



Strengthening the resilience of smallholder farmers in the Dry Zone to climate variability and extreme events through an integrated approach to water management in Sri Lanka

Environmental and Social Management Plan

Environmental and Social Management Plan for Strengthening the resilience of smallholder farmers in the Dry Zone to climate variability and extreme events through an integrated approach to water management in Sri Lanka

Introduction

1. This Environmental and Social Management Plan is prepared in support of the project proposal on “Strengthening the resilience of smallholder farmers in the Dry Zone to climate variability and extreme events through an integrated approach to water management in Sri Lanka”. The proposal is submitted by the Government of Sri Lanka to the Green Climate Fund. In line with Sri Lankan law, an Environmental and Social Impact Assessment is not considered necessary for this project. As this project is supported by UNDP in its role as a GCF Accredited Entity, the project is screened against UNDP’s and GCF’s Social and Environmental Standards and deemed a project with a risk rating of Category B (medium risk).

Background on the project

2. The project promotes a paradigm shift through its integrated and holistic approach to enhancing water security and agricultural productivity for vulnerable communities in three river basins of the Dry Zone through three inter-linked Outputs:
 - a. Upgrading and enhancing resilience of village irrigation systems (small-scale rainwater storage reservoirs and related watersheds) and scaling up climate-smart agricultural practices in three river basins of the Dry Zone;
 - b. Enhancing climate-resilient, decentralized water supply and management solutions to provide safe, year-round drinking water to vulnerable communities; and
 - c. Strengthening climate and hydrological observing and forecasting systems to enhance water management and adaptive capacity of smallholder farmers to droughts and floods.

Assumptions underpinning the development of the ESMP

3. The following assumptions have been made in the preparation of this Environmental and Social Management Plan:
 - a. none of the interventions will require the displacement of people;
 - b. none of the interventions will be conducted in sensitive locations;
 - c. the excavation works for the “tanks” and irrigation channels will be undertaken during the dry season;
 - d. all sediment removed from the tanks will be placed on existing agricultural land;
 - e. the building of the rainwater harvesting tanks will be undertaken during the dry season to reduce erosional impacts;
 - f. where practicable, materials will be pre-fabricated to reduce waste;
 - g. all filters and other items used in the sterilization and purification of groundwater will be stored in a safe place to remove the chance of releasing chemicals into both surface and groundwater;
 - h. appropriate erosion and sediment control will be undertaken during all stages of the projects; and
 - i. there will be no release of pollution and/or chemicals as a result of the projects.

Governing Legislation

4. The legislative and policy basis for the provision of excavation works, the water supply and environmental protection in Sri Lanka is controlled through the:
 - a. *National Environment Act* (see discussion below);
 - b. *Antiquities Ordinance* (it is not anticipated that any antiquities will be found given the disturbed nature of the area);
 - c. *Fauna and Flora Protection Ordinance Act (1993)* – this Act provides the protection, conservation and preservation of the fauna and flora of Sri Lanka;

- d. *Forest Ordinance* – No. 17 (1907) and subsequent amendments;
 - e. *Provincial Environmental Act* (1991) (see discussion below); and
 - f. *National Heritage Wilderness Act*.
5. Additionally, the project is being undertaken by the UNDP. As such, the project will not only comply with Sri Lanka's national law, but with any obligations imposed and applicable under international law, whichever is the higher standard.

National Environment Act

6. The National Environmental Act created the Central Environmental Authority as a regulatory and enforcement agency. The Central Environmental Authority's statutory and enforcement powers were strengthened significantly in 1988, by an amendment to the Act. A cabinet level ministry to handle the subject of environment was created in 1990, with the appointment of a Minister of Environment to ensure that environmental issues will be given the required attention.
7. Under Part IV C of the Act, an Environmental Assessment is a legal requirement for a range of development projects. According to provisions of the *National Environment* Regulations, the only prescribed project type under the water resources and irrigation sector relevant to the project requiring an Environmental Assessment is "all river basin development and irrigation projects, excluding minor irrigation works". The rehabilitation of existing tanks and irrigation channels is considered as "minor irrigations works" by the Government of Sri Lanka and as such, based on previous work, the project does not require an Environmental and Social Impact Assessment.

Provincial Environmental Act 1991

8. This Act relates to North Western Provincial Councils. Environmental Assessments are required for prescribed projects that have been gazetted. The Act specifies two lists of project types (a) where an environmental impact assessment/initial environmental examination are mandatory and (b) where an environmental impact assessment/initial environmental examination can be requested if the Project Approving Agencies decides so. The scoping process is similar to that of the *National Environment Act* and will be headed by one of the two listed Project Approving Agencies; (a) Provincial Environmental Authority and (b) Provincial Ministry of Fisheries and Aquaculture. Representation of the Central Environmental Authority and the Ministry of Mahaweli Development and Environment (MMDE) in the scoping committee is a mandatory requirement. The process for the undertaking of the assessment and project approval follow that in the *National Environment Act*.

Overview - Institutional Requirements for the Environmental and Social Management Plan

9. The ESMP will be assessed for each project by the MMDE and UNDP prior to any works being undertaken. The ESMP identifies potential risks to the environment and social matters from the projects and outlines strategies for managing those risks and minimizing undesirable environmental and social impacts. Further, the ESMP provides a Grievance Redress Mechanism for those impacted by the projects that do not consider their views have been heard.
10. The MMDE will be responsible for the supervision of the ESMP. The UNDP will gain the endorsement of the MMDE and will ensure the ESMP is adequate and followed. The supervising engineer will ensure timely remedial actions are taken by the contractor where necessary.

Objectives of the Environmental and Social Management Plan

11. An ESMP is a management tool used to assist in minimizing the impact to the environment and reach a set of environmental objectives. To ensure the environmental objectives of the projects are met, this ESMP will be used by the contractor to structure and control the environmental management safeguards that are required to avoid or mitigate adverse effects on the environment.
12. The environmental and social objectives of the projects are to:
- a. ensure the excavation works undertaken in the tanks and agricultural irrigation channels do not cause environmental and social impacts;
 - b. provide potable water to the people of the central and northern zones of Sri Lanka to reduce as practicable, the impacts of heavy metals and other chemicals being ingested during the drinking of water that have caused significant health impacts including kidney disease in the past;

- c. provide an early warning system that ensures adequate measures are undertaken prior to any event;
 - d. encourage good management practices through planning, commitment and continuous improvement of environmental practices;
 - e. minimize or prevent the pollution of land, air and water pollution;
 - f. protect native flora and fauna from the impacts of excavation works;
 - g. comply with all applicable laws, regulations and standards for the protection of the environment; and
 - h. adopt the best practicable means available to prevent or minimize environmental impact.
 - i. describe all monitoring procedures required to identify impacts on the environment; and
 - j. provide an overview of the obligations of MMDE and UNDP staff and contractors in regard to environmental obligations.
13. The ESMP will be updated from time to time by the contractor in consultation with the UNDP staff and MMDE to incorporate changes in the detailed design phase of the projects.

General Management Structure and Responsibilities

14. The UNDP and MMDE are accountable for the provision of specialist advice on environmental and social issues to the contractor and for environmental and social monitoring and reporting. The MMDE will assess the environmental and social performance of the contractor in charge of construction throughout the project and ensure compliance with the ESMP.
15. The MMDE will be responsible for monitoring the implementation of the ESMP by relevant supervisory staff during construction. During operations the contractor will be accountable for implementation of the ESMP. Contractors working on the projects have accountability for preventing or minimizing environmental and social impacts.

Administration

16. The MMDE will be responsible for the revision or updates of this document during the course of work. It is the responsibility of the person to whom the document is issued to ensure it is updated.
17. The site supervisor will be responsible for daily environmental inspections of the construction site. The MMDE will cross check these inspections by undertaking monthly audits.
18. The contractor will maintain and keep all administrative and environmental records which would include a log of complaints together with records of any measures taken to mitigate the cause of the complaints.
19. The contractor will be responsible for the day to day compliance of the ESMP.
20. MMDE will be the implementing agency and will be responsible for the implementation and compliance with the ESMP via the contractor. The ESMP will be part of any tender documentation.
21. The Supervising Engineer/Project Manager will supervise the contractor, while the MMDE will be responsible for environment and social issues.

Site Supervisor

22. The site supervisor is responsible for ensuring compliance with the ESMP. The site supervisor will provide advice on effective environmental management of the project to the UNDP Staff, MMDE and engineers and all construction site personnel. The site supervisor is to also ensure the environmental awareness of project personnel is maintained through appropriate training. A compliance report on mitigation measures will be submitted by the UNDP to MMDE for the civil contractor. An independent review of the compliance may be undertaken during construction and post construction where deemed necessary.

Environmental Procedures and Site and Activity-Specific Work Plans/Instructions

23. Environmental procedures provide a written method describing how the management objectives for a particular environmental element are to be obtained. They contain the necessary detail to be site or

activity-specific and are required to be followed for all construction works. Site and activity-specific work plans and instructions are to be issued and will follow the previously successful work undertaking similar projects by the Asian Development Bank, IUCN and World Bank.

Environmental Incident Reporting

24. Any incidents, including non-conformances to the procedures of the ESMP are to be recorded using an Incident Record and the details entered into a register. For any incident that causes or has the potential to cause material or serious environmental harm, the site supervisor shall notify MMDE as soon as possible. The contractor must cease work until remediation has been completed as per the approval of MMDE.

