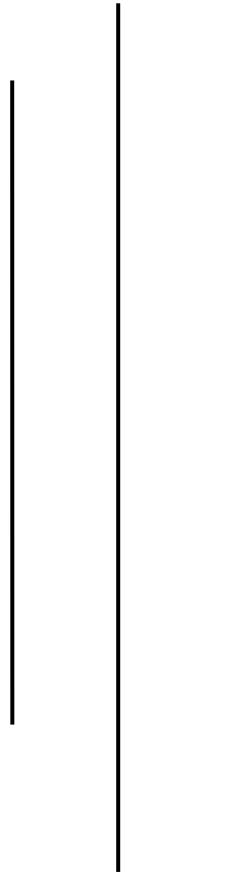


**Environmental Management Framework
For
Higher Education Reform Project
Nepal**



August, 2014

EXECUTIVE SUMMARY

Chapter 1 of the framework includes the general introduction of the HERP. The Project would comprise of two components, the first one supporting the implementation of critical reforms in the Government program and the second one focusing on technical assistance and project management to build system capacity. This chapter also explains in detail the need and purpose of the EMF, which is to comply with the related safeguard policies of the GoN and of the World Bank. The objectives of ESMF for HERP includes; determination of environmental and social issues associated with the program activities, conduct an environmental and social screening of the sample proposed sites to be supported by the project, identify potential environmental and social impacts associated at various stages of project implementation and recommend measures to mitigate impacts; carry out an analysis of various stakeholders associated with the project, identify their concerns with regard to environmental and social aspects, and recommend measures to mainstream these aspects into the project; on the analysis of above steps develop a framework for the project to ensure that environmental issues are effectively addressed in project design and implementation, and development of an institutional arrangement for mainstreaming environment and social management in project implementation processes. The results area (Systemic/ Institutional Reforms) would be supported through the following DLIs; DLI 1 – National Accreditation system established and functioning, DLI 2 - Performance based financing extended to universities and institutions, DLI 3 - Decentralization and autonomy extended to additional campuses and faculties, DLI 4 - Examination reforms implemented. DLI 5 is academic reforms and relevance which includes Percentage of targeted under-graduate and post-graduate programs revised and new programs introduced. DLI 6 is related to equity which covers Poverty targeted financial support for disadvantaged students, DLI 7 is related to Institutions supported for academic excellence in priority areas through Research, Development and Innovation (RDI) awards.

HERP also envisages following physical infrastructure related activities by the implementing agencies and the beneficiaries:

- Small constructions/revisions/repairs and refurbish involving shopping, sealed quotation and NCB. The constructions/repairs/refurbish may include classroom, library, toilets and septic tanks, drainage system, construction of water supply systems, construction of buildings, construction of laboratory, construction of access roads and, extracurricular facilities, etc.

Chapter 2 of the framework highlights the background information about the type of activities that will be covered by HERP in infrastructure development sector. The HERP recipient institutions will come from different zones of Nepal (i.e. mountain, hill and terai). The higher education institutions in each of the above ecological belts have the perceived risks based on the likelihood of occurrence in each belt. For example, institutions in Terai belt are more vulnerable to flood, earthquake, water quality (arsenic in water etc), fire hazard where as institutions in hills and mountain belt are more prone to landslides, earthquake, availability of water etc. The institutions in urban areas have problem of limited land, and availability of open spaces. Similarly, the institutions in urban areas are more prone to air and noise pollution. The planning of infrastructures for institutions in these three zones has not found effective in considering climatic factors in account while design and construction of facilities. Besides these, at an individual institution level, the availability and standard of physical facilities also differs. There is a good to poor category of physical infrastructure facilities in higher education institutions lying in all three belts. Some of the higher education institutions have good facilities, where as some institutions lacks basic facilities like adequate number of classrooms, toilets etc.

The EMF is directly related to the planning, construction, and operation of infrastructures constructed under HERP. Since the information regarding the nature, size and type of infrastructures to be supported under HERP is not quantified, identified / or available at this stage, EMF baseline has covered the type of infrastructures (considering the infrastructure available at participating institutions and likely support that will be through UGC). The types of construction under HERP ranges from minor to major. The analysis

of matching grants provided by Secondary Higher Education Project to participating institutions during 2007-2014 revealed that the UGC is supporting the institutions under various heading (with wide range of activities) from construction of turbine testing labs, construction of classroom, laboratory, renovation of classrooms, construction of administration block, renovation of water supply scheme, renovation of roof of building, support for fencing, construction of toilets, construction of campus gate, construction of guest house, construction of floor of campus building . These past UGC supports under SHEP are of varied types, and taking these supports in monetary terms, it ranges from couple of thousand rupees to several million rupees. With these past experiences, we can envisage that infrastructure components under HERP also support its participating institutions in similar way. Since the actual support to participating institutions under HERP is not known at this stage, the type of infrastructure support is envisaged based on the past projects like SHEP.

Chapter 3 of this document highlights the methodology used in preparing the EMF which includes the review of available data and information of HERP, review of plan, policies, and directives of UGC, National plan, policies in education sector in Nepal, Self Governance Act, Educational Act and Regulations, review of EMF prepared for SHEP, environmental management framework prepared by MoE/ DoE, UGC for other projects. During the preparation of EMF, expert level consultation were also conducted (the list of experts consulted during the preparation of EMF is included in annex 7 of this document).

Chapter 4 of EMF presents the review of the plan, policies, and legislations of GoN and safeguard policies of the World Bank applicable to HERP. For HERP, the EPA 1996/EPR 1997, Building Act (2007), National Building Code (2008) and other relevant acts are reviewed. Similarly regarding the standard, National Ambient Air Quality Standard (2060), National Drinking Water Quality Standards (2063) are also reviewed. The applicable education sector Act and policies are also reviewed in the report. Regarding the World Bank safeguard policies, OP/BP 4.01 is triggered because the activities/interventions proposed under HERP may have low impacts on the natural environment and human health. Similarly, The health and safety guidelines of WB group in particular Section 2.9 occupational health and safety monitoring, section 3.2 related structural safety of project infrastructure, section 3.3 related to life and fire safety, section 4.3 related to community health and safety are also reviewed and related applicable clauses are cited in the document.

Chapter 5 of this document elaborates the likely project impacts, risks and mitigation measures based on the activities envisaged for this project. The issues and impacts arise at the planning/pre construction, construction, and operation stages are elaborated in this document. Examples includes; assessment of landscape planning for construction of structures, assessment of structures prior adding another structures in it, water quality assessment prior design etc. Similarly, during construction the issues related to safe disposal of construction materials, issues related to water/air/noise pollution, health and safety of workers and students/teachers during construction of structures and mitigation measures are also proposed.

The issues related to generation of wastes and its management, health and hygiene, fire hazard, seismic hazard, etc are also identified and suggestive mitigation measures are proposed. The document has envisaged likely issues and risk as simple as proper housekeeping of construction materials to hazards associated with chemicals and batteries and its management for college laboratory.

The environmental screening process and person/entity responsible for doing such screening is elaborated in the document. This will be done during the selection of project and shall be an integral component of pre design phase. The detail screening checklist is included in annex 2. Environmental review/analysis of each relevant HERP component is required to flag likely environmental issues in the proposed activities. It is advisable to flag environmental issues in such components. Each component of HERP which are related to infrastructure development will go through environmental screening in order to identify relevant environmental concerns as well as suggest whether there is need for any further

investigation/assessment. The expert assigned from UGC will review the sub project, environmental setting, and propose environmental category, for this the participating institutions should furnish detailed information on environmental setting of the HERP supported project area. Based on the environmental risks perceived, the proposal may fall in one of the following four categories namely; Category I- Negative Listing of Sub-Projects: Sub-projects/ activities under HERP in the category of 'Negative Listing' (annex 4) shall be rejected during screening. Category II - Sub-Projects under HERP requiring EMP, the template is provided in annex 5 and sample is included in annex 6. HERP sub project which falls in Category III shall follow and adapt Code of Best Practices (which is enclosed in annex -3).

The compliance to the environmental processes as well as implementation of necessary mitigation measures/ actions will be monitored at different levels. Regular monitoring will be conducted by the recipient institutions and quarterly compliance monitoring by the implementing agencies (UGC/TU/SFAFDB) and by monitoring by independent consultants/experts at the midterm and at the end of the project. This chapter has also elaborated how the EMF will be implemented in HERP including the responsibility (of entity) for its implementation. The stages include preparation of EMF, approval processes, disclosure and its disseminations of EMF, integration of EMF in HERP. The environmental assessment and management (including screening, preparation of EMP), environmental monitoring and reporting are mentioned in tabular form.

The consultation and disclosure is one of the important components of EMF. Within the overall objective of efficient and effective environmental management in the proposed project, define the purpose and needs of consultations with various stakeholders during activity planning and implementation stages. Provide guidance on appropriate ways of holding consultations: whom to consult, why and how to consult, and what after consultation. The consultation was proposed and conducted during the preparation of EMF. The experts were consulted prior the preparation of EMF to obtain their views and ideas regarding EMF in HERP. During EMF implementation stage in HERP, range of formal and informal consultative methods will be carried out for all including, but not limited to: focus group discussions (FGDs), stakeholder's meetings, community discussions, and in-depth and key informant interviews; the key stakeholders to be consulted during sub-project preparation and program implementation includes: project beneficiaries, political party representatives, local community, head of institution and executive committee chairman, relevant government offices (central and district level).

EMF has also suggested the ways for its disseminations. The EMF will be posted in web sites of UGC and the World Bank for disclosure. Also prior its implementation, through workshop EMF shall be disseminated to all the head, management committee of HERP recipient institutions. During implementation the implementing agencies (UGC/TU/SFAFDB) will disseminate the components/aspects of EMF to the stakeholders such as campus management, local community, and political representatives.

ESMF has proposed a 2 tier grievance redressal mechanism through grievance redress committee (GRC) i.e one at recipient institution level (i.e at project level) and another at central level. The petitioners can lodge the complain at the institution level. The grievances received at institution level will be recorded and sorted out within 14 days from the date of receiving the complain. If grievances couldn't be sorted out or it needs to be dealt by central level then it will be forwarded to the central level grievance committee. The composition of GRC is also proposed in the document. Any grievance against the members of the central grievance committee shall be forwarded to the UGC board.

The monitoring of EMF compliance is proposed at three levels, i.e., regular monitoring, quarterly monitoring and annual third party monitoring. The regular monitoring will be performed by the recipient institution, which will record the environmental status and report as part of overall project progress report. If the recipient institution requires any external support shall be provided by the UGC. The checklist, forms, formats, guidelines of EMF shall be followed. The quarterly monitoring on EMF compliance, contractor compliance shall be undertaken by the implementing agencies, by outsourcing as necessary.

The logistics and support required for such type of monitoring is included in EMF. The EMF forms, formats, guidelines are important parts of the monitoring scheme. A quarterly monitoring will be discussed in the implementing agencies for further improvement. UGC will outsource independent consultant(s)/expert(s) for third party monitoring/assessment of EMF implementation at the mid-term and at the end of the project.

Integrating EMF in HERP requires capacity of the institutions involved in HERP to implement it. For this capacity of institutions namely; UGC, TU, and recipient institutions were assessed. Based on this, capacity building measures to each of these institutions are also proposed. Orientation on EMF, special type of trainings, external support to strengthen the in house capacity of UGC and recipient institutions are proposed.

सारांश

नेपाल सरकारको वातावरण सम्बन्धि ऐन, नियम, नियमावली, निर्देशिका, मापदण्ड र विश्वबैंकको नीतिको अधीनमा रही उच्च शिक्षा सुधार कार्यक्रममा समेत सो को पालना गर्नु गराउनु यस वातावरणीय व्यवस्थापन रूपरेखाको उद्देश्य हो । यसै सन्दर्भमा तयार गरिएको दस्तावेजको परिच्छेद-१ मा आयोजनाले अपनाउनु पर्ने कुराहरुलाई सरल र बैज्ञानिक रूपमा उल्लेख गरिएको छ । वातावरणीय व्यवस्थापन रूपरेखा अर्न्तगत आयोजना परिकल्पना, निर्माण र सञ्चालन चरणमा आउन सक्ने सवालहरुलाई आंकलन गर्नु, आयोजनाले सहयोग गर्ने कार्यक्रमहरुको वातावरणीय हिसाबले छनौट गर्नु, छनौट भएको आयोजनाले वातावरणमा पर्ने सकारात्मक र नकारात्मक असरहरुको निक्क्यौल गर्न र उक्त असरहरु हटाउन वा न्यूनीकरण गर्ने उपायहरु पहिचान गर्नु र त्यस प्रकारका न्यूनीकरण/निराकरणका उपायहरुको व्यवस्था गर्नु रहेको छ । यसले आयोजनाको निर्माण पूर्व, निर्माण, र संचालन चरणमा वातावरणीय पक्षहरुलाई समावेश गर्न सहयोग पुऱ्याउँदछ ।

उच्च शिक्षा सुधार आयोजना अर्न्तगत संचालन हुने भौतिक पूर्वाधार विकासका पक्षहरु ठोस रूपमा निक्क्यौल हुन बाँकी रहेतापनि विगतको अनुभवहरु र हालको उच्च शिक्षा सुधार कार्यक्रम अर्न्तगत समेटिने कलेज/क्याम्पसहरुको अवस्था र सम्भावित आवश्यकताका मागहरु बमोजिम केही भौतिक पूर्वाधारका आयोजनाहरुका परिकल्पना गर्न सकिन्छ जुन यस प्रकार छन् :

- साना-साना मर्मत सम्भार (खानेपानी संग सम्बन्धित मुहान, पाईपहरु मर्मत, शौचालयको निर्माण, पहुँच मार्गको निर्माण, खेलमैदानको निर्माण, कक्षा कोठाहरु थप्ने कार्य, प्रयोगशाला पुस्तकालयहरुको निर्माण आदि ।

परिच्छेद-२ अर्न्तगत आयोजनासँग सम्बन्धित जानकारी समावेश गरिएको छ । हाल उच्च शिक्षा प्रदान गर्ने संस्थाहरु नेपालका तीनै वटा भौगोलिक क्षेत्र हिमाल पहाड, तराईमा छन् । तसर्थ उच्च शिक्षा सुधार कार्यक्रम अर्न्तगत संचालन हुने भौतिक पूर्वाधार विकासका कार्यक्रमहरु समेत यिनै तीन भौगोलिक क्षेत्रमा पर्दछन् । भौगोलिक हिसाबले रहेका त्यस प्रकारका उच्च शिक्षा संस्थाहरुमा वातावरणीय जोखिमहरु पनि फरक प्रकृतिका रहने आंकलन गर्न सकिन्छ ।

