

Initial Environmental Examination

PUBLIC

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Sri Lanka: Promoting Resilience and Opportunity for Inclusive Recovery Sector Development Program

CURRENCY EQUIVALENTS

(as of 15 July 2026)

Currency unit	–	Sri Lanka rupee/s (SLRe/SLRs)
SLRe 1.00	=	\$ 0.0029
\$ 1.00	=	SLRs335.87

ABBREVIATIONS

ADB	–	Asian Development Bank
CEA	–	Central Environmental Authority
CEB	–	Ceylon Electricity Board
DSD	–	Divisional Secretariat Division
EA	–	Executing Agency
EIA	–	Environnemental Impact Assessment
EPL	–	Environnemental Protection License
ESMP	–	Environmental and Social Management Plan
GN	–	Grama Niladhari
GND	–	Grama Niladhari Division
GoSL	–	Government of Sri Lanka
GRM	–	Grievance Redress Mechanism
IA	–	Implementing Agency
IEE	–	Initial Environmental Examination
IP	–	Involuntary Resettlement
IR	–	Indigenous People
LA	–	Local Authority
MRDSSCE	–	Ministry of Rural Development, Social Security and Community Empowerment
NEA	–	National Environmental Act
NSPP	–	National Social Protection Policy
PPE	–	Personal Protective Equipment
PMU	–	Project Management Unit
SMEs	–	Small and Medium-sized Enterprises
SPS	–	Safeguard Policy Statement
TOR	–	Terms of Reference
UDA	–	Urban Development Authority
NWSDB	–	National Water Supply and Drainage Board

WEIGHTS AND MEASURES

cm	–	centimeter
dB	–	decibels
ha	–	hectare
km	–	kilometer
m	–	meter
masl	–	meters above sea level
mm	–	millimeter
MT	–	metric ton
MWp	–	Megawatt peak
V	–	Volt

NOTE

In this report, "\$" refers to US dollars unless otherwise stated.

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EXECUTIVE SUMMARY

The proposed Promoting Resilience and Opportunity for Inclusive Recovery (PROIR) Sector Development Program will support Sri Lanka in addressing long-standing constraints in the social protection sector, particularly in relation to economic inclusion, labor markets, and social care systems. The program is designed to enhance employment and economic opportunities for poor and vulnerable populations, expand access to quality elderly care services, and strengthen institutional capacity for delivering inclusive and responsive social protection. The Ministry of Rural Development, Social Security and Community Empowerment (MRDSSCE) will serve as the Executing Agency (EA), while the Department of Samurdhi Development (DSD) and National Secretariat for Elders (NSE) will function as key Implementing Agencies (IA). The investment component under Output 2 of the program will be implemented under NSE.

The Program, which is closely aligned with the Government's reform agenda aimed at improving access to decent work and sustainable livelihoods, while also promoting inclusive, rights-based systems that ensure the dignity, health, and active participation of older persons. The program will be implemented across six (6) districts, namely Matale, Kilinochchi, Mullaitivu, Kegalle, Batticaloa and Nuwara Eliya.

Under Output 1, the program will support the expansion of economic inclusion and livelihood services for poor, vulnerable, and low-income households through the provision of livelihood grants, skills development, coaching, mentoring, market linkages, and access to employment opportunities. The program is expected to support up to 30,000 households across the six (6) target districts through a comprehensive economic inclusion package comprising productive livelihood investments, technical and business skills training, financial literacy, psychosocial support, and employment facilitation. As the specific livelihood activities and locations will be identified during implementation, a framework approach has been adopted whereby all proposed activities will undergo environmental screening prior to approval. Livelihood activities with significant adverse environmental impacts, activities located in environmentally sensitive areas, and activities included in the ADB Prohibited Investment Activities List (PIAL) will not be eligible for project support. Environmental risks associated with eligible livelihood activities are expected to be site-specific and manageable through the implementation of the environmental screening procedure and application of good environmental management practices.

Under Output 2 of the program, the focus is on establishing up to five (5) model Elderly Day Care Centers (EDCCs) and improving the quality of elderly care facilities, services, and operational standards. The model EDDCs are proposed as two-storey facilities comprising service and activity spaces on the ground floor and staff support facilities on the second floor. Depending on the site, the facilities range from approximately 735 m² to 1,460 m² of built-up floor area and are situated on sites ranging from 2,000 m² to 8,555 m², complemented by courtyards, therapy gardens, open spaces, and parking areas. The conceptual designs include staff offices, clinics, recreation and rehabilitation rooms, therapy and meditation/prayer rooms, dining and kitchen facilities, washrooms, storage areas, and staff training spaces. The centers are designed to serve approximately 30–40 elderly beneficiaries per facility and will provide integrated social care, wellness, recreation, assessment, referral, and caregiver support services.

Construction of each elderly day care center is expected to take approximately one year, with all facilities designed as flexible, modular structures that can be adapted to site-specific conditions while maintaining the same core functional spaces and service standards. These designs are currently conceptual and indicative in nature and will be further refined and finalized during the detailed design stage by the appointed architects and engineers. The final building layouts, floor areas, capacities, and site-specific engineering details may therefore change. Accordingly, this

IEE will be updated, as necessary, to reflect the finalized detailed designs and any resulting environmental considerations prior to the commencement of civil works.

A total of twelve (12) suitable sites have been identified across the selected districts, of which five (5) sites have been shortlisted and are in Matale, Kilinochchi, Mullaitivu, Kegalle and Batticaloa districts. From the shortlisted locations, at least two (2) sites will be selected for advance actions i.e. finalization of detailed design of elderly day care centers, preparation and posting of bidding documents for the civil works prior to program effectiveness.

In accordance with the Asian Development Bank's (ADB) Safeguard Policy Statement (SPS), 2009, the project is classified as category B for environment, based on the screening and categorization exercise using the rapid environmental assessment (REA) checklist. For category B projects, impacts are generally site-specific, few if any are irreversible, and mitigation measures can be readily developed. Based on SPS 2009, an initial environmental examination (IEE) is required to assess potential risks and impacts and to outline suitable management and monitoring measures. The IEE met the requirements of the Government and complied with SPS 2009. The IEE considers: (i) the existing environment of the project area; (ii) the potential environmental impacts (including their magnitude and significance) caused by the proposed subprojects; and (iii) the ability to eliminate and/or minimize negative impacts through best engineering / technological practices and mitigatory measures.

The subprojects will be required to obtain Tabl2 clearances from the relevant regulatory agencies. In addition to the approvals required for the overall project, the contractor shall obtain all necessary permits and clearances related to construction activities, including those for the operation of equipment, establishment of temporary facilities, and execution of construction works, prior to commencement of the construction phase. The approvals include those required from the Central Environmental Authority (CEA), Divisional Secretariat, Local Authority (LA), Urban Development Authority (UDA), Ceylon Electricity Board (CEB), and National Water Supply and Drainage Board (NWSDB), among others.

None of the proposed sites under Output 2 are located within environmentally sensitive areas, and site selection will ensure that such areas are avoided. Anticipated construction-related impacts, including dust, noise, waste generation, and occupational and community health and safety risks, are expected to be short-term, site-specific, and manageable through the implementation of the Environmental Management Plan (EMP). Tree cutting may be required at some sites; however, the design will minimize the number of trees cleared, and all necessary permits will be obtained prior to cutting. Operational phase impacts, including solid waste and domestic wastewater generation, will be managed in accordance with applicable national regulations.

An EMP, including an environmental monitoring plan, has been prepared to minimize the subproject's potential adverse environmental impacts and to enhance its positive impacts. No irreversible or unmanageable environmental impacts are anticipated from the construction and operation of the proposed subprojects, provided that the recommended mitigation measures are implemented.

The Project Management Unit (PMU), through its safeguards specialist, will have overall responsibility for environmental safeguards compliance, coordination, monitoring, and reporting across all components. For Output 1, the PMU, DSD, and Samurdhi Development Officers (SDOs) will implement and monitor the environmental screening procedure for livelihood activities. For Output 2, the PMU will ensure integration of the ADB-cleared IEE and EMP into bidding documents and contracts for the elderly day care centers. The PMU will submit semi-

annual environmental monitoring reports (SEMRs) to ADB and ensure timely disclosure of safeguards documents in MRDSSCE and NSE websites. The Project Implementation Unit (PIU) and sub-PIUs will support site-level implementation, supervision, and compliance monitoring.

Recommendations are as follows:

- Execution of the subprojects shall ensure implementation of all proposed mitigation measures throughout the pre-construction, construction, and operation, phases of the elderly care facilities.
- All necessary contractual provisions and stipulations related to environmental mitigation measures shall be incorporated into the contract documents, and the EMP shall form an integral part of the contracts.
- Construction activities shall be planned and implemented to minimize disturbances to nearby communities, road users, and adjacent land users from dust, noise, vibration, traffic congestion, material transport, and construction waste generation through proper scheduling, site management, and advance notification where necessary.
- Appropriate erosion control, drainage management, and pollution prevention measures shall be implemented to minimize contamination of surrounding land, surface water, and groundwater resources from wastewater, spoil disposal, fuel, chemicals, and construction materials.
- Proper solid waste and wastewater management practices shall be established at all construction sites and labor camps, including source segregation, collection, temporary storage, reuse where possible, and disposal through approved facilities in coordination with the relevant LA and in compliance with CEA requirements.
- Labor camps, storage yards, and construction sites shall be maintained under proper sanitary and housekeeping conditions to prevent mosquito breeding, pest infestations, vector-borne diseases, and unhealthy site conditions.
- All construction workers and subcontractors shall receive adequate training and awareness on environmental protection, occupational health and safety, emergency response, traffic safety, waste management, and good construction practices prior to and during construction activities.
- The PMU shall be responsible for overall project implementation, coordination, supervision, environmental safeguard compliance, monitoring, and reporting in accordance with Sri Lankan regulations, ADB SPS 2009, and project safeguard requirements.
- The PIUs through Sub-PIUs shall coordinate and monitor implementation of subproject specific environmental mitigation measures together with contractors, local authorities, and other relevant stakeholders at subproject level.
- Qualified and experienced environmental and social safeguard personnel shall be appointed to support environmental monitoring, supervision, reporting, and compliance activities throughout the project duration.
- The Contractors will prepare and implement site-specific EMPs consistent with the ADB-cleared EMP, maintain records, submit regular monitoring reports to the PMU, and assign qualified Environmental, Health, and Safety (EHS) personnel. Bidding documents will require contractors to include adequate budgetary provisions for EMP implementation, including mitigation, environmental monitoring, reporting, and staffing. EMP implementation will form part of contractor performance monitoring. No civil works will commence until the final IEE has been cleared and disclosed by ADB, site-specific EMPs have been approved by the PMU, and all required national environmental clearances have been obtained. Any unanticipated environmental impacts or non-compliance issues identified during implementation will be reported to ADB through the SEMRs and addressed through corrective actions, including updating the EMP where necessary.

- Stakeholder consultation, participation, and information disclosure activities shall continue throughout project implementation in accordance with the requirements established in the IEE and EMP.
- The established Grievance Redress Mechanism (GRM) shall be maintained throughout the project period to address environmental and social concerns raised by affected persons, workers, and nearby communities at both site and project management levels.
- Environmental monitoring results, incidents, grievances, corrective actions, and safeguard compliance status shall be documented and reported regularly during construction and operation phases in accordance with project monitoring and reporting requirements.

I. INTRODUCTION

A. Background

1. The proposed Promoting Resilience and Opportunity for Inclusive Recovery (PROIR) Sector Development Program will support Sri Lanka in addressing long-standing constraints on social protection, especially on economic inclusion, labor markets, and social care. The program aims to improve employment and economic opportunities for the poor and vulnerable, expand access to quality elderly care services, and strengthen institutional capacity for inclusive and responsive social protection.

2. The program is aligned with the following impact: A resilient, inclusive, and sustainable economy that uplifts all people of Sri Lanka created (2025 National Policy Framework, Ministry of Finance, Sri Lanka). The program's intended outcome is resilience, inclusion, and well-being of poor and vulnerable populations in Sri Lanka enhanced. This outcome is expected to be achieved through the following three outputs: (i) coverage and quality of employment and livelihood services expanded; (ii) social care infrastructure, services, and standards improved; and (iii) institutional capacity for inclusive and responsive social protection strengthened. The proposed loan amount is \$100 million - \$50 million Policy Based Loan component for Subprogram 1 and \$50 million project investment financing.

3. The program is closely aligned with the government's reform agenda and contributes to improved access to decent work and sustainable livelihoods, as well as inclusive, rights based systems that promote the dignity, health, and participation of older people reflecting priorities outlined in Sri Lanka's National Policy Framework, National Social Protection Policy 2024, and National Policy for Senior Citizens, 2025–2035. The program has been included in the government's Public Investment Programme 2026–2030 for strategic priorities.

4. The program's outcome will be enhanced resilience, inclusion and well-being of poor and vulnerable populations in Sri Lanka. To achieve this outcome, the program will deliver three outputs: (i) coverage and quality of employment and livelihood services enhanced; (ii) Social care infrastructure, services and standards improved; and (iii) institutional capacity for inclusive and responsive social protection systems strengthened.

5. MRDSSCE will serve as the executing agency (EA), with DSD and NSE as key implementing agencies (IA). The program will be implemented through an SDP, combining a programmatic approach with two subprograms and an investment project loan. The policy actions under the first subprogram are expected to be completed by June 2026, while those under the second subprogram are scheduled for completion by June 2028. This sequencing supports a phased implementation approach - starting with foundational reforms and followed by deeper policy and institutional reform actions to strengthen the delivery of social protection, economic inclusion, and care services.

B. The Project

6. The ADB is supporting the financing of the proposed PROIR Sector Development Program, which includes a project investment financing component. It will focus on six (6) districts - Matale, Kilinochchi, Mullaitivu, Kegalle, Batticaloa, and Nuwara Eliya.