Daily and Weekly Environmental Inspection Checklists

25. A daily environmental checklist is to be completed at each work site by the relevant site supervisor and maintained within a register. The completed checklist is forwarded to MMDE for review and follow-up if any issues are identified. A weekly environmental checklist is to be completed and will include reference to any issues identified in the daily checklists completed by the Site Supervisors.

Corrective Actions

26. Any non-conformances to the ESMP are to be noted in weekly environmental inspections and logged into the register. Depending on the severity of the non-conformance, the site supervisor may specify a corrective action on the weekly site inspection report. The progress of all corrective actions will be tracked using the register. Any non-conformances and the issue of corrective actions are to be advised to MMDE.

Review and Auditing

27. The ESMP and its procedures are to be reviewed at least every two months by UNDP staff and MMDE. The objective of the review is to update the document to reflect knowledge gained during the course of construction operations and to reflect new knowledge and changed community standards (values). Any changes are to be developed and implemented in consultation with UNDP Staff and MMDE. When an update is made, all site personnel are to be made aware of the revision immediately through a tool box meeting.

Training of Contractors

28. The main contractor has the responsibility for ensuring systems are in place so that relevant employees, contractors and sub-contractors are aware of the environmental and social requirements for construction, including the ESMP.
29. All construction personnel will attend an induction that covers health, safety, environment and cultural requirements.
30. All staff and contractors engaged in any activity with the potential to cause serious environmental harm (e.g. handling of hazardous materials) will receive task specific environmental training.

Public Consultation and Environmental and Social Disclosure

31. The ESMP includes public consultation as part of their stakeholder engagement plan. The project was discussed with MMDE staff and approved by Government. Extensive on-ground consultations have been undertaken in the design of the project and it is expected that consultation with any affected communities will continue. It is anticipated that based on the communities' needs, the projects will be fully accepted.
32. The UNDP and MMDE will develop and release Community Flyers on a regular basis to provide interested stakeholders with an update on the construction status of the projects. A publicized telephone number will be maintained throughout the construction of all projects to serve as a point of contact for enquiries, concerns and complaints. All enquiries, concerns and complaints will be recorded on a register and the appropriate manager will be informed. All material must be published in Sinhala, Tamil and English.
33. Where there is a community issue raised, the following information will be recorded:
 - a. time, date and nature of enquiry, complaint or concern;
 - b. type of communication (eg telephone, letter, personal contact);

- c. name, contact address and contact number;
 - d. response and investigation undertaken as a result of the enquiry, complaint or concern; and
 - e. actions taken and name of the person taking action.
34. Some enquiries, complaints and concerns may require an extended period to address. The complainant(s) will be kept informed of progress towards rectifying the concern. All enquiries, complaints and concerns will be investigated and a response given to the complainant in a timely manner. A grievance redress mechanism has been included in the ESMP to address any complaints that may not be able to resolved quickly.
35. A nominated contractor staff will be responsible for undertaking a review of all enquiries, complaints and concerns and ensuring progress toward resolution of each matter.

Complaints Register and Grievance Redress Mechanism

36. During the construction and implementation phases of any project, a person or group of people can be adversely affected, directly or indirectly due to the project activities. The grievances that may arise can be related to social issues such as eligibility criteria and entitlements, disruption of services, temporary or permanent loss of livelihoods and other social and cultural issues. Grievances may also be related to environmental issues such as excessive dust generation, damages to infrastructure due to construction related vibrations or transportation of raw material, noise, traffic congestions, decrease in quality or quantity of private/ public surface/ ground water resources during irrigation rehabilitation, damage to home gardens and agricultural lands etc.
37. Should such a situation arise, there must be a mechanism through which affected parties can resolve such issues in a cordial manner with the project personnel in an efficient, unbiased, transparent, timely and cost-effective manner. To achieve this objective, a grievance redress mechanism has been included in ESMP for this project.
38. The project allows those that have a complaint or that feel aggrieved by the project to be able to communicate their concerns and/or grievances through an appropriate process. The Complaints Register and Grievance Redress Mechanism set out in this ESMP and to be used as part of the project will provide an accessible, rapid fair and effective response to concerned stakeholders, especially any vulnerable group who often lack access to formal legal regimes.
39. While recognizing that many complaints may be resolved immediately, the Complaints Register and Grievance Redress Mechanism set out in this ESMP encourages mutually acceptable resolution of issues as they arise. The Complaints Register and Grievance Redress Mechanism set out in this ESMP has been designed to:
- a. be a legitimate process that allows for trust to be built between stakeholder groups and assures stakeholders that their concerns will be assessed in a fair and transparent manner;
 - b. allow simple and streamlined access to the Complaints Register and Grievance Redress Mechanism for all stakeholders and provide adequate assistance for those that may have faced barriers in the past to be able to raise their concerns;
 - c. provide clear and known procedures for each stage of the Grievance Redress Mechanism process, and provides clarity on the types of outcomes available to individuals and groups;
 - d. ensure equitable treatment to all concerned and aggrieved individuals and groups through a consistent, formal approach that, is fair, informed and respectful to a complaint and/or concern;
 - e. to provide a transparent approach, by keeping any aggrieved individual/group informed of the progress of their complaint, the information that was used when assessing their complaint and information about the mechanisms that will be used to address it; and
 - f. enable continuous learning and improvements to the Grievance Redress Mechanism. Through continued assessment, the learnings may reduce potential complaints and grievances.
40. In order to ensure that any grievance that may arise is resolved in a manner that will accrue maximum benefits to both the project and affected parties, the following aspects were taken into consideration in developing the grievance redress mechanism:

- a. special attention to cultural norms in rural Sri Lanka;
 - b. will building on existing national mechanisms in Sri Lanka;
 - c. ensure that community have information about the project activities, selection criteria and possible impact on them;
 - d. to build up productive relationships among the stakeholders including affected parties;
 - e. provide a mechanism for the affected parties to negotiate and influence the decisions and policies of the project which might adversely affect them;
 - f. mitigate or prevent adverse impacts of the project on the environment and produce appropriate corrective or preventive action;
 - g. to harmonize project activities with the activities of potentially affected parties to avoid grievances or disputes if possible before they arise; and
 - h. should a grievance or dispute arise, provide a forum for addressing such issues at the lowest possible level so that they are resolved as and when they occur.
41. Eligibility criteria for the Grievance Redress Mechanism include:
- a. Perceived negative economic, social or environmental impact on an individual and/or group, or concern about the potential to cause an impact;
 - b. clearly specified kind of impact that has occurred or has the potential to occur; and explanation of how the project caused or may cause such impact; and
 - c. individual and/or group filing of a complaint and/or grievance is impacted, or at risk of being impacted; or the individual and/or group filing a complaint and/or grievance demonstrates that it has authority from an individual and or group that have been or may potentially be impacted on to represent their interest.
42. The Grievance Redress Mechanism has been designed to be problem-solving mechanism with voluntary good-faith efforts. The Grievance Redress Mechanism is not a substitute for the legal process. The Grievance Redress Mechanism will as far as practicable, try to resolve complaints and/or grievances on terms that are mutually acceptable to all parties. When making a complaint and/or grievance, all parties must act at all times, in good faith and should not attempt to delay and or hinder any mutually acceptable resolution.
43. A complaints register will be established to record any concerns raised by the community during construction. Any complaint will be advised to the UNDP and MMDE within 24 hours of receiving the complaint. The complaint will be screened. Following the screening, complaints regarding corrupt practices will be referred to the UNDP for commentary and/or advice along with the Government of Sri Lanka's Attorney General's Department.
44. A summary list of complaints received and their disposition must be published in a report produced every six months in Sinhala, Tamil and English.
45. In order to ensure smooth implementation of the Project and timely and effectively addressing of problems that may be encountered during implementation, a robust Grievance Redress Mechanism, which will enable to the Project Authorities to address the grievances of the stakeholders of the Project has been established.
46. All complaints regarding social and environmental issues can be received either orally (to the field staff), by phone, in complaints box or in writing to the UNDP, MMDE or the Construction Contractor. A key part of the grievance redress mechanism is the requirement for the project proponent and construction contractor to maintain a register of complaints received at the respective project site offices. All complainants shall be treated respectfully, politely and with sensitivity. Every possible effort should be made by the project proponent and construction contractor to resolve the issues referred to in the complaint within their purview. However, there may be certain problems that are more complex and cannot be solved through project-level mechanisms. Such grievances will be referred to the Grievance Redress Committee. It would be responsibility of the MMDE to solve these issues through a sound / robust process.