तराईमा अवस्थित उच्च शिक्षा संस्थाहरुमा बाढी, आगलागी, खानेपानीको गुणस्तर (आर्सेनिक) का जस्ता समस्याहरु विद्यमान हुन सक्दछन् भने पाहाड र हिमालमा रहेका संस्थाहरुमा भूक्षय, पहिरो भुइचालो, पानीको उपलब्धता जस्ता वातावरणीय समस्या भेलिरहेका हुनसक्ने पाइएको छ । शहरी क्षेत्रहरुमा रहेका उच्च शिक्षा प्रदान गर्ने संस्थाहरुमा समस्याको रूपमा जग्गाको अर्पयाप्तता, खुल्ला क्षेत्रहरुको अभाव, धुँवा, धुलो, ध्वनी प्रदुषणको प्रभावहरु आदि भेलिरहेका छन् । यसका अतिरिक्त यि तिनै वटा क्षेत्रहरुमा रहेका उच्च शिक्षा प्रदान गर्ने संस्थाहरु तहाँको जलवायु सुहाउने हिसाबले डिजाइन गरेको पाइँदैन । साथै संस्थागत रूपमा समेत भौतिक पूर्वाधारहरुको अवस्था फरक रहेको पाइन्छ । यस भौतिक पूर्वाधारहरु कुनै संस्थामा यथेष्ट र उच्च गुणस्तर कायम गरी निर्माण गरिएका छन् भने कुनै संस्थाहरुमा निम्न स्तरको र अर्पयाप्त पाइन्छ जसमा कक्षा कोठा, शौचालय जस्ता आधारभुत पूर्वाधारहरु समेतको कमी पाइन्छ ।

यो वातावरणीय व्यवस्थापन रूपरेखा उच्च शिक्षा सुधार कार्यक्रम अर्न्तगत उच्च शिक्षा प्रदान गर्ने संस्थाहरुमा निर्माण हुने भौतिक संरचनाहरुको योजना चरण, निर्माण चरण र संचालन चरणमा रहने छ । हाल सम्म यस कार्यक्रम अर्न्तगत सहयोग गरिने भौतिक निर्माण पक्षहरुको प्रकार, आकार, र प्रकृती आदि निक्क्यो नभैसकेको अवस्था छ । तसर्थ यस रूपरेखाले एकिन रूपमा भौगोलिक क्षेत्रगत आधारमा वा उच्च शिक्षा संस्थाको नामनै तोकेर भौतिक सुधारको सहयोग बारेमा उल्लेख गर्न सक्ने स्थिती हालको अवस्थामा नरहेको छ । तथापी बिगतमा विश्वविद्यालय अनुदान आयोगद्वारा संचालित विभिन्न कार्यक्रमहरु अर्न्तगत भौतिक संरचनामा गरिएको सुधार कार्यक्रमहरु अनुरूप यस कार्यक्रम अर्न्तगत गर्न सकिने भौतिक पूर्वाधारका सहयोगहरुको आंकलन गरी त्यसबाट उत्पन्न हुन सक्ने वातावरणीय सवालहरुलाई यस रूपरेखामा सम्बोधन गरिएको छ । विगतमा जस्तै यस कार्यक्रम अर्न्तगत पनि सानातिना मर्मत सम्भार देखि विद्यालय भवन निर्माण प्रयोगशाला निर्माण आदि पर्दछन् । तसर्थ यस दस्तावेजमा सोहि प्रकृतीका भौतिक संरचनाहरुको योजना, निर्माण र संचालन गर्दा पर्ने वातावरणीय प्रभावहरुलाई सम्बोधन गरी निराकरण र न्यूनीकरणका उपायहरु उल्लेख गरीएका छन् ।

यस दस्तावेजको परिच्छेद ३ मा यो रूपरेखा बनाउँदा अपनाइएको विधीहरु उल्लेख गरिएको छ । यो तैयार गर्दा यस कार्यक्रम संग सम्बन्धित विभिन्न रिपोर्टहरु सम्बन्धित दस्तावेजहरु वातावरण सम्बन्धी नेपाल सरकारको ऐन, नियम, नियमावली नीति र विश्व बैंकको वातावरणीय नीतिहरु, विगतमा समान प्रकृतीका कार्यक्रमलाई तैयार गरिएका वातावरण व्यवस्थापन रूपरेखाको अध्ययन, श्रोत व्यक्ति र विज्ञहरुसंग छलफल आदि रहेका छन् । यसको आधारमा मस्यौदा प्रतिवेदन तैयार गरी सो मस्यौदा प्रतिवेदन माथि सरोकारवाला निकाय -विश्वविद्यालय अनुदान आयोग र विश्व बैंकका) विशेषज्ञहरुले अध्ययन गरी दिएको राय सुभाब, सल्लाहलाई समावेश गरी वातावरणीय व्यवस्थापन रूपरेखालाई अन्तिम रूप दिइएको छ ।

यस रूपरेखाको परिच्छेद-४ मा नेपाल सरकारको वातावरणसंग सम्बन्धित ऐन, नियम, नियमावली, नीति, निर्देशिका मापदण्डका वारेमा उल्लेख गरिएको छ । विश्व बैंकको वातावरण सम्बन्धी नीतिको समिक्षा गरिएको छ । यस कार्यक्रम अर्न्तगत आर्कषित हुने प्रकारका ऐन, नियम, नीतिलाई प्रष्ट रूपमा व्याख्या गरिएको छ । मुख्यतया नेपाल सरकारको वातावरण संरक्षण ऐन २०५३, वातावरण संरक्षण नियमावली २०५४ , राष्ट्रिय भवन निर्माण आचार संहिता, भवन ऐन, राष्ट्रिय खानेपानीको गुणस्तर, राष्ट्रिय वायु प्रदूषण गुणस्तर आदी प्रमुख रहेका छन् । एवम् प्रकारले विश्व बैंकको वातावरण सम्बन्धी नीतिहरु OP/BP 4.01, स्वास्थ्य र सुरक्षा सम्बन्धी निर्देशिका आदीहरुको समिक्षा र यस कार्यक्रम अर्न्तगत आर्कषित हुने ऐन/ नियम/ नियमावलीहरुको वारेमा उल्लेख गरिएको छ ।

परिच्छेद-५ अर्न्तगत, यस कार्यक्रमको भौतिक पूर्वाधार निर्माण र संचालन चरणमा आयोजनाले वातावरणमा पर्नसक्ने प्रभाव, र प्रभाव न्यूनीकरणका उपायहरु र सो न्यूनीकरण निराकरण कुन माध्यम र कसरी हुन्छ भन्ने कुरा उल्लेख गरिएको छ । उदाहरणको लागि संरचना निर्माण गरिने स्थलको वारेमा मूल्यांकन, निर्माण चरणमा उत्पन्न हुने जल, ध्वनी, वायु प्रदूषण फोहरमैला निष्कासन आदिको मूल्यांकन, निर्माण सामाग्री र निर्माणको प्रकृत्यामा विद्यार्थी र शिक्षक तथा अन्य ब्यक्तिहरुमा पर्न सक्ने प्रभावहरु (स्वास्थ्य र सुरक्षात्मक दृष्टिकोणले समेत) आदि रहेका छन् ।

योजना छनोट चरणमानै वातावरणीय प्रभावहरुको वारेमा आंकलन र स्वीकृति अनुमति दिने हिसावले छनोट प्रकृत्या, त्यस प्रकृत्यामा समावेश हुने विज्ञ, संस्था, वातावरणीय हिसावले छनोट (लेखाजोखा) गर्दा भर्नुपर्ने चेकलिष्ट आदि यो दस्तावेजको अनुसूचि-२ मा समावेश गरिएको छ । कार्यक्रम छनोट चरणमा नै वातावरणीय मुद्दा/समस्या देखिएमा त्यस प्रकारका समस्यालाई सम्बन्धित निकायको ध्यानाकर्षण गराइने छ

। यस प्रकारको छनोट योजनाका प्रारम्भिक अध्ययन चरणमानै गरिनेछ । विश्वविद्यालय अनुदान आयोगबाट तोकिएका विशेषज्ञ/संस्थाले वातावरणीय लेखाजोखा गर्नेछन् । उक्त लेखाजोखा अनुसार प्रस्तावित आयोजनालाई ३ प्रकृतिको रूपमा विभाजन गरिएका छन् । प्रथम प्रकृतिका सूचिमा वातावरणलाई नकारात्मक प्रभाव पर्न सक्ने आयोजना पर्दछन् (अनुसूचि-४) । यस अर्न्तगतका आयोजनाहरु छनोट चरणमानै बाहिरीने छन् । दोश्रो प्रकृतिका आयोजना जसमा वातावरणीय व्यवस्थापन कार्ययोजना (अनुसूचि-५) बनाएर कार्यक्रम अधि बढाउनु पर्ने हुन्छ र तेस्रो प्रकारका आयोजना जसले वातावरण मैत्री अवधारणहरु (अनुसूचि-३) अवलम्बन गरेर कार्यक्रम गर्नुपर्ने रहेका छन् ।

सम्बन्धित संस्थाहरुले वातावरण व्यवस्थापन रुपरेखाको पालना गरे/नगरेको नियमित रूपमा अनुगमन गरि जानकारी लिइनेछ । नियमित रूपमा संबन्धित कार्यक्रम स्विकृती प्राप्त गर्ने संस्थाले (आवश्यक परे अनुसार विश्वविद्यालय अनुदान आयोगको सहयोग) द्वारा अनुगमन गर्ने छ । त्रैमासिक रूपमा विश्वविद्यालय अनुदान आयोगले अनुगमन गर्नेछ, जसका लागि आवश्यकता अनुसार वातावरणीय विशेषज्ञ/संस्थाको व्यवस्था गर्ने छ । साथै अनुगमन कसरी, कसले र कहिले गर्ने र कस्तो प्रकारका रिपोर्टहरु तयार गर्ने सम्बन्धमा स्पष्ट दस्तावेज तयार गर्नेछ । अनुगमन गर्दा रुपरेखामा उल्लेख भए अनुसारका चेकलिष्ट फारम, प्रकृया, आदिको पालना भए नभएको बारे प्रष्ट्याइनेछ । यस आयोजनामा तेस्रो पक्षद्वारा समेत अनुगमनको व्यवस्था गरिएको छ । यसको लागि वि.अ.आ.ले विज्ञ/संस्थाको आवश्यकता अनुसार सहयोग लिने छ । अनुगमनको लागि आवश्यक पर्ने श्रोत/साधनहरुको व्यवस्था यो रुपरेखामा समावेश गरिएको छ । सम्पूर्ण सरोकारवालाहरु माझ जानकारी प्रदान गर्ने हेतुले यो रुपरेखाको मस्यौदा दस्तावेजलाई विश्वविद्यालय अनुदान आयोग र विश्व बैंकको वेभसाइटमा सरोकारवालाहरुको जानकारी र सुझावको लागि राखिनेछ ।

यो रुपरेखालाई विभिन्न चरणमा सरोकारवालाहरु माझ छलफल र जानकारी दिई समय सापेक्ष रूपमा सूचित गराउदै लगिने व्यवस्था गरिएको छ । यस अन्तर्गत यो रुपरेखा बनाउने चरणमा विभिन्न सरोकारवालाहरु संग छलफल र राय सुझावको संकलन, आयोजना छनोट, निर्माण र संचालन चरणमा विभिन्न सरोकारवालाहरूसँग छलफल र अन्तरक्रियाहरु गर्ने प्रावधान राखिएको छ ।

वातावरणीय व्यवस्थापन रुपरेखालाई उच्च शिक्षा सुधार कार्यक्रममा समाहित गर्न यो संग सरोकारवाला संस्थाहरु वि.अ.आ. त्रि.वि. संबन्धित छनोट भएका उच्च शिक्षा प्रदान गर्ने कलेज/संस्थाहरुको हालको क्षमताको बारेमा मूल्यांकन गरि आवश्यक क्षमता अभिवृद्धिका कार्यक्रमहरु दस्तावेजमा समावेश गरिएको छ । यस अनुरूप वि.अ.आ. र सम्बन्धित कलेज/संस्थाहरुमा वातावरणीय व्यवस्थापन रुपरेखा कार्यन्वयन गर्ने/गराउने जनशक्ति र क्षमता नरहेको पाइन्छ । तसर्थ वातावरणीय व्यवस्थापन रुपरेखाको कार्यान्वयन गर्न सरोकारवाला संस्थाहरुको क्षमता अभिवृद्धिको लागि तालिम, बाहिरी जनशक्तिको सहयोग लिई कार्यक्रममा सहयोग लिने र के कसरी उच्च शिक्षा प्रदान गर्ने सरोकारवाला संस्थाहरुको क्षमता अभिवृद्धी गर्न सकिन्छ, भन्ने बारे उल्लेख गरिएको छ ।

यो दस्तावेजमा गुनासो व्यवस्थापन सम्बन्धि व्यवस्था समेत गरिएको छ । यो कार्यक्रमसँग सम्बन्धित गुनासोहरुलाई दुई तहमा गुनासो व्यवस्थापन गर्ने निकाय खडा गरी समाधान गर्ने तर्फ योजना गरिएको छ । यसको लागि स्थानीय तहमा र केन्द्रिय तहमा गुनासो व्यवस्थापन समितिको व्यवस्था गरिएको छ । स्थानीय स्तरमा समाधान गर्न नसकिएको गुनासोहरुलाई निश्चित समयभित्र केन्द्रिय तहको समितिमा पठाउने व्यवस्था गरिएको छ ।

LIST OF ACRONYMS

DDC	: District Development Committee
DLI	: Disbursement Linked Indicators
EMF	: Environmental Management Framework
EPA	: Environmental Protection Act
EPR	: Environmental Protection Regulations
ES	: Environmental Specialist
FGD	: Focus Group Discussion
GoN	: Government of Nepal
HERP	: Higher Education Reform Project
IEE	: Initial Environmental Examination
IPF	: Investment Project Financing
MoE	: Ministry of Education
OCE	: Office of Controller of Examination
SFAFDB	: Student Financial Assistance Fund Development Board
SHEP	: Secondary Higher Education Project
TU	: Tribhuvan University
UGC	: University Grant Commission
VDC	: Village Development Committee
WB	: World Bank

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CHAPTER – 1: GENERAL INTRODUCTION

1.1 Project Components

Higher Education Reform Project (HERP) would support Nepal's Higher Education Reforms Program designed as the first phase of implementation of the National Higher Education Policy which focuses on development and innovation, access and equity, quality and relevance, financing, and governance. The Bank support would use Investment Project Financing (IPF) through a Disbursements Linked Indicators (DLI) approach with a possibility of Program for Results financing in a follow-on operation. Disbursements would be linked to achievements of yearly/six-monthly benchmarks in pre-defined measurable and verifiable indicators. The project would support selected universities and institutions that meet certain eligibility criteria and agree to undertake time-bound reforms. In order to enhance equitable access to higher education, it would also provide for poverty targeted scholarship support to meritorious, disadvantaged students (especially dalits, disadvantaged ethnic groups, and female). The Project would comprise of two components, the first one supporting the implementation of critical reforms in the Government program and the second one focusing on technical assistance and project management to build system capacity.

