

Environmental Management Plan Checklist and Format for Low-risk Topologies

For low-risk topologies, an alternative to the commonly used “full text” EMP format is to have a checklist approach. The goal is to provide a more streamlined approach to preparing EMPs. This checklist-type format (“EMP Checklist,” see Annex 3) has been developed to provide “pragmatic good practice” and designed to be user friendly and compatible with safeguard requirements. A blank sample is attached as Annex 3.

The checklist-type format attempts to cover typical mitigation approaches to common low-risk topologies with temporary localized impacts. It is anticipated that this format provides the key elements of an Environmental Management Plan (EMP) to meet World Bank Environmental Assessment requirements under OP 4.01 (see Annex 1).

The EMP (Annex 2) format has two sections:

- **Part I:** constitutes a descriptive part (“site passport”) that describes the project specifics in terms of physical location, the institutional and legislative aspects, the project description, inclusive of the need for a capacity building program and description of the public consultation process. This section could be up to two pages long. Attachments for additional information can be supplemented if needed.
- **Part II:** includes the environmental and social screening in a simple Yes/No format followed by mitigation measures for any given activity and the monitoring plan for activities during project construction and implementation. It retains the same format required for standard World Bank EMPs.

Application of the EMP-Checklist

The practical application of the EMP-checklist would include the filling in of Part I to obtain and document all relevant site characteristics and activities. In Part 2 the type of foreseen works, as obtained from the design documents, would be checked and the resulting provisions listed below highlighted (e.g. by hatching the field or copy pasting the relevant text passages into the special provisions of the tender documents).

The whole filled in tabular EMP is additionally attached as integral part to the works contract and, analogous to all technical and commercial terms, has to be signed by the contract parties.

For the monitoring of the Contractor’s safeguards due diligence the designated construction inspector works with **Part C** of the EMP Checklist, the monitoring plan. This should be developed site specifically and in necessary detail, defining clear criteria and parameters which can be included in the works contracts, which reflect the status of environmental practice on the construction site and which can be observed/measured/ quantified/verified by the inspector during the construction works.

Part C would thus be filled in during the design process to fix key monitoring criteria which can be checked during and after works for compliance assurance and ultimately the Contractor’s remuneration.

ANNEX 1: Documents generally required by World Bank's Safeguard Policies

Policy No.	Topic	Documents / deliverables required during		
		preparation	implementation	operation
OP 4.01	Environmental Screening / Assessment (EA)	EA process, including EMF, EIA, EMP, MP	EMP / MP	(EMP) / MP
OP 4.04	Natural Habitats	included in EA under OP 4.01	compensation plan, included in EMP + MP, OP 4.01	included in EMP + MP, OP 4.01
OP 4.09	Pest Management	included in EA under OP 4.01	Pest Management Plan (PMP)	(reference in ISR/ICR)
OP 4.10	Indigenous Peoples	social assessment, IPP	IPP / RAP	(reference in ISR/ICR)
OP 4.11	Physical Cultural Resources	included in EA under OP 4.01	PCR management plan (part of EA)	(reference in ISR/ICR)
OP 4.12	Involuntary Resettlement	RAP (and other instruments)	RAP (and other instruments)	(reference in ISR/ICR)
OP 4.36	Forest	included in EA under OP 4.01	included in EMP + MP, OP 4.01	included in EMP + MP, OP 4.01
OP 4.37	Safety of Dams	dam safety report (DSR), TOR for PoE	DSR & emergency preparedness plan (ERP)	DSR & emergency preparedness plan ¹ , dam instrumentation & monitoring plan
OP 17.50	Disclosure	SIR	SCR, disclosure of ESIA & EMP	contd. information & consultation
OP/BP 7.50	International Waterways	notification of all affected riparian states		
OP/BP 7.60	Disputed Areas	legal / political negotiations		

Fields hatched in grey: no specific documents required at preparation stage

Acronyms:

DSR	dam safety report	EA	environmental assessment <i>process</i>
EIA	environmental impact assessment <i>report</i>	EMF	environmental management <i>framework</i>
EMP	environmental management <i>plan</i>	ESIA	environmental / social impact assessment
ERP	emergency response plan	IPP	indigenous peoples plan
ICR	implementation completion report	MP	monitoring plan
ISR	implementation status report	PoE	Panel of Experts
PCR	physical cultural resources	RAP	resettlement action plan
SCR	stakeholder consultation report	SIR	stakeholder identification report

¹ This is commonly not released to the Public.