7. Output 2 focuses on establishing up to five model Elderly Day Care Centers (EDCCs) and improving facilities, services, and standards for elderly care. At present, a total of twelve (12) suitable sites have been identified from the selected districts, from which five (5) sites have been

shortlisted, namely: Matale subproject, Kilinochchi subproject, Mullaitivu subproject, Kegalle subproject and Batticaloa subproject. Of these, at least two (2) sites will be selected for advance actions i.e., finalization of detailed design of elderly care centers, preparation and posting of bidding documents for the civil works prior to program effectiveness.

C. Objective of the Initial Environmental Examination

8. In accordance with ADB Safeguard Policy Statement (SPS), 2009, the project is classified as category B for environment, based on the screening and categorization exercise using the rapid environmental assessment (REA) checklist. For category B projects, impacts are generally site-specific, few if any are irreversible, and mitigation measures can be readily developed. Based on ADB SPS 2009, an initial environmental examination (IEE) is required to assess potential risks and impacts and to outline suitable management and monitoring measures. This IEE has been prepared to cover all the sub projects to comply with safeguard requirements of ADB and applicable national environmental, health, and safety regulations.

9. The objective of this IEE is to identify potential environmental impacts associated with the establishment of the model elderly care centers, recommend appropriate mitigation measures in line with the ADB SPS 2009 and national requirements, and prepare an Environmental Management Plan (EMP) for use during construction and operation. The purpose of the assessment is to ensure that project activities are environmentally sound, sustainable, and carried out with a clear understanding of potential environmental consequences.

D. Scope of the IEE

10. The IEE specifically aims at the following activities:

- Describe the subproject activities of the six subprojects, including project components during pre-construction, construction/installation, and operation stages;
- Review the relevant environmental and social policies, legal framework, regulations, guidelines, and institutional capacity of Sri Lanka, along with ADB policy requirements;
- Conduct field visits to gather primary data within the subproject's area of influence and collect secondary data to establish the baseline environmental conditions, including the identification of environmentally sensitive areas;
- Assess baseline information relating to the physical, biological, and socio-economic environment at subproject sites;
- Engage with relevant stakeholders, including agencies and communities where applicable, to obtain their views on project activities;
- Identify and evaluate potential significant environmental and social impacts, both short-term and long-term, that may arise during project implementation;
- Identify measures to avoid impacts and recommend feasible and practical mitigation measures to minimize potential impacts during the pre-construction, construction/installation, and operation stages;
- Prepare an Environmental Management Plan (EMP) and Environmental Monitoring Plans (EMoP) to guide mitigation, monitoring, and reporting including cost estimates and implementation arrangements to comply with throughout the project implementation;
- Establish procedures for information disclosure, consultation and participation, and describe the grievance redress mechanism, including timelines and mechanisms for addressing environmental and social complaints; and
- Prepare an IEE report in compliance with the ADB SPS 2009, while incorporating the national environmental, health, and safety requirements of the Government of Sri Lanka.

E. IEE Methodology

11. The five (5) subprojects covered under this IEE are located across five (5) districts and four (4) provinces in Sri Lanka: Matale Subproject in Southern Province; Kilinochchi and Mullaitivu Subprojects in Northern Province; Kegalle Subproject in Sabaragamuwa Province; and Batticaloa Subproject in Eastern Province. An overall understanding of the project was developed through consultations with NSE officials, and detailed subproject information was obtained from the project's technical consultants. For the purposes of this IEE, the area of influence for each subproject was defined as 500 m from the respective subproject site.

12. The methodology combined desk studies and field surveys to describe the existing environment and assess potential risks and impacts arising from the construction/installation, and operation of the proposed model elderly care centers. Stakeholder consultations, particularly with staff of the existing facilities, were used to record knowledge of the project area and identify potential concerns associated with project activities.

13. **Desk Studies – Secondary Data Collection.** A review was conducted of relevant literature, reports, and maps, including topographic and geological maps. Secondary data were collected from government and non-governmental sources on climate, topography, geology, hydrology and drainage, ecologically sensitive and protected areas, flora and fauna, socio-economic conditions, physical cultural resources, and other environmental aspects. Sources of published reports, data, and maps included the Survey Department of Sri Lanka, the Department of Meteorology, the Department of Census and Statistics, the Geological Survey and Mines Bureau (GSMB), the Department of Irrigation, Disaster Management Centre (DMC), Department of Wildlife Conservation (DWLC), Department of Forest Conservation and the Central Environmental Authority (CEA), among others. Resource Profiles, as published by the respective Divisional Secretariats (DS) of Dambulla (Matale subproject), Kandawalai (Kilinochchi subproject), Puthukkudiyippu (Mullaitivu subproject), Kegalle (Kegalle subproject), and Manmunai South Eruvil Pattu (Batticaloa subproject), were used to study and compile the socio-economic status of the subproject areas. Previous IEEs and IEEs prepared for projects within subproject areas and related other studies, along with publicly available articles and websites, were also reviewed. This preliminary analysis helped establish a baseline for the project's area of influence and identified data gaps, particularly regarding land use, habitats, and vegetation, which were subsequently addressed through field surveys.

14. For related environmental guidelines, reference was made to reports and guidelines published by the International Finance Corporation (IFC), the United States Environmental Protection Agency (USEPA), the Asian Development Bank (ADB), the World bank and similar institutions.

15. **Field Surveys – Primary Data Collection.** Field observations and discussions with staff of the respective institutions and local users of the facilities provided primary information. Field visits were conducted on the following dates: Kilinochchi on 19 March 2026, Mullaitivu on 20 March 2026, Kegalle on 27 March 2026 and 20 May 2026, Matale on 30 March 2026 and 19 May 2026, and Batticaloa on 26 May 2026. The collected data provided direct insights into environmental conditions, potential impacts, and stakeholder concerns, which were then integrated with the desk study findings to support the assessment of environmental risks and the development of mitigation measures.

F. Structure of the IEE Report

16. The structure of this IEE report has been organized in line with the ADB SPS (2009) and national requirements, and is presented as follows:

- **Executive Summary:** Presents a concise overview of the critical facts, significant findings, and recommended actions arising from the IEE.
- **Introduction:** Identifies the project and their components, explains the objectives of the proposed project, and outlines the approach and methodology followed in preparing the IEE.
- **Policy, Legal, and Administrative Framework:** Summarizes the national and local legal and institutional frameworks relevant to the environmental assessment. It also identifies international environmental agreements to which Sri Lanka is a party, and highlights applicable laws, regulations, standards, and requirements, together with the ADB's environmental and social safeguard policies.
- **Description of the Project:** Provides an outline of the overall project and a detailed description of the subprojects, including the rationale, locations, scope of works, and construction/installation and operation procedures. The section also presents the environmental categorization of the project in accordance with the ADB SPS (2009);
- **Description of the Environment (Baseline Data):** Describes the existing environmental conditions in the subproject areas. This is based on available documentation, statistical data, field surveys, discussions with government authorities, and stakeholder inputs.
- **Anticipated Environmental Impacts and Mitigation Measures:** Assesses potential environmental impacts of the subprojects, taking into account current conditions, and proposes feasible mitigation measures to avoid, reduce, or manage adverse effects.
- **Analysis of Alternatives:** Discusses the “no project” alternative as alternatives in terms of project sites, technology, design, and operation, are mainly decided on technical feasibility.
- **Information Disclosure, Consultation, and Participation:** Describes the stakeholder engagement processes, including methods of information dissemination, consultations with relevant authorities and experts, and participation of stakeholders in the assessment process.
- **Grievance Redress Mechanism (GRM):** Explains the framework for addressing complaints related to environmental performance, covering both formal and informal channels, with specified timeframes and mechanisms for resolution.
- **Environmental Management Plans:** Sets out mitigation and management measures to be applied during project implementation. This section includes the environmental management and monitoring plans, roles and responsibilities of implementing and supervising agencies, and procedures for addressing stakeholder concerns.
- **Conclusion and Recommendations:** Summarizes the key findings of the IEE, provides recommendations based on available data, and concludes by justifying the implementation of the subprojects within the framework of proposed safeguards and management measures.

II. POLICY, LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

A. Sector Policy and Administrative Framework

1. National Policy Framework 2025

17. Centered on addressing poverty and inequality, Sri Lanka's National Policy Framework 2025: A Thriving Nation, A Beautiful Life 23 underscores the need for a universal social protection

system to improve living standards and economic participation with reference to women, the youth, and the elderly. It aims to (i) enhance the living standards of individuals eligible for welfare benefits and empower them to swiftly engage as active participants in the economy (Chapter 2); and (ii) create a resilient, inclusive, and sustainable economy that uplifts all citizens of Sri Lanka (Chapter 3).

2. National Social Protection Policy

18. Adopted in 2024, the National Social Protection Policy (NSPP) establishes a holistic framework for addressing the needs of individuals and households throughout the life cycle. It is structured around four core pillars: (i) provision of social assistance; (ii) delivery of social care services; (iii) access to social insurance; and (iv) enhanced labor market and productive economic inclusion. These pillars reflect a comprehensive approach to building resilience, reducing poverty, and promoting inclusive development. The NSPP considers social protection as a vehicle for building the resilience of poor and vulnerable households. It recognizes the importance of designing and implementing social protection systems based on the principles of equity and social inclusion. To execute the NSPP and guide long-term reforms and investments, the government initiated the design of an implementation tool-the National Social Protection Strategy-which was officially approved in October 2025.

3. Public Investment Program, 2026-2030

19. Recognizing the constraints in the social protection system, the program was included in the PIP list of strategic priorities for 2026-2030. The program provides the policy directions to pursue (i) social protection across the life cycle; (ii) empowerment through productive employment and livelihood programs, (iii) elderly care standards and services, and (iv) sustainable systems for social protection. The key strategies will be to determine beneficiaries based on evidence, strengthen economic inclusion, improve elderly care , and enhance social protection systems to be more inclusive and responsive.

B. Local Environmental and Social Policy and Legal Framework

1. Environmental Policy and Legal Framework

20. A summary discussion of the policies, laws, regulations, standards, and guidelines that directly apply or relate to the project's environmental issues at the national and local level and donor requirements (if any), are presented in this section. This explains the context of the project on factors such as project siting and design, approval requirements, mitigation measures, emission/discharge or ambient standards, monitoring, and reporting etc.

21. In Sri Lanka, there are over 70 laws that directly or indirectly relate to protecting and conserving the natural environment and human health. While most of these laws address specific issues pertaining to environment in the respective sector, it was the introduction and enactment of the National Environmental Act (NEA) that provided the overarching legal basis for regulation of pollution and protection of the environment in a comprehensive manner. The clearance or approval or concurrence whichever is applicable to implement the project, shall be obtained before implementing the project. The relevant legislations related to environment are listed below, with a brief description of each provided in Annex 1.

- The Constitution of Sri Lanka
- National Environmental Act No. 47 of 1980 (and its subsequent amendments)

- North Western Province Environmental Statute No. 12 of 1990 (and its subsequent amendments)
- Pradeshiya Sabha Act No. 15 of 1987
- Flood Protection Ordinance, Act No. 22 of 1955
- Soil Conservation Act, No. 25 of 1951
- Fauna and Flora Protection Ordinance, Act No. 49 of 1983
- National Water Supply and Drainage Board Law of No. 2 of 1974
- Prevention of Mosquito Breeding, Act No. 11 of 2007
- The Urban Development Authority, Law, No 41 of 1978
- Municipal Council Ordinances and Acts – Urban Council Ordinance 61 of 1939, Act 29 of 1947, Act 18 of 1979, and Act 13 of 1979
- Water Resources Board Act No. 29 of 1964, Amendment No.42 of 1999
- National Institute of Occupational Safety and Health Act, No. 38 of 2009

2. The Constitution of Sri Lanka

22. The Constitution of Sri Lanka contains several provisions relating to the environment such as Article 28 (*"It is the duty of every person of Sri Lanka to protect nature and conserve its riches"*) and Article 27 (14) (*"The state shall protect, preserve and improve the environment for the benefit of the community"*). The 13th Amendment to the Constitution created a new institution at the provincial level for environmental protection and management. Each provincial government under this Amendment has legislative and executive powers over environmental matters (Articles 154G (5) (b)). Using such provincial legislative and executive powers, the Northwestern Provincial Council has passed a separate environmental statute - Northwestern Province Environmental Statute No 12 of 1990 – in accordance with the provisions under the above-mentioned 13th Amendment to the Constitution of Sri Lanka. The statute provides for the establishment of the Northwestern Province Environmental Authority, to make provision with respect to the powers, functions and duties of that authority and to make provision for the protection, management and enhancement of the environment and for the regulation maintenance and control of the quality of the environment.

3. National Environmental Policy of Sri Lanka of 2003

23. The Constitution of Sri Lanka makes it "the duty of every person in Sri Lanka to protect nature and conserve its riches." The National Environmental Policy (the policy) acknowledges this duty and seeks to provide the direction according to which steps will be taken to conserve and manage Sri Lanka's environment in all its aspects.

24. The policy renews the commitment of government, in partnership with the people, to effectively manage the environment for the benefit of present and future generations. The aim of this policy is to ensure sound environmental management within a framework of sustainable development in Sri Lanka. This Policy is supported by many other policies and strategies for other sectors.

25. The policy emphasizes that caring for the environment is the bounden duty of any institution, government, or non-government, and of any individual that uses, or otherwise carries out, an activity that has an impact on environmental resources.

26. The policy binds all organizations and individuals who use environmental resources or otherwise have an impact on the resources to exercise due care to avoid environmental degradation. The Implementation of the Policy will pave the way for sustainable development.