Component 1: Implementation of Reforms:

1. To achieve its development objective, HERP would focus on the following four results areas: (a) Systemic/Institutional Reforms; (b) Academic Reforms and Relevance; (c) Equity; and (d) Academic Excellence and Research.

(a) Results Area1: Systemic/Institutional Reforms:

These would include major reforms for: (i) more effective public funding, (ii) institutionalization of the national accreditation system; (iii) greater institutional autonomy and decentralization; and (iv) strengthening of the examination system. Some details are indicated below:

- (i) More effective public funding: Public institutions are funded on a cost-sharing basis, with government funding support for teachers, staff, student scholarships/tuition-fee waiver, based on headcounts and other annual operating costs. Public financing is generally not linked to performance and/or output. Performance based funding in leveraging grants initiated under SHEP to selected community campuses created a great demand and impact. HERP would support the Government plan for increasingly linking public funding to outcome measures on quality, relevance, equity and performance.
- (ii) Institutionalization of the national quality accreditation system: Accreditation of institutions/ programs is one of the major reforms initiated under SHEP. GON is administering the accreditation through an independent Quality Assurance and Accreditation Committee established at UGC. The system has now received international recognition. HERP would support the Government plan for establishing an independent National Accreditation Board outside of UGC, expanding the accreditation system and bringing most higher education institutions within this framework.
- (iii) Greater institutional autonomy and decentralization: Tribhuvan University with 383,000 students and over 900 campuses (in 2012) is one of largest universities in the world. With its highly centralized structure, it faces acute management challenges. Decentralization of 49 of its 60 constituent campuses with significant administrative and financial autonomy has helped to keep them and TU better managed. Academic autonomy granted to four of these campuses has led to significant improvement in their overall performance, innovations and new initiatives. The university faculties (mostly in professional areas) which have been given academic autonomy have better student performance (in terms of pass rate, and placement), adherence to academic calendar, and innovations. HERP would support TU's plans for further decentralization and autonomy of selected major campuses (including affiliated campuses) and faculties.

(iv) **Strengthening of the Examination System:** A major issue affecting the majority of students has been TU's failure in maintaining an academic calendar, in particular a calendar of examinations. Examinations for major programs, covering over 900 campuses spread all over Nepal, are centrally administered by the Office of the Controller of Examinations (OCE). Examinations and declaration of results are often delayed by months. The current system is not helping to make teaching-learning effective. HERP would support TU's plans for decentralizing and modernizing the examination system, streamlining processes, and enhancing OCE's capacity and efficiency.

This results area (Systemic/ Institutional Reforms) would be supported through the following DLIs (which will be further elaborated during preparation):

DLI 1 – National Accreditation system established and functioning

DLI 2 - Performance based financing extended to universities and institutions

DLI 3 - Decentralization and autonomy extended to additional campuses and faculties

DLI 4 - Examination reforms implemented

(b) Results Area 2: Academic Reforms and Relevance:

Nepali universities now offer about 350 bachelors/masters level programs. However, most of the professional programs have limited intake and are confined to major campuses/ institutions. Nearly 70% of students are enrolled in basic programs in humanities, education and management with little employment prospects. Their existing curricula, which primarily focus on annual examinations, do not help to develop communication and problem-solving skills of students. Furthermore, many programs have not been reviewed/ revised for quality and relevance for years. The HE policy emphasizes the need for expanding/ introducing market oriented programs relevant to national development. HERP would support academic reforms across all participating universities and campuses with a focus on: (a) better learning outcomes in all programs; and (b) expansion of programs in priority areas includes science and technology. This would include: (i) curricula revisions/ consolidation of existing programs, which have not been reviewed for more than 4 years, with an emphasis on project/field work, hands-on learning, and communication skills; and (ii) introduction/ expansion of market relevant academic programs. It would also include recruitment/ training of teachers, publication/ acquisition of learning materials, and procurement of necessary laboratory equipment/computers. This results area would be supported through the following DLI:

DLI 5 - Academic reforms introduced: Percentage of targeted under-graduate and post-graduate programs revised and new programs introduced.

(c) Results Area 3: Equity:

Due to several socio-economic factors, higher education is largely catering to students from the higher consumption quintiles. The HE policy declares that (i) access to higher education shall be open for all on the basis of individual aptitudes and merit, and (ii) measures would be taken to ensure equity in terms of gender, and inclusion of dalits, disadvantaged ethnic groups, economically deprived groups and regionally disadvantaged groups. Under SHEP, financial assistance was provided to meritorious, needy students selected through a Proxy-Means Testing (PMT) process developed and implemented by the Student Financial Assistance Fund Development Board (SFAFDB). This process is well tested and is also being adopted by other government agencies. HERP would support the Government's program of enhancing equity by focusing on poverty targeting with preferential treatment for girls and dalits. This results area would be supported through the following DLI:

DLI 6 - Poverty targeted financial support for disadvantaged students

(d) Results Area 4: Academic Excellence and Research

The focus of many universities has been on undergraduate education. With the lack of attention to research as an integral part of higher education, quality of teaching-learning process has suffered. The

HE policy emphasizes promoting (i) Research and innovation oriented curricula and teaching learning practices; and (ii) Professional capacity development for research and innovation. HERP would introduce competitive funding for quality research and innovation with a focus on priority areas. In order to enhance the research environment, it would also provide support for library and network expansion. Teaching and learning will be integrated with knowledge generation, which would also be facilitated through global and national networking and university partnerships. This results area would be supported through the following DLI:

DLI 7 – Institutions supported for academic excellence in priority areas through Research, Development and Innovation (RDI) awards.

HERP envisages following activities by the implementing agencies and the beneficiaries:

- Constructions -- Small constructions/revisions/repairs and refurbish involving shopping, sealed quotation and NCB. The constructions/repairs/refurbish may include classroom, library, toilets and septic tanks, drainage system, construction of water supply systems, construction of buildings, construction of laboratory, construction of access roads and, extracurricular facilities, , etc.
- Equipment -- acquisition, installation, operation, modification/maintenance, of computers, audio-visual, laboratory equipment/instruments
- Curriculum development/innovation in creation and practices
- Teaching learning resources, materials development/acquisition
- Human resource development-- Teacher professional development; management development; administration development; orientation, training, workshop, seminars, and other professional development,
- Study visits, academic exchanges
- Student support and supervision
- Information/ communication strategy and program, relationship development
- Internship development, collaboration with business, industry, entrepreneur
- Cooperation/collaboration with stakeholders, GOV/MOE; community
- National and international academic exchanges/collaborations
- Research and publication activities/research facilities development
- Outreach programs, extension programs, community services
- EMIS development; EMIS based institutional development
- Strategic planning and policy feed back

Component 2: Technical Assistance and Project Management:

The project would include a technical assistance component to finance the necessary inputs required to achieve the above-stated results as well as to enhance the capacity to support project implementation, conduct third party validations, undertake studies and surveys, and strengthen monitoring and evaluation.

This component would also include necessary provisions for effective project implementation and monitoring. With this funding, UGC supported by TU and SFAFDB for their parts of the project, will ensure compliance with applicable agreements, guidelines, and fiduciary and safeguard requirements by all beneficiary institutions and grant recipients.

1.2 Need and Scope of Environmental and Social Management Framework for HERP

Given the distributed nature of the investments and geographically dispersed sub-projects under this project, the Environmental and Social Management Framework is required which will comply with the policies of Government of Nepal and the safeguard policies of the World Bank. The experience of the previous project with regard to environment and social management were also analyzed while formulating the framework.

1.3 Objectives and Components of EMF

1.3.1 Objectives of EMF

The framework for the project will be carried out to accomplish the following objectives.

- Determine environmental and social issues associated with the program activities
- Conduct an environmental and social screening of the sample proposed sites to be supported by the project, identify potential environmental and social impacts associated at various stages of project implementation and recommend measures to mitigate impacts;
- Carry out an analysis of various stakeholders associated with the project, identify their concerns with regard to environmental and social aspects, especially of indigenous and other vulnerable community members, and recommend measures to mainstream these aspects into the project;
- Based on the analysis of above steps develop a framework for the project, to ensure that environmental and issues are effectively addressed in project design and implementation.
- Develop an institutional arrangement for mainstreaming environment and social management in project implementation processes.

1.3.2 Components of Environmental and Social Management Framework

The Environmental and Social Management Framework (EMF) will be used during project implementation. The EMF will provide clear steps, processes, procedures and responsibilities including various tools.

The EMF will be followed during project implementation for ensuring environmental and social integration in the planning, implementation, and monitoring of project supported activities. For ensuring good environmental and social management in the proposed project, the EMF will provide guidance on pre-investment works/ studies (such as environmental and social screening, environmental and social assessment, environmental and social management plans, etc); provide a set of steps, processes, procedures and mechanisms for ensuring adequate level of environmental and social consideration and integration in each investment in the subproject-cycle; and describe the principles, objectives and approach to be followed to avoid or minimize or mitigate adverse impacts. Specifically, EMF has the following:

- Environmental and social Issues that need to be considered while planning and design of different type/categories of (annex-1) includes environmental issues to be checked/verified during project planning
- Environmental and social screening checklists/formats: criteria, process, procedures, steps, time, and responsibility as well as necessary tools (format, checklists etc) for environmental screening of the investment under the proposed program. (Annex 2)
- Environmental Assessment guidelines. Steps, process, and procedures to be followed in different levels of environmental and social assessment (limited or full assessment). This suggests ways to integrate findings of environmental and social processes with the activity planning and implementation processes.
- Sample activity level Environmental and Social Management Plan. The HERP recipient institution should present Environmental Management Plan of sample activity which identifies foreseeable potential environmental and social impacts of the activity and recommends the appropriate mitigation/management measures to eliminate, minimize, or manage these environmental impacts. Format and sample EMP is shown in (Annex-5 and 6)
- Project level environmental and social monitoring framework. EMF monitoring shall be integral part of overall project monitoring system which is in practice for the long time at UGC. This also includes mechanism to measure the indicators.

- EMF Implementation: This will define specific roles, responsibilities, and authority of involved institutions (their environmental units/ focal points) with regard to environmental and social management in the proposed project (chapter 5.4).
- Capacity strengthening Measures: Drawing from the capacity assessment and gaps identified, the EMF includes a, measures for strengthening environmental and social aspects management capacity of the involved parties in accordance with their role and functions. (Chapter 9 of EMF deals with it)
- Consultation and Information Disclosure . Within the overall objective of efficient and effective environmental and social management in the proposed project, a consultation and information disclosure framework is proposed (chapter 6 of EMF). This provides guidance on appropriate ways of holding consultations: whom to consult, why and how to consult, and what after consultation.
- Disclosure: The EMF will be disclosed in the UGC, and World Bank web site, and widely disseminate to the HERP recipient institutions through orientation, and print media.
- Environmental codes of practices. Define good practices and bad practices (do and do not do) for most likely types of activities/ subprojects.(Annex 3)

The table showing DLIs, DLI baseline, activities, and EMF concerns are included in (annex 7)

The EMF contains the following: (i) project/subproject screening criteria; (ii) designated impact and risk mitigation measures for policies and activities; (iii) guidance for preparation of ESMPs, (iv), institutional and monitoring indicators and arrangements; (v) performance indicators; (vi) identification of third party audits (when needed or desired); and (vii) training and capacity building program.

CHAPTER – 2: BASELINE INFORMATION

2.1 Background

Higher education in Nepal is the sole responsibility of and administered by universities and institutions of higher learning. Currently there are nine functioning full universities and four medical academies (deemed universities) in Nepal. Tribhuvan University is the first university in Nepal. It is the largest university in terms of the student strength and the number of campuses; TU covers 81.58 percent of the higher education campuses and 87.9 percent of students (EMIS report, UGC, 2069/2070). The campuses of the universities are categorized into two types: constituent and affiliated. The affiliated campuses are either private or community-based. In the year 2012/13, there are altogether 1276 higher education campuses including 96 constituent (7.52 percent), 751 private (58.86 percent), and 429 community (33.62 percent) campuses.

The analysis of matching grants provided by Secondary Higher Education Project to participating institutions during 2007-2014 revealed that the UGC is supporting the institutions under various heading (with wide range of activities) from construction of turbine testing labs, construction of classroom, laboratory, renovation of classrooms, construction of administration block, renovation of water supply scheme, renovation of roof of building, support for fencing, construction of toilets, construction of campus gate, construction of guest house, construction of floor of campus building . These past UGC supports under SHEP are of varied types, and taking these supports in monetary terms, it ranges from couple of thousand rupees to several million rupees. With these past experiences, we can envisage that infrastructure components under HERP also support its participating institutions in similar way. Since the actual support to participating institutions under HERP is not known at this stage, the type of infrastructure support is envisaged looking in to past projects like SHEP. With these assessments, at this stage we can envisage that infrastructure support under HERP ranges from small repair and maintenance to a large construction like construction of laboratory building, academic blocks etc. From the cost perspective, it could vary from project below NRs 100000.00 to projects cost above NRs10000000.00. The actual project type, its size, cost will be finalized after individual project screening, design, and approval from UGC.