47. The Grievance Redress Mechanism has been designed to ensure that an individual and/or group are not financially impacted by the process of making a complaint. The Grievance Redress Mechanism will cover any reasonable costs in engaging a suitably qualified person to assist in the preparation of a legitimate complaint and/or grievance. Where a complaint and/or grievance is seen to be ineligible, the Grievance Redress Mechanism will not cover these costs.
48. Information about the Grievance Redress Mechanism and how to make a complaint must be placed at prominent places for the information of the key stakeholders.
49. The Safeguards officer in the PMU will be designated as the key officer in charge of the Grievance Redress Mechanism. The Terms of Reference for these positions (as amended from time to time) will have the following key responsibilities:
 - a. PMU – Safeguards Officer
 - (i) coordinate formation of Grievance Redress Committees before the commencement of constructions to resolve issues;
 - (ii) act as the focal point at the PMU on Grievance Redress issues and facilitate the resolution of issues within the PMU;
 - (iii) create awareness of the Grievance Redress Mechanism amongst all the stakeholders through public awareness campaigns;
 - (iv) assist in redress of all grievances by coordinating with the concerned parties;
 - (v) maintain information on grievances and redress;
 - (vi) monitor the activities of MMDE on grievances issues; and
 - (vii) prepare the progress for monthly/quarterly reports.
50. A two tier Grievance Redress Mechanism structure has been developed to address all complaints in the project. The first tier redress mechanism involves the receipt of a complaint at the local/village and/or Divisional Secretariat level. The stakeholders are informed of various points of making complaints (if any) and the PMU collect the complaints from these points on a regular basis and record them. This is followed by coordinating with the concerned people to redress the Grievances. The Safeguards Officer of the PMU will coordinate the activities at the respective Provincial level to address the grievances and would act as the focal point in this regard. The Community Development Officer of the Local Authority or in the absence of the Community Development Officer, any officer given the responsibility of this would coordinate with the Safeguards and Gender Manager of the PMU and MMDE in redressing the grievances. The designated officer of the Local Authorities is provided with sufficient training in the procedure of redress to continue such systems in future.
51. Following the receipt of a complaint, the following entities would be informed:
 - a. Respective Local Authority;
 - b. Concerned Grama Niladhari;
 - c. Divisional Secretary in-charge;
 - d. Commissioner of Local Government of Province / Provincial Project Director; and
 - e. Safeguards Officer PMU.
52. The complaints can be made orally (to the field staff), by phone, in complaints box or in writing to the UNDP, MMDE or the Construction Contractor. Complainants may specifically contact the Safeguards Officer and request confidentiality if they have concerns about retaliation. In cases where confidentiality is requested (i.e. not revealing the complainant's identity to UNDP, MMDE and/or the Construction Contractor). In these cases, the Safeguards Officer will review the complaint, discuss it with the complainant, and determine how best to engage project executing entities while preserving confidentiality for the complainant.
53. As soon as a complaint is received, the Safeguards Officer would issue an acknowledgement. The Community Development Officer receiving the complaint should try to obtain relevant basic information

regarding the grievance and the complainant and will immediately inform the Safeguards Officer in the PMU.

54. The PMU will maintain a Complaint / Grievance Redress register at the Provincial Level. Keeping records collected from relevant bodies is the responsibility of PMU.
55. After registering the complaint, the Safeguards Officer will study the complaint made in detail and forward the complaint to the concerned officer with specific dates for replying and redressing the same. The Safeguards Officer will hold meetings with the affected persons / complainant and then attempt to find a solution to the complaint received. If necessary, meetings will be held with the concerned affected persons / complainant and the concerned officer to find a solution to the problem and develop plans to redress the grievance. The deliberations of the meetings and decisions taken are recorded. All meetings in connection with the Grievance Redress Mechanism, including the meetings of the Grievance Redress Committee, must be recorded. The Safeguards Officer for the Grievances Redress Mechanism will be actively involved in all activities.
56. The resolution at the first tier will be normally be completed within 15 working days and the complaint will be notified of the proposed response through a disclosure form. The resolution process should comply with the requirements of the Grievance Redress Mechanism in that it should, as far as practicable, be informal with all parties acting in good faith. Further, the Grievance Redress Mechanism should, as far as practicable, achieve mutually acceptable outcomes for all parties.
57. Should the grievance be not resolved within this period to the satisfaction of the complainant, the grievance will be referred to the next level of Grievance Redress Mechanism. If the social safeguard and gender officer feels that adequate solutions can be established within the next five working days, the officer can decide on retaining the issue at the first level by informing the complainant accordingly. However, if the complainant requests for an immediate transfer to the next level, the matter must be referred to the next tier. In any case, where the issue is not addressed within 20 working days, the matter is referred to the next level.
58. Any grievance related to corruption or any unethical practice should be referred immediately to the Sri Lankan Attorney General's Department and the Office of Audit and Investigation within the UNDP in New York
59. The Grievance Redress Committee formed at every Pradeshiya Sabha level would address the grievance in the second tier. A Grievance Redress Committee will be constituted for every Pradeshiya Sabha by the circulars issued by the Commissioner of Local Government, who would also be the Chairman of the Committee.
60. The Structure of the committee would be:
 - a. Commissioner of Local Government of the Province – Chairman;
 - b. Divisional Secretaries of the area;
 - c. Chairpersons of Pradeshiya Sabhas;
 - d. Representative of the non-government organization/civil society working in the area as nominated by the Commissioner of Local Government;
 - e. Member of a clergy of a Pradeshiya Sabha area;
 - f. Chairman of Samatha Mandal;
 - g. Grama Niladhari of the area; and
 - h. Safeguards Officer.
61. The Social Safeguard and Gender Officer from the PMU will coordinate with the respective Commissioner of Local Government in getting these Committees constituted for each Province and get the necessary circulars issued in this regard so that they can be convened whenever required.
62. The Terms of Reference for the Grievance Redress Committee are:
 - a. providing support to the affected persons in solving their problems;
 - b. prioritize grievances and resolve them at the earliest;

- c. provide information to the PMU and MMDE on serious cases at the earliest opportunity;
 - d. Coordinate with the aggrieved person/group and obtain proper and timely information on the solution worked out for his/her grievance; and
 - e. study the normally occurring grievances and advise PMU, National and Provincial Steering Committee on remedial actions to avoid further occurrences.
63. The Grievance Redress Committee will hold the necessary meetings with the aggrieved party/complainant and the concerned officer and attempt to find a solution acceptable at all levels. The Grievance Redress Committee would record the minutes of the meeting.
 64. Grievance Redress Committee will communicate proposed responses to the complainant formally. If the proposed response satisfies the complainant, the response will be implemented and the complaint closed. In cases where a proposed response is unsatisfactory to the complainant, the Grievance Redress Committee may choose to revise the proposed response to meet the complainant's remaining concerns, or to indicate to the complainant that no other response appears feasible to the GRC. The complainant may decide to take a legal or any other recourse if s/he is not satisfied with the resolutions due to the deliberations of the three tiers of the grievance redress mechanism.
 65. In addition to the project-level grievance redress mechanism, complainants have the option to access UNDP's Accountability Mechanism, with both compliance and grievance functions. The Social and Environmental Compliance Unit investigates allegations that UNDP's Standards, screening procedure or other UNDP social and environmental commitments are not being implemented adequately, and that harm may result to people or the environment. The Social and Environmental Compliance Unit is housed in the Office of Audit and Investigations, and managed by a Lead Compliance Officer. A compliance review is available to any community or individual with concerns about the impacts of a UNDP programme or project. The Social and Environmental Compliance Unit is mandated to independently and impartially investigate valid requests from locally impacted people, and to report its findings and recommendations publicly.
 66. The Stakeholder Response Mechanism offers locally affected people an opportunity to work with other stakeholders to resolve concerns about the social and environmental impacts of a UNDP project. Stakeholder Response Mechanism is intended to supplement the proactive stakeholder engagement that is required of UNDP and its Implementing Partners throughout the project cycle. Communities and individuals may request an Stakeholder Response Mechanism process when they have used standard channels for project management and quality assurance, and are not satisfied with the response (in this case the project level grievance redress mechanism). When a valid Stakeholder Response Mechanism request is submitted, UNDP focal points at country, regional and headquarters levels will work with concerned stakeholders and Implementing Partners to address and resolve the concerns. Visit www.undp.org/secu-srm for more details. The relevant form is attached at the end of the ESMP.
 67. The Safeguards Officer of the PMU will initially brief all the staff of PMU, the concerned officer in the office of the Commissioner of Local Government and the Office of the Chief Secretary, on the Grievance Redressal Mechanism of the Project and explain them the procedures and formats to be used including the reporting procedures. The Safeguards Officer will further brief the concerned Local Authorities, Grama Niladharis and Divisional Secretaries on the Grievance Redress Mechanism of the Project and explain to them the procedures and formats to be used including the reporting procedures.
 68. The Safeguard Officer of the PMU will prepare the Quarterly Report on the Grievance Redressal issues of the Project for addition into the quarterly report.

Key Environmental and Social Indicators

69. This section identifies the Key Environmental and Social Indicators identified for the project and outlines respective management objectives, potential impacts, control activities and the environmental performance criteria against which these indicators will be judged (i.e. auditable). This section further addresses the need for monitoring and reporting of environmental performance with the aim of communicating the success and failures of control procedures, distinguish issues which require rectification and identify measures which will provide continuous improvement in the processes by which the projects are managed.