27. The policy objectives are:

- To promote the sound management of Sri Lanka's environment in its entirety without compromise, balancing the needs for social and economic development and environmental integrity, to the maximum extent possible while restricting inimical activities.
- To manage the environment by linking together the activities, interests, and perspectives of all groups, including the people, nongovernment organizations (NGOs), and government at both the central and the local levels.
- To assure environmental accountability.

28. The policy principles are:

- The guiding principles of environmental management will be "polluter pays" and the need to reduce consumption and recycle and reuse materials to the maximum extent possible.
- When natural resources are used, it will be ensured that such use is wise, sustainable, and consistent with the integrity of ecosystems and evolutionary processes.
- When non-living resources are used, it will be ensured that such use is consistent with environmental best-practice, bearing in mind the need to provide also for future generations.
- Traditional knowledge and practice will be respected in the development of environmental management systems.
- Effective governance will be ensured through the decentralization of environmental management services to the maximum extent possible.

29. The policy statements are:

- Resources such as land, water, air, minerals, and biodiversity will be managed in a manner consistent with the viability of ecological processes.
- Environmental management will be through participatory, transparent, predictable and accountable decision-making processes at all levels.
- In addition to protecting the environment from abuse, management systems will consider the need to restore environments damaged in the past.
- Environmental management systems will be encouraged to be flexible so as to adapt to changing situations and adopt the precautionary principle.
- The economic value of environmental services will be recognized so as to assure the sustainability of such services for the benefit of the people.
- The state of the environment will continuously be assessed and reported on, through an appropriate institutionalized monitoring framework based on a comprehensive set of indicators
- The institutional framework for sound environmental management will be strengthened through capacity building, legislative enactments and improved interinstitutional coordination and linkages.
- "Life cycle" and "cleaner production" principles will be applied to improve the efficiency of natural resource use and to improve environmental quality.

4. National Environmental Act No 47 of 1980

30. The National Environment Act, No. 47 of 1980 (NEA) is the primary national legislation for environmental protection and with its amendments the Act provides a framework for sustainable development with the management of natural resources such as water, air, soil, forests, flora, and fauna in Sri Lanka. The Central Environmental Authority (CEA) is the key regulatory body, established under the NEA. The NEA includes key regulatory provisions implemented by the CEA

to assess, mitigate, and manage the environmental impacts of development activities. Those that relevant to this project are, (i) The Environmental Impact Assessment (EIA) procedure for major development projects; (ii) The Environmental Protection License (EPL) procedure for the control of pollution; (iii) Scheduled Waste Management License (SWML) procedure for the management and control of hazardous waste disposal; (iv) Other regulations related to pollution control enacted under the provisions of the NEA. Apart from the regulatory provisions of the NEA, there are other relevant legislation and regulatory provisions for pollution control, environmental perseverance, and protection, which are enacted by State-sector entities.

31. The laws, rules, and procedures for environmental assessment (including IEE, EIA, EPL, SWML, etc.) of any project are found in the NEA and its implementing regulations. These are executed by the CEA with the except for coastal areas which come under Coast Conservation Department (CCD) and within Northwestern Province which comes under Provincial Environmental Authority of North Western Province. These laws, rules and procedures are supported and elaborated by sector specific laws and their regulations adopted by the relevant ministries and departments.

32. **Environmental Impact Assessment.** The Government of Sri Lanka recognizes EIA as an effective tool for integrating environmental considerations with development planning. The application of this technique is considered as a means of ensuring that the likely effects of development projects on the environment are fully understood and considered at an early stage of the project and throughout the project cycle. The environmental assessment is primarily concerned with assessing direct and indirect impacts of a project on the biophysical and human environment and ensuring that these impacts are addressed by appropriate environmental protection and enhancement measures. The environmental assessment system supports project proponents in incorporating environmental considerations in project planning and in determining environmental impacts of their projects.

33. The NEA of 1980 recommended the adoption of environmental assessment for development projects. The amendment to NEA in 1988, environmental assessment was made mandatory for projects with significant environmental impacts. The types of projects that need EIA are listed in the Gazette Extraordinary No. 772/22 and No. 1104 of 1993. The project approving agencies are listed in Gazette Extraordinary No. 859/14 of 1995 in which ministries with 14 subject areas (e.g., forest, energy, etc.) and eight statutory bodies have been identified. This legislation prescribed 31 categories of projects ("prescribed projects") that need environmental assessment. These projects irrespective of size if located in the coastal zone will undergo the approval process that is laid down in the Coast Conservation Act. However, projects located totally outside the Coastal zone will be subjected to the approval process laid down in the NEA.

34. Regulations pertaining to EIA process are published in Government Gazette Extraordinary No.772/22 dated 24 June 1993 and in several subsequent amendments. According to Section 23AA (1) under Part IV C (Approval of projects) of the NEA all "Prescribed Projects" that are being undertaken in Sri Lanka by any Government Department, Corporation, Statutory Board, Local Authority, Company, Firm or an Individual will be required to obtain approval under this Act for the implementation of such prescribed projects. The prescribed projects are set out in the Schedule of the Order under Section 23Z published in the Gazette (Extraordinary) No.772/22 of 24 June 1993 and in subsequent amendments in 1995. The procedure stipulated in the Act for the approval of projects provides for the submission of two types of reports Environmental Impact Assessment (EIA) report and Initial Environmental Examination (IEE) report. The EIA process is implemented through designated Project Approving Agencies (PAAs) as set out in the Schedule of the Order under Section 23Y published in the Gazette (Extraordinary) No. 859/14 of 23 February 1995 and in subsequent amendment in 2004. PAA's are those organizations that are

directly connected with such a prescribed project. At present, 23 state agencies have been recognized as PAAs. A Project Proponent should submit Preliminary Information (PI) to the CEA regarding the nature, location, and impacts of a proposed project to determine whether the project/activity requires an EIA/IEE. The CEA has developed a Basic Information Questionnaire (BIQ)¹ for submission of Preliminary Information. The BIQ may also be obtained from the EIA Unit of the CEA Head Quarters or the Provincial / District offices of the CEA. The best time for a Project Proponent to submit the preliminary information on a proposed project/activity is immediately after its concept is finalized for a given location is decided. The need for an environmental assessment and the level of analysis required (EIA or IEE) for a proposed activity is screened by the CEA based on the submitted Basic Information Questionnaire by the Project Proponent. There are two possible screening outcomes. (i) Categorical Exclusion: the activity does not fall under the prescribed category or located in a sensitive area as defined in the regulations, and it is clear that the project will have no significant environmental impacts. Environmental Clearance is granted (with or without conditions – in the form of environmental recommendations) and the project may proceed; (ii) EIA/IEE required: the activity falls under the prescribed category, has potentially serious environmental impacts and/or is in a sensitive area. With the screening decision, the CEA establishes a scoping committee to decide on the level of study (IEE or EIA) and prepare Terms of Reference (ToR). Alternatively, if the project falls within the jurisdiction of a government authority which is an appointed project approving authority the CEA will then determine which will be the appropriate PAA for administering the EIA process. Upon submission of the EIA/IEE report, a Technical Review Committee appointed by CEA/PAA reviews the completed IEE or EIA report and recommends whether Environmental Clearance should be granted; the final decision is made by CEA.

35. Applicability to the subprojects. Under the NEA, elderly care facilities and the construction of proposed buildings of this scale are not included in the list of prescribed projects and therefore does not require an EIA or IEE. However, each activity shall be screened by the CEA through the Basic Information Questionnaire (BIQ), which shall be submitted for each subproject by the NSE with the inputs from relevant Sub-PIU. Based on the screening, CEA will confirm that the subproject does not fall under a prescribed category and is not located in a sensitive area as defined in the regulations, and that the project will have no significant environmental impacts. Subsequently, the environmental clearance will be granted - with or without conditions - in many cases, in the form of environmental recommendations. The project may then proceed, subject to compliance with applicable NEA regulations, including those related to water quality, waste disposal, noise, and air quality, during the construction phase.

36. **Environmental Protection License.** The Environmental Protection License (EPL) is a regulatory/legal tool under the provisions of the NEA that has been introduced to (i) prevent or minimize the release of discharges and emissions in compliance with national discharge and emission standards; (ii) provide guidance on pollution control for polluting processes; and (iii) encourage the use of pollution abatement technology such as cleaner production, waste minimization etc. The “prescribed activities” for which EPL is required are stipulated in the Gazette (Extraordinary) No. 2264/18 dated 27 January 2022. The specified categories of 'prescribed projects' need to comply with the regulations and discharge and emission standards depending on the type of activity as well as the receiving environment stipulated in the Gazette (Extraordinary) No. 2264/17 dated 27 January 2022. The EPL regulation classifies activities into four categories, namely, A, B, C and D based on the polluting potential of the relevant activity discharging/emitting waste into the environment. List A comprises 33 high polluting industries/activities; List B comprises 71 medium polluting industries/activities; and List C and List D comprising 56 and 39 low polluting industries/activities respectively. Hence, an EPL for the

¹ Government of Sri Lanka, Central Environmental Authority (CEA). 2023. [Basic Information Questionnaire for Prescribed Projects](#).

operation of these industries/activities is required. While EPL for A and B categories are directly administered by the CEA, issuing EPL for category C and D are delegated to the local authorities. CEA has published standards for various parameters such as effluent quality, air quality, noise, and interim standards for vibration. For prescribed activities, project proponents shall apply for the EPL and CEA has developed an EPL application form² for submission. The application may also be obtained from the Pollution Control Unit of the CEA Head Quarters or the Provincial / District offices of the CEA. A duly filled application with supporting documents shall be submitted for the prescribed activity to the relevant Provincial Office/District Office of the CEA or relevant local authority 30 days prior to the commencement of the operation.

37. The EPL application shall be submitted to the relevant Provincial or District Office of the CEA or the relevant Pradeshiya Sabha at least 30 days prior to commencement of the activity together with the required supporting documents. Following pre-evaluation will pre-evaluate the application to check the relevancy of issuing the EPL, a field inspection will be carried out to verify the information provided and assess the feasibility of operating the activity. Based on the inspection findings and submitted technical details, a report with recommendations will be submitted to the TEC appointed by the respective authority for evaluation and recommendation. Upon approval and payment of the licence fee, the EPL will be issued by the CEA or relevant Pradeshiya Sabha for the period specified in the gazette (List C – two years and List D – three years).

38. Applicability to the subprojects. Under the prescribed activities list for the EPL requirement, the following activities specified in the gazette may be applicable to the proposed subprojects based on the occupancy and quantity of wastewater generated. Once the EPL application for the respective subproject is lodged by the NSE, with inputs from the relevant Sub-PIU, it will then be processed by the CEA or relevant Pradeshiya Sabha under the most relevant prescribed activity in accordance with the above-mentioned procedure.

- Hostels or similar dwelling places where an occupancy level in a day is 25 or more and less than 100 persons (Item 34 of List D);
- Any activity/ industry not included in Part C of the schedule which discharges waste water at the maximum capacity of 3 or more cubic meters and less than 10 cubic meters per day in its production process (Item 56 of List C);
- Hostels or similar dwelling places where occupancy level of 100 or more and less than 200 persons. (Item 42 of List C – *unlikely*);
- Any activity/ industry not included in the Part B of the Schedule, which discharges wastewater capacity of 10 cubic meters or more and less than 40 cubic meters per day in its production process (Item 71 of List B – *highly unlikely*).

39. **Disposal of Scheduled Waste.** As stipulated through National Environmental (Protection & Quality) Regulations as published in Gazette Notification No. 1534/18 (dated 25.01.2008), which deals with hazardous waste from specific and nonspecific sources and these wastes are called scheduled waste. Handling of scheduled waste (generate, collect, transport, store, recover or recycle and disposal of waste or establish any site or facility for the disposal) should conform to the said regulations. Part II of the regulation deals with the issue of license for the management of scheduled waste, which is commonly called as Scheduled Waste Management License (SWML) and Part III on general matters including definitions of terms etc. Five Schedules³ under the regulation include the application forms for scheduled waste management and operating a

² Government of Sri Lanka, CEA. [Environmental Protection Licence Application](#).

³ Government of Sri Lanka, CEA. 2008. [The Gazette of the Democratic Socialist Republic of Sri Lanka No. 1534/18. National Environmental Act, No. 47 of 1980.](#)

facility for scheduled waste management (Schedule IV), format for maintaining records (Schedule V) format for the reporting of details of waste disposal operations and environmental surveillance (Schedule VI), format for reporting accidents (Schedule VII) and categorization of non-specific and specific scheduled waste (Schedule VIII).

40. Table 2.2-1 lists the scheduled waste types that may applicable to the subprojects in general as specified in the schedule VIII the National Environmental (Protection and Quality) Regulations No.1 of 2008, (Gazette No. 1534/18, 2008.02.01).

Table B-1: Scheduled Waste Classifications applicable for the project

Waste Code	Scheduled Waste
PART I - Scheduled Wastes from Non-Specific Sources	
30.	Waste Electrical and Electronic Equipment
N 301	Discarded Computers and accessories
N 302	Discarded Mobile phones
PART II - Scheduled Wastes from Specific Sources	
26.	Discarded or off specification batteries containing lead, mercury, nickel, cadmium, lithium and Electrolyte from batteries and accumulators
S 262	Used or off specified batteries and accumulators

Source: Central Environmental Authority

41. The proposed elderly care centers will not require a Scheduled Waste Management License. However, any e-waste and waste oil generated during construction and operation shall be managed and disposed of in accordance with CEA guidelines and applicable regulations.

42. **Environmental regulations under NEA.** Environmental standards stipulated under the NEA and its regulations apply to ambient water quality, effluent quality, air quality (both ambient and stationary sources), noise, and vibration. The following table provides a summary of the regulations applicable to this project.