The drafted EMF is directly related to the planning, construction, and operation of infrastructures constructed under HERP. Since the information regarding the nature, size and type of infrastructures to be supported under HERP is not quantified, identified / or available at this stage, EMF baseline has covered the type of infrastructures (considering the infrastructure available at participating institutions and likely support that will be through UGC).

2.2 Physiography, Topography and Ecological Belt

The proposed project covers all the 75 districts in Nepal where different types of environmental and social problems are encountered depending on the geology, soil, topography, terrain, climatic conditions and social set up. Topographically, the country is divided into three major ecological zones namely; Mountain, Hill and Terai. These regions share 35%, 42% and 23% land area respectively. The environmental conditions and issues are different from one another among these three different ecological zones and will require different mechanisms and considerations to address the different environmental conditions and issues as well. In three ecological belts (Hill, Mountain, and Terai) the number of campuses is (59.4%, 35.34%, and 5.25 % respectively). In five development regions the percentage in central, western, eastern, far western and mid western includes (49.22, 18.57, 16.61, 7.29, and 8.31 respectively) (EMIS report, UGC, 2069/70). The higher education institutions lying in each of

the above ecological belts have the perceived risks based on the likelihood of occurrence in each belt. For example, institutions in Terai belt are more vulnerable to flood, earthquake, water quality (arsenic in water etc), fire hazard whereas institutions in hills and mountain belt are more prone to landslides, earthquake, availability of open spaces etc. The institutions in urban areas have problem of limited land, and non availability of open spaces. Similarly, the institutions in urban areas are more prone to air and noise pollution.

Being a small country, Nepal has tremendous geographic diversity. Its elevation ranges from 200 ft in Terai plains to over 25000 ft Himalayas. Nepal can be divided into three belts Terai, hill, and mountain regions. Higher education institutions are situated in all the three regions. The Terai region starts from 200 ft elevation, hill region is situated between 2000-10000 ft, and the mountain region ranges from 10000 ft and above. The climatic characteristics in these three ecological zone is varied (there are eight climatic zones from Terai to Mountain region). The physical facilities available in higher education institutions in these three zones are also different and of varied nature. Due to the varied climatic zones, the climate responsive physical facility design for higher education institutions itself is a big challenge.

2.3 Climatic Conditions

The High Himalayan region is always below freezing whereas the Terai and the low valleys are always warm. In winter mornings and nights in the hills are bitterly cold and days are chill whereas in the plains and the river valleys mornings and nights are chill and the days are pleasant. Temperature is directly related to altitude. For a rise of 100m, the mean annual temperature drops by 0.5°C. Latitude also affects the temperature. For every 3° north, the mean temperature would fall by 1 °C. Temperature falls slowly during the monsoon because of heavy clouds and rain and continues to drop as winter starts. January is the coldest month and June-July is the hottest months. Temperatures tend to rise from east to west. The planning of infrastructures for institutions in these three zones has not found effective in considering climatic factors in account while design and construction of facilities. Therefore, climatic factors needs to be considered in the planning phases as the sub-projects are scattered in all different climatic regions.

2.4 Landslide and Erosion Hazards

Due to the geological and geographic conditions of Nepal landslide and erosion hazards occur very often. The landslides are caused by numerous natural factors like geological movement of land, instability of slopes, heavy monsoon rains, the silting of riverbeds, and melting glaciers. The geological formation of Nepal can be divided into five distinct morpho-geotectonic zones separated by major linear geological structures (Thrusts/ Faults). Each thrust/ fault forms the tectonic boundary line between the two consecutive zones and control the basic frame work of the Himalaya. All of them dip towards north. MCT is the oldest thrust among them. Similarly, another thrust like The MBT separates the low grade metamorphic rocks of the Lesser Himalayan Zone and the Siwalik Zone. These thrusts are also contributing in geodynamic activities and causes geogenic hazards like earthquake, landslide, debris flow, rock avalanche, soil erosion, land subsidence. Lastly, the terrain of Nepal rugged with high an unstable slopes. At least 75% of landslides in Nepal are caused by the natural movement of land – particularly in the mountainous areas of Nepal. In recent years environmentalists have cited the silting of river beds, soil erosion and the growing population as additional causative factors of landslides in Nepal.

As the subprojects are located in different geological region, the geological formation and the possibility of landslide should be investigated and taken into consideration in the planning phase.

2.5 Conditions of the Existing Infrastructure

The infrastructures in higher education institutions differ among themselves. Some institutions are spacious and with state of the art facilities. However, majority of institutions lack basic infrastructures. The type of buildings is of different type and supported by different agencies like GoN, local organizations (DDC, VDC, and municipality), trust, private etc. In majority of higher education institutions

there is no proper planning for infrastructure development. Most of the institutions are relying on the type and criteria fixed by the donors and they have very limited choice and options to choose the infrastructure of their need. Majority of infrastructures constructed in the past has not given due considerations for safety (structural, earthquake etc), so the vulnerability of such infrastructures are always in questions. The requirements of water supply system, sanitation (latrines), cleanliness, security related issues are some of the common issues that arise in most of the higher education institutions in Nepal. The unavailability of land for future expansion and adding up structures in already built structures also poses a serious risk in HERP which requires thorough screening and considerations in planning.

Besides these, at an individual institution level, the availability and standard of physical facilities also differs. There is a good to poor category of physical infrastructure facilities in higher education institutions lying in all three belts. Some of the higher education institutions have good facilities including collegiate building structures having separate academic blocks for teaching, separate toilet for boys and girls, laboratory, library, multipurpose hall, play ground, along with tranquil surroundings. Whereas majority of institutions lack the very basic environment like adequate space, unsafe physical infrastructures, adequate toilets, proper light and ventilations in classrooms, potable drinking water etc.

The need for infrastructure development in public higher education institutions in Nepal is immense. The area covered by public institutions also varies in an institutional basis. Some public institutions are rich in areas and also have good facilities (classroom buildings, libraries, laboratories, sports facilities etc).

2.6 Planned Improvement of Physical Facilities in Higher Education Institutions

The support for physical infrastructure improvement in higher education institutions in Nepal should be based on objectively defined and identified requirements. The civil work planning should be based on micro planning and physical facilities survey conducted prior to undertaking a task of construction/renovation. The physical facilities at higher education institutions also needs to support differently able student by providing them proper access to physical facilities. The purpose of physical infrastructure improvement should be to create healthy, safe, and environmentally friendly institution through HERP in a planned and systematic manner.

CHAPTER - 3: METHODOLOGIES IN PREPARING EMF

3.1 Methodology Used to Prepare EMF

The methodology adopted for preparing this framework includes the review/desk study of relevant documents; consultation with WB, UGC officials and other stakeholders. The text below outlines in detail the methodologies adopted:

3.1.1 Review of Existing Literatures

Including the following:

- 1 . Plan, Policies, an Programs of MOE, UGC related to the Higher Education Reform in Nepal
- 2 . Plan, Policies, Acts, Guidelines, Environmental guidelines for Higher Education in Nepal , 2005Standards, Directives of GoN related to environmental sector
- 3 . Environmental Protection Act (1997), Environmental Protection Regulations (1997)
- 4 . National plan, policies in education sector in Nepal, Self Governance Act, Educational Act and Regulations
- 5 . Existing environmental management processes adopted by institutions involved in the current project and their environmental management practices.
- 6 . Review of EMF prepared under SHEP
- 7 . Environmental and Social Management frameworks prepared by MoE/DoE for other projects
- 8 . National Environmental Guidelines for School Improvement and Facility Management in Nepal, 2004.
- 9 . EMF of other development sectors prepared by GoN and WB

3.1.2 Institutional and Capacity Assessment.

Under this the capacity of institutions involved in HERP with respect to managing environmental and social aspect is reviewed. This includes HERP stakeholders (UGC, TU, and other recipient institutions). The assessment is done for environmental management, staffing situation, budget allocations, existence of environmental units/ focal points and their mandates and functions, system process and procedures followed in discharging environmental mandates/functions, and effectiveness of their roles and responsibilities. This helps to the identification of capacity strengthening measures, as well as recommendations for improved and streamlined approach in environmental management by the respective implementing agency during implementation of the proposed project. This is included in chapter 10.

3.1.3 Consultations and Disclosures

During the preparation of EMF, consultations were held with UGC in house staff, technical advisor, member secretary of UGC (The list is included in annex 7). Their feedback is included in the EMF.

The draft EMF shall be disclosed through UGC and the World Bank web site. The comments and suggestions obtained in draft EMF shall be included while finalizing it. The draft report is reviewed and discussed among UGC and the World Bank experts' prior finalization. The comments and suggestions obtained from UGC and the World Bank staff was incorporated in the final EMF.

3.1.4 Development of Environmental and Social Management Framework (EMF).

This EMF will be followed during project implementation for ensuring environmental integration in planning, implementation, and monitoring of project supported activities. For ensuring good environmental and social management in the proposed project, the EMF will provide guidance on pre-works/ studies (such as environmental and screening, environmental and assessment, environmental

and social management plans, etc); provide a set of steps, process, procedure and mechanism for ensuring adequate level of environmental and social considerations and integration in each investment in the subproject-cycle; and describes the principles, objectives and approach to be followed to avoid or minimize or mitigate adverse impacts.

CHAPTER - 4: REVIEW OF PLAN, POLICY, LEGISLATIONS OF GON & SAFEGUARD POLICY THE WORLD BANK

In this section the policies, legal and institutional framework for environmental and social management including legislations in Nepal are summarized.

All investments under the HERP must be consistent with the applicable laws, regulations, and notifications of the GoN that are relevant in the context of the proposed interventions/activities. The UGC and the concerned departments/institutions will ensure that the investments proposed and executed under HERP are consistent with the regulatory and/or legal framework, whether national, districts or municipal/VDCs. Additionally, it is also to be ensured that activities are consistent with the World Bank's operational policies and guidelines. This section is not a legal opinion on the applicability of the law but serves as guidance in the application of the various laws and regulations to the current project context.

4.1 Key Applicable National Environmental and Social Laws and Regulations

This section highlights the salient features of selected regulatory provisions that may be trigger for HERP implementation. A summary of such possible provisions are listed below in table 1. Construction activities related to HERP shall avoid private land acquisition, forests, and protected areas. So review of plan, policies, and legislations related to such areas are not included here.

Table 1: Applicable Environmental Policies, Acts, and Regulations

Policy/Plans/ Guidelines/standards Act/Regulation	Key Requirement/s or Salient Features	Applicability
Three Years Plan 2011/12-2013/2014	sub-section (related to integration of environment with development works, environmental standards, CDM, environmental pollution); section 5 (related to sustainable development objective) and section 7 (related to IEE/EIA and pollution prevention);	Yes
Nepal Environmental Policy and Action Plan, 1993	The five policy principles: a) to manage efficiently and sustainably natural and physical resources; b) to balance development efforts and environmental conservation for sustainable fulfilment of the basic needs of the people; c) to safeguard natural heritage; d) to mitigate the adverse environmental impacts of the development projects and human actions; and e) to integrate environment and development through appropriate institutions, and adequate legislation and economic incentives, and sufficient public resources.	Yes
National Conservation Strategy, Nepal, 1988	The policy principles a) to ensure the sustainable use of Nepal's land and renewable resources; b) to preserve the biological diversity of Nepal in order to maintain and improve the variety and quality of crops and livestock and to maintain the variety of wild species both plant and animal; and c) to maintain the essential ecological and life-support systems such as soil regeneration, nutrient recycling and the protection and cleansing of water and air.	Yes

Policy/Plans/ Guidelines/standards Act/Regulation	Key Requirement/s or Salient Features	Applicability
Climate Change Policy GoN, 2001	Addresses the issues of climate adaption and disaster risk reduction. Forecasting water-induced disasters, reducing vulnerabilities and providing early warning information for disaster management are some of the key points of the policy. The policy provides some guidelines to address the issues of <i>vulnerable infrastructure</i> in the context of reducing their risk to climate related disasters.	Yes.
National EIA Guidelines 1993 (2049 BS)	Generic EIA guidelines related to procedures for EIA Scoping, and ToR preparation, baseline environmental studies, information disclosure, public consultation, prediction and evaluation of impacts, mitigation prescriptions, monitoring and EIA report preparation.	Yes
Nepal Ambient Air Quality Standards 2060	Limits of the ambient air quality parameters around the construction sites	Yes, Related to the infrastructure support. While constructing infrastructures under HERP should follow this standard.
Drinking Water Quality Standards 2063	Quality of the drinking water supply in the project camps and construction sites.	Yes, Related to the infrastructure support. While constructing infrastructures under HERP should follow this standard.
The Interim Constitution of Nepal, 2063 (2007)	It has provisions of rights regarding environment and health. Every person shall have the right to live in a clean environment; every citizen shall have the right to get basic environmental services free of cost from the state.	Yes
Environment Protection Act 1997 (2053 BS),	Article 3 mandates IEE/EIA study for development projects; Article 4 prohibits implementation of projects without approval; Article 5, and 6 describes the approval procedures; Article 7 prohibits emission of pollutants beyond the prescribed standards; Article 9 and 10 stipulates provisions for the protection of natural heritage and Environmental Protection Area; Article 17 stipulates compensation provisions arising from the discharge of waste and pollution; Article 18 has provision of punishment for actions against the Act and rules, guidelines and standards formulated under the Act; Article 19 stipulates the rights to appeal to the concerned Appellate court against the decision of concerned authority.	Yes
Environment Protection Rule 1997 (2054 BS) as amended	Rule 3 stipulates environmental screening criteria for undertaking IEE/EIA study; Rule 4, 5 and 6 stipulates procedures for determining scope for IEE/EIA including public notification and approval of IEE/EIA scope of works; Rule 7, and 10 stipulates provisions for conducting IEE/EIA assessment including public notification and public hearing for IEE/EIA works and requirement of recommendation letters from the project development VDCs/Municipalities; Rule 11 stipulates approval procedures including disclosure of IEE/EIA report; Rule 12 mandates developer to comply with the approved IEE/EIA provisions to avoid, mitigate, and monitoring of the impacts, Rule 13 stipulates the responsibility of the concerned body to monitor the project implementation; Rule 14 stipulates the responsibility of the Ministry to conduct Environmental examination of the project after 2 years of construction completion; Rule 15, 16, 17, 18, 19	Yes