ANNEX 1: Format for Environmental Management Plan
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Environmental Management Plan (EMP)
SUSTAINABLE ENERGY DEVELOPMENT PROJECT –

ENERGY SMALL AND MEDIUM ENTERPRISE GRANT PROJECT

Rwanda]

(Date)

PART I: Activity Description

1. INTRODUCTION

The Sustainable Energy Development Project (SEDP) is focusing on improving the policy and institutional framework for the Rwandan renewable energy market and funding for micro hydro and solar projects was to come from other donors and commercial banks and private investors. Progress is being made on policy development in relation to Independent Power Producers (IPPs), feed-in tariffs and off-grid hydro developments, but so far the number of private sector led small energy projects, which have been able to complete financing and start construction, has been limited. The proposed **Energy Small and Medium Enterprise Project** (The ESME Project) will complement the Sustainable Energy Development Project within the broader framework of the Government’s National Energy Access program supported through the SWAp. It will help the Government of Rwanda in mainstreaming renewable energy development by complementing the efforts made on grid extension through the IDA Electricity Access Scale up and SWAp Development Project.

- 1. Project Objective:** The Project Development Objective of the ESME Project is to increase private sector participation in the Renewable Energy Sector

- 2. Project Description:** The total project cost are estimated at US\$3.5 million and the ESME Project will have the following project components: (a) provision of grants to private developers for micro-hydropower projects and associated grid network connection lines (US\$2.4 million; (b) provision of grants to local businesses to support the support the marketing and development of a dealer network for low cost modern off-grid lighting solutions in rural areas (US\$0.6 million; (c) technical assistance and training for capacity development of local manufacturers and dealers of pico hydropower equipment. US\$0.2 million and; (d) operating costs for project coordination, administration, consulting services, training and implementation support (US\$0.3 million).

A pipeline of micro hydropower projects and associated distribution systems has already been identified largely through the work of the GIZ PSP Hydropower project. As part of project preparation GVEP International has undertaken a preliminary analysis of the readiness of the project pipeline. In a few cases, site development has been initiated and most for other sites, de-

tailed feasibility studies and business plans are expected to be completed in the next few months. The ESME Project funding will be used to provide grants for about five to seven projects currently being developed by private sector developers. Detailed eligibility criteria for grants from the ESME Project have been formulated.

Environmental Footprint: It is not yet certain which sub projects will be financed under the ESME projects. A preliminary review of the potential sub projects shows that these projects are expected to have only a modest impact on the environment and population. It is anticipated that 5 to 7 projects will be financed of which the individual capacity will remain well below 1 MW. No displacement of population is anticipated.

3. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

The overall responsibility for management of the bio-physical environment throughout Rwanda lies with the Rwanda Environment Management Authority (REMA), which was legally established in November 2003. EIAs and SEAs are obligatory for projects and programs according to the Organic Law on Environment (2005) for both private and public investments. REMA staff are competent but overstretched. REMA's EA office was transferred to the RDB, with the exception of the Monitoring and Enforcement unit, which is still under REMA, and is currently under the Investment Implementation Department. This means that there are two agencies with shared responsibility for the EIA process in Rwanda. REMA has retained responsibilities for monitoring and enforcement while the Environmental Analysts at RDB are responsible for the EIA process and issuing the license.

4. RELEVANT WORLD BANK POLICIES

In the case of the sustainable development of micro-hydropower the Project will provide a national operational framework for investments made by small Independent Power Producers (IPPs), and will also provide investment financing. Such investments will have limited environmental and social implications. However, the small size of these sub-projects, and the fact that they are run-of-river, would classify their impact as Category B under the World Bank Policy on Environmental Assessment (OP4.01), requiring a partial Environmental Assessment (EA). A World Bank Category B project is equivalent to the Government of Rwanda's Schedule 2 projects.

5. IMPLEMENTATION ARRANGEMENTS

Promoters seeking finance from the ESME project will have to submit a full project dossier to the SEDP coordinator for review and eventually approval by the Steering Committee. One of the criteria (see Annex 3 of the project paper) is the provision of an Environmental Impact Assessment (EIA) including the approval of REMA or its designated agency. For all sub project proposals the attached EMP checklist will be completed. All project proposals will have to be submitted for approval to the Bank including the EIA.

6. ENVIRONMENTAL SCREENING, ASSESSMENT AND MANAGEMENT

A Resettlement Policy Framework (RPF) and Environmental and Social Management Framework (ESMF) have been prepared under the Electricity Access Scale up Project (EASP). These

frameworks are applicable to the SEDP and were publicly disclosed by the GoR and IDA in January 2009. However, since the framework at the time did not anticipate the funding of micro hydro-projects the operational manual for the SEDP will be amended to include the eligibility criteria for sub-projects which include the preparation of an EIA in accordance with REMA requirements. The Bank will review each EIA before a sub project is approved.

The SEDP and ESME project will benefit from the experience built within the existing Project Coordination Unit (PCU) created for the SEDP project within EWSA. In the last two years, EWSA has expanded its environmental and social team.