Table B-2: Most Common Environmental Regulations that are applicable to the Proposed Project Activities

Environmental Component	Relevant Regulations	During Construction	During Operation
Ambient water quality	National Environmental (Ambient Water Quality) Regulations No. 1 of 2019 published in Gazette (Extraordinary) No. 2148/20 dated 05 November 2019 https://www.cea.lk/web/images/pdf/epc/2148-20_E-1.pdf	Applicable	Not applicable
Discharge of wastewater / effluents	National Environmental (Protection and Quality) Regulations, No. 1 of 2008 published in Gazette (Extraordinary) No. 2264/18 dated 27 January 2022 https://www.cea.lk/web/images/pdf/2022/Act/2264-17_E.pdf	Applicable	Applicable
Discharge of Scheduled waste	National Environmental (Protection and Quality) Regulations No.1 of 2008, published in Gazette No. 1534/18 dated.01 February 2008 https://www.cea.lk/web/images/pdf/wastemanagement/G%209120%20E.pdf	Applicable	Not applicable
Ambient air quality	National Environmental (Ambient Air Quality) Regulations, 1994, published in Gazette (Extraordinary), No. 850/4 of December 1994 and amendment gazette (Extraordinary) No. 1562/22 of 2008 https://www.cea.lk/web/images/pdf/airqulity/1562_22E.pdf	Applicable	Not applicable
Air emissions	National Environmental (Stationary Sources Emission Control) Regulations, No. 01 of 2019 under the Gazette (Extraordinary) No. 2126/36 dated 05 June.2019 https://www.cea.lk/web/images/pdf/airqulity/2126-36_E.pdf	Applicable	Not applicable

Environmental Component	Relevant Regulations	During Construction	During Operation
Noise	Industrial noise: National Environmental (Noise Control) Regulations No.1 1996 published in the Gazette (Extraordinary) No. 924/12 dated 23 May1996 https://www.cea.lk/web/images/pdf/noise/reg924-12.pdf Vehicle horns: National Environmental (Vehicle Horns) Regulations, No. 1 of 2011 published in Gazette (Extraordinary) No. 2148/20 dated 05 November 2019 https://www.cea.lk/web/images/pdf/noise/1738_37-(E).pdf	Applicable	Not applicable
Vibration	Proposed Interim Air-Blast Over Pressure and Ground Vibration Standards for Sri Lanka, Pollution Control Division, CEA dated 04 December 2008 https://www.cea.lk/web/images/pdf/Amended-ABOP-standards.pdf	Applicable	Not applicable

Source: Central Environmental Authority

5. Labor Related Legislations

a. Factories Ordinance, 45 of 1942 and amendments

43. Occupational health is regulated by the Factories Ordinance of 1942 and all persons operating factories are conversant with the comprehensive provisions of this legislation first enacted in 1942. Three main areas covered are health, safety and welfare. Every factory must be kept clean with a conducive work environment. It must not be overcrowded; there must be proper temperature, fresh air and ventilation. Floors must not be wet and there must be suitable and sufficient hygiene and sanitary convenience recognizing the different sexes. Every possible area of safety appears to have been covered since these provisions are taken from well tested English legislation. For example, proper fencing of machinery, protection against dangerous substances, stairways, gangways to the property to be fenced, proper training before an employee is asked to work on machines and preventive measures in handling items like hoists, lifts, cranes, boilers and explosives etc. Provisions are also made against accidents by fire. Some of the key areas covered in this part of the statute is the supply of safe drinking water, clothing for factory work, washing facilities, proper restrooms and seating facilities etc.

b. Shop and Office Employees' Act No. 15 of 1954 and amendments

44. One of the most important and relevant statutes in Sri Lankan Labor law is the Shop and Office Employees' Act No.15 of 1954. This legislation was the result of a report of a Committee of Inquiry appointed in the 1940s to examine the employment conditions of the country's mercantile employees. The Act applies to all employees within the definition of a "shop" or "office" and is in five parts as follows; Part I Regulation of hours of employment in shops and offices; health and comfort of employees; Part II Payment of remuneration; Part III Regulation of remuneration; Part IV Closing order for shops; Part V General matters.

c. The Workmen's Compensation Ordinance, 1934 and amendments

45. The Workmen's Compensation Ordinance, first enacted in 1934, provides for the payment of compensation to workmen who are injured in the course of their employment. Since its enactment it has been amended several times especially by Act No. 15 of 1990. The Ordinance specifies and regulates the employer's liability to pay compensation and specifies the instances in which the compensation should be paid. The compensation has to be paid for a) An injury to a workman by accident arising out of and in the course of his employment; b) An occupational disease contracted by an employee whose service is not less than six months in any process which is directly attributable to the nature of his employment. The amount if compensation is to

be determined by the Commissioner of Labor or his Authorized Officers depending on the nature of injury to the workman.

d. National Institute of Occupational Safety and Health Act, No. 38 of 2009

46. The National Institute of Occupational Safety and Health Act, No. 38 of 2009 aims to establish a framework for occupational safety and health in Sri Lanka. The Act's primary goal is to minimize work-related injuries and diseases, promote worker health, and enhance working conditions. It focuses on creating a safe working environment for both employers and employees, formulating national policies, and setting standards. The Act also led to the establishment of the National Institute of Occupational Safety and Health (NIOSH), which serves as a resource for safety and health information and training. The Act addresses various aspects of occupational safety and health, including: Prevention of accidents and injuries; Use of equipment and hazardous substances; Protection from physical, chemical, biological, and psychosocial hazards; Emergency preparedness and response; and Training and education for employees and employers.

C. Statutory Clearances Required for the Subprojects

47. The subprojects will require to obtain statutory clearances from the relevant regulatory agencies. In addition to the approvals required for the overall project, the contractor shall obtain all necessary permits and clearances related to construction activities, including those required for the operation of equipment, establishment of temporary facilities, and execution of construction works, prior to commencement of the construction phase. Statutory Clearances required for the subprojects are listed in Table below.

Table C-1: Statutory Clearances required for the Subprojects

Particular	Responsible Statutory Agency	Time frame
Statutory clearances required – by the NSE		
Environmental clearance via CEA screening (Basic Information Questionnaire – BIQ)	CEA	Before construction
Development permit for the development activities within UDA Development Plan areas (Applicable only for Kilinochchi subproject)	UDA	Before construction
Building approval from Local Authority (approval of buildings plans, control of solid waste disposal, sewerage and other public utilities.)	Local Authority	Before construction
Permits for tree removal / vegetation clearance from relevant authorities	Divisional Secretariat	Before construction
Approvals for utility shifting (water, electricity, telecom, drainage) from respective agencies	NWSDB, CEB, SLT, etc.	Before / during construction
Fire Safety Clearance Certificate from relevant Fire Service Authority	Relevant Fire Service Authority	Before operation
Any additional regulatory clearances required under NEA and related sector laws	Environmental Protection License – From CEA	Before operation
Clearance required to be obtained – by the Contractor		
Location and layout of workers camps & equipment and storage yards	Local Authority	Prior to construction
Purchase of aggregates from crushers and ready-mix concrete from concrete batching plants having EPL license	CEA	During construction
Purchase of sand, rock materials, soil, gravel etc. from suppliers having required licenses	GSMB	During construction
Discharges from labor camp and disposal of solid and liquid waste	CEA	During construction

Particular	Responsible Statutory Agency	Time frame
Disposal of spoil material, demolition waste and excess excavated material garneted	Local Authority	During construction
Revenue license for the heavy machinery	Commissioner for Motor Traffic	During construction
Engagement of Labor- Insurance, Labor Welfare and Wages	Labor Commissioner	Labor Commissioner

D. International Guidelines Relevant to the project

48. The International guideline documents relevant to the project include following IFC/World Bank Group's Environment, Health, and Safety (EHS) Guidelines:

- IFC/World Bank Group's Environment, Health, and Safety (EHS) General Guidelines, 2007⁴ (The document covers general guidelines for four areas: environment, occupational health and safety, community health and safety, and construction and decommissioning.)
- Occupational Safety and Health Administration (OSHA) Standards.

E. ADB Environmental and Social Safeguards Policy Principles

49. The ADB has a set of Environmental and Social Safeguards Policy Principles aimed at ensuring that projects funded by ADB are socially inclusive, environmentally sustainable, and beneficial to the communities they impact. All projects funded by ADB must comply with the Safeguard Policy Statement (SPS, 2009). SPS includes operational policies that seek to avoid, minimize, or mitigate adverse environmental and social impacts, including protecting the rights of those likely to be affected or marginalized by the development process. It sets out the policy objectives, scope and triggers, and principles pertaining to the three safeguard requirements on: (i) Environment, (ii) Involuntary Resettlement, and (iii) Indigenous Peoples. All three safeguard requirements involve a structured process of impact assessment, planning, and mitigation to address the adverse effects of projects throughout the project cycle from project preparation, implementation, and monitoring. The safeguard policies require that impacts are identified and assessed early in the project cycle, plans to avoid, minimize, mitigate, or compensate for the potential adverse impacts are developed and implemented and affected people are informed and consulted during project preparation and implementation. The three existing safeguard requirements set out the responsibilities of the borrowers/clients to undertake social and environmental assessments, carry out meaningful consultations with affected people and communities, prepare and implement safeguard plans, monitor the implementation of these plans, and prepare and submit monitoring reports.

50. **For Environmental Safeguards**, all projects funded by the ADB are first screened and categorized into one of the following categories in the early stages of project preparation. Screening and categorization are undertaken to (i) reflect the significance of potential impacts or risks that a project might present; (ii) identify the level of assessment and institutional resources required for the safeguard measures; and (iii) determine disclosure requirements.

- **Category A.** A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment is required.

⁴ International Finance Corporation and World Bank Group. 2007. [Environmental, Health, and Safety \(EHS\) General Guidelines](#).

- **Category B.** A proposed project is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination is required.
- **Category C.** A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. No environmental assessment is required although environmental implications need to be reviewed.
- **Category FI.** A proposed project is classified as category FI if it involves investment of ADB funds to or through a FI

51. **Categorization for Environment Safeguards.** The proposed subprojects cause environmental impacts which are site-specific, less adverse in nature and few of them are reversible and mitigation measures can be designed more readily for the identified impacts. All the subprojects will be located within the government land and are not located within an environmentally sensitive area. No subproject supported through the project will have adverse impacts on natural habitats, physical cultural property, natural resources, or people's livelihoods. To assess the impacts the Rapid Environmental Assessment (REA) Checklist of ADB was followed. As per the ADB SPS (2009) the proposed Output 2 component of establishments of model elderly care centers has been classified as Category B project requiring Initial Environmental Examination (IEE). The IEE primarily focuses on identifying the environmental impacts associated with each subproject and recommending appropriate mitigation measures. It also aims to assess any potential environmental and social impacts that may arise in the immediate vicinity or surrounding areas as a result of those impacts, including both short-term and long-term. Accordingly, a single consolidated IEE report is submitted for ADB to facilitate their decision-making clearances required for the subprojects.

52. The REA screening checklists and categorization forms for environmental safeguards are attached in Annex 2.

F. Compatibility Between Local Framework and ADB Policy Framework

53. **Environment.** The National Environmental Policy and Statement comprehensively address environmental protection, sustainability, and enforcement. It aligns with the environmental safeguard policy principles of SPS 2009. The NEA, along with its amendments and sectoral legislation, has effectively translated this policy into a robust regulatory framework.

54. The government's environmental clearance process is broadly consistent with ADB's environmental assessment and public disclosure requirements. The NEA mandates EIA/IEEs for prescribed projects based on their type, scale, and potential environmental impact. Over the years, the CEA and PAAs have developed technical expertise to review and approve these assessments.

55. Each proposed activity under the project will be screened and categorized using the REA checklist and categorization forms. Under the NEA, all prescribed projects will undergo the EIA/IEE process, initiated with a Basic Information Questionnaire (BIQ), followed by the preparation of the required assessment. But none of the subprojects are included in the list of prescribed projects and therefore does not require an EIA or IEE. However, each subproject shall be screened by the CEA through the BIQ, which shall be submitted by the relevant PIU/Sub-PIU. Subsequently, the environmental clearance will be granted - with or without conditions - in many cases, in the form of environmental recommendations.

56. As per the ADB SPS (2009), category B projects must conduct environmental assessments.

57. For each subproject, an Environmental Management Plan (EMP) for each subproject will be prepared by the Project Management Unit (PMU) / Project Implementation Unit (PIU), based on the guidelines provided in the EMP of this IEE. The subproject EMPs shall be submitted for approval by the ADB prior to the commencement of the procurement process. The subproject EMP shall form part of the contract documents for the appointment of contractors for the construction of each subproject. The EA and IA will oversee the implementation of EMP throughout the construction period through the PMU and PIU/Sub-PIUs. While the national regulatory framework does not mandate EMPs for non-prescribed projects, the project will ensure compliance with national and international environmental standards and best practices.

58. Stakeholder consultations will continue throughout the project implementation, with a grievance redress mechanism in place. The IEE, site specific EMPs and monitoring reports shall be published online on websites of ADB, MRDSSCE, NSE project and the executive summary of the IEE will be posted at the sites in local language, though this is not a local regulatory requirement. There is no established institutional mechanism within Ministry or NSE for this type of projects to facilitate stakeholder consultation. Therefore, developing such a stakeholder consultation framework should be prioritized as part of capacity-building efforts at early stages of the project. Further the consultation framework should ensure that the meaningful consultation is gender responsive.

59. Subproject EMP provisions will be integrated into construction contracts of each subproject, with responsibilities divided among the PMU, PIU/Sub-PIUs and contractors. Site-specific EMPs will be prepared by the selected contractor for each subproject based on the subproject's EMP and this IEE. This site-specific EMPs will be cleared by the PMU. Preparation of the site-specific EMPs will be part of the contractors' contract. Unlike standard local practice, these site specific EMPs will be site-specific and will comprehensively address pollution prevention, health and safety, waste management, and emergency response measures.

