
	NA	Water/wetlands	NA	NA	NA	NA
	NA	Ecosystem processes/functions	NA	NA	NA	NA
	NA	Physical	NA	NA	NA	NA

Planned Activity	Potential Effects	Affected	Time scale	Magnitude	Probability of Occurrence	Mitigation
			Short term or Permanent	Local or wide spread	Low, medium or high	Yes or No
		infrastructure				
	NA	Gender and social aspects	NA	NA	NA	NA
	NA	Other indirect/secondary impact	NA	NA	NA	NA
HWC mitigation						
	NA	Human beings	NA	NA	NA	NA
	Narrow down of wildlife movement	Flora/fauna	Permanent	Local	Low	Yes
	NA	Soil and air	NA	NA	NA	NA
	NA	Water/wetlands	NA	NA	NA	NA
	NA	Ecosystem processes/functions	NA	NA	NA	NA
	NA	Physical infrastructure	NA	NA	NA	NA
	NA	Gender and social aspects	NA	NA	NA	NA
	Financial burden for regular maintenance of electric fence	Other indirect/secondary impact	Short term	Local	Medium	Yes
Mechanism for biological control						
	Effects on humans health	Human beings	Permanent	Wide spread	High	No
	Destruction of indigenous plants and wild animals	Flora/fauna	Permanent	Wide spread	High	No
	Reduction in the quality of	Soil and air	Permanent	Wide spread	High	No

Planned Activity	Potential Effects	Affected	Time scale	Magnitude	Probability of Occurrence	Mitigation
			Short term or Permanent	Local or wide spread	Low, medium or high	Yes or No
	soil and air					
	Destruction of aquatic animals and wetland ecosystems	Water/wetlands	Permanent	Wide spread	High	No
	Destruction of ecosystem functions	Ecosystem processes/functions	Permanent	Wide spread	High	No
	NA	Physical infrastructure	NA	NA	NA	NA
	NA	Gender and social aspects	NA	NA	NA	NA
	NA	Other indirect/secondary impact	NA	NA	NA	NA
Promotion of community managed tourism						
	Effect 1	Human being				
	Diminished wilderness of wildlife	Flora/fauna	Permanent	Local	Medium	Yes
	NA	Soil and air	NA	NA	NA	NA
	Effect 4	Water/wetlands				
	Disturbed forest ecosystem	Ecosystem processes/functions	Permanent	Local	Medium	Yes
	Road damage	Physical infrastructure	Short term	Local	Medium	Yes
	Destruction of local culture	Gender and social aspects	Permanent	Local	High	Yes
NA	Other indirect/secondary impact	NA	NA	NA	NA	

**Impact Scoring checklist filled in**

**Landscape: Chitwan Annapurna Landscape Site:-----**

**Responsible Implementing staff/partner- Respective field staffs of consortium partner.**

<b>Planned Activity</b>	<b>Potential Effects</b>	<b>Affected</b>	<b>Time scale</b>	<b>Magnitude</b>	<b>Probability of Occurrence</b>	<b>Mitigation</b>
Activity 1,			Short term or Permanent	Local or wide spread	Low, medium or high	Yes or No
Fire line maintenance in CF	Effect 1	Human beings				
	Effect 2	Flora/fauna	Short term	Local	Low	Yes
	Effect 3	Soil and air	Short term	Local	Low	Yes
	Effect 4	Water/wetlands	Short term	Local	Low	Yes
	Effect 5	Ecosystem processes/functions				
	Effect 6	Physical infrastructure				
	Effect 7	Gender and social aspects				
	Effect 8	Other indirect/secondary impact				
Activity 2	Effect 1	Human beings				
Leasehold Forestry Development in CF	Effect 2	Flora/fauna	Short term	Local	Low	Yes
	Effect 3	Soil and air	Short term	Local	Low	Yes
	Effect 4	Water/wetlands	Permanent	Local	Low	Yes
	Effect 5	Ecosystem processes/functions	Short term	Local	Low	Yes
	Effect 6	Physical infrastructure				
	Effect 7	Gender and social aspects	Short term	Local	Low	Yes

	Effect 8	Other indirect/secondary impact				
Activity 3	Effect 1	Human beings				
Piloting of Cardamom, Turmeric, Ginger, Broom grass cultivation in CFUG to poor (leasehold forestry concept)	Effect 2	Flora/fauna	Sort term	Local	low	Yes
	Effect 3	Soil and air				
	Effect 4	Water/wetlands	Short term	Local	Low	Yes
	Effect 5	Ecosystem processes/functions	Short term	Local	Low	Yes
	Effect 6	Physical infrastructure				
	Effect 7	Gender and social aspects	Short term	Local	Low	Yes
	Effect 8	Other indirect/secondary impact				
Activity 4	Effect 1	Human beings				
Green enterprise development support	Effect 2	Flora/fauna				
	Effect 3	Soil and air				
	Effect 4	Water/wetlands	Short term	Local	Low	Yes
	Effect 5	Ecosystem processes/functions	Short term	Local	Low	Yes
	Effect 6	Physical infrastructure				
	Effect 7	Gender and social aspects	Short term	Local	Low	Yes
	Effect 8	Other indirect/secondary impact				
Activity 5	Effect 1	Human beings				
Promotion	Effect 2	Flora/fauna	Short	Local	Low	Yes

of community managed tourism			term			
	Effect 3	Soil and air				
	Effect 4	Water/wetlands	permanen t	Local	low	Yes
	Effect 5	Ecosystem processes/functio ns				
	Effect 6	Physical infrastructure				
	Effect 7	Gender and social aspects				
	Effect 8	Other indirect/secondary impact				