Policy/Plans/ Guidelines/standards Act/Regulation	Key Requirement/s or Salient Features	Applicability
	and 20 stipulates provisions to prohibition and control of pollution; Rule 26, 27, 28, 29, 30, 31, 32 and 33 stipulates procedures and provisions for the conservation of Natural Heritage and Environmental Conservation Zones; Rule 45, 46 and 47 stipulates procedures and provisions for compensation to the affected.	
Local Self Governance Act 1999 (2055 BS)	Section 28 and 96 relating to functions, duties, and power of the VDCs/Municipalities on forest, sanitation and environment, soil erosion and river control, Physical development, Section 33 and 101 related to judicial power on compensation for damage crops, labour wages etc; Section 47 and 115 relating to co-ordination with the governmental and non-governmental institutions; Section 55 relating to natural resource utilization tax; section 70 and 165 relating to punishment against the act provisions.	Yes
Local Self Governance Rules 1999 (2056 BS)	Rule 49 relating to approval of construction works; Rule 68 and 138 relating to approval and clearance of the project; Rule 69 and 139 relating to supervision and monitoring of the project; Rule 149 relating to application for permission.	Yes
Solid Waste Management Act 2011	Solid Waste Management Act aims to manage solid waste and mobilize resources related thereto and ensure the health convenience of the common people by controlling the adverse impact on pollution from solid waste. The commercial or industrial establishments should adhere to the clauses mentioned in the act during the construction and operation phases of the projects.	May apply – depends on type of waste generated during construction and operation of facilities supported by the project.
Information and Communication Policy, 2059 BS	The policy has developed long-term requirements for information and communication.	Yes.
The Education Act (Seventh Amendment, 2001) and Regulations (2002)	These laws and regulations have emphasized representation of women in important committees and bodies of school management and education management as a whole, and arranged for scholarships for girls and students from Dalit and other underprivileged ethnic groups below the poverty line. Additionally, it includes special provisions with regard to women in education. The education act, 2001, seeks to include representation of women teachers in District Education Committees, women representation in Village Education Committees and School Management Committees. Provisioning of scholarship for girls and students from Dalit and other unprivileged ethnic groups below the poverty line is the major feature of this act. Furthermore, it also has scholarship provision for Dalit and children from other deprived communities in lower secondary and secondary level. Provision for merit based scholarship in all grades and the same to 5% of the poor disabled, Dalit, female and ethnic minority students of private schools is the main feature of Education Regulations 2002.	Yes
The Building Act, 2055 (1998), revised 2007	Whereas, it is expedient to make necessary provisions for the regulation of building construction works in order to protect building against earthquake, fire and other natural calamities, to the extent possible	Since the construction of classroom, laboratory, library etc are likely activities under HERP, this is applicable.

Policy/Plans/ Guidelines/standards Act/Regulation	Key Requirement/s or Salient Features	Applicability
Nepal National Building Code, 2065 (2008)	There are 23 different title wise volumes of building code, which form a single national building code of Nepal, 1993. National Building Code was prepared in 1993 by then Ministry of Housing and Physical Planning now (MoPPW). This code emphasizes the need for changes and improvement in current building construction design and methods. The publication represents a standard of good practice and therefore takes the form of recommendations	Since construction of building is one of the components under HERP, this is triggered.

4.2 World Bank Environmental Safeguard Policies

With respect to Environmental Strategies the World Bank pursues three interrelated objectives:

- 1) Improving the quality of life
- 2) Improving the prospects for and the quality of growth
- 3) Protecting the quality of the regional and global environmental commons.

Concerning Safeguard Policies, the operations of World Bank are guided by a comprehensive set of policies and procedures, taking into account the Bank's core development objectives and goals, the instrument for pursuing them, and specific requirements for Bank financed operations. The core of this guidance lies in the Operational Policies (OPs) which are short, focused statements that follow from the Bank's Articles of Agreement, its general conditions and from policies specifically approved by the Board. Within the overall set of Operational Policies, Bank has identified ten key policies that are critical to ensuring that potentially adverse environmental and social consequences are identified, minimized and mitigated. These ten policies are known as the "Environmental and Social Safeguard Policies" and receive particular attention during the Project preparation and approval process. These operational Policies are short and focused statements that follow the Bank's Article of Agreement, the general condition and policies approved by the Board. Safeguard policies are mechanisms for integration of environmental and social issues into decision making. It supports participatory approaches and transparency. The environmental and social safeguard policies of the WB applicable to the HERP Project are as follows;

Environmental Assessment EA (OP 4.01):

OP/BP 4.01 is triggered because the activities/interventions proposed under HERP may have low impacts on the natural environment and human health.

The objectives of EAs are to i) ensure that the projects proposed for Bank financing are environmentally and socially sound and sustainable; ii) inform decision makers of the nature of environmental and social risks; and iii) increase transparency and participation of decision makers in the decision-making process. To satisfy the Bank's Environmental Assessment requirements, there are various instruments suggested including EIA, Environmental Audit, Environmental Management Plan etc. any World Bank Project, which is likely to have potential adverse environmental risks and impacts in its area of influence, requires an Environmental Analysis, indicating the potential risks, mitigation measures and environmental and social management framework or plan.

For ascertaining which extent and type of environmental assessment is required, the Bank undertakes environmental screening of each proposed project. The Bank classifies the Project into one of the four categories depending upon the type project or specific components have inherent environmental risks), location proximity to environmentally, socially and culturally important areas), sensitivity potential impacts may be irreversible or environment sensitive to changes, and scale extent of environmental and social issues) of the project and the nature and magnitude of its potential environmental impacts:

- Category A: if it is likely to have significant adverse environmental impacts that are sensitive, diverse or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical work. This is where Full EA level study with (Environmental Management Plan) is needed.
- Category B: if potential adverse impacts are less adverse than those of Category A projects; these impacts are site specific; few in any of them are irreversible; and in most cases mitigation measures are readily designed. For category B projects the scope of EA may vary- an EMP or IEE level study with EMP are required here.
- Category C: if it is likely to cause minimal or no adverse environmental impacts. Here, no additional environmental assessment is needed beyond environmental screening.
- Category F: if it involves investment of Bank funds through a financial intermediary, in sub-projects that may result in adverse environmental impact. It requires appropriate environmental review for each sub-project.

Based on the size and nature of the subproject, the magnitude of the environmental impacts varies and accordingly the above category triggers. This differs at sub project level and shall be dealt accordingly.

BP 4.11 Physical and Cultural Resources : HERP project will not involve significant excavations, demolition, movement of earth, flooding or other environmental changes; or (b) will not be located in, or in the vicinity of, a physical cultural resources site recognized by competent authorities of the borrower, so this clause is not applicable in the context of this project.

Environment, Health, and Safety Guidelines of WB Group:

The HERP project infrastructure components shall follow general health and safety guidelines in particular Section 2.9 occupational health and safety monitoring, section 3.2 related structural safety of project infrastructure, section 3.3 related to life and fire safety, section 4,3 related to community health and safety.

World Bank's Social Safeguard Policy Indigenous Peoples (OP 4.10)

Key objectives of the Indigenous Peoples policy are to: (i) ensure that indigenous people affected by World Bank funded projects have a voice in project design and implementation; (ii) ensure that adverse impacts on indigenous people are avoided, minimized or mitigated; and (iii) ensure that benefits intended for indigenous peoples are culturally appropriate. The policy is triggered when there are indigenous peoples in the project area and there are likely potential adverse impacts on the intended beneficiaries of these groups. When this policy is triggered an Indigenous Peoples Development Plan or interchangeably Vulnerable Community Development Framework is to be prepared to mitigate the potential adverse impacts or maximize the positive benefits of the project interventions.

World Bank's safeguard policy aims to achieve development outcomes in an inclusive and sustainable manner by protecting the right of VCs. It ensures to protect the right of the people and provide mitigation measures in case of adverse impacts likely to harm them from the project/sub project implementation and intervention. In addition to this, for the projects/sub projects proposed for Bank financing that affect local people, the Bank requires the borrowers to engage in a process of free, prior and informed consultation. Approval for financing for proposed project/sub project only where free prior and informed consultations results in broad indigenous, Dalit, women and poor community support to the project. In a nutshell, propose project for financing include measures to i) avoid potential adverse effects on the VCs particularly indigenous people community and ii) when i) is not feasible minimize, mitigate or compensate for such effects. Furthermore, the Bank requires the appropriate mitigation measures to avoid/minimize adverse effect if any due to project intervention to the people of indigenous community.

CHAPTER - 5: ENVIRONMENTAL FRAMEWORK (EMF)

The EMF approach is adopted when the potential environmental and social issues and impacts of a project and or series of sub-projects cannot be determined due the unavailability of information regarding project location or nature of project interventions. This EMF provides set of steps, process, procedure and mechanism for ensuring adequate level of environmental and social consideration, describes the principles, objectives and approach to be followed to avoid or minimize or mitigate adverse impacts. EMF for HERP will be followed during project implementation for environmental and social integration in planning, implementation and monitoring of project supported activities. EMF highlights early environmental and social considerations at the HERP financed project selection level and provides guidance for required studies (environmental screening, environmental assessment, environmental management plans etc).

5.1 HERP Project Activities

The preliminary information regarding environmental and social setting of each activity under HERP will be collected during sub project identification. The environmental issues that needed so are checked/verified during project planning is shown in annex 1 and environmental screening format is shown in annex 2.

The likely project activities includes construction of buildings, retrofitting of college buildings/renovation/repair of buildings, construction of water supply schemes, rehabilitation of water supply schemes, construction of library building, construction of laboratory, construction of access roads and play grounds, support for laboratory etc (refer for more description to Chapter 1.1.). The impacts associated with these activities will be mainly related to the issues of slope and stability, water availability, structural safety, space are some of the major problems, while in Terai the issues related to quality of water (arsenic etc), security of school buildings, floods, structural safety, addressing the climatic factors in design are some of the challenges. Similarly in mountain, the issues of structural safety, availability of space, landslides, availability of construction material, stability and climatic factors are some of the challenges in infrastructure planning.

5.2 Potential Environmental Risks and Concerns

S.N	Environmental Issues	Significance	Remarks
1	Design/Pre construction phase Impact due to poor design and work planning	High	Obtain permissions as required from regulatory agencies, adherence with EMF for HERP /environmental screening No use of gravel or sand from the onsite or surrounding areas. Consider possible alternatives for construction materials (aggregates) from the certified suppliers Choice of landscape planning that gives the best economy in terms of excavation and fill in order to avoid or minimize soil erosion during excavation works for the construction of structures Design and construction as per National Building Code, Safe against Earthquake and fire Construction supervision by qualified Engineers/Sub-Engineers Student-friendly design & construction (as per relevancy of support under HERP) Water supply facilities (pre check for quality of sources

S.N	Environmental Issues	Significance	Remarks
			and follow)source protection measures, checking for arsenic in Terai is compulsory Separate toilets for girls & boys Construction of ramps for wheel chair movement etc Consideration of safety and security aspects, sustainability aspects in design Incorporation of energy and water conservation measures during infrastructure planning
Construction Phase			
2	Slope stability and land slides	Moderate	College buildings in mountain and hill region of Nepal fall on slopes. Poor site selection for building construction leads to instability, and lead high cost on account of earth retaining structures. Mitigation includes: <ul style="list-style-type: none"> ▪ Minimize work areas ▪ Keep vegetation clearing at the necessary minimum ▪ Stockpile materials in a safe manner, provide support to avoid any washouts or instability
3	Location of institutions and orientation, timing of construction	Moderate	This is very important as it determines magnitude, natural heating, and lighting available inside the building. Orientations should be based on the climate type of the place where college facilities /institutions are planned. The construction of physical facilities in institution shouldn't disturb the existing operation of higher education institutions. The construction should be planned during off hours and holidays as far as possible. Less noisy construction should be emphasized to avoid such disturbances.
4	Sanitation	Moderate	Adequate sanitation facility in college (toilets, personal hygiene practices) should be encouraged.
5	Water Quantity/Quality	Moderate	An easily accessible water supply that provides sufficient safe water to meet needs of higher education institutions. Colleges/Higher education institutions in Nepal are found using sources like protected springs, dug wells, boreholes, and piped water supply. The problem of arsenic contamination in ground water in colleges of Terai should be given special attention.
6	Wastes	Low to moderate	Solid waste should be disposed off properly. Key strategies for improving solid waste management and disposal are to minimize the waste by colleges and to recycle waste whenever possible.
7	Day Lighting and windows	Moderate	Poor indoor lighting in classroom, other college facilities can have many harmful effects on health and well being of teachers and students. Good lighting arrangement through proper design is essential.
8	Pollution (Air, Water, and Noise)	Low to moderate	The air, water and noise pollution issues during the construction and operation phases of the higher education institutions and administration building, and other related construction should be addressed. Water sprinkling in dusty road/areas, water management to avoid water logging and blockage of drain should be properly taken care of.
k9	Ventilation systems	Moderate	The poor ventilation in colleges may lead to respiratory problems, and easier transmission of infectious diseases. Constructing infrastructures with sufficient number of windows may improve ventilation.
10	Seismic Hazard	High	Earthquake safe construction, retrofitting in college building and other facilities shall be strictly followed.

S.N	Environmental Issues	Significance	Remarks
11	Fire Hazard	High	Awareness on fire hazard and required mitigation measures recommended.
12	Health and Hygiene	Moderate	The health and hygiene education and practices offered in colleges was felt to be inadequate. This needs to be improved.
13	Construction materials use/storage/disposal	Moderate	<ul style="list-style-type: none"> ▪ The use of local materials should be encouraged. ▪ Avoid use of wood in construction of colleges in Terai. Special attention should be given to control deforestation. ▪ The quarrying of sand from River should be limited to avoid any negative environmental impacts. Local quarrying of stone and other raw materials should be within limit not jeopardizing the local environment. ▪ The construction material should be stored in a safe place away from the reach of student, staff, and pedestrians. ▪ Design and implementation of climate friendly higher education institutions.
14	Laboratory safety and hazardous waste	Moderate	The laboratory safety and hazardous waste management in majority college laboratories in Nepal is poor. So, it is advisable that all recipient institutions for the laboratory under HERP should use environmentally friendly products, over stocking should be avoided
15	Operation Phase	Moderate	<p>Regular repair and maintenance of infrastructure, and facilities</p> <ul style="list-style-type: none"> ▪ Waste management ▪ Use of energy efficient appliances ▪ Adherence with water conservation measures ▪ Environmental friendly operation of laboratory (for applicable institutions), ensure for laboratory safety and proper management of waste ▪ Follow up and adherence with EMF ▪ Energy and water conservation measures ▪ To safeguard students, staff, and visitors college buildings and resources, to prevent entry of animals to limit the public access to colleges and for various safety and security purpose, necessary measures shall be taken due considerations

5.3 Environmental Screening

a. Environmental Screening and Categorization

Environmental screening and categorization will be proposed by recipient institution of HERP, and endorsed by UGC. This will be done during the selection of project and shall be an integral component of pre design phase. The detail screening checklist is included in annex 2.