60. Pollution prevention and control measures will align with NEA regulations on water, air, noise, waste management, and hazardous waste. International guidelines such as those from the World Health Organization (WHO), the International Labor Organization (ILO), the World Bank Group, the International Finance Corporation (IFC), and the United States Environmental Protection Agency (US-EPA) will be applied where relevant. Health and safety requirements, including the mandatory use of Personal Protective Equipment (PPE) and emergency response systems, will be enforced at all sites.

G. Institutional Capacity

61. The executing and implementing agencies of the program, particularly MRDSSCE and DSD, have prior experience in implementing ADB and other donor-funded projects, whereas NSE lacks such prior experience. Therefore, the safeguards capacity of the NSE will need to be further strengthened in terms of procedures and staffing. The service of the project support consultants with environment, health, and safety expertise will be obtained to provide the necessary support and training to project staff.

III. DESCRIPTION OF THE PROJECT

A. Rationale and Scope of the Project

62. The proposed PROIR sector development program aims to help Sri Lanka translate its fragile recovery into sustained improvements in household welfare by addressing long-standing constraints on social protection, especially on economic inclusion, labor markets, and social care. By supporting employment and economic opportunities for the poor and vulnerable, expanding access to quality elderly care services, and strengthening institutional capacity for inclusive and responsive social protection, the program will enable Sri Lanka to reduce poverty, build resilience to future shocks, and prepare for demographic and climate-related challenges. It will complement ongoing fiscal reforms by ensuring that recovery is both equitable and sustainable, and that no one is left behind.

B. Outcome and Outputs

63. The program's outcome will be: resilience, inclusion, and well-being of poor and vulnerable individuals in Sri Lanka enhanced. The program will have three outputs.

64. The Performance Indicators are;

- (i) At least 50% of households who received the comprehensive livelihoods package demonstrate improved socio-economic well-being by meeting at least two of the five criteria: (i) increase in household income; (ii) increase in household asset value; (iii) increase in household savings; (iv) increase in sources of income; and (v) improvements in life satisfaction (disaggregated by gender, age, and disability) (2026 baseline: NA).⁵
- (ii) At least 50% of participants are engaged in sustained employment after receiving the comprehensive livelihoods package (disaggregated by type of employment, gender, age, and disability) (2026 baseline: NA).⁶
- (iii) At least 50% of elderly women and men who use care services report satisfaction with the quality and adequacy of services received (disaggregated by gender, age, and disability) (2026 baseline: NA).⁷
- (iv) At least 50% of eligible elderly women and men report improved psychosocial wellbeing (disaggregated by gender, age, and disability) (2026 baseline: NA).⁸

65. **Output 1: Coverage and quality of employment and livelihood services enhanced.** Output 1 will strengthen the policy environment for economic inclusion and expand sustainable livelihoods and employment services for poor and vulnerable households. Under the Policy-Based Loan (PBL) component of subprogram 1, the government adopted and operationalized a national action plan and technical guidance framework for the NEP to support the economic empowerment

⁵ This refers to households who complete the livelihoods pathway under the economic inclusion package and receive transition support. Improved socio-economic well-being will be measured 6 months after the end of interventions. The stability of socio-economic well-being will serve as a measure of improved resilience for those households affected by a disaster, climate-related shock or stressor.

⁶ This refers to primary participants who complete the livelihoods pathway under the comprehensive package with either self- or wage employment tracks and receive transition support. Sustained defined as operating a business or engaged in wage employment for at least 3 months out of the last 6 months, measured after completion.

⁷ This will be measured through beneficiary assessment survey with elderly who enroll and attend services at the elder day care centers for active ageing programs, health checks, care planning, and case management.

⁸ Psychosocial well-being will be measured based on a pre-defined well-being index, in line with global good practices.

of 1.2 million poor and severe poor households identified through the social registry. It also updated and institutionalized the role of field officers, particularly the 6,000 Samurdhi Development Officers (SDOs) in the Department of Samurdhi Development (DSD), to ensure a dedicated workforce to implement the NEP. Under subprogram 2, the government will endorse a long-term poverty reduction and economic inclusion strategy and cross-ministerial coordination framework that ensures sustained, system-wide delivery of livelihood services. It will also revise the roles and responsibilities of other field officers (such as women development officers and career guidance officers) in relevant line ministries, enhancing their capacity to deliver integrated economic inclusion services at the local level. Further, the government will undertake the restructuring of DSD, focusing on organizational realignment, operational efficiency, and workforce development to effectively implement national poverty alleviation programs. These reforms will contribute to embedding a multidimensional economic inclusion approach within government systems, transforming fragmented interventions into a structured, scalable model anchored in institutional mandates and capable of delivering sustained impact.

66. Under the investment component, Output 1 will support in scaling the NEP to reach up to 30,000 severe poor, poor, and vulnerable households identified through the *Aswesuma* social registry across six districts.⁹ The project will deliver a multi-dimensional and sequenced economic inclusion package designed to address interrelated constraints to sustainable livelihoods. Households will receive a bundled package of financial and non-financial support, comprising: (i) seed capital livelihood grant of SLR200,000 for productive investment; (ii) technical, employment, and business skills training tailored to selected livelihood pathways; (iii) facilitation of access to markets, financial services, and employment opportunities; and (iv) sustained psychosocial support, life skills training, and financial literacy to strengthen participant capability and resilience. The project will have targeted approach to women and youth participants and offer two distinct tracks—self-employment and wage-employment. Support will be delivered through a three-phase approach, focusing on participant readiness, livelihoods development, and sustainable transition. The project will introduce climate-resilient livelihood practices and a case management model to strengthen access to services. SDOs will serve as the primary interface with participants, providing continuous coaching, monitoring, and referrals.

67. The exact nature and location of livelihood activities are not known at the time of preparation of this IEE. Therefore, a framework approach has been adopted to assess and manage environmental risks associated with these activities. Environmental screening will be conducted prior to approval of livelihood support to ensure that activities with significant adverse environmental impacts are excluded and that appropriate mitigation measures are integrated into implementation.

68. Livelihood activities to be supported under the project are expected to be small-scale, community-based, and implemented within existing settlements. Potential environmental impacts are anticipated to be localized, temporary, and readily mitigated through the application of environmental screening procedures and good environmental management practices. Activities included in the ADB PIAL, activities requiring significant land acquisition or displacement, and activities likely to generate significant environmental impacts will not be eligible for project support.

69. **Output 2: Social care infrastructure, services, and standards improved.** Output 2 will strengthen the regulatory environment for quality social care and expand elder care services at

⁹ Targeting of districts is based on a weighted index of (i) poverty levels; (ii) adaptive capacity to climate change; and (iii) high concentration of beneficiaries in the social registry. The six districts selected based on these criteria are among the 13 districts currently covered under ADB's Food Security and Livelihoods Recovery Emergency Assistance Project, to capitalize and build on past investments in the institutional capacity of DSD. The selected six districts are: Batticaloa (Eastern province); Kegalle (Sabaragamuwa province); Kilinochchi (Northern province); Matale (Central province); Mullaitivu (Northern province), and Nuwara Eliya (Central province).

the district level. Under the PBL component of subprogram 1, the government has adopted foundational policy and institutional reforms, including amendments to the Protection of the Rights of Elders Act, 2000 and a National Policy for Elders, providing the basis for equitable service provision, responding to the needs of older women, safeguarding rights, and facilitating multi-sectoral participation in elder care. These will be complemented by additional reforms in subprogram 2 that establish a comprehensive regulatory framework for public and private elder care service providers, covering: (i) registration, monitoring, and grading; (ii) quality management and service standards; and (iii) standardized assessments and integrated service packages for different care services. The reforms will also include the adoption of policy guidelines for the establishment of elder committees at divisional, district, provincial, and national levels. To increase and professionalize care workers, the government will develop a national roadmap for caregiver workforce development that enhances service quality and attracts skilled providers. Together, these measures will strengthen the coordination, accountability, and quality of care services at the national and local levels. These reforms will also create an enabling environment for private care providers to invest and expand within the elder care service market.

70. Under the investment component, Output 2 will finance the establishment of up to five elderly day care centers (EDCCs) at the district level, providing integrated, local-level social care services for older persons in target areas.¹⁰ These centers will function as front-end service delivery and coordination platforms, supporting prevention, early identification of needs, and referral across health, social protection, and long-term care systems. The centers will deliver a standardized package of services focused on: (i) basic health, wellness, and functional assessments; (ii) outreach, case finding, and risk screening; (iii) active ageing, social, and recreation services; (iv) care planning and referral through case management; (v) caregiver and family support through trainings; and (vi) other care and support provisions, including limited home-based assistance. They will serve as pilot EDCC models to refine service delivery approaches, workforce development strategies, and institutional and financing arrangements for elder care, including potential entry points for private care providers, thereby laying the foundation for a sustainable long-term care system in Sri Lanka.

71. **Output 3: Institutional capacity for inclusive and responsive social protection systems strengthened.** Policy and institutional strengthening in social protection will support the enabling environment for improved service delivery through a series of strategic and operational reforms. Under the PBL component of subprogram 1, the government has adopted the NSPP and NSPS, which establish a foundational framework for integrated social protection systems, including the governance, coordination mechanisms, financing, and monitoring guidelines. Building on this under subprogram 2, the government will adopt actionable reforms to develop a Social Protection Action Plan and a Case Management Framework under the MRDSSCE as a lead social protection agency to enable long term planning and integrated service delivery. In parallel, digital and data governance for social protection in MRDSSCE will be strengthened through the adoption of standards and protocols—including on cybersecurity and data protection—to ensure the efficient, secure and confidential management and sharing of beneficiary information across programs. These measures will strengthen the planning, delivery, and monitoring of social protection in Sri Lanka.

72. The investment component under Output 3 will enhance institutional and systems capacity in social protection through improved M&E, digitalization, and adaptive and gender-responsive programming. This includes establishing a ministry-wide digital monitoring, evaluation, and learning (MEL) system to track long-term outcomes and support evidence-based targeting, operations, and resource allocation of social protection programs. Output 3 will build institutional capacity for continuous learning and improvement, enabling the government to systematically

¹⁰ These centers will be established within the same six districts identified under Output 1.

monitor performance, evaluate results, and refine policies and programs over time. Dedicated digital systems will also be developed for vulnerable groups, including a registry of elderly beneficiaries and management information system (MIS) for monitoring residential and day-care facilities, while supporting interoperability across priority datasets. A case management system will be piloted to enable household profiling, coordinated referrals, and service tracking across administrative levels. Capacity building at national and subnational levels will support the effective use of MEL, digital, MIS, and case management tools in routine operations. The investment will also strengthen adaptive and shock-responsive systems by incorporating local climate risk considerations, contingency financing, and trigger-based response protocols. A disaster contingency response plan will set out the program's institutional arrangements for the disbursement of funds to affected households.¹¹ Additionally, the project will embed gender-responsive approaches across program design and delivery through tailored tools and guidelines to improve inclusive targeting, communication, and outreach mechanisms.

C. Infrastructure of Elderly Day Care Centers

73. Under Output 2, the project proposes the establishment of model EDDCs aligned with international best practices and frameworks, including the ADB Strategy 2030, WHO Healthy Ageing Strategic Framework, and the UN Decade of Healthy Ageing (2021–2030). The overall goal of the model elderly care centers is to improve the physical, mental, social, spiritual, and emotional wellbeing of elderly persons through integrated and age-friendly care centers that enhance the quality, accessibility, and continuity of elderly care services in Sri Lanka.

74. The model EDDCs are proposed as two-storey facilities comprising service and activity spaces on the ground floor and staff support facilities on the second floor. Depending on the site, the facilities range from approximately 735 m² to 1,460 m² of built-up floor area and are situated on sites ranging from 0.5 acre (2,000 m²) to 8,555 m², complemented by courtyards, therapy gardens, open spaces, and parking areas. The conceptual designs include staff offices, clinics, recreation and rehabilitation rooms, therapy and meditation/prayer rooms, dining and kitchen facilities, washrooms, storage areas, and staff training spaces. The centers are designed to serve approximately 30–40 elderly beneficiaries per facility and will provide integrated social care, wellness, recreation, assessment, referral, and caregiver support services. Construction of each elderly day care center is expected to take approximately one year, with all facilities designed as flexible, modular structures that can be adapted to site-specific conditions while maintaining the same core functional spaces and service standards. These designs are currently conceptual and indicative in nature and will be further refined and finalized during the detailed design stage by the appointed architects and engineers. The final building layouts, floor areas, capacities, and site-specific engineering details may therefore change. Accordingly, this IEE will be updated, as necessary, to reflect the finalized detailed designs and any resulting environmental considerations prior to the commencement of civil works.

75. **Specific Objectives.** The proposed model EDDCs aim to provide safe, accessible, and elder-friendly spaces for older persons and serve as front-end service delivery and coordination platforms for local-level social care services. The centers will promote healthy and active ageing through basic health, wellness, and functional assessments; active ageing, social, and recreational activities; outreach and risk screening; and care planning and referral through case management. The EDDCs will also support prevention, early identification of needs, and linkages to health, social protection, and long-term care services. In addition, the centers are expected to

¹¹ The disaster contingency response plan will provide program-specific guidelines to trigger response in the event of a disaster. This contingency mechanism will require a formal request from the Government for vertical expansion (increasing benefits to existing beneficiaries) and/or horizontal expansion (adding new households for emergency grants) in project districts based on agreed triggers and ADB approval. The funds to be used will be the eligible project funds that can be front-loaded to support disaster response.

support families and caregivers by providing caregiver support and training and facilitating access to information and services. The initiative will also contribute to strengthening social care infrastructure and expanding access to quality elderly care services, while piloting service delivery approaches, workforce development strategies, and institutional arrangements for long-term care in Sri Lanka.