### **ANNEX 3: CHECKLIST FOR INFORMATION GENERATION AT LANDSCAPE LEVEL**

***Method: Focus Group Discussion with a group of 8 field staff (two from each consortium partner field office) in each landscape***

#### **Planning, implementation, coordination and communication**

1. Which partner implements what activities in landscape? How is the progress reported from field to partner's HQ and to Program Office?
2. How are the partners' field offices supported by their respective HQ/focal points and the Component Coordinators in the Program Office? To whom do the field offices report on issues and achievements of annual plan implementation?
3. How do the partner staffs coordinate among each other and with the program office in course of annual plan implementation?
4. What kind of coordination and communication related issues/bottlenecks have surfaced over the period, if at all and how have they been sorted out?
5. What do partner field staff think should be done to improve the communication and coordination among consortium partners in the field as well as in the center?

**Staff expertise field, environmental and social impacts related knowledge and skills, willingness and time availability to prepare site specific mitigation plans and implement it.**

6. Staff in each partners' field offices – social science/natural science professionals
7. How much work load do they think they presently have - too much, manageable, not enough?
8. Previous academic/training experiences of environmental/social impacts of development activities, CC impacts in each partner's team.
9. How many of them think they can assess the impacts of development activities and plan and implement the mitigation actions if they are asked to do so.
10. If they have a training opportunity, what do they think they must learn to be able to identify potential adverse impacts of program activities on environment, biodiversity and human beings and plan/implement the appropriate mitigation measures?

### **1. Environmental Impact Scoring Matrix Filling in Exercise**

This will be confined to activities that are likely to have significant adverse impact e.g. biogas, toilet, power fencing, species re-introduction, those that staff members think are likely to have adverse impacts.

- 1) The consultant will circulate the matrix to the group of staff gathered for FGD,
- 2) Explain each part of the matrix, respond to queries as they emerge in the group
- 3) Request them to score the activities they are responsible to implement and identify potential significant impacts.

### **2. Site visit and informal interaction with beneficiary group representatives/LRPs**

Visit sites that have activities identified as bearing the risk of having significant adverse impact. However, it would be even better to visit places where more than one activity is being implemented.

Informal interaction with beneficiary group representatives especially on their awareness about the positive and negative impacts of activities could be useful.

## **ANNEX 4: FRAMEWORK ENVIRONMENTAL MITIGATION AND MONITORING PLAN OF HARIYO BAN PROGRAM**

**(Provided separately in a MS Excel file)**

## **ANNEX 5: TERMS OF REFERENCE**

### **Prepare FEMMP and recommend overall mechanism of environmental compliance for Hariyo Ban Program activities**

#### **1. Background**

Hariyo Ban Program is a 5 year program that aims to reduce adverse impacts of climate change and threats to biodiversity in Nepal. Its objectives are to:

- Reduce threats to biodiversity in target landscapes (Intermediate Result 1)
- Build the structures, capacity and operations necessary for effective sustainable landscape management, with a focus on REDD+ readiness (Intermediate Result 2)
- Increase the ability of targeted human and ecological communities to adapt to the adverse impacts of climate change (Intermediate Result 3).

Hariyo Ban Program has three cross-cutting themes: livelihoods, governance, and gender and social inclusion. It will operate in two overlapping landscapes (see map1):

**Terai Arc Landscape in Nepal (TAL):** stretching from the Bagmati River in the east to the border with India in the west.

**Chitwan-Annapurna Landscape (CHAL):** encompassing the Kali Gandaki river basin in Nepal.

Hariyo Ban Program is being implemented by a consortium of NGOs: World Wildlife Fund (lead), Cooperative for Assistance and Relief Everywhere, National Trust for Nature Conservation, and the Federation of Community Forestry Users in Nepal. The Government of Nepal (GoN) is a key partner and beneficiary of Hariyo Ban Program, as are local communities.

While most of Hariyo Ban Program's activities will have a strongly positive impact on the environment, there may be some that will have direct, indirect or cumulative negative impacts, in the short or long term, if mitigation measures are not planned in advance and implemented parallel to the activity itself. There may also be adverse social impacts from some activities.

Hariyo Ban Program is commissioning this consultancy to devise mitigation measures for activities having potential negative impacts on environment and society and ensure overall compliance to both national and international environmental obligations. The consultant needs to follow special procedures prescribed by USAID. The consultant will be provided with relevant documents forwarded by USAID.