Environmental review/analysis of each relevant HERP component is required to flag likely environmental issues in the proposed activities. It is advisable to flag environmental issues in such components. Each component of HERP which are related to infrastructure development will go through environmental screening in order to identify relevant environmental concerns as well as suggest any further investigation and assessment is necessary. This will be done during pre-feasibility study. Pre-feasibility team requires collecting/furnishing detailed information on environmental setting of the HERP supported project area. The expert assigned from UGC will review the sub project, environmental setting, and propose environmental category. Based on the environmental risks perceived, the proposal may fall in one of the following four categories:

b. Environmental Screening Criteria

Category I- Negative Listing of Sub-Projects:

Sub-projects/ activities under HERP in the category of 'Negative Listing' (annex 4) shall be rejected during screening.

Category II - Sub-Projects under HERP requiring EMP.

Threshold environmental criteria for sub-projects requiring IEE or EIA are identified on the basis of Environment Protection Act and Regulations 1997 as well as based on potential short-to-long-term adverse environmental impacts and their sensitivity. The sub project requiring EIA are excluded for funding. The activities/sub projects which trigger the IEE requirement shall be given low priority or avoided as far as possible (rational: IEE report preparation takes long time and its approval also takes substantial time). In case, if project requiring IEE is essential for funding, prior consent of UGC is necessary. In such cases, UGC will initiate for conducting IEEs and its approval through concerned ministry. However, each sub project under HERP with minor to major degree of environmental issue shall prepare Environmental Management Plan (EMP) except projects which falls in category III

Category III – Subproject /Activity to adapt Code of Practices.

The eligible subprojects activities under HERP that are not under the IEE requirements, but their implementation could still have some adverse environmental impacts (not significant); they fall under this Category III.

Environmental Code of Practice

The EMF contains generic Environment Code of Practice (ECP) that could be adapted to all activities/sub projects associated with HERP. The ECP will be included in the clauses of the contractual agreements. These ECP will be modified and improved and new sector ECP will be developed during project implementation phase. For that project that only requires use of environmental code of conduct, environmental officer (with support from UGC) will prepare sub project specific environmental code of practice or a simple EMP, which will be approved by UGC. For details pls refer Annex 3.

c. Environmental Monitoring and Auditing

Compliance to the environmental processes as well as implementation of necessary mitigation measures/ actions will be monitored at different levels and by different agencies. Regular monitoring will be done by the recipient institution. Recipient progress report will contain status of environmental mitigation works (activities implemented, issues encountered, new issues etc). The subproject progress report submitted by the recipient will contain environmental status, mitigations works implemented, difficulties faced, and unforeseen issues that may have arisen. The quarterly compliance monitoring will be done by UGC. Field based monitoring assessment will be conducted annually. UGC may outsource the monitoring as and when necessary. The monitoring report will be used by the implementing agencies for further improving the compliance.

5.4 EMF Implementation Arrangement

The overall implementation of the EMF will be the responsibility of UGC. For clarity, the implementation arrangements have been discussed below considering two scenarios: i) preparation phase ii) implementation phase

Preparation Phase

The proposals received from the beneficiary institutions for HERP supported activities will be screened as per the requirement of EMF. The proposals will be framed to contain information needed for the screening (beneficiary institutions may be asked to provide additional information if the information is not sufficient). The screening will determine whether there is need for further activities like IEEs or EMPs. The responsibility of preparing IEE/EMP will be with the beneficiary institution. However, considering the weak capacity of some of the Institutions technical support/guidance will be provided by UGC as and

when necessary. During the preparation phase UGC will give training awareness program to all the recipient institutions on EMF. The recipient's proposal will not be accepted until all environmental safeguard requirements are cleared.

Implementation Phase

The recipient institution will be responsible for implementing environmental mitigations, obtaining necessary permits (if needed), implementing the EMPs and management plan cited in the approved IEEs etc. UGC will give technical support/ guidance to the institution whenever required, environmental and social specialist may be outsourced as necessary. Regular monitoring of the environmental and social issues will be conducted by the recipient institution and the report will be submitted to UGC as part of the periodic progress report.

The compliance monitoring will be conducted by UGC, outsourcing the tasks to experts as necessary, on quarterly basis which will be used for further improving the safeguard compliance. This report will also be shared with the WB. The findings of compliance monitoring will be discussed with the relevant recipient institution for necessary action.

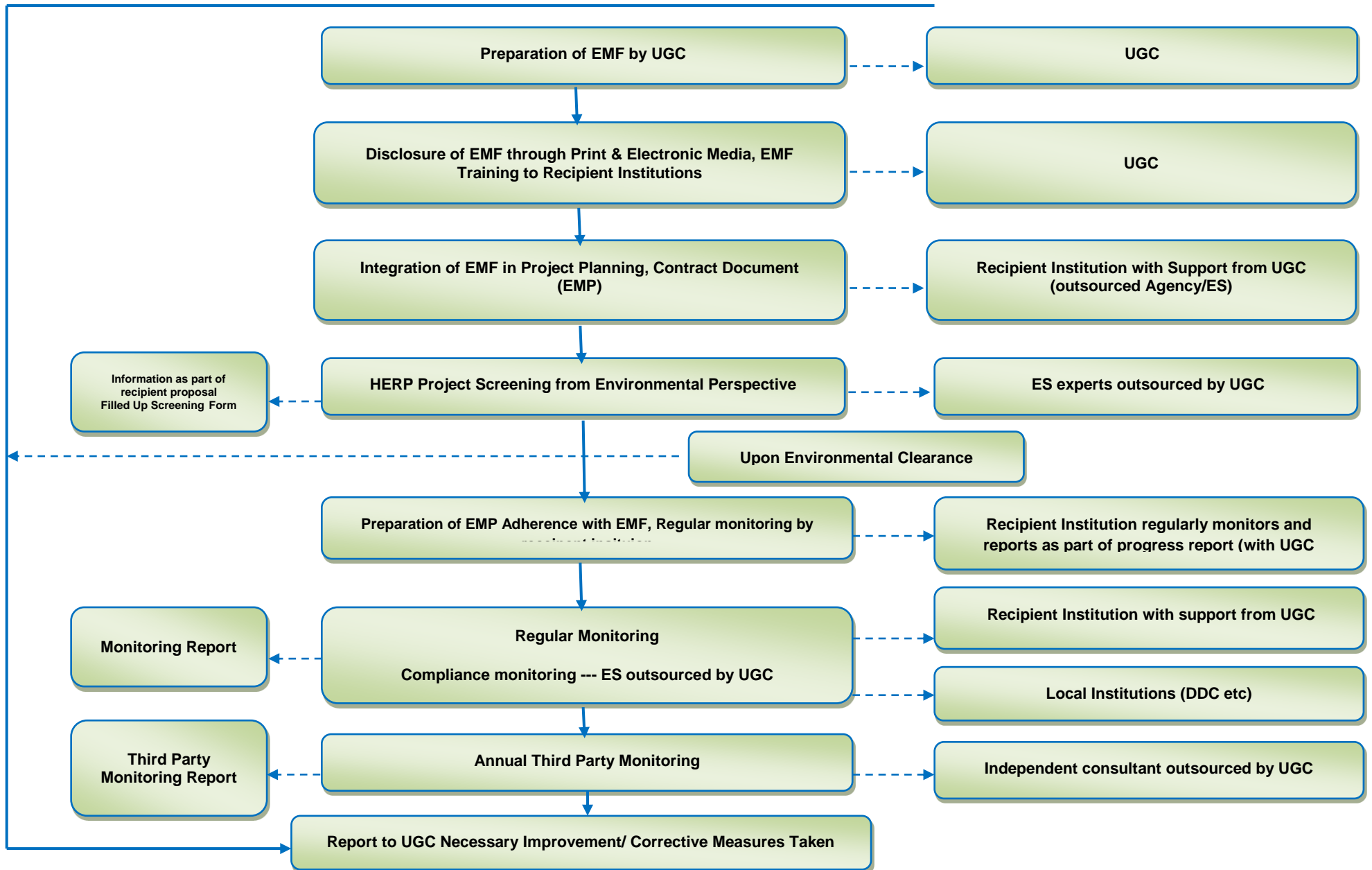
The third party monitoring/ evaluation of the project EMF implementation will be done twice by independent consultant hired by UGC during MTR and before the project terminates.

Mechanisms for Implementation of EMF in HERP

S.N.	Activities	Responsibilities	Remarks
1.	Preparation of ESMF, its Approval, Circulation & Incorporation in Program		
1.1	Preparation of ESMF	UGC	
1.2	Approval of ESMF for HERP	UGC	
1.3	Publication of ESMF in Nepali & its wider circulation	UGC	
1.4	Dissemination of ESMF through print and posting in web sites	UGC/WB	UGC will ensure that ESMF is an integral part of implementation of HERP
1.5	Incorporation of ESMF aspects in HERP	UGC	UGC will ensure that ESMF is an integral part of decision making for HERP activities.
1.6	Dissemination of ESMF through regular orientation programs organized for recipient institutions head, executive committee of colleges, relevant staff at UGC and TU	UGC/recipient institutions	Stakeholders are involved in exercises on how to incorporate ESMF provisions in planning and implementing HERP
2	Environmental Assessment & Management Steps in the Project	UGC	
2.1	ESMF Screening of the project activities	UGC and Implementing agencies (including TU, SFAFDB)	Follow approved ESMF, content of ESMP is included in annex 3
2.2	ESMP status and plan of recipient institutions	Recipient institutions with technical support/ guidance from UGC	Follow approved ESMF, content of ESMP is included in annex 3
2.3	Incorporate ESMP in related HERP activities (including inclusion of ESMP in construction contracts)	Recipient institutions with technical support/ guidance from UGC	
3.	Monitoring		
	<ul style="list-style-type: none"> - Regular monitoring - Site visited to representative samples 	<p>Recipient institutions</p> <p>UGC/Local institutions like DDC</p>	Checks screening report & incorporation of ESMF recommendations into subproject, field implementation, & record keeping also check progress

S.N.	Activities	Responsibilities	Remarks
			report/ prepares environmental report as part of the progress report
	– Compliance monitoring	UGC and implementing agencies (including TU and SFAFDB)	Checks implementation of ESMPs /compliance /and prepares quarterly monitoring report and submits to the PMU
	c. Third Party Evaluation – Mid-term – Project end	Independent consultant hired by UGC/TU	Verify ESMF compliance and identify issues and options for further improvement
4	– Interactions/Workshops/training program	UGC	UGC will conduct annual interaction to replicate the best practices & to avoid/mitigate issues/problem

Activity Flow Diagram and Implementation Modality



CHAPTER – 6: CONSULTATION AND INFORMATION DISCLOSURE

6.1 Stakeholders Consultation

Consultations during Preparation of EMF

Experts' consultations were conducted by the study team members for the preparation of EMF (annex 7). The main objectives of the consultation were to disseminate information about EMF requirements under HERP. Similarly, Consultation meetings with UGC, WB were conducted in a regular basis during the preparation of EMF. The consultation was mainly focused on contents of EMF, environmental and social screening process, likely impacts and mitigation measures, and capacity building measures for institutions involved in HERP.

Modes of Future Consultations

A range of formal and informal consultative methods will be carried out for all including, but not limited to: focus group discussions (FGDs), stakeholder's meetings, community discussions, and in-depth and key informant interviews; the key stakeholders to be consulted during sub-project preparation and program implementation includes:

- Project beneficiaries;
- Information dissemination about HERP and EMF to head of institutions, college management committee (twice a year)
- Political party representatives, community leaders, and representatives of community based organizations at central level and regional level
- Relevant government agencies (Central and district level)

S.N	Stages of Project	Stakeholders/parties to be consulted	Particulars of consultation	Remarks
1	At planning stage and preparation of EMF	UGC, World Bank, Experts, Head of institutions	Contents of EMF, Implementation modality of EMF	To obtain views, ideas concerns about integrating EMF in HERP
2	After disclosure of EMF	Recipient institutions prior implementation of EMF	Regarding the approach, timing of programs, M &E	Any site specific requirements (if felt issuing/overlooked/irrelevant) could be addressed
3	During the program implementation	Recipient institutions, political party representatives, representatives to community organizations	Obtain comments and feedback on EMF implementation	Any foreseeable improvements that are felt required in EMF could be done at project specific level. Twice a year, project related information, progress will be disseminated to the stakeholders and their feedback were noted for gradual improvement. Such concerns could also be addressed through project specific ESMP.
4	Annual program evaluation/third party monitoring	Recipient institutions and related stakeholders	Compliance with EMF	The report includes compliance with EMF, The gap in EMF Implementations of recommendations for improvement.

6.2 EMF Disclosure and Dissemination

The EMF disclosure and dissemination stages in HERP are highlighted below.