76. **Target Group.** EDCCs will primarily serve older persons aged 60 years and above, with priority given to those experiencing higher levels of vulnerability due to functional limitations, disability, poverty, social isolation, or inadequate caregiving support. Beneficiaries may be identified and referred through divisional secretariats, the National Secretariat for Elders (NSE), health facilities, community-based organizations, or through self-referral mechanisms. In addition to older persons, EDCCs will support informal caregivers, particularly family members and women who shoulder the majority of caregiving responsibilities. Services will include information, training, respite opportunities, and referral support aimed at reducing caregiving burdens, improving caregiver wellbeing, and strengthening their capacity to provide safe, effective, and sustainable care.

77. **Selection of the Districts.** The project will be implemented in the districts of Matale, Kilinochchi, Mullaitivu, Kegalle, and Batticaloa. These districts were selected based on a combination of poverty levels, adaptive capacity to climate change, and concentration of poor and vulnerable beneficiaries from the social registry. to ensure that interventions effectively reach highly vulnerable and underserved older populations.

78. **Selection of subproject sites.** The selection of specific locations within the identified districts is guided by key criteria such as a high concentration of elderly persons with evident service gaps, proximity to healthcare facilities including Primary Health Care facilities to support referrals, routine health monitoring and emergency response, accessibility to towns and road networks, overall safety, and potential for integration with existing community-based services. Additional considerations include clear land ownership without the need for displacement, availability of basic utilities, and avoidance of tree cutting and other environmentally sensitive impacts. At present, a total of twelve (12) suitable sites have been identified from the selected districts, of which five (5) sites have been shortlisted. The five (5) subprojects are Matale subproject, Kilinochchi subproject, Mullaitivu subproject, Kegalle subproject, and Batticaloa subproject. Of these, at least 2 sites will be selected for advance actions i.e., finalization of detailed design of elderly care centers, preparation and posting of bidding documents for the civil works prior to program effectiveness.

79. **Subproject Location Details.** Figure 3.3-1 shows the location map of the five (5) subprojects. The basic details of the proposed subproject sites, including the relevant administrative divisions and site access information for each subproject, are provided in Table 3.3-1.

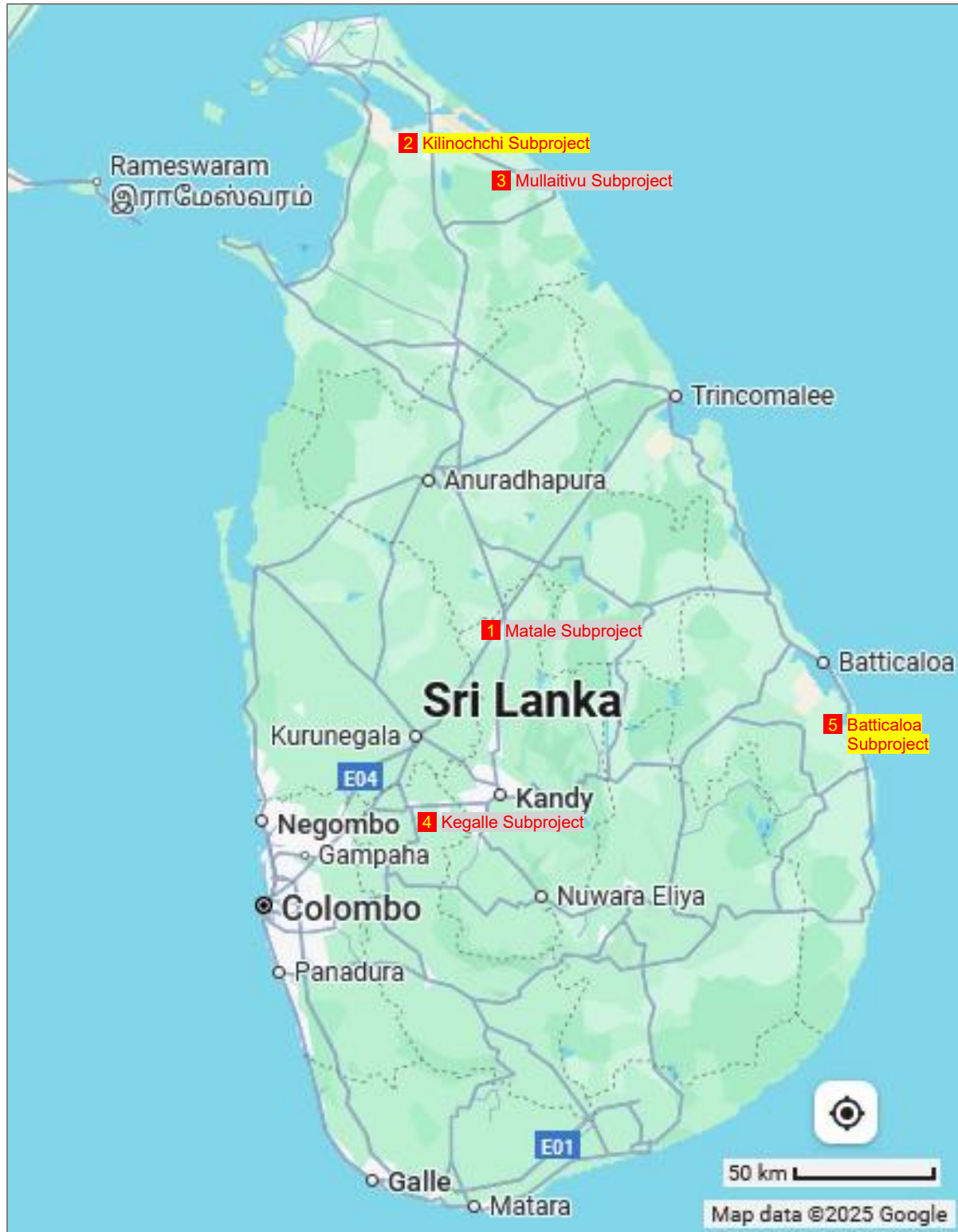


Figure C-1: Subproject Locations

Table C-1: Details of the Proposed Subproject Sites

Site ID	District	Division	GN	Distance to PHC or Hospital (km)	Land Ownership Status	Basic Utilities Available (Water / Electricity / Sanitation) Yes/No	Resettlement Issues (Yes/No)	Is there clear Land Access & Connectivity? (Yes/No)	Land Area (sq.ft./perches/acres)	Existing facility / new construction?
1	Kilinochchi	Kandawalai	Kumarapuram	4	State Land	Yes	No	Yes	0.5 acre (2,000 sq.m)	New Construction
2	Mullaitivu	Puthukkudiyiruppu	Puthukkudiyiruppu East	1.8	State Land	Yes	No	Yes	0.5 acre (2,000 sq.m)	New Construction
3	Matale	Dambulla	Dambulla Town	1.0	State Land	Yes	No	Yes	0.60 acre (2,500 sq.m)	New Construction
4	Kegalle	Kegalle	Diyagama	4	State Land	Yes	No	Yes	2 Acres and 19 Perches (8,555 sq.m)	New Construction (with site clearing & demolition works)
5	Batticaloa	Manmunai South Eruvil Pattu	Onthachimadam North	300m	DS Land	Yes	No	Yes	0.5 acre	New construction

80. **Conceptual Design.** The conceptual plan for the Pilot Elderly Care Center is structured around four key interrelated components to ensure a holistic and dignified living environment. Medha Midula (Inner Courtyard) serves as the central sanctuary, designed to foster social connection, enhance natural light, and create a strong green focal point that promotes calmness and orientation. Safety is embedded throughout the facility through discreet support systems, slip-resistant flooring, and clear, intuitive navigation to ensure secure and independent movement. Care focuses on personalized services that integrate holistic wellness approaches within a warm, home-like setting, ensuring dignity and continuous support for residents. Recreation provides engaging and flexible spaces for arts, social interaction, and storytelling, helping maintain mental stimulation, purpose, and community engagement among elderly residents. The Pilot Elderly Care Centers are two-storey buildings, and the following main spaces have been considered during the conceptual design stage;

- Ground Floor
 - Staff Office
 - Clinic
 - Recreation Room
 - Rehabilitation Room
 - Therapy Room
 - Meditation/Prayer Room
 - Dining with Kitchen/Pantry
 - Washrooms
 - Courtyard / Garden with Therapy Spaces
 - Open Spaces for expansion/Ianai
 - Parking Area (Ambulance, Guests)
- Second Floor
 - Staff Support Spaces
 - Storage Room/s
 - Staff Training Area

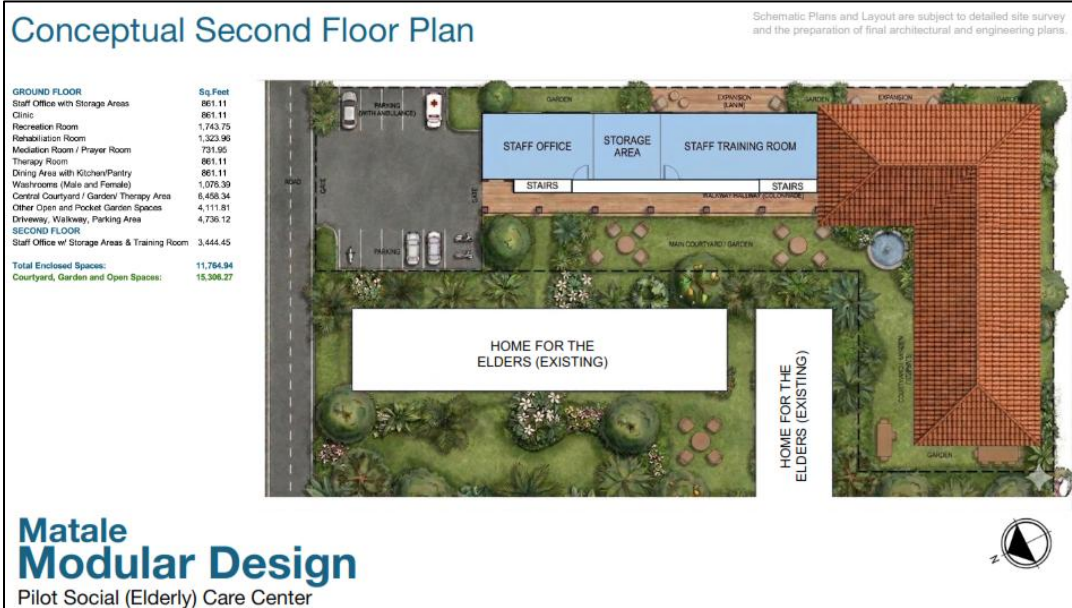
81. The design considerations and salient features of the conceptual designs for the Pilot Elderly Care Centers are as follows;

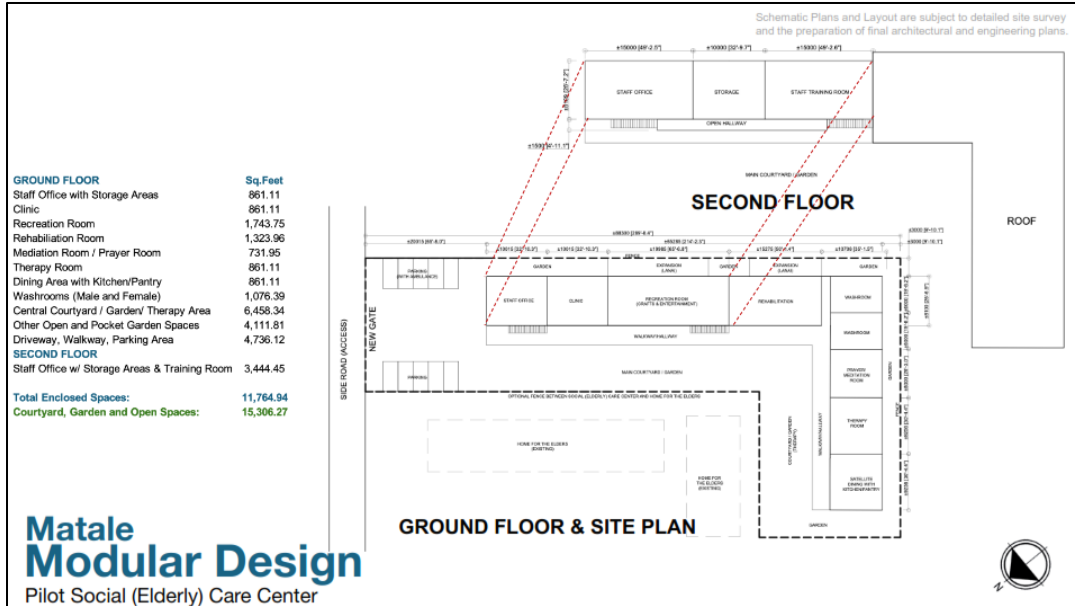
- Spaces are modular and can be reconfigured.
- The design emphasizes courtyards and gardens throughout the facility.
- Staff support spaces (office extension, storage, and staff training room) are located on the second floor, which may also serve as a refuge area during calamities (e.g., flooding).
- As lot sizes vary, layouts and area allocations may differ; however, all schemes maintain the same core functional spaces.
- A detailed lot survey/plan is recommended to ensure the accurate development of the final architectural and engineering plans.
- All sites will require site clearing, as well as backfilling and compaction to achieve a level grade.

D. Subproject Specific Conceptual Design Details

82. At the time of preparation of this IEE, conceptual designs for 5 subprojects had been prepared and are presented below with the conceptual design illustrations and architectural drawings. The proposed facility area, including the ground floor and second floor components with their respective floor areas, are provided with the design drawings.