Water Quality

70. A range of human-induced activities, such as deforestation, overexploitation, pollution, and the spread of invasive alien species has degraded the traditionally rich village tank cascade ecosystem. The project aims to rehabilitate the irrigation system and restore the cascade ecosystem, with enhanced biodiversity, to provide adequate and good quality water for all needs of the community. Specific objectives were as follows
 - a. to create awareness about the tank cascade ecosystem and its services; and
 - b. to carry out ecosystem restoration, with involvement from the community
71. A tank ecosystem comprises the following components:
 - a. tank bed;
 - b. tank bund;
 - c. upstream reservation;
 - d. upstream water hole to trap sediment;
 - e. upstream earth ridges to prevent sediment inflow;
 - f. downstream reservation;
 - g. command area drainage; and
 - h. downstream sanitary cordon.
72. Water, in the village tank cascade system, is used for many activities. Different water resources are used for one activity, and therefore, it is essential that integrated water resources management is practiced
73. The water quality parameters in many areas of Sri Lanka have evaluated levels that exceed Sri Lanka Standards as well as regional standards defined for Inland Water Quality for bathing, drinking and irrigation of agriculture.
74. Sources of water pollution include
 - a. soil erosion, especially during the start of rainy season is a cause for high sediment loads.
 - b. the main contributor to fecal coliform counts in water is the poor sanitation practices including overflowing septic tanks of the population of the area. Animal bathing in rivers and tanks could be another reason;
 - c. many different types of human activities that increase turbidity, change pH, add heavy metals and other types of pollutants including agrochemicals, fertilizer run offs, oils, solid waste etc; and
 - d. activities during the construction phase of the project including construction waste, oil spilling of machineries, solid disposal etc.
75. The importance of maintaining good quality drinking water for human and other life forms cannot be emphasized enough as it has wide ranging impacts. Apart from past and current impacts from water borne diseases, poor sanitation and drainage, the current concern with the role played by drinking water quality in regions of Sri Lanka afflicted with the Kidney Disease of Unknown Etiology has reinforced the urgency with which access to clean water should be provided. Water quality deteriorates further during dry periods. The access to good quality drinking water has policy makers, scientists, health sector professionals and community level organizations is another more recent seeking an urgent change to improve the supply of water to the target provinces of this project. As such, the project will provide potable water through the sterilization and purification of existing groundwater.
76. No baseline data has been collected at the site; however, prior to the commencement of works, baseline data will be collected to develop a suitable monitoring regime.

77. It is not anticipated that the sterilization and purification systems of groundwater and/or the rainwater harvesting systems will have adverse impact on water quality except for very minor, if any, release of water when pouring the concrete slabs for the sterilization and purification plants and tanks.

Performance Criteria

78. The following performance criteria are set for the construction of the projects:
- no significant decrease in water quality as a result of construction and operational activities;
 - no significant decrease in the quality and quantity of surface and/or groundwater as a result of construction and operational activities in proximity to the projects;
 - water quality shall conform to any approval conditions stipulated by UNDP, MMDE and/or other government departments, or in the absence of such conditions follow a 'no worsening' methodology;
 - no offsite impact will occur other than through the release of brine into the environment; and
 - effective implementation of site-specific Erosion, Drainage and Sediment Control Plan (EDSCP).
79. By following the management measures set out in the ESMP, rehabilitation of the tank and irrigation systems, construction and operation of the sterilization and purification plants and rainwater harvesting systems will not have a significant impact on water quality across the broader area.

Monitoring

80. A standardized water quality monitoring program has been developed for the project. The program is subject to review and update at least every two months from the date of issue. The site supervisor will be required to conduct a visual inspection and take water samples as appropriate for nitrates, phosphates, faecal coliforms, heavy metals, turbidity and oil/grease within or adjacent to their work area as a part of the daily site inspection checklist.

Reporting

81. All water quality monitoring results and/or incidents will be tabulated and reported as outlined in the ESMP. The MMDE must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to water quality is exceeded.

Table 1: Water Quality Management Measures

Issue	Control Activity (and Source)	Action Timing	Responsibility	Monitoring and Reporting
W1: Elevated suspended solids, nitrates, phosphates, faecal coliforms, heavy metals, silt content and turbidity in surface ground water systems.	W1.1: Develop and implement a site specific Erosion, Drainage and Sediment Control Plan (EDSCP) to address drainage control, sediment and erosion controls and stockpiling of materials including soil during construction of all components of the projects. EDSCP measures to be inspected regularly to ensure all devices are functioning effectively.	Pre Earthworks	Site Supervisor	Initial set up and then as required with reporting to MMDE and UNDP
	W1.2: Designated areas for storage of fuels, oils, chemicals or other hazardous liquids should have compacted impermeable bases and be surrounded by a bund to contain any spillage. Refueling to be undertaken in areas away from water systems.	Entire construction and operation phase	All Personnel	Weekly with reporting to MMDE and UNDP
	W1.3: Conduct regular surface and groundwater quality monitoring in location where the groundwater is likely to be impacted including assessing the changes to groundwater quality. Parameters to be monitored could include <i>E.coli</i> , pH, total suspended solids, Residual Chlorine, Nitrate, Nitrite, Ammonia, potassium, surfactants, conductivity, Soap, oils and grease and waxes, Phenolic compounds as Phenol, heavy metals and acute toxicity	Entire construction and operation phase	Site Supervisor	Weekly and as required with reporting to MMDE and UNDP
	W1.4: Schedule works in stages to ensure that disturbed areas are revegetated and stabilized progressively and as soon as practicable after completion of works.	Pre Earthworks - Works not be undertaken during wet season	Site Supervisor and MMDE	Maintain records
	W1.5: Construction materials will not be stockpiled in proximity to aquatic environment that may allow for release into the environment. Construction equipment will be removed from in proximity to the aquatic environment at the end of each working day or if heavy rainfall is predicted	Entire construction and operation phase	Site Supervisor	Maintain daily records

Issue	Control Activity (and Source)	Action Timing	Responsibility	Monitoring and Reporting
W2: Eutrophication of surrounding aquatic environments and impacts from elevated nutrient levels.	W2.1 Minimize the release of clays and very fine silts into the aquatic environment through the installation of sediment basins, rock checks and sediment fences in appropriate places as outlined in the EDSCPs. Sediment control structures to be inspected regularly.	Entire construction phase	All Personnel	Weekly with reporting to MMDE and UNDP
	W2.2 Disturbance of vegetation and drainage lines to be limited to that required for construction works when installing water tanks and construction of the sterilization and purification plants.	Entire construction phase	All Personnel	Weekly with reporting to MMDE and UNDP
	W2.3 Manage the application of fertilizers and other chemicals (if required during rehabilitation of any site) to ensure that over application does not occur.	Post Construction	Site Supervisor	Maintain records
W3: Increase of gross pollutants, hydrocarbons, metals and other chemical pollutants including residue from the sterilization and purification process into the groundwater and/or surface water environment.	W3.1: Reuse suitable water runoff from site to supplement construction water supply.	All phases	All Personnel	Weekly with reporting to MMDE and UNDP
	W3.2: Designated areas for storage of fuels, oils, chemicals or other hazardous liquids should: 1. Have compacted impermeable bases; and 2. Surrounded by a bund to contain any spillage.	All phases	All Personnel	Weekly with reporting to MMDE and UNDP
	W3.3: Check all vehicles, equipment and material storage areas daily for possible fuel, oil and chemical leaks. Undertake refueling at designated places away from water systems.	All phases	All Personnel	Daily and maintain records
	W3.4: Rubbish and waste materials to be placed in suitable facilities to ensure that they do not enter aquatic environments. Ensure all absorbent material is placed in contaminant bags prior to removal.	All phases	All Personnel	Weekly reporting to MMDE and UNDP
	W3.5: Minimize the use of herbicides and use only biodegradable herbicides that have minimal impact on water quality and fauna. Use only as per directions.	All phases	All personnel	Maintain records
	W3.6: Ensure any release of waste from the sterilization and purification process is managed so as not to cause any adverse impacts	All phases	All Personnel	Weekly reporting to MMDE and UNDP

Erosion, Drainage and Sediment Control

82. The project will undertake significant works undertaken rehabilitation in tanks and the irrigation systems. The average surface water of the tanks is 10 hectares with some as large as 20 hectares. Further, even the well maintained irrigation systems require periodic rehabilitation.
83. Activities that could result in erosion, drainage and sediment impacts include
- Repairs to the Tank bund (dam) including removal of ant-hills and filling depressions;
 - Clearing of the bund from weeds and shrub;
 - Clearing canals of weeds and debris;
 - Maintenance of the spillway, approach and tail canal and other structures;
 - Maintenance of the drainage canal; and
 - Removal of silt from the Tank bed.
84. Maintenance of the watershed is also traditionally carried out by the community. I
85. Soil erosion also depends on several other parameters such as type of soil, slope, vegetation and the nature of topography. The loss of soil stability and soil erosion can take place due to the removal of vegetation cover, and numerous construction activities. It can cause the loss of soil fertility and induce slope instability. Access road creation, land preparation will result in blockage or alteration of natural flow paths in the area resulting changes in the drainage patterns in the area. Land preparation for the project could result in blockage or alteration of natural flow paths causing changes in the drainage patterns in the area. Effective and efficient mitigation measures can not only reduce, but could improve the conditions over the existing conditions.
86. Similar works being conducted by this project have been undertaken in the past by international lenders including the Asian Development Bank and World Bank, the IUCN and international and local non-government organizations.
87. Soil productivity could decline due to erosion unless steps are taken to control it. Importantly, all sediment removed from the tanks and irrigation system will be assessed, and where practicable, will be reused and placed on agricultural lands.

Performance Criteria

88. The following performance criteria are set for the construction of the projects:
- no build-up of sediment in the aquatic environments and/or surface and/or groundwater as a result of construction and operation activities;
 - no degradation of water quality on or off site of all projects;
 - all water exiting the project site and/or into groundwater systems is to have passed through best practice erosion, drainage and sediment controls; and
 - effective implementation of site-specific EDSCP.
89. By following the management measures set out in the ESMP, construction and operation activities of the projects will not have a significant impact as a result of sedimentation across the broader area.