S.N	Stages of Project	Information dissemination approach and targeted audience	Remarks
1	Preparation of EMF for HERP	Disclosure through print and electronic media. Uploading in to website of UGC and the World Bank	A copy of EMF shall be providing to requested person/parties who are interested to review it.
2	Prior implementation of HERP	Workshop <i>Through workshop EMF shall be disseminated to all the head, management committee of HERP recipient institutions</i>	UGC will plan such workshop, which is also budgeted in EMF. Workshop proceedings shall be prepared and widely distributed among recipients institutions
3	During HERP implementation Stage	The experts/firms/contractors recruited through UGC/UGC will disseminate the components/aspects of EMF to management committee of college, local community local political representatives	
4	Monitoring and Evaluation Stage	The EMF compliance and need for improvements will be shared by UGC to recipient institutions along with disclosure of M&E report	<p>Based on finding of M&E report The process of participatory monitoring and evaluation (M&E) is advisable. Beneficiary committees can be formed for monitoring and supervision of the sub-project works/activities of HERP. The process should also ensure that the project benefits have properly reached the affected people and the execution of the project sticks its original designs so that social compliance is achieved. Following tasks are essential in this stages:</p> <ul style="list-style-type: none"> ▪ Ensuring the implementation of the EMF and timely delivery of entitlements (Consultation Role) <ul style="list-style-type: none"> ➤ Ensuring that the EMF is implemented according to a designed plan ▪ Reporting (Information Role) <ul style="list-style-type: none"> ➤ Reporting is an important aspect of the M&E process. Periodical reporting is important to generate information on the progress of the work undertaken. The status of the implementation of the EMF and progress has to be documented
5	During Reporting Stage	The details of EMF compliance in HERP and related aspects are prepared and sent to recipients institutions	Based on findings of annual project report of HERP

CHAPTER – 7: GRIEVANCES REDRESSAL MECHANISM

HERP believes that through a participatory process, acceptance of the sub-projects under HERP grievances can be minimized. However, it is necessary to establish an effective grievance redressal mechanism to address complaints/grievances related to environmental social issues that may arise. Any grievances and objections retarding the social aspects of the project will be referred to the project Grievances Redress Committee (GRC). The project GRC will be formed at project level and at central level.

The composition of the GRC at each HERP recipient institution level will be;

- Representative, district administration office
- Representative, college management committee
- Representative, district development committee

The petitioners can lodge the complain at the institution level .

The grievances received at institution level will be recorded and sorted out within 14 days from the date the complaint is received. If grievances couldn't be sorted out or it needs to be dealt by central level then it will be forwarded to the central level grievance committee.

The formation of central level grievance committee comprises of:

- Member Secretary of UGC
- Representative from HERP recipient institutions management board/committee
- Staff member (nominated) by UGC as member secretary

Any grievance against the members of the central grievance committee shall be forwarded to the UGC board.

CHAPTER – 8: MONITORING AND REPORTING

8.1 Monitoring

The EMF requires detailed supervision, monitoring and evaluation of the impact of the subproject on the environment and social aspects. For this purpose a Monitoring & Evaluation (M&E) system will be established for the HERP. UGC and implementing agencies will be responsible for implementing EMF for periodic internal monitoring to ensure EMF implementation. Internal monitoring will be carried out focusing on outcomes, outputs and implementation progress for each sub-grant. UGC may establish ESMF unit or outsource the regular monitoring.

External evaluation will be conducted by independent experts using quantitative and qualitative methods. The external evaluation will be conducted in midterm and end of the project period. The UGC may coordinate with the district level organizations like DDC for midterm monitoring.

Responsibility of Monitoring: Recipient institution has prime responsibility for regular monitoring, besides UGC is responsible for compliance monitoring as well as final evaluation. The midterm and final term monitoring shall be done by the independent expert. Coordination with district level organizations like DDC will be sought where necessary.

The regular monitoring includes;

- Adherence with EMF for HERP
- Compliance with EMF including mitigation measures
- Compliance monitoring of contractor in construction work
- Regular on site environmental monitoring

8.2 Proposed Monitoring Framework for HERP

8.2.1 Types of Monitoring

8.2.1.1 Regular Monitoring

As per the EMF, the regular monitoring will be performed by the recipient institution. If the recipient institution requires any external technical support/ guidance shall be provided by the UGC. Environmental status, mitigations works implemented, difficulties encountered and unforeseen issues etc will be reported in each progress report. The checklist, forms, formats, guidelines of EMF shall be followed.

8.2.1.2 Quarterly Monitoring

The quarterly monitoring on EMF compliance, including contractor compliance shall be performed by the ES/ agency outsourced by UGC. The logistics and support required for such type of monitoring is included in EMF. The EMF forms, formats, guidelines shall be followed. A quarterly monitoring report shall be prepared by the implementing agencies (UGC/TU/SFAFDB) based on the reporting by the recipient institutions. This report will also be shared with WB.

8.2.1.3 Annual Third Party Monitoring:

UGC will outsource this activity to independent consultant/firm/institution/expert to conduct third party monitoring of EMF compliance in HERP. The annual monitoring report shall be prepared and submitted to UGC. This report will also be shared with WB.

8.3 Contractors Compliance on EMF

The contractors engaged through sub components/activities under HERP are also principle stakeholders in the project whose roles and responsibilities are to identify and mitigate the adverse impacts right from the beginning. Therefore, contract document needs to clarify the following roles / responsibility of contractors: Some of the generic requirements are mentioned below. Such requirements are mentioned under the environmental and social requirements in contract clauses while preparing the bid document by the HERP recipient institutions through support of ES experts/institutions recruited by UGC. The following are some of the generic requirements recommended for inclusion in contract document of the contractor.

- Construction materials from approved site, and of standard quality.(good house keeping)
- Reclaim the quarry site and fill up borrow pit after the completion of the work,
- Maintain health and sanitation of the labor camp (if such camp is envisaged in work),
- Proper disposal of spoil along hill slopes, vegetated areas, water bodies and other environmentally sensitive areas
- Enforce use of recommended disposal sites that are approved by project manager,
- Provide health and safety gears to the labors,
- Restrict labors' use of forest products, hunting and poaching.
- Hire as many local laborer as possible (priority has to be given for poor, marginalized and Dalits),
- Avoid use of child labor (below 16 years age),
- Employ at least 33 percent women laborer in construction,
- Ensure life insurance of the laborers (major infrastructure development)
- Ensure there will be no disturbance to operate the institution while construction is ongoing (i.e. proper construction planning, use of less noisy equipment, storage of materials in a safe manner)
- Adherence with occupational health and safety standards for staff, workers (use of PPE, posting of safety signs, warning signs during construction)

The monitoring of contractor's compliance shall be done by expert individual or institution/firm (as required) for large infrastructure works. For small repair, and construction works the contractor's compliance could be monitored by recipient institutions and through regular quarterly and annual monitoring. The status of contractor's compliance monitoring shall be recorded and recipient institutions shall take necessary actions to correct the non compliance (if any).

Summary of Monitoring Framework

S.N	Type of Monitoring	Stages of Project	Responsibility	Aspects of Monitoring	Remarks
1	Regular	During construction	Recipient Institution (RI) with required guidance/ technical support from UGC (as needed)	Environmental status at site, mitigation works implemented, difficulties encountered, unforeseen issues etc Compliance with mentioned in bid documents etc	Monitoring report shall be prepared to UGC as part of the progress report
2	Quarterly	During construction	UGC	Review of regular monitoring report, on the spot verification of EMF and EMP compliance, contractor's compliance to EMF and bid document etc	Deliverables: Quarterly Monitoring report to UGC/TU/SFAFDB
3	Third Party Monitoring	MTR and end of	UGC out sourced	Review of regular	Deliverables:

S.N	Type of Monitoring	Stages of Project	Responsibility	Aspects of Monitoring	Remarks
		project	independent experts/firms	and quarterly monitoring, and the spot monitoring as per the EMF and the adequacy of EMF prepared for the project.	Monitoring report

CHAPTER - 9: CAPACITY BUILDING

9.1 Existing Capacity Assessment for the Implementation of EMF

9.1.1 The Roles and Functions of Implementing Agencies in HERP

University Grant Commission (UGC): UGC is responsible for the development and improvement of higher education institutions in Nepal. In his regard, UGC will implement HERP upon endorsement by the Government of Nepal. UGC's role is

- To advise the GoN on the establishment of new universities,
- To formulate policy for the allocation of government grants to the universities and higher education institutions,
- To disburse grants to universities and make recommendations to the concerned bodies for additional grants.
- To coordinate among the universities.
- To take necessary steps for determination and maintenance of standards of higher education.
- To formulate necessary policies and programs for the promotion and enhancement of quality in higher education.
- To make necessary arrangement on the exchange of scholarships, fellowships etc between the universities and educational institutions within or outside Nepal.

The HERP budget is administered through UGC. Based on the approved program and budget, UGC will support the public campuses. Through UGC, HERP would support implementation of the National Higher Education Policy which focuses on development and innovation, access and equity, quality and relevance, financing, and governance. UGC will be responsible for ensuring implementation of EMF through recipient institutions. UGC will allocate budget for EMF implementation. The budget also includes for monitoring of EMF implementation and capacity building of UGC, and recipient institutions. UGC is responsible for implementing HERP programs in universities (except TU), and its affiliated campuses, and TU affiliated campuses. In addition, UGC will also involve in establishing quality assurance/quality accreditation and EMIS system, drafting rules and regulations in higher education sectors.

Tribhuvan University (TU): HERP would support TU's plans for decentralizing and modernizing the examination system, streamlining processes, and enhancing OCE's capacity and efficiency. TU will approve its program and program budget for HERP through UGC. Based on the approved program, TU will implement its activities. The central departments of TU, research institutions, resource centers etc are eligible recipients under these criteria. TU will periodically report their progress to UGC.

Recipient Institutions (RI): All the selected universities and their community campuses will have MoU with UGC for implementing HERP. Based on the MoU, RI will implement the activity and fulfill the requirements stipulated in MoU. The UGCs will support the necessary support to RI in executing such activities. UGC will conduct the regular monitoring of such activities. EMF will be implemented by RI and necessary support for its implementation will be provided by UGC.

9.1.2 Capacity of the Implementing Agencies

S.N.	Organization/Agency	Existing Capacity			
		Knowledge/Experience Environment Management	Manpower	Budget	Logistics
1	UGC	X	X	X	X
2	TU	√	Available (e.g Central Department of Environment, Sociology department, institute of engineering)	X	X
3	Recipient institutions/colleges	X	X	X	X

UGC lacks the capacity for implementing EMF. Similarly, there is no capacity at recipient institutions to deal in this matter. So, it is recommended to outsource the work to the third party through competitive bidding process. Since TU and some of its affiliated colleges have capacity for EMF training, monitoring and supervision of activities. Such entities could be contracted for certain tasks including for environmental screening, providing technical support/ guidance to recipient where needed, awareness/ orientation/ training, and periodic compliance monitoring. This will help to build the capacity of TU/TU affiliated colleges and also gets the job done with required standards.

9.2 Capacity Building Measures Proposed for HERP Stakeholders

S.N	Name of entity	Type of capacity building measures proposed	Remarks
1	UGC	Orientation and training on EMF to UGC staff, orientation and training to short term staff hired to look after EMF implementation. UGC will hire short term engineer, environment expert as and when required basis and they will be adequately oriented in EMF implementation. Recruitment of external experts and strengthening the capacity of in-house expert by working together.	UGC will prepare EMF, disseminate it to all the HERP participating institutions.
2	Universities (TU/KU/Others)	Relevant departments of TU/KU or similar agency can be contracted for monitoring of EMF implementation/compliance for HERP participating institutions. Such departments/units of KU/TU may be provided with refresher/orientation training by EMF experts. Skill transfer from resource person to in house staff on ESMF (screening, monitoring etc), and in overall concept.	
3	Participating Institutions (PI)	EMF guidelines will be widely distributed in such institutions. EMF orientation training will be provided to principal, head of management committee, and other relevant persons as required. Training is an important component for developing capacities. UGC will integrate EMF training in its regular training cum orientation program for recipient colleges. Such cost will be inbuilt in overall training budget. Skill transfer in ESMF related aspects (from experts to key staff of PI) Monitoring of ESMF compliance will be as a part of comprehensive monitoring activities including reform monitoring, procurement monitoring and financial monitoring.	

ANNEXES

ANNEX 1: A. ENVIRONMENTAL ISSUES TO BE CHECKED/VERIFIED DURING PROJECT PLANNING AND IDENTIFICATION PHASE

- Activities Triggering TORT (Trespass, Nuisance, and Negligence) in a community
- Activities triggering EPA/EPR or sectoral acts related to environment
- Factors responsible for creating waste (solid, liquid, gaseous), toxic waste (chemical, batteries from laboratory etc)
- Activities causing possibility of forest degradation and possible loss of vegetation for timber and fuel wood.
- Impact on topography and land use changes
- Activities triggering climate change related impacts
- Activities generating solid and hazardous wastes (laboratories)
- Water quality and quantity
- Sanitation (disposal of waste water and sewerage/septage management)
- Water consumption and pressure on sources
- Surface Water pollution/ pressure :
- Groundwater pollution/ depletion/ pressure:
- Air pollution:, noise pollution etc during construction
- Maintain greenery and open spaces
- Environmental situation and human health (student/staff/neighbors)..
- Occupational Health and Safety issues during construction and in operation of infrastructures
- Issues related to noise and vibrations and impact on operation of existing classes/programs of colleges/institutions
- Possible burden on local infrastructures
- Traffic management related environmental issues.
- Environment friendly construction
- Natural hazard and risks – river cutting, flooding, earthquake, landslides/erosion, fire hazard etc
- Structural safety and status of existing infrastructure

ANNEX- 2: ENVIRONMENTAL SCREENING CHECKLIST AND FORMAT

The following checklist may be used as a reference guide during environmental screening of the proposed civil works/physical infrastructure upgrading or construction.

- Is there flood risks?
 - Water inundation and river-bank cutting due to natural river/stream floods.
 - Temporary water-inundation/water-logging due to blockage of surface water run-off drainage systems (by building, walls, disposal of construction wastes etc).
- Is there landslides & erosion risks?
 - Steep & vulnerable slopes, weak geological areas (in the up and down slopes)
 - Diverted water causing erosion and landslides in the vicinity
- Check the condition of the present building? Design/structure/Drawings available?
- Does the design incorporate earthquake consideration/standards? Location of the facility in high earthquake risk zone (such as thrust and fault lines).
- Water Management
 - Are slope drainage designs adequate?
 - Are drainage outfalls unprotected against scour and erosions?
 - Are there any disruptions of drinking water or any community water usage?
- Does the plan and design incorporate fire-resistant and fire-fighting considerations?
- Is there a practice of conducting drills/orientations on earthquake, flood, fire-fighting etc?
- Drinking water
 - Is there provision for adequate amount of drinking water as defined in the standards?
 - Is the drinking water quality checked? (check for arsenic in Terai)
 - Is there any pollution to ground water? Is there any issue related to over extraction of underground water?
- Sanitation
 - Does the institution have adequate (toilets as defined in the standards-separate for ladies and gents? Are there separate toilets for teachers/staff and the trainee/students?
 - Where and how the toilet wastes (sewage) is dispose of? Septic tanks are built?
 - Is there solid waste collection and disposal system? (waste pit etc)
- Is there existing laboratory or plan to built new laboratory?
 - Where the wastes generated from the laboratory go? (waste, batteries, chemicals)
- What other hazardous wastes may be generated due laboratory? How the wastes are managed? (depends on the materials used/consumed in institutions)
- Soak pits or ponds constructed for waste water?
- Are there protective gears provided to workers/faculties/students?
- For addition of floor, structures in already built structures, please check the quality, strength, and technical viability/design etc. (must be safe and technically acceptable)
- Is it likely that the physical infrastructure results encroachment on the common property (land belonging to forest, impact on wildlife?)
- Are there risks of accident during construction/upgrading (risks to students, staff/teachers, workers, etc)?
- Is there chance of noise pollution/disturbance by upgrading/construction civil works or during operation due to location and lack of sound-proof measures etc?
- Have climatic factors been by the plan and design of the physical facility?
- Have the plan and design incorporated measures to control dusts during construction/upgrading civil works?
- Is the design use defined ventilation standards?