1. Matale Subproject





2. Kilinochchi Subproject



Conceptual Second Floor Plan

Staff Office
Training Area
Additional Office
Various Storage Rooms

2F Approx. Floor Area:
3,230 sq.ft. (12 perches)
≈300.0 sq.m



Initial design peg/aesthetic



Kilinochchi Modular Design

Pilot Social (Elderly) Care Center

GROUND FLOOR

Lobby, Waiting Area (space for showcase)
Office : 666.20 sq.ft
Storage & Records: 496.70 sq.ft
Clinic: 666.20 sq.ft
Counselling Room: 496.70 sq.ft
Rehabilitation Rm.: 644.52 sq.ft
Therapy Room: 644.52 sq.ft
Kitchen/Pantry & Dining: 1,290 sq.ft
Recreation Room: 1,146.80 sq.ft (crafts, reading area)
Prayer Room: 573.80 sq.ft
Washrooms with PWD Stalls: 496.70 sq.ft
Outdoor (Central) Garden: 1,935.20 sq.ft (w/ various spaces for therapy)

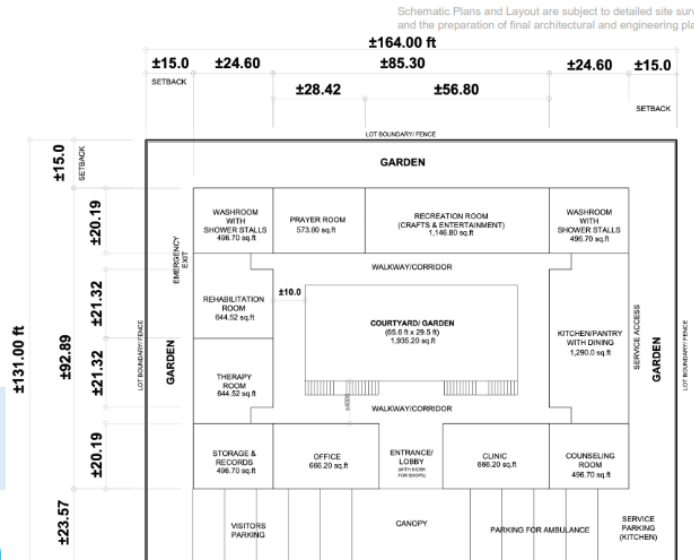
SECOND FLOOR

Staff Office
Training Area
Additional Office
Various Storage Rooms

GROUND FLOOR & SECOND FLOOR AREA:
≈ 15,716.0 sq.ft (≈ 57.72 perches)
≈1,460.0 sq.m

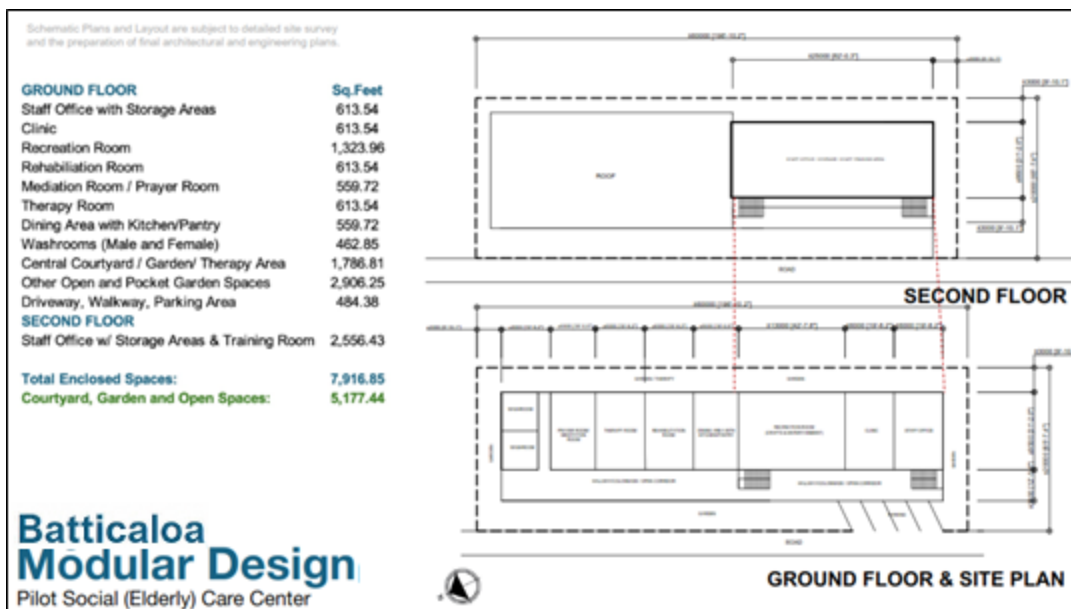
Kilinochchi Modular Design

Pilot Social (Elderly) Care Center



3. Batticaloa Subproject





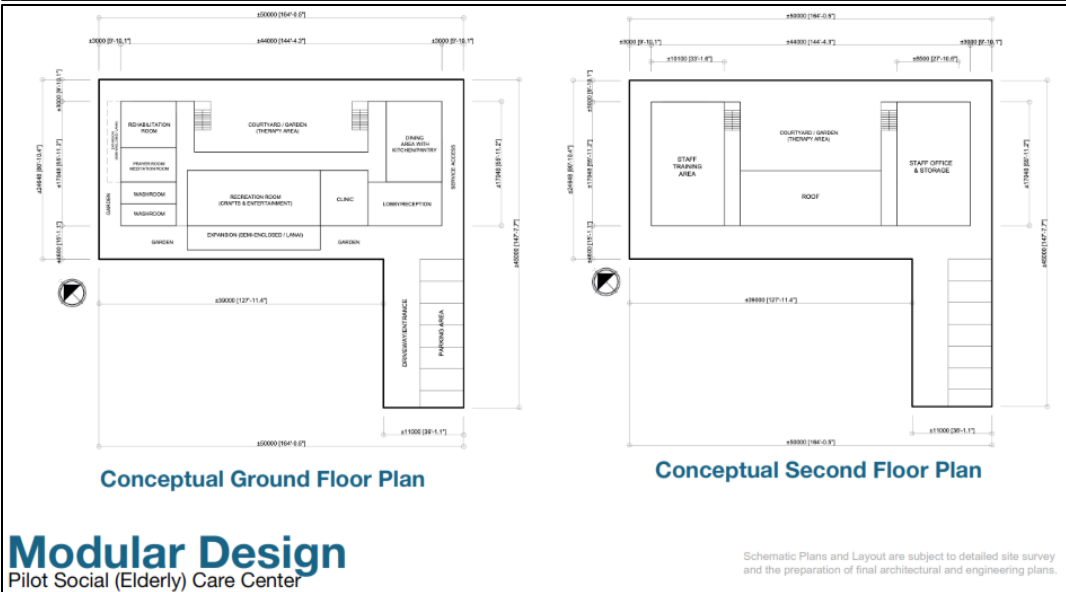
4. Mullaitivu Subproject





Mullaitivu Modular Design

Pilot Social (Elderly) Care Center

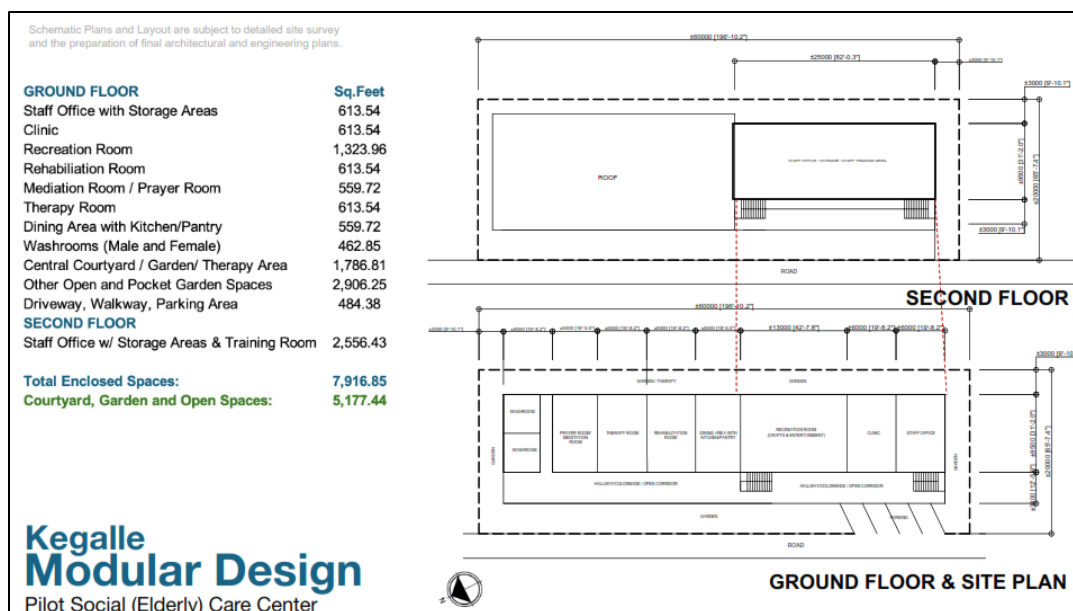


Modular Design

Pilot Social (Elderly) Care Center

5. Kegalle Subproject





6. Construction Activities

83. **Brief Description of Construction Activities.** The proposed Modular Elderly Care Centers are reinforced concrete buildings will be designed and built by the contractors, based on the conceptual design scheme prepared by ADB team of TA and each subproject PIU and selected complying with the National Procurement Guidelines. It is expected for the contractor to supply all materials and construction equipment; and, to remove all debris, excess materials and temporary structures etc. and clean the site properly once the building is completed to the satisfaction of the engineer to the project. Maintaining the construction site with required cleanliness and sanitary conditions will be the responsibility of the contractor.

84. **Building Safety Design and Devices.** The buildings must have built-in alternative emergency evacuation routes for speedy evacuation of occupants during an emergency. In case of a major fire, the building components should withstand the fire for a nominated time period without a catastrophic failure occurring until all occupants safely vacate the building.

85. **Design Codes for Buildings.** The building shall comply with CIDA/DEV/14 Fire Safety Requirements for Buildings, which establish the mandatory fire safety provisions for building design including means of escape, compartmentation, and fire resistance requirements. The fire detection, alarm, and fire protection systems shall be designed, installed, and commissioned in accordance with SCA/9 Specifications for Fire Detection, Protection and Suppression Systems, together with relevant NFPA and British Standards (BS), where applicable. A Fire Safety Clearance Certificate shall be obtained from the relevant Fire Service Authority confirming compliance with CIDA/DEV/14 and SCA/9 requirements, prior to building occupancy. Water supply, drainage, and sanitation systems shall comply with NWSDB standards and relevant SLS specifications to ensure hygienic and safe service provision. Wastewater disposal shall comply with CEA environmental standards, ensuring effluent discharge is within prescribed limits. Electrical systems shall comply with CEB/LECO technical standards and Sri Lanka Electricity Act requirements, and shall be certified by a qualified electrical engineer. Construction materials and workmanship shall conform to applicable Sri Lanka Standards (SLS) and approved material specifications to ensure quality and durability. The building shall comply with the Energy Efficiency Building Code issued by the Sri Lanka Sustainable Energy Authority, promoting energy-efficient design and operation. The design shall incorporate sustainability principles in line with Green

Building Council of Sri Lanka (GBCSL) GREENSL® rating system, where applicable, to improve environmental performance.

86. **Borrow Areas.** Potential sources of earth for the construction of embankment and soil infilling and the access roads needs to be identified by the consultant design engineers and the contractors for each subproject. The suitability of borrow materials can be checked by laboratory tests such as proctor compaction test, gradation test, liquid limit plastic limit etc.

87. **Quarry Material.** Amount of quarry material such as rock, rubble, coarse and fine aggregates will be required for the construction activities such as building foundations, reinforced concrete structures, and road works etc. These are normally purchased from licensed quarries and the quarry products are transported to the site by using trucks and tippers. There are number of operational metal rock quarries available in Mullaitivu, Vavuniya, Batticaloa and Anuradhapura Districts.

88. **Cement.** Local and imported cement in bag or bulk form is available for construction. Cement shall conform to SLS 107 for buildings.

89. **Cement block & clay bricks.** These should be tested according to SLS 847 and SLS 39 for compressive strength, dimensions and water absorption through accredited laboratories.

90. **Steel:** High strength deformed bars manufactured by various steel manufacturing companies conforming to SLS standards are available. Before incorporation into the work, steel should be approved by the Engineer.

7. Work schedule

91. The overall project is expected to be completed by the end of 2028. The average construction period for a subproject is estimated at approximately 1 year. Detailed implementation schedules for each subproject are not available at the time of preparation of this report.

IV. DESCRIPTION OF THE ENVIRONMENT (BASELINE DATA)

A. EXISTING ENVIRONMENT – MATALE SUBPROJECT

1. Physical Environment

Climatic and Meteorological conditions

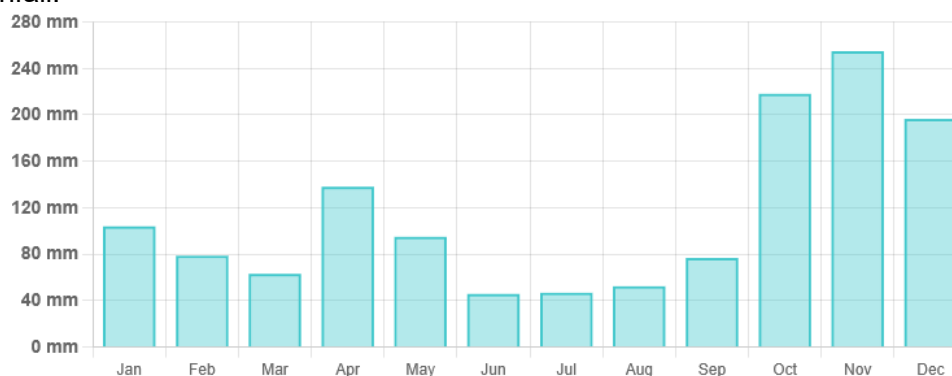
92. Climate The Matale subproject area is located in Dambulla within the DL1b: Dry Zone Low Country agro-ecological region, characterized by undulating terrain. The area experiences a tropical dry climate, with relatively low and highly seasonal rainfall, supporting dry-adapted vegetation and agricultural practices. Soils are generally well-drained.