Monitoring

90. A standardized sediment control monitoring program has been developed for the projects. The program is subject to review and update at least every two months from the date of issue. The site supervisor will be required to:
- conduct site inspections on a weekly basis or after rainfall events exceeding 20mm in a 24 hour period;
 - develop a site-specific checklist to document non-conformances to this ESMP or any applicable EDSCPs; and
 - communicate the results of inspections and/or water quality testing to the Site Supervisor and ensure that any issues associated with control failures are rapidly rectified and processes are put in place to ensure that similar failures are not repeated.



91. It is the responsibility of the site supervisor to:
- a. conduct daily inspections of EDS control measures as part of the Daily Check Procedure; and
 - b. consult MMDE and UNDP staff when a non-conformance is suspected and amend accordingly.

Reporting

92. All sediment and erosion control monitoring results and/or incidents will be tabulated and reported as outlined in the ESMP. The MMDE must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to erosion and sediment control is exceeded.

Table 2: Erosion, Drainage, Sediment Control Measures

Issue	Control Activity (and Source)	Action Timing	Responsibility	Monitoring and Reporting
E1: Loss of soil material and sedimentation to the surface and/or groundwater systems from site due to earthwork activities	E1.1: Develop and implement an EDSCP for any surface works, embankments and excavation work, water crossings and stormwater pathways.	Entire construction phase	All Personnel	Maintain records
	E1.2: Ensure that erosion and sediment control devices are installed, inspected and maintained as required.	Entire construction phase	All Personnel	Maintain records
	E1.3: Schedule/stage works to minimize cleared areas and exposed soils at all times.	Pre and during construction	Site Supervisor	Maintain records
	E1.4: Incorporate the design and location of temporary and permanent EDSC measures for all exposed areas and drainage lines. These shall be implemented prior to pre-construction activities and shall remain onsite during work	Pre and during construction	Site Supervisor	Maintain records
	E1.5: Schedule/stage proposed works to ensure that major vegetation disturbance and earthworks are carried out during periods of lower rainfall and wind speeds.	Pre and during construction	Site Supervisor	Maintain records
	E1.6: Strip and stockpile topsoil for use during revegetation and/or place removed soils back on to agricultural lands.	Pre and during construction	Site Supervisor	Maintain records
	E1.7: Schedule/stage works to minimize the duration of stockpiling topsoil material. Vegetate stockpiles if storage required for long periods.	During construction	All Personnel	Maintain records
	E1.8: Locate stockpile areas away from drainage pathways, waterways and sensitive locations.	Pre and during construction	Site Supervisor	Maintain records
	E1.9: Design stormwater management measures to reduce flow velocities and avoid concentrating runoff.	Pre and during construction	Site Supervisor	Maintain records

	E1.10: Include check dams in drainage lines where necessary to reduce flow velocities and provide some filtration of sediment. Regularly inspect and maintain check dams.	Pre and during construction	Site Supervisor	Maintain records
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Issue	Control Activity (and Source)	Action Timing	Responsibility	Monitoring and Reporting
E1: Loss of soil material and sedimentation	E1.11: Mulching shall be used as a form of erosion and sediment control and where used on any slopes (dependent on site selection), include extra sediment fencing during high rainfall.	During construction	All Personnel	Maintain records
	E1.12: Bunding shall be used either within watercourses or around sensitive/dangerous goods as necessary.	During construction	All Personnel	Maintain records
	E1.13: Grassed buffer strips shall be incorporated where necessary during construction to reduce water velocity.	During construction	Site Supervisor	Maintain records
	E1.14: Silt curtain to be installed to protect from increased sediment loads.	During construction	Contractors	Maintain records
	E1.15: Excess sediment in all erosion and sediment control structures (eg. sediment basins, check dams) shall be removed when necessary to allow for adequate holding capacity.	During construction	Contractors	Maintain records
E2: Soil contamination	E2.1: If contamination is uncovered or suspected (outside of the project footprints), undertake a Stage 1 preliminary site contamination investigation. The contractor should cease work if previously unidentified contamination is encountered and activate management procedures and obtain advice/permits/approval (as required).	Entire construction phase	All Personnel	Daily and maintain records
	E2.2: Adherence to best practice for the removal and disposal of contaminated soil/ material from site (if required), including contaminated soil within the project footprints.	Entire construction phase	All Personnel	Daily and maintain records
	E2.3: Drainage control measures to ensure runoff does not contact contaminated areas (including contaminated material within the project footprints) and is directed/diverted to stable areas for release.	Entire construction phase	All Personnel	Daily and maintain records
	E2.4: Avoid importing fill that may result in site contamination and lacks accompanying certification/documentation. Where fill is not available through on site cut, it must be tested in accordance with geotechnical specifications.	Entire construction phase	All Personnel	Daily and maintain records

Noise and Vibration

93. All construction and operation activities have the potential to cause noise nuisance. Vibration disturbance to nearby residents and sensitive habitats is likely to be caused through the use of vibrating equipment. Blasting is not required to be undertaken as part of this project.
94. It is assumed that there are no sensitive receptors in proximity to the projects.
95. Contractors involved in construction and rehabilitation activities should be familiar with methods of controlling noisy machines and alternative construction procedures as contained within specific Sri Lankan legislation or in its absence, international good practice may be used if the legislation has not been enacted.
96. The detail, typical equipment sound power levels, provides advice on project supervision and gives guidance noise reduction. Potential noise sources during construction may include:
 - a. excavation equipment for the removal of sediment and rehabilitation of the tank and agricultural irrigation systems;
 - b. excavation and other equipment involved in the installation of rainwater harvesting systems and sterilization and purification plants;
 - c. delivery vehicles;
 - d. pumps; and
 - e. power tools and compressors.

Performance Criteria

97. The following performance criteria are set for the construction of the projects:
 - a. noise from construction and operational activities must not cause an environmental nuisance at any noise sensitive place;
 - b. undertake measures at all times to assist in minimizing the noise associated with construction activities;
 - c. no damage to off-site property caused by vibration from construction and operation activities; and
 - d. corrective action to respond to complaints is to occur within 48 hours.

Monitoring

98. A standardized noise monitoring program has been developed for the projects. The program is subject to review and update at least every two months from the date of issue. Importantly, the site supervisor will:
 - a. ensure equipment and machinery is regularly maintained and appropriately operated
 - b. carry out potentially noisy construction activities during daylight hours only; i.e. 7am -5pm.

Reporting

99. All noise monitoring results and/or incidents will be tabulated and reported as outlined in the ESMP. The MMDE must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to noise is exceeded.

Table 3: Noise and Vibration Management Measures

Issue	Control Activity (and Source)	Action Timing	Responsibility	Monitoring and Reporting
N1: Increased noise levels	N1.1: Select plant and equipment and specific design work practices to ensure that noise emissions are minimized during construction and operation including all pumping equipment.	All phases	Contractor	Maintain records
	N1.2: Specific noise reduction devices such as silencers, mufflers and/or acoustic rock breaking heads shall be installed as appropriate to site plant and equipment.	Pre and during construction	Contractor	Maintain records
	N1.3 Minimize the need for and limit the emissions as far as practicable if noise generating construction works are to be carried out outside of the hours: 7am-5pm (Mon - Fri).	Construction phase	All Personnel	Daily and maintain records
	N1.4: Consultation with nearby residents in advance of construction activities particularly if noise generating construction activities are to be carried out outside of the hours: 7am-5pm (Mon - Fri) and 7am-3pm (Sat).	Construction phase	All Personnel	Daily and maintain records
	N1.5 The use of substitution control strategies shall be implemented, whereby excessive noise generating equipment items onsite are replaced with other alternatives.	Construction phase	All Personnel	Daily and maintain records
	N1.6 Provide temporary construction noise barriers in the form of solid hoardings where there may be an impact on specific residents.	Construction phase	Site Supervisor	Daily and maintain records
	N1.7 All incidents complaints and non-compliances related to noise shall be reported in accordance with the site incident reporting procedures and summarized in the register.	Construction phase	Site Supervisor	Maintain records
	N1.8 The contractor should conduct employee and operator training to improve awareness of the need to minimize excessive noise in work practices through implementation of measures.	Pre and during construction	Contractor	Maintain records
N2. Vibration due to construction	N2.1: Identify properties, structures and habitat locations that will be sensitive to vibration impacts resulting from construction and operation of the project.	Pre and during construction	Contractor	Maintain records
	N2.2: Design to give due regard to temporary and permanent mitigation measures for noise and vibration from construction and operational vibration impacts.	Pre-construction	Contractor	Maintain records
	N2.3: All incidents, complaints and con-compliances related to vibration shall be reported in accordance with the site incident reporting procedures and summarized in the register.	Construction phase	Site Supervisor	Maintain records
	N2.4: During construction, standard measure shall be taken to locate and protect underground services from construction and operational vibration impacts.	Construction phase	Site Supervisor	Maintain records

Air Quality

100. All construction and rehabilitation activities have the potential to cause air quality nuisance.
101. Vibration disturbance to nearby residents is likely to be caused through the use of construction traffic and excavators etc. Blasting is not required to be undertaken as part of this project.
102. Contractors involved in construction and operation activities should be familiar with methods minimizing the impacts of deleterious air quality and alternative construction procedures as contained in Sri Lankan legislation.