- Is the design use defined light standards?
- What security/safety measures is in-place or the institute plans to have in place?
- Is there a longer-term area perspective plan/master-plan for the development physical infrastructure of the institutions? Is it likely to result congestion?

Environmental Screening Format

A.	Proposed physical infrastructure upgrading/construction activities I. II. III. IV.	
B	Potential environmental issue and screening stage suggestions	
S.N	Issues (during upgrading/ construction and/or operation)	Remarks/suggestions
1 .	Risks of Flood, landslide/erosion hazards	
2 .	Water inundation, drainage problem	
3 .	Earthquake and fire hazards	
4 .	Drinking water (quality, quantity)	
5 .	Wastes (Solid, liquid), management of institution wastes	
6 .	Solid wastes and septage management of institutions	
7 .	Issues of surface water runoff, issues related to ground water pollution/over extractions etc	
8 .	Chemical pollution/hazardous wastes (from laboratories, etc)	
9 .	Encroachment into common property (forest, unregistered land, lands of cultural entity, wildlife habitat etc)	
1 0 .		
1 1 .	Risks of accident during construction/upgrading	
1 2 .	Noise pollution and disposal of construction wastes	
1 3 .	Air pollution, dusts	
1 4 .	Source of construction material, and material processing/ crushing etc	
1 5 .	Sound, ventilation and light (facility design and standards)	
1 6 .	Health and safety related issues during construction	
1 7 .	Use of locally available materials	
1 8 .	Environmental and climatic consideration in plan and design	
1 9 .	Long-term infrastructure Master Plan of the institute	
Screening conclusions/ recommendations		
C. Screened By		(Signature and Date)
I.		
II.		
F. Screening Approved by		

Sketch of the Institute premises, its surroundings and lay-out plan of the infrastructure and other pertinent details.

ANNEX 3: ENVIRONMENTAL CODE OF BEST PRACTICES FOR SUB PROJECTS/ACTIVITIES UNDER HERP

Environmental code of best practices for various types of HERP projects have been presented in following pages. These best practices should be applied in conjunction with the standard technical standards of concerned infrastructures for preparation of designs. There are generic and project specific best practices as well. Such type of projects within HERP requires specific best practices to be followed. Accordingly, best practices to be followed for specific type of sub projects and generic environmental best practices to be followed are elaborated below.

Best Environmental Practices

- Solid Waste Management with 3R principles
- Adoption of Environmentally Sound Technologies (energy efficient system design, selection of less polluting technology)
- Following of Health and Safety Standards in construction projects
- Avoid using hazardous chemicals in construction activities (like lead free paints)
- EHS orientation and job specific training to employee
- Adherence with GoN Rules, Regulations, Policies and WB policies
- Follow up of formats and checklist developed by ministries
- Regular monitoring, maintaining log books
- Construction work to be confined to day time
- Regular record keeping as per EMP/requirements, maintaining monitoring report
- Correction of shortcomings, periodic review meetings, assigning roles and responsibilities
- No or less nuisance to the public/community
- No or less impact on local natural resources. In case of impacts, proper mitigation measures should be devised to address it.

C. Implementation/Construction

Construction Approach

- Local people or people's representatives should be involved construction management to better care local environment, generate local ownership feeling and to enhance transfer of technology to local people.
- Rural population of Nepal is heavily unemployed or under-employed. Thus, as far as possible labour-based approach should be applied by deploying locally available labour force or workers from neighboring communities. Due to lack of high quality work management at local level, use of heavy equipments should be minimized in environment friendly local infrastructure construction.
- The construction materials (sand, stones, wood etc) should be extracted as per need only. Sites for quarrying should be selected such that the quarrying activity should not result into slope instability, erosion, disruption of natural drainage, riverbank cutting, destruction of vegetation and farmland and other physical resource. All borrow pit sites should be stabilized immediately after completion of quarry activity.

Managing Risks of Air, Water and Noise Pollution

- No horn region should be marked around institutions
- Waste and fluids from labor camps should be managed properly. Organic waste should be composed at least 30 meters away from the water sources.
- If possible, water should be sprinkled if dust is carried out by wind during construction phase.

Managing Risks of Chemicals, hazardous wastes from laboratories etc

- Special care should be applied to avoid chemical pollution of land and water bodies due to spilling of chemicals, fuel, lubricants, etc.

Appropriate Technology

- Maximum consideration should be made to use locally available construction materials.

Managing Risks of Air, Water and Noise Pollution

- Waste and fluids should be managed properly. Air and noise pollution will only nominal in such construction activities. However, when there are chances of such pollution, appropriate controlling measures should be applied like sprinkling of water.

**ANNEX 4: CRITERIA FOR NEGATIVE LISTING RELATED
OR LINKED WITH HERP**

Criteria for Negative Listing related or linked with HERP are as follows:

- i. Activity which triggers for conducting Environmental Impact Assessment (EIA)
- ii. HERP activities using or depending for its resources from national parks and protected areas or any critical aquatic and terrestrial habitat area.
- iii. HERP activities/subprojects that are located in defined/ known high risk zone such as landslide prone area, steep slopes, highly degraded land in hills, riverine area susceptible to annually flooding, and in areas causing large-scale soil erosion.
- iv. Any activity that involves significant land clearance and excavation on slopes greater than 45 degree.
- v. Subproject/activities under HERP affecting the nationally or internationally renowned heritage site.
- vi. Sub project/activities under HERP that produce hazardous waste

ANNEX 5: PROJECT ENVIRONMENTAL MANAGEMENT PLAN

Format for simple Site Specific Environmental Management Plan

Impacts	Mitigation Measures	Responsibility	Timing of Action	Mitigation Cost

Note: explain the content of the table.

Sketch map of the proposed infrastructure location, surroundings, lay-out plan of the infrastructure facilities, and waste disposal system/sites.

Guidance for monitoring. What are the main issues / parameters to be checked during implementation (what issue/ parameter at what stage/when)?

ANNEX 6: SAMPLE EMP OF A COLLEGE GATE CONSTRUCTION/MINOR CONSTRUCTION WORK

Impacts	Mitigation Measures	Responsibility	Timing of Action	Mitigation Cost
Structural safety of the existing structure	Ensure it is safe for renovation, and for further construction	Project screening consultant/RI	Prior the preparation of Bid	Included in EMF
Impacts related to stockpiling of construction material	Construction material shall be stored/stock piled in designated area (fenced and secured, covered).	EMP should be integral of part of contract bid document. Contractor should adhere with it. RI/Consultant need to monitor this during construction	During bid document preparation, construction phase	Contractor's responsibility
Impacts related to traffic obstruction and traffic management, safety of students/staff	Adequate traffic signs, warning signs, and scheduling of transport operator in off office hours to avoid traffic congestion and inconvenience to student/staff. Scheduling of work in off hours of college and in weekend.	EMP should be integral of part of contract bid document. Contractor should adhere with it. RI/Expert need to monitor this during construction	During bid document preparation,	Awareness raising to students and staff by RI
Possibility of contamination of water source due sub project construction activities.	Discourage use of direct discharge of water in to water bodies without proper treatment. Awareness raising program in community regarding water sources protection	Proper management of water and safe discharge of waste water adhering with national standards are pre requisite for contractor hence such clauses shall be included in bid document	Bid document preparation stage, construction stage	Contractor's responsibility.
Impacts related to health and safety of workers, and students/staff	Use of safety signs in places, fencing of active work places/construction sites provision of PPE to workers.	Contractor	Clause to include in bid document, applied during construction phase	contractor's responsibility
Impacts related to liquid waste/improper drainage, solid waste, and sewage management during construction and operation phases of the project	Implementation of solid and liquid waste management system. Prohibition of littering and illegal dumping of waste in premises and its surroundings. <ul style="list-style-type: none"> • Mechanism of safe disposal of waste will be developed in the project site before the actual commencement of work • Prohibition of unwanted littering and discharge of waste 	Contractor	Construction stage	In built in contract cost.
Biological Environment				
Issues related to disturbance/cutting of trees	Tree cutting is strictly prohibited. Encourage plantation of tress as environmental enhancement measures	Contractor/RI	Construction and operation phases	Included in project cost

Impacts	Mitigation Measures	Responsibility	Timing of Action	Mitigation Cost
Socio-economic, Cultural, Environment				
Disturbance to local residents, community, bazaar, obstruction to their access, pollution etc	<p>Prior information dissemination to the public regarding the nature, schedule of work in advance</p> <p>Timely completion of work to minimize disturbance</p> <p>Adherence to pollution control measures as elaborated above.</p>	Information dissemination by the RI compliance by the contractor	Prior and during construction	Included in items under physical environment/project cost
Pressure on local infrastructures due to influx of workers	<p>Record keeping of workers</p> <p>Provide orientation and training to workers for maintaining social harmony, prohibition of ill social behaviors (alcohol, gambling etc)</p> <p>Local people shall be engaged in construction as per their skills and qualifications.</p>	Contractor	During construction	No cost allocated (Temporary residual impact)

ANNEX 7: DLIS, BASELINE, ACTIVITIES, EMF CONCERNS

DLIs, Activities and EMF concerns			
DLIs	Baseline	Achievement/ Activities	EMF concerns/actions
DLI 1: National Accreditation System functional	National Accreditation System established and key positions filled; Rules and regulations adopted; Accreditation guidelines announced; First Letter of Intent (LOI) invited from institutions/ programs;	Achieve: At least 150 programs/institutions accredited; Accreditation process reviewed; Activities: Call for Letter of Intent (LOI) expected to receive 450 LOIs; Self Assessments and institutional strengthening/reform/ involving construction, goods and service procurements; followed by peer review; UGC (QAAC) assessment and granting of accreditation certificate.	Adherence with EMF, Indicator : formation of EMF committee
DLI 2: Performance based financing extended to higher education institutions (HEIs)	Performance based financing guidelines ready; First call of application (COA) for grants published; Formula-based funding for autonomous campuses adopted; Criteria for performance-based regular funding for community campuses adopted	Achievement: Release of grants to all participating institutions on the basis of performance progress; impact study Activities: Training, orientations, seminars, workshops; computer based EMIS; ECA for students; curriculum reform, research and innovation; procurement of goods and services; construction	Proof of EMF orientation trainings.
DLI 3: Autonomy extended to additional campuses /schools	TU autonomy campus rules for constituent campuses revised; TU adopts rules for academic autonomy of affiliated campuses	Achievement: 14 institutions attained autonomy; impact study conducted Activities: Formulation of guidelines, institutional reform, management reform, infrastructure reform, construction, revision, procurement of goods and services	Assessment of infrastructure projects based on EMF
DLI 4: Examination reforms implemented and Academic calendar enforced in TU	Plan for enforcement of academic calendar prepared; Academic rules revised for completing academic calendar within one year	Achievement: <ul style="list-style-type: none"> • All student records computerized and verified; • Academic calendar of 150 program-years adhered to (for decentralized examinations); • Academic calendar of 12 bachelor's and 18 master's program; • Number of programs decentralized 50; • Impact study of reforms completed; • Results for remaining programs published within 2 months on an average (for centralized examinations) Activities: Institutional reform; training, orientation, construction, procurement of goods and services	
DLI 5: Academic reforms introduce	Status of existing programs reviewed and action plan for revisions finalized;	Achievement <ul style="list-style-type: none"> • 150 new programs initiated; • At least 80 programs revised; 	

DLIs, Activities and EMF concerns			
DLIs	Baseline	Achievement/ Activities	EMF concerns/actions
d: Revision of undergraduate and post-graduate programs and introduction of new programs	Areas of priority for new programs decided; First call of proposals for new programs issued	<ul style="list-style-type: none"> Impact study completed Activities: Program/curriculum development; Opportunities of enrolment in new program; institutional reform; classroom reform;	
DLI 6: Poverty targeted financial support scheme for disadvantaged students institutionalized	PMT processes for selection of students revised. Data base and process computerized; First call of applications (COA)	Achievement: Scholarship/work study opportunities provided to students selected in four cohorts each selected annually; Plan for sustainability of the scheme approved; Impact study completed;	
DLI 7: Institutions supported for academic excellence in priority areas through Research, Development and Innovation (RDI) awards	Research council at UGC formed; Key officers in place; Existing guidelines reviewed and revised; Priority areas for support identified; Parallel promotion rules adopted by TU;	Achievement: development of effective system for selection of competitive research, development and innovation activities; Linking RDI with national development needs and priorities; clusters and centers of RDI excellence, plan for sustainability approved; Impact assessment completed;	
		Activities: Selection of researchers (faculties and institutions) batches of proposals (Call Of Proposals) for RDI projects on annual basis; monitoring and follow-up; provisioning research funding; publications	

ANNEX 8 : LIST OF EXPERTS CONSULTED DURING PREPARATION OF EMF

SN	Name	Organization	Designation	Contact No	E-mail
1	Prof. Dr. Parasar P. Koirala	UGC	Chairman	9851032328	pp.koirala@ugcnepal.edu.np
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12	Mr. Shanker Bhandari	TU			-
13	Mr Drona Ghimire	WB	Environment Specialist		
14	Mr. Kamal Raj Dhungel		Consultant	9841690393	-
15	Mr. Prakash Ghimire	SFAFDB	Dep. Ex. Director		-
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