7. Potential Environmental Impacts.

The impacts are not expected to be significant but the Bank will review each EIA and the proposed mitigating measures to ensure that they are in compliance with the World Bank Operational Policies. **Environmental Management Approach**

REMA has a solid framework for EIAs in place, and in addition both the Steering Committee and the Bank will review each sub project proposal

8. MONITORING AND REPORTING

Each sub project will have its own monitoring and reporting requirements, which will be consolidated and reported through the SEDP coordinator to the bank on a regular basis

Part II : EMP Checklist for Activities (To be completed for each sub project)

PART A: INSTITUTIONAL & ADMINISTRATIVE				
Country				
Project title				
Scope of project and activity				
Institutional arrangements (Name and contacts)	WB (Project Team Leader)	Project Management	Local Counterpart and/or Recipient	
Implementation arrangements (Name and contacts)	Safeguard Supervision	Local Counterpart Supervision	Local Inspectorate Supervision	Contactor
SITE DESCRIPTION				
Name of site				
Describe site location	Attachment 1: Site Map []Y [] N			
Who owns the land? Land title information if available				
Geographic description				
LEGISLATION				
Identify national & local legislation & permits that apply to project activity				
PUBLIC CONSULTATION				
Identify when / where the public consultation process took place				
INSTITUTIONAL CAPACITY BUILDING				
Will there be any capacity building?	[] N or []Y if Yes, Attachment 2 includes the capacity building program			

PART B: ENVIRONMENTAL /SOCIAL SCREENING			
Will the site activity include/involve any of the following potential issues and/or impacts:	Activity and potential issues and/or impacts	Status	Additional references
	1. Building rehabilitation <ul style="list-style-type: none"> • Site specific vehicular traffic • Increase in dust and noise from demolition and/or construction • Construction waste • Risk of accidents and injuries 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section B below
	2. New construction <ul style="list-style-type: none"> • Excavation impacts and soil erosion • Increase sediment loads in receiving waters • Site specific vehicular traffic • Increase in dust and noise from demolition and/or construction • Construction waste • Risk of accidents and injuries • Soil erosion 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	See Section B below
	3. Individual wastewater treatment system <ul style="list-style-type: none"> • Types of waste water treatment system • Effluent and / or discharges into receiving waters 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section C below
	4. Historic building(s) and districts <ul style="list-style-type: none"> • Risk of damage to known/unknown historical or archaeological sites 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section D below
	5. Acquisition of land ² <ul style="list-style-type: none"> • Encroachment on private property • Relocation of project affected persons • Involuntary resettlement • Impacts on livelihood incomes 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	See Section E below
	6. Hazardous or toxic materials ³ <ul style="list-style-type: none"> • Removal and disposal of toxic and/or hazardous demolition and / or construction waste • Storage of machine oils and lubricants • Risk of surface and ground water pollution 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section F below
	7. Impacts on forests and/or protected areas <ul style="list-style-type: none"> • Encroachment on designated forests, buffer and /or protected areas • Disturbance of locally protected animal habitat 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section G below
	8. Handling / management of medical waste <ul style="list-style-type: none"> • Clinical waste, sharps, pharmaceutical products (cytotoxic and hazardous chemical waste), radioactive waste, organ- 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section H below

² Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/transferred and affects people who are living and/or squatters and/or operate a business (kiosks) on land that is being acquired.

³ Toxic / hazardous material includes and is not limited to asbestos, toxic paints, removal of lead paint, etc.

	<ul style="list-style-type: none"> ic domestic waste, non-organic domestic waste On site or off-site disposal of medical waste 	
	<p>9. Traffic and Pedestrian Safety [X] Yes [] No</p> <ul style="list-style-type: none"> Site specific vehicular traffic Site is in a populated area Possibility of bypass access road to minimize disturbance to population <p style="text-align: right;">See Section I below</p>	
ACTIVITY	PARAMETER	GOOD PRACTICES MITIGATION MEASURES CHECKLIST
A. General Conditions	Notification and Worker Safety	<p>(a) The local construction and environment inspectorates and communities have been notified of upcoming activities</p> <p>(b) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works)</p> <p>(c) All legally required permits (to include not limited to land use, resource use, dumping, sanitary inspection permit, REMA certificate) have been acquired for construction and/or rehabilitation</p> <p>(d) All work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment.</p> <p>(e) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots)</p> <p>(f) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.</p>
B. General Rehabilitation and/or Construction Activities	Air Quality	<p>(a) During interior demolition use debris-chutes above the first floor</p> <p>(b) Keep demolition debris in controlled area and spray with water mist to reduce debris dust</p> <p>(c) Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site</p> <p>(d) Keep surrounding environment (side walks, roads) free of debris to minimize dust</p> <p>(e) There will be no open burning of construction / waste material at the site</p> <p>(f) There will be no excessive idling of construction vehicles at sites</p> <p>(g) Put tarps over trucks transporting fine debris materials</p>
	Noise	<p>(a) Construction noise will be limited to restricted times agreed to in the permit</p> <p>(b) During operations the engine covers of generators, air compressors and other powered mechanical equipment should be closed, and equipment placed as far away from residential areas as possible</p> <p>(c) Impose speed limit to trucks and other machineries</p> <p>(d) In case blast to be carried out, inform the nearby community on the time and duration of the blasts</p>
	Water Quality	<p>(a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers.</p>
	Waste management	<p>(a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities.</p> <p>(b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers.</p> <p>(c) Construction waste will be collected and disposed properly by licensed collectors</p> <p>(d) The records of waste disposal will be maintained as proof for proper management as designed.</p> <p>(e) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)</p>
C. Individual wastewater treatment system	Water Quality	<p>(a) The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities</p> <p>(b) Before being discharged into receiving waters, effluents from individual wastewater systems must be treated in order to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment</p>