Performance Criteria

103. The following performance criteria are set for the construction of the projects:
 - a. release of dust/particle matter must not cause an environmental nuisance;
 - b. undertake measures at all times to assist in minimizing the air quality impacts associated with construction and operation activities; and
 - c. corrective action to respond to complaints is to occur within 48 hours.

Monitoring

104. A standardized air monitoring program has been developed for the projects. The program is subject to review and update at least every two months from the date of issue. Importantly, the site supervisor will:
 - a. ensure all stockpiles are covered so as to not allow dust to generate; and
 - b. the requirement for dust suppression will be visually observed by all personnel daily and by MMDE and UNDP staff when undertaking routine site inspections (minimum frequency of once per week).

Reporting

105. All air quality monitoring results and/or incidents will be tabulated and reported as outlined in the ESMP. The MMDE must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to air quality is exceeded.

Table 4: Air Quality Management Measures

Issue	Control Activity (and Source)	Action Timing	Responsibility	Monitoring and Reporting
A1: Increase in dust levels at sensitive locations	A1.1: Implement effective dust management measures in all areas during design, construction and operation.	Pre and during construction	All Personnel	Daily and maintain records
	A1.2: Install dust gauges at locations identified for construction lay down and stockpiling within the project footprints.	During construction	Site Supervisor	Daily and Weekly Reports
	A1.3: Manage dust/particulate matter generating activities to ensure that emissions do not cause an environmental nuisance at any sensitive locations	During construction	Site Supervisor	Daily and maintain records
	A1.4: Construction activities should minimizing risks associated with climatic events.	During construction	Site Supervisor	Daily and maintain records
	A1.5: Implement scheduling/staging of proposed works to ensure major vegetation disturbance and earthworks are minimized.	Entire construction	Contractor	Daily and maintain records
	A1.6: Ensure that materials to be stockpiled onsite are not ordered and/or purchased until they are required for works.	Entire construction	Contractor	Daily and maintain records
	A1.7: Locate material stockpile areas as far as practicable from sensitive receptors.	During construction	Site Supervisor	Daily and maintain records
	A1.8: Source sufficient water of a suitable quality for dust suppression activities complying with any water restrictions.	During construction	Site Supervisor	Daily and maintain records
	A1.9: Schedule revegetation activities to ensure optimum survival of vegetation species.	During construction	Site Supervisor	Maintain records
	A1.10: Ensure an air quality management plan is developed and implemented.	Pre and during construction	Contractor	Maintain records
	A1.11: Rubbish skips and receptacles should be covered and located as far as practicable from sensitive locations.	During construction	Site Supervisor	Maintain records
	A1.12: Restrict speeds on haul roads and access tracks.	During construction	Site Supervisor	Daily and maintain records
	A1.13: Cover loads of haul trucks and equipment and plant when not in use and in transit.	During construction	Site Supervisor	Daily and maintain records



Annex VI (b) – Environmental and Social Management Plan

GREEN CLIMATE FUND FUNDING PROPOSAL

Issue	Control Activity (and Source)	Action Timing	Responsibility	Monitoring and Reporting
A2. Increase in vehicle emissions (including odors and fumes)	A2.1 Ensure construction vehicles are switched off when not in use.	During construction	Site Supervisor	Daily and maintain records
	A2.2 Ensure only vehicles required to undertake works are operated onsite.	During construction	Site Supervisor	Daily and maintain records
	A2.3 Ensure all construction vehicles, plant and machinery are maintained and operated in accordance with design standards and specifications.	During construction	Site Supervisor	Daily and maintain records
	A2.4 Develop and implement an induction program for all site personnel, which includes as a minimum an outline of the minimum requirements for environmental management relating to the site.	Pre and during construction	Contractor	Daily and maintain records
	A2.5 Locate construction car park and vehicle/plant/equipment storage areas as far as practicable from sensitive locations.	During construction	Site Supervisor	Daily and maintain records
	A2.6 Direct exhaust emissions of mobile plant away from the ground.	During construction	Site Supervisor	Daily and maintain records
	A2.7 Rubbish skips and receptacles should be covered and located as far as practicable from sensitive locations.	During construction	Site Supervisor	Daily and maintain records

Flora and Fauna

106. It is assumed that the majority of the project areas have been previously disturbed although vegetation may still exist. Further, it is assumed that the sterilization and purification plants and rainwater harvesting systems will be located in areas that do not contain important terrestrial habitats.
107. Irrigation tanks are constructed by placing an earth bund across a suitable location of a natural waterway. The bund is strengthened through compaction of soil. The community usually maintains the bund by clearing the vegetation and repairing any damaged places annually although as a result of climate change, the impacts have been exacerbated which has resulted in maintenance not be able to be conducted effectively.
108. While no specific flora and fauna surveys have been undertaken of the project area, the literature suggests that there is a high diversity of flora specific that are natural and/or human plants. In order to prevent the bund from breaching, villagers traditionally planted *Pandanus odoratissimus* at the toe of the bund, where the breaching risk is high because of accelerated seepage from a weak point. Pandanus is an effective plant to remove nutrients from water bodies. *Borassus flabellifer* is planted along the bund. Many plant species that are used by villagers as fruits, vegetables and medicines are found on the tank bund, including *Ziziphus oenopia* (fruit); *Aerva lanata*; *Acalypha indica* (vegetables); and *Calotropis gigantea* (medicinal).
109. Large water-tolerant trees such as *Terminalia arjuna*; *Vitex leucoxydon*; *Bauhinia racemosa*; *Syzygium gardneri*; and climbers such as *Phyllanthus reticulatus*; *Caesalpinia bonduc*; *Derris parviflora*; and *Derris scandens* are known from the project area. This vegetation is natural and seeds float on the water.
110. Tree species such as *Milletia pinnata*; *Madhuca longifolia*; *Cyperus pangorei*; *Hygrophila schulli*; and a few species of small fish such as the Malabar danio (*Devario malabaricus*), *Carverii rasbora*; *Rasbora microcephalus*; and the Common spiny loach (*Lepidocephalichthys thermalis*) are also found in water holes.
111. Birds including cormorants; egrets, and herons use the vegetation around tank systems to nest. Barking deer (*Sinhala: Oolu-muva / Vali muva*); wild boar; sambur; wild buffalo have also been observed, while, and elephants also roam in project area.

Performance Criteria

112. The following performance criteria are set for the construction of the projects:
 - a. no clearance of vegetation outside of the designated clearing boundaries;
 - b. no death to native fauna as a result of clearing activities;
 - c. no deleterious impacts on aquatic environments and terrestrial habitats;
 - d. no introduction of *new* weed species as a result of construction activities;
 - e. no increase in *existing* weed proliferation within or outside of the corridor as a result of construction activities; and
 - f. successful establishment of rehabilitation works incorporating species native to the local area.

Monitoring

113. A flora and fauna monitoring program has been developed for the projects. The program is subject to review and update at least every two months from the date of issue. Importantly, the site supervisor will when undertaking clearing works, will compile a weekly report to MMDE and UNDP staff outlining:
 - a. any non-conformances to this ESMP;
 - b. the areas that have been rehabilitated during the preceding week; and
 - c. details of the corrective action undertaken.

Reporting

114. All flora and fauna monitoring results and/or incidents will be tabulated and reported as outlined in the ESMP. The MMDE must be notified immediately in the event of any suspected instances of death to fauna and where vegetation if detrimental impacted.

Table 5: Flora and Fauna Management Measures

Issue	Control Activity (and Source)	Action Timing	Responsibility	Monitoring and Reporting
FF1. Habitat loss and disturbance of fauna	FF1.1 Limit vegetation clearing and minimize habitat disturbance through adequate protection and management of retained vegetation.	During construction	Site Supervisor	Daily and maintain records
	FF1.2: Minimize noise levels and lighting intrusion throughout construction and operation in the vicinity of any sensitive locations.	During construction	Site Supervisor	Daily and maintain records
	FF1.3: Ensure that all site personnel are made aware of sensitive fauna/habitat areas and the requirements for the protection of these areas.	During construction	Contractor	Daily and maintain records
	FF1.4 Minimize disturbance to onsite fauna and recover and rescue any injured or orphaned fauna during construction and operation.	During construction	Contractor	Daily and maintain records, report to MMDE
FF2. Introduced flora and weed species	FF2.1: Implement an EDSCP to reduce the spread of weeds through erosion and sediment entering any waterways and therefore spreading.	Pre and during construction	Contractor	Maintain records
	FF2.2: Revegetate disturbed areas using native and locally endemic species that have high habitat value.	During construction	Site Supervisor	As required and maintain records
	FF2.3: Minimize disturbance to mature remnant vegetation, particularly canopy trees.	During construction	Site Supervisor	Daily and maintain records
	FF2.4: The removal of regrowth native trees should be minimized particularly where the width of a forest is narrow.	During construction	Site Supervisor	Daily and maintain records
	FF2.5: Small trees and shrubs shall be removed in preference to large trees.	During construction	Site Supervisor	Daily and maintain records
	FF2.6: Vegetation to be removed shall be clearly marked using paint or flagging tape.	During construction	Site Supervisor	Daily and maintain records
FF2. Introduced flora and weed species	FF2.7: Environmental weeds and noxious weeds within the project footprints shall be controlled.	During and post construction	Site Supervisor	Weekly and maintain records