The consultant will prepare a FEMMP for each category of activities that could have negative environmental and/or social impacts, and make sure that the plans so prepared are appropriate and sufficient to adhere to environmental compliance. The consultant will also recommend a mechanism for timely implementation and monitoring of the planned mitigation measures.

## 2. Objectives

**Prepare FEMMP and recommend overall mechanism in Hariyo Ban Program (between center and field; and among consortium partners) for sufficient and effective environmental compliance.**

Specific objectives of the work are:

- Review the AWP and prepare FEMMP in collaboration with Hariyo Ban Program core team and consortium partners for each category of activities that might have negative environmental and/or social impact
- Recommend an overall mechanism between center and field for sufficient and effective implementation of mitigation measures, timely feedback, monitoring and reporting system
- Recommend effective communication and coordination mechanism among consortium partners for sharing their concerns, best practices and lesson learnt in environmental compliance
- Recommend a mechanism for ensuring environmental compliance of the activities under windows of opportunity funds

## 3. Supervision and Coordination:

The consultant will be supervised by Judy Oglethorpe, Chief of Party, Hariyo Ban Program. Anjana Shrestha, Program Associate, will be responsible for ensuring environmental compliance in Hariyo Ban Program and the consultant will closely work with her. The consultant will also closely work with all four consortium partner organizations (WWF, CARE, NTNC and FECOFUN). Members of the core team will include:

Shant Raj Gyawali, Biodiversity Conservation Coordinator  
Keshav Khanal, Sustainable Landscape Coordinator  
Sunil Regmi, Climate Change Adaptation Coordinator  
Shikha Shrestha, Gender and Social Inclusion Coordinator  
Rajendra Lamichhane, Monitoring and Evaluation Specialist  
Dipesh Joshi, Program Officer, Grants and Internships

The consultant will also consult as needed with the Hariyo Ban Program Agreement Officer's Representative, USAID.

#### **4. Activities/Methodology**

The consultant will undertake the following tasks:

1. Review the updated AWP and IEE created by the Hariyo Ban Program team to ensure that all activities in the three thematic components, plus cross-cutting and overarching activities that might have negative environmental and/or social impact are identified.
2. Group activities having potential for significant negative impact on environment and/or society into various categories. For each category, list all possible significant direct, indirect or cumulative negative impacts, in the short or long term.
3. Undertake brief field visit to TAL and CHAL to visit a selection of activities that may cause significant negative environmental impact.
4. Prepare FEMMP for each category against the list of the potential significant negative impacts.
5. Recommend a mechanism between center and field staff for both TAL and CHAL and for all four consortium partners for-
  - i. Sufficient and effective implementation of mitigation measures
  - ii. Bottom-up feedback mechanism
  - iii. Monitoring and reporting systems.
6. Recommend effective communication and coordination mechanism among consortium partners for
  - i. Sharing concerns in the processes/steps of environmental compliance
  - ii. Sharing best practices and lesson learnt
7. Recommend a mechanism to be established for ensuring environmental compliance of the activities under window of opportunity
8. Recommend any training that may be needed for Hariyo Ban Program core team or consortium partners in assessing and mitigating impact in accordance with both national and international environmental obligations.
9. Estimate budget required for implementing mitigation and monitoring plan of each category of activity. Also indicate and estimate where additional funds are needed for environmental compliance as prescribed by USAID

10. Prepare environmental compliance report for submission to USAID and for use by Hariyo Ban Program and its consortium partner organizations.

### 5. Deliverables

S.N	Deliverable from the consultant	Due Date	Inputs from Hariyo Ban Program
1	Written inception report and presentation to HBP	5 days after signing contract	HBP will provide comments on the inception report within 3 working days
2	Draft report outline	Within 5 working days after inception presentation	HBP will provide comments on the draft report outline within five working days
3	Field visits to TAL and CHAL	Complete field visits within 10 days after submitting draft report outline	
4	Draft report presentation and submission to HBP consortium partner organizations	Within 7 days of completion of field visits	HBP will provide comments on the draft report within 5 working days
5	Submission of final report including all materials hard copy and electronic reports, publications, maps, web references etc obtained during the review	Within 10 days after draft report presentation and submission	
6	Prepare and submit environmental compliance report for submitting to USAID	Within 37 days after signing contract (environmental compliance report can be drafted parallel to the rest of the above mentioned steps)	

### 6. Duration and Time Frame

This consultancy will cover a period of 37 working days from the date of signing contract.

### 7. Branding and Marking

The consultant is required to follow branding and marking guidelines provided by Hariyo Ban Program

## **8. Consultant Expertise**

The consultant should have expertise in the following areas:

- Practical experience in environmental and social impact assessment across several disciplines that are relevant to the activities of Hariyo Ban Program in biodiversity conservation, REDD+, climate change adaptation, livelihoods, governance, and gender and social inclusion, including small-scale infrastructure.
- Experience in preparing mitigation and monitoring plans.
- Experience in establishing mitigation and monitoring mechanisms for complex programs involving multiple partners.
- Sound knowledge of national and international environmental obligations applicable to Nepal.

## **9. Location**

Kathmandu (centre) based with visits to CHAL and TAL