		<p>(c) Monitoring of new wastewater systems (before/after) will be carried out</p> <p>(d) Channel domestic waste water to a suitable treatment facility</p>
D. Historic building(s)	Cultural Heritage	<p>(a) If the building is a designated historic structure, very close to such a structure, or located in a designated historic district, notify and obtain approval/permits from local authorities and address all construction activities in line with local and national legislation</p> <p>(b) Ensure that provisions are put in place so that artifacts or other possible “chance finds” encountered in excavation or construction are noted, officials contacted, and works activities delayed or modified to account for such finds.</p>
E. Acquisition of land	Land Acquisition Plan/Framework	<p>(a) If expropriation of land was not expected and is required, or if loss of access to income of legal or illegal users of land was not expected but may occur, that the bank task Team Leader is consulted.</p> <p>(b) The approved Land Acquisition Plan/Framework (if required by the project) will be implemented</p>
F. Toxic Materials	Asbestos management	<p>(a) If asbestos is located on the project site, mark clearly as hazardous material</p> <p>(b) When possible the asbestos will be appropriately contained and sealed to minimize exposure</p> <p>(c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust</p> <p>(d) Asbestos will be handled and disposed by skilled & experienced professionals</p> <p>(e) If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately</p> <p>(f) The removed asbestos will not be reused</p>
	Toxic / hazardous waste management	<p>(a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information</p> <p>(b) The containers of hazardous substances should be placed in an leak-proof container to prevent spillage and leaching</p> <p>(c) The wastes are transported by specially licensed carriers and disposed in a licensed facility.</p> <p>(d) Paints with toxic ingredients or solvents or lead-based paints will not be used</p>
G. Affects forests and/or protected areas	Protection	<p>(a) All recognized natural habitats and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities.</p> <p>(b) For large trees in the vicinity of the activity, mark and cordon off with a fence large trees and protect root system and avoid any damage to the trees</p> <p>(c) Adjacent wetlands and streams will be protected, from construction site run-off, with appropriate erosion and sediment control feature to include by not limited to hay bales, silt fences</p> <p>(d) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas.</p> <p>(e) Avoid bush fires</p> <p>(f) Monitor the evolution of invasive species in case of hydropower plant project</p>
H. Disposal of medical waste	Infrastructure for medical waste management	<p>(a) In compliance with national regulations the contractor will insure that newly constructed and/or rehabilitated health care facilities include sufficient infrastructure for medical waste handling and disposal; this includes and not limited to:</p> <ul style="list-style-type: none"> ▪ Special facilities for segregated healthcare waste (including soiled instruments “sharps”, and human tissue or fluids) from other waste disposal: <ul style="list-style-type: none"> a. Clinical waste: yellow bags and containers b. Sharps – Special puncture resistant containers/boxes c. Domestic waste (non-organic): black bags and containers ▪ Appropriate storage facilities for medical waste are in place; and ▪ If the activity includes facility-based treatment, appropriate disposal options are in place and operational
I Traffic and Pedes-	Direct or indirect hazards to public	<p>(b) In compliance with national regulations the contractor will insure that the construction site is properly secured</p>

<p>trian Safety</p>	<p>traffic and pedestrians by construction activities</p>	<p>and construction related traffic regulated. This includes but is not limited to</p> <ul style="list-style-type: none"> ▪ Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards ▪ Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. ▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement ▪ Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public. ▪ Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public. ▪
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PART 8: MONITORING PLAN							
Phase	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)
During activity preparation							
During activity implementation							
During activity supervision							

Specific subprojects will be finalized once exact sites and the extent of works are definitively determined. ESMPs and RAPs will be prepared as and when necessary. Monitoring plans will be prepared according to the specifics of each sub-project.