Waste Management

115. The MMDE advocate good waste management practice. The preferred waste management hierarchy and principles for achieving good waste management is as follows:
- waste avoidance (avoid using unnecessary material on the projects) ;
 - waste re-use (re-use material and reduce disposing);
 - waste recycling (recycle material such as cans, bottles, etc.); and
 - waste disposal (all petruscible and used sterilization and purification filters to be dumped at approved landfills).
116. The key waste streams generated during construction are likely to include residual sediment, sterilization and purification filters and any wastes from the installation of the rainwater harvesting system. This will include, but not limited to, shrubs/trees, pavements, power poles etc. The wastes to be generated will mostly be vegetation-based and also include:
- filters etc used in the sterilization and purification process;
 - the excavation wastes unsuitable for reuse during earthworks;
 - wastes from construction equipment maintenance. Various heavy vehicles and construction equipment will be utilized for the duration of the construction phase. Liquid hazardous wastes from cleaning, repairing and maintenance of this equipment may be generated. Likewise leakage or spillage of fuels/oils within the site needs to be managed and disposed of appropriately;
 - non-hazardous liquid wastes will be generated through the use of workers' facilities such as toilets; and
 - general wastes including scrap materials and biodegradable wastes
117. Contractors involved in construction and operational activities should be familiar with methods minimizing the impacts of clearing vegetation to minimize the footprint to that essential for the works and rehabilitate disturbed areas. By doing these activities, the projects should minimize the impact of waste generated by the project.

Performance Criteria

118. The following performance criteria are set for the construction of the projects:
- waste generation is minimized through the implementation of the waste hierarchy (avoidance, reduce, reuse, recycle);
 - no litter will be observed within the project corridor or surrounds as a result of activities by site personnel;
 - no complaints received regarding waste generation and management;
 - any waste from on-site portable sanitary facilities will be sent off site for disposal by a waste licensed contractor; and
 - waste oils obtained from the oil separator will be collected and disposed or recycled off-site, local oil companies or shipped for recycling.

Monitoring

119. A waste management monitoring program has been developed for the projects. The program is subject to review and update at least every two months from the date of issue.

Reporting

120. The MMDE must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level with respect to waste is exceeded.

Table 6: Waste Management Measures

Issue	Control Activity (and Source)	Action Timing	Responsibility	Monitoring and Reporting
WT1: Production of wastes and excessive use of resources	WT1.1: Preference shall be given to materials that can be used to construct the project that would reduce the direct and indirect waste generated.	Pre and during construction	Contractor	Maintain records
	WT1.2: Consideration shall be given to the use of recycled aggregates and fly-ash cement mixes for construction of the sterilization and purification plants.	Pre and during construction	Contractor	Maintain records
	WT1.3: Daily waste practices shall be carried out unless these are delegated to the activities of external waste management bodies.	During construction	Site Supervisor	Daily and maintain records
	WT1.4: The use of construction materials shall be optimized and where possible a recycling policy adopted.	During construction	Site Supervisor	Weekly and maintain records
	WT1.5: Separate waste streams shall be maintained at all times i.e. general domestic waste, construction waste and contaminated waste. Specific areas on site shall be designated for the temporary management of the various waste streams. Adequate signage and color coded bins will be used for each waste streams.	During construction	Site Supervisor	Weekly and maintain records
	WT1.6: Any contaminated waste shall be disposed of at an approved landfill.	During construction	Site Supervisor	Weekly and maintain records
	WT1.7: Recyclable waste (including oil and some construction waste) shall be collected separately and disposed of correctly.	During construction	Site Supervisor	Weekly and maintain records
	WT1.8: Waste sites shall be sufficiently covered daily to ensure that wildlife does not have access.	During construction	Site Supervisor	Daily
	WT1.9: Disposal of waste including all filters shall be carried out in accordance with the Government of Sri Lanka requirements.	During construction	Site Supervisor	Weekly and maintain records
	WT1.10: Fuel and lubricant leakages from vehicles and plant shall be immediately rectified.	During construction	Site Supervisor	Daily and maintain records
	WT1.11: Where possible, concrete batching plants shall be centrally located to minimize the occurrence of concrete batching at individual construction locations.	Pre and during construction	Contractor	Maintain records
	WT1.12: Major maintenance and repairs shall be carried out off-site whenever practicable.	During construction	Site Supervisor	Weekly and maintain records
	WT1.13: Remnants of concrete shall not be left at any location along the corridor.	During Construction	Site Supervisor	Weekly and maintain records



Annex VI (b) – Environmental and Social Management Plan
GREEN CLIMATE FUND FUNDING PROPOSAL

Issue	Control Activity (and Source)	Action Timing	Responsibility	Monitoring and Reporting
WT1: Production of wastes and excessive use of resources	WT1.14: Disposal of trees shall be undertaken in accordance with one or more of the following methods: a. Left in place; b. Chipped and mulched; and c. Large trunk sections may be sold/passed on to a commercial mill.	During Construction	Site Supervisor	Weekly and maintain records
	WT1.15: Hydrocarbon wastes shall be stored in color coded and labelled drums placed around fueling depots.	During Construction	Site Supervisor	Daily and maintain records
	WT1.16: Where possible, fuel and chemical storage and handling shall be undertaken at central fuel and chemical storage facilities, such as petrol stations.	During Construction	Site Supervisor	Daily and maintain records
	WT1.17: On-site storage of fuel and chemicals shall be kept to a minimum.	During Construction	Contractor	Daily, maintain records and report any incidents
	WT1.18: Any waste oils and lubricants are to be collected and transported to recyclers or designated disposal sites as soon as possible.	During Construction	Site Supervisor	Daily and maintain records
	WT1.19: Any dangerous goods stored on site shall be stored in accordance with Sri Lankan regulations.	During Construction	Contractor	Daily and maintain records

Chemical and Fuel Management

121. The key types of chemicals and fuels likely to be stored on-site during construction include but are not limited to:
- diesel and unleaded petrol for the refueling of plant equipment and generators;
 - grease etc used during construction; and
 - chemicals used in the water sterilization and purification process, although this is expected, based on the technology to be used, as extremely minimal if any.
122. If not handled, stored or used appropriately, contamination of land and the surface water and groundwater systems could occur. The accidental discharge of hazardous materials during construction and operation activities is a potential risk to the local environment. Accordingly, all oil, grease, diesel, petrol and chemicals should be stored off site within a bunded area.
123. Potential activities which could result in spills are:
- use of machinery and vehicles – potential for fuels, oils and lubricant spills;
 - transport, storage and handling of fuels, machinery oils, grease;
 - transport, storage and handling of cement/asphalt(bitumen) and other construction materials;
 - potential release of any chemicals used in the sterilization and purification process into the surrounding environment; and
 - impacts associated with hazardous materials will primarily be associated with the storage and handling during the construction and operation phase.

Performance Criteria

124. The following performance criteria are set for the construction of the projects:
- ensure a Material Safety Data Sheet (MSDS) Register should be developed for all chemicals and fuels retained on site;
 - handling and storage of hazardous material is in accordance with the relevant legislation and best management practices;
 - all spills are reported to MMDE within **one hour** of occurrence; and
 - no spills enter the local aquatic environments; and
 - prevent the uncontrolled release of oil, grease and diesel to the environment;
 - no spills of hazardous materials;
 - no chemical spills into the groundwater aquifers; and
 - no contamination of land due to spills of hazardous materials.

Monitoring

125. A chemical and fuel management program has been developed for the projects. The program is subject to review and update at least every two months from the date of issue. Importantly, the site supervisor should:
- conducted daily chemical and fuel assessments as part of their daily check procedure;
 - manage the selection, purchase, storage, handling and disposal of chemicals to ensure minimal environmental impact;
 - regularly inspect equipment that uses fuel, lubricants and/or hydraulic fluid;
 - regular inspect all equipment used in the sterilization and purification process for leaks etc;
 - develop procedures and install equipment to contain, minimize and recover spills; and
 - provide staff with procedures and training in spill prevention and clean up.



Reporting

126. The MMDE must be notified immediately in the event of any suspected instances of material or serious environmental harm, or if a determined level as a result of a chemical or fuel leak or spill.

Table 7: Chemical and Fuels Management Measures

Issue	Control Activity (and Source)	Action Timing	Responsibility	Monitoring and Reporting
C1 Poor management of chemicals and fuels	C1.1: Prepare spill management plan addressing measures	Pre-construction	Contractor	Maintain records and weekly reporting
	C1.2: Store and handle all chemicals, fuels, oils and potentially hazardous materials as specified in relevant standards and guidelines. All hazardous materials to be approved for use onsite. All hazardous materials and construction fuel will be stored in appropriate storage facilities (e.g. fuel and chemicals will be stored in a bunded area).	During Construction	Site Supervisor	Daily and maintain records
	C1.3: Hydrocarbon wastes shall be stored in color coded and labelled drums placed around fueling depots and disposed of.	During Construction	Site Supervisor	Daily and maintain records
	C1.4: Where possible, fuel and chemical storage and handling shall be undertaken at central fuel and chemical storage facilities, such as petrol stations/site depot.	During Construction	Site Supervisor	Daily and maintain records
	C1.5: Onsite storage of fuel and chemicals shall be kept to a minimum.	During Construction	Site Supervisor	Daily and maintain records
	C1.6: Emergency clean up kits for oil and chemical spills will be available onsite and in all large vehicles.	During Construction	Site Supervisor	Daily and maintain records
	C1.7: Refueling activities to preferentially occur off site however if required onsite ensure refueling activities occur in designated areas of the site where appropriate temporary protection measures have been designed/located and are no less than 20 meters from surface waters and drainage lines.	During Construction	Site Supervisor	Daily and maintain records

Emergency Response Plan

127. In the event of actions occurring, which may result in serious health, safety and environmental (catastrophic) damage, emergency response or contingency actions will be implemented as soon as possible to limit the extent of environmental damage.
128. It is assumed that there are residences located close to the rain water harvesting system that may be damaged in the event of a water release. By contrast, it is assumed that no residences will be located in proximity to the sterilization and purification plants and treatment facilities. It is also assumed that no residents will be living within the tank systems that will be rehabilitated as part of the project.
129. The contractor will need to incorporate construction emergency responses into the project complying with the requirements under the Occupational, Health and Safety Policy of the contractor or the work related Government of the Sri Lanka legislation.

Performance Criteria

130. The following performance criteria are set for the construction of the projects:
 - a. no incident of fire outbreak during construction;
 - b. reduce the risk of fire by undertaking hot works as necessary within cleared locations (it is unlikely any hot works will be necessary; however the issue has been included as a matter of caution);
 - c. provide an immediate and effective response to incidents that represent a risk to public health, safety or the environment; and
 - d. minimize environmental harm due to unforeseen incidents.

Monitoring

131. An emergency response monitoring program has been developed for the projects. The program is subject to review and update at least every two months from the date of issue. Importantly, visual inspections will be conducted by site supervisor daily with reporting to MMDE and UNDP staff on a weekly basis (minimum) noting any non-conformances to this ESMP.

Reporting

132. The MMDE and UNDP staff must be notified immediately in the event of any emergency, including fire or health related matter including those that have resulted in serious environmental harm.



Table 8: Emergency Management Measures

Issue	Control Activity (and Source)	Action Timing	Responsibility	Monitoring and Reporting
E1. Fire and Emergency management and prevention strategies implemented	E1.1: Flammable and combustible liquids bunding/storage areas to be designed in accordance with appropriate international standards	Pre and during construction	Contractor	Daily and maintain records
	E1.2: Fire extinguishers are to be available within all site vehicle	During construction	Contractor	Daily and maintain records
	E1.3: No open fires are permitted within the project area	During construction	Site Supervisor	Daily and maintain records
	E1.4: No cigarette butts are to be disposed of onto the ground throughout the project area, all smokers must carry a portable disposal bin to reduce the risk of a spot fire starting and general litter	During construction	All Personnel	Daily and maintain records
	E1.5: Stockpiles of mulch are not to exceed two meters in height and width and must be turned regularly.	During construction	All Personnel	Daily and maintain records
	E1.6: Train all staff in emergency preparedness and response (cover health and safety at the work site)	During construction	Site Supervisor	Daily and maintain records
	E1.7: Check and replenish First Aid Kits	During construction	Site Supervisor	Daily and maintain records
	E1.8: Use of Personal Protection Equipment	During construction	All Personnel	Daily and maintain records



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Guidance for Submitting a Request to the Social and Environmental Compliance Unit (SECU) and/or the Stakeholder Response Mechanism (SRM)

Purpose of this form

- **If you use this form, please put your answers in bold writing to distinguish text**
- **The use of this form is recommended, but not required. It can also serve as a guide when drafting a request.**

This form is intended to assist in:

- (1) Submitting a request when you believe UNDP is not complying with its social or environmental policies or commitments and you believe you are being harmed as a result. This request could initiate a 'compliance review', which is an independent investigation conducted by the Social and Environmental Compliance Unit (SECU), within UNDP's Office of Audit and Investigations, to determine if UNDP policies or commitments have been violated and to identify measures to address these violations. SECU would interact with you during the compliance review to determine the facts of the situation. You would be kept informed about the results of the compliance review.

and/or

- (2) Submitting a request for UNDP "Stakeholder Response" when you believe a UNDP project is having or may have an adverse social or environmental impact on you and you would like to initiate a process that brings together affected communities and other stakeholders (e.g., government representatives, UNDP, etc.) to jointly address your concerns. This Stakeholder Response process would be led by the UNDP Country Office or facilitated through UNDP headquarters. UNDP staff would communicate and interact with you as part of the response, both for fact-finding and for developing solutions. Other project stakeholders may also be involved if needed.

Please note that if you have not already made an effort to resolve your concern by communicating directly with the government representatives and UNDP staff responsible for this project, you should do so before making a request to UNDP's Stakeholder Response Mechanism.

Confidentiality If you choose the Compliance Review process, you may keep your identity confidential (known only to the Compliance Review team). If you choose the Stakeholder Response Mechanism, you can choose to keep your identity confidential during the initial eligibility screening and assessment of your case. If your request is eligible and the assessment indicates that a response is appropriate, UNDP staff will discuss the proposed response with you, and will also discuss whether and how to maintain confidentiality of your identity.



Annex VI (b) – Environmental and Social Management Plan

GREEN CLIMATE FUND FUNDING PROPOSAL

Guidance

When submitting a request please provide as much information as possible. If you accidentally email an incomplete form, or have additional information you would like to provide, simply send a follow-up email explaining any changes.

Information about You

Are you...

1. A person affected by a UNDP-supported project?

Mark "X" next to the answer that applies to you: Yes: No:

2. An authorized representative of an affected person or group?

Mark "X" next to the answer that applies to you: Yes: No:

If you are an authorized representative, please provide the names of all the people whom you are representing, and documentation of their authorization for you to act on their behalf, by attaching one or more files to this form.

3. First name:
4. Last name:
5. Any other identifying information:
6. Mailing address:
7. Email address:
8. Telephone Number (with country code):
9. Your address/location:
10. Nearest city or town:
11. Any additional instructions on how to contact you:
12. Country:

What you are seeking from UNDP: Compliance Review and/or Stakeholder Response

You have four options:

- Submit a request for a Compliance Review;
 - Submit a request for a Stakeholder Response;
 - Submit a request for both a Compliance Review and a Stakeholder Response;
 - State that you are unsure whether you would like Compliance Review or Stakeholder Response and that you desire both entities to review your case.
13. Are you concerned that UNDP's failure to meet a UNDP social and/or environmental policy or commitment is harming, or could harm, you or your community? Mark "X" next to the answer that applies to you: Yes: No:
14. Would you like your name(s) to remain confidential throughout the Compliance Review process?

Mark "X" next to the answer that applies to you: Yes: No:

If confidentiality is requested, please state why:



Annex VI (b) – Environmental and Social Management Plan

GREEN CLIMATE FUND FUNDING PROPOSAL

15. Would you like to work with other stakeholders, e.g., the government, UNDP, etc. to jointly resolve a concern about social or environmental impacts or risks you believe you are experiencing because of a UNDP project?

Mark "X" next to the answer that applies to you: Yes: No:

16. Would you like your name(s) to remain confidential during the initial assessment of your request for a response?

Mark "X" next to the answer that applies to you: Yes: No:

If confidentiality is requested, please state why:

17. Requests for Stakeholder Response will be handled through UNDP Country Offices unless you indicate that you would like your request to be handled through UNDP Headquarters. Would you like UNDP Headquarters to handle your request?

Mark "X" next to the answer that applies to you: Yes: No:

If you have indicated yes, please indicate why your request should be handled through UNDP Headquarters:

18. Are you seeking both Compliance Review and Stakeholder Response?

Mark "X" next to the answer that applies to you: Yes: No:

19. Are you unsure whether you would like to request a Compliance Review or a Stakeholder Response? Mark "X" next to the answer that applies to you: Yes: No:

Information about the UNDP Project you are concerned about, and the nature of your concern:

20. Which UNDP-supported project are you concerned about? (if known):

21. Project name (if known):

22. Please provide a short description of your concerns about the project. If you have concerns about UNDP's failure to comply with its social or environmental policies and commitments, and can identify these policies and commitments, please do (not required). Please describe, as well, the types of environmental and social impacts that may occur, or have occurred, as a result. If more space is required, please attach any documents. You may write in any language you choose



Annex VI (b) – Environmental and Social Management Plan

GREEN CLIMATE FUND FUNDING PROPOSAL

23. Have you discussed your concerns with the government representatives and UNDP staff responsible for this project? Non-governmental organizations?

Mark “X” next to the answer that applies to you: Yes: No:

If you answered yes, please provide the name(s) of those you have discussed your concerns with

Name of Officials You have Already Contacted Regarding this Issue:

First Name	Last Name	Title/Affiliation	Estimated Date of Contact	Response from the Individual

24. Are there other individuals or groups that are adversely affected by the project?

Mark “X” next to the answer that applies to you: Yes: No:

25. Please provide the names and/or description of other individuals or groups that support the request:

First Name	Last Name	Title/Affiliation	Contact Information

Please attach to your email any documents you wish to send to SECU and/or the SRM. If all of your attachments do not fit in one email, please feel free to send multiple emails.

Submission and Support

To submit your request, or if you need assistance please email: project.concerns@undp.org