Source: Department of Agriculture

Figure A-1: Agro-ecological – Area around Dambulla

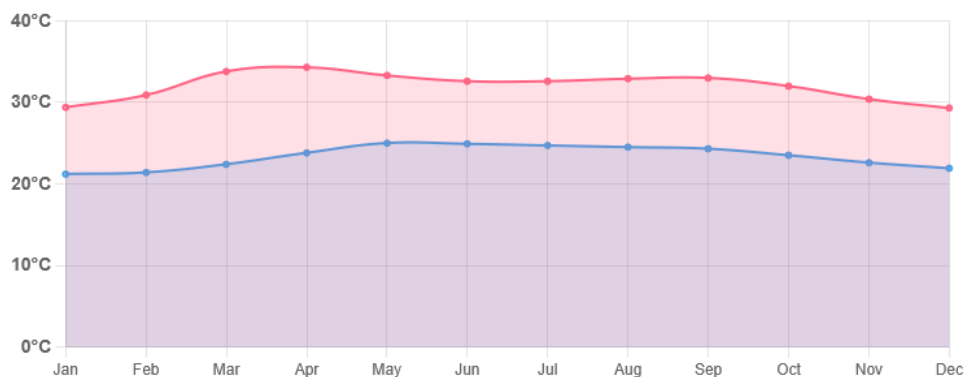
93. Rainfall Pattern Dambulla located in the dry zone of the country, experiences a rainfall, averaging 1,369 mm annually. November typically receives the most precipitation, with around 255 mm, while June is the driest month, with 46 mm. The rainfall pattern is largely influenced by Sri Lanka's monsoonal climate, with the Northeast Monsoon (October–December) bringing the highest rainfall.



Source: <https://www.weather-and-climate.com>

Figure A-2: Rainfall pattern of the area: Dambulla

94. Temperature in the area are generally consistent throughout the year. Typically, average maximum daytime temperatures range between 29.3°C and 34.3°C through December to April. Average minimum temperatures range between 21.2°C and 25°C through January to May.

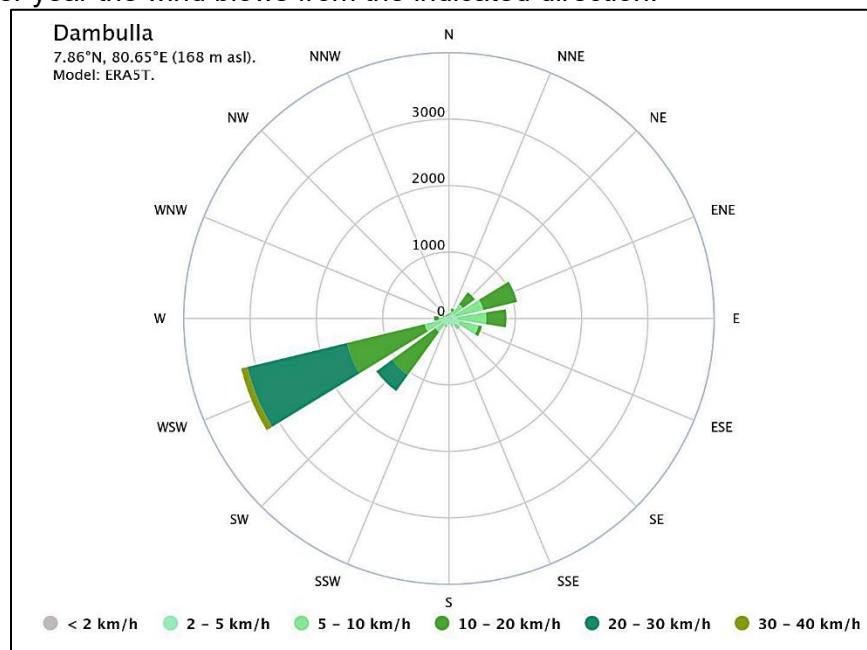


Source: <https://www.weather-and-climate.com>

Figure A-3: Temperature variation of the area: Dambulla

95. Relative humidity Dambulla experiences relatively high and seasonally variable humidity throughout the year, characteristic of its tropical climate. Mean relative humidity ranges from 69% during the drier months of June and July to around 80% during the peak monsoon months of October and November. Nighttime humidity is generally higher than daytime, reflecting reduced temperatures and limited evaporative loss after sunset. The annual mean relative humidity is estimated at 74–75%, influenced by the region's location in Sri Lanka's humid zone.

96. Wind pattern. Dambulla's wind patterns are dictated by Sri Lanka's two monsoon periods: North-Easterly winds from December to March, bringing relatively drier conditions, and South-West winds from May to October, associated with the wetter season. The winds are generally gentle, with speeds around 10 km/h to 15 km/h, and carry the moisture and heat that define the region's tropical monsoon climate. Below given is the Windrose for Dambulla which shows how many hours per year the wind blows from the indicated direction.



Source: <https://www.meteoblue.com>

Figure A-4: Windrose for Dambulla

Air Quality

97. The Matale subproject site is located within the Dambulla town area in an urban setting characterized by administrative and commercial land uses. The site is situated close to the Colombo - Anuradhapura - Trincomalee highway, which carries a considerable volume of vehicular traffic. Ambient air quality in the area is generally good, although the site is located in an urban environment. There are no significant industrial emission sources in the vicinity, and the primary contributors to air emissions are vehicular traffic on the nearby main road and other small-scale commercial activities. Dust generation may also occur during dry periods, particularly from unpaved access roads; however, such impacts are temporary, localized, and limited in extent. No recent air quality monitoring data are available for the project area. Therefore, baseline ambient air quality monitoring will be carried out prior to the commencement of construction activities.

Ambient Noise

98. The ambient noise environment in the project area is primarily influenced by vehicular traffic on the nearby main road, together with activities associated with nearby administrative establishments and small-scale commercial operations. No significant continuous noise sources, such as industrial activities, are present in the immediate vicinity. The selected subproject site can be considered as a noise-sensitive receptor, while only a few scattered rural residences are located at some distance from the site. Overall, ambient noise levels are low to moderate and are typical of a non-industrialized urban environment, with no significant noise-related concerns under normal conditions. No recent noise monitoring data are available for the project area. Therefore, baseline noise level monitoring will be carried out prior to the commencement of construction activities.

Topography

99. The topography of Dambulla town, where the proposed subproject site at the Dedicated Economic Centre is situated, is predominantly flat, lying within the dry zone lowlands at an elevation of about 150 - 180 m MSL. This flat terrain has facilitated extensive urban development and infrastructure expansion. The most distinctive feature in the immediate landscape is the Dambulla Rock outcrop, which rises steeply (320m MSL) above the surrounding plains and forms a key landmark within the area. Beyond the town area, the terrain transitions into gently undulating uplands with localized residual hills and rocky ridges, with elevations exceeding 600 m, particularly toward the southeast in Yakuragala Mountain (Figure 4.3-5) and toward Galkotkanda Mountain in the east which is located in the immediate catchment of the Kandalama Tank.

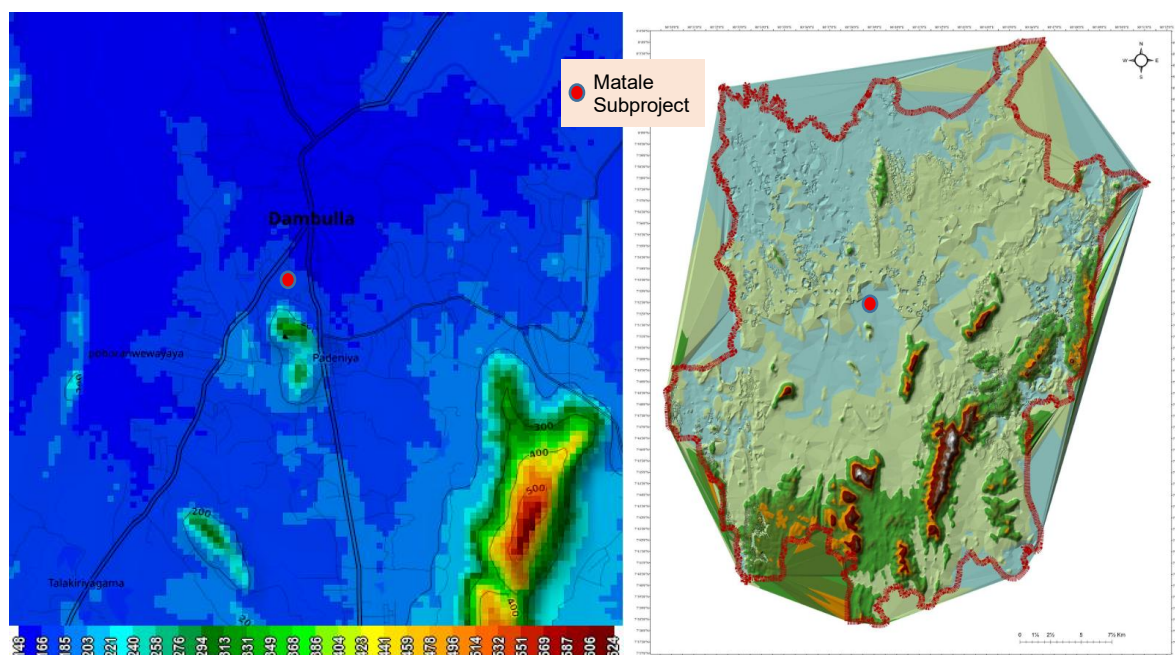


Figure A-5: Maps shown topography of Dambulla area

Hydrology and Drainage

100. The drainage in the Dambulla area generally follows an east–west slope. North of the site is the Mirisgoniyawa Oya, a tributary within the Kala Oya system. Kandalama Wewa, located northeast of Dambulla, is formed by a dam across the Mirisgoniyawa Oya, with spill releases rejoining the oya and flowing downstream toward the Kala Oya basin. To the south of Dambulla town, the Dambulu Oya flows westward and is impounded at Ibbankatuwa as the Dambulu Oya Reservoir (Ibbankatuwa Wewa); from there, its outflow continues west and eventually joins the Kala Wewa system.

101. With respect to the drainage in the immediate vicinity of the site, a stream runs between parallel to the eastern boundary outside the land (Figure 4.1-6). The canal proceeds northward along the private land, subsequently crossing by the road and discharging into the marshy area located closer to the hospital.

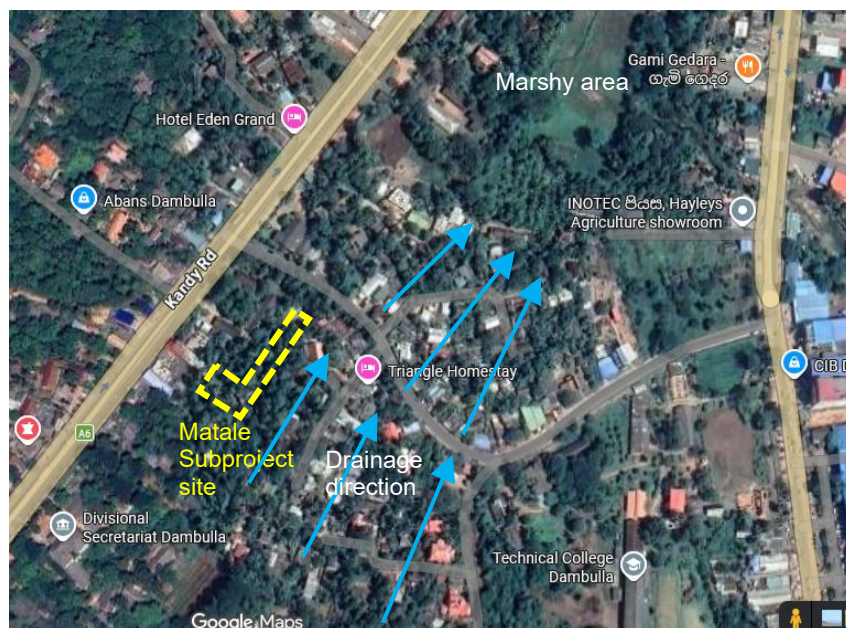


Figure A-6: Drainage paths at the vicinity of Matale subproject area

Geology and Soil

102. **Geology.** The region surrounding Dambulla, including the highlighted location, lies within Sri Lanka's central crustal terrain dominated by the Highland Complex, which consists of high-grade Precambrian metamorphic rocks. These include marbles, sillimanite-garnet biotite gneisses, quartzites, and calcic gneisses, reflecting deep-seated metamorphic processes. The prominent outcrop at Dambulla - the massive rock forming the cave temple - rises about 160 m above the surrounding plains and is likely a resistant remnant of these metamorphic formations. Surrounding areas have been shaped by weathering and erosion, producing landscapes of undulating plains with valleys where surface deposits accumulate.

103. **Soils.** The soils developed in the area reflect the weathered metamorphic terrain, combined with prevailing climatic and geomorphological conditions. While detailed local soil maps are limited, general classifications for central Sri Lankan uplands indicate the presence of Reddish-Brown Earth soils, Red-Yellow Latosols, and non-calcic Brown soils, which form over well-drained parent material and exhibit moderate to low natural fertility. These soils typically show reddish or yellowish hues from iron oxides, good structure and drainage, but low organic matter - making them suitable for dryland cropping and home gardens, especially where managed with inputs. Given the undulating terrain and the rock prominence, some shallow residual soils (Derivatives of weathered gneiss and marble) are expected around the base of outcrops, while deeper alluvial or colluvial soils may occupy slight depressions or valley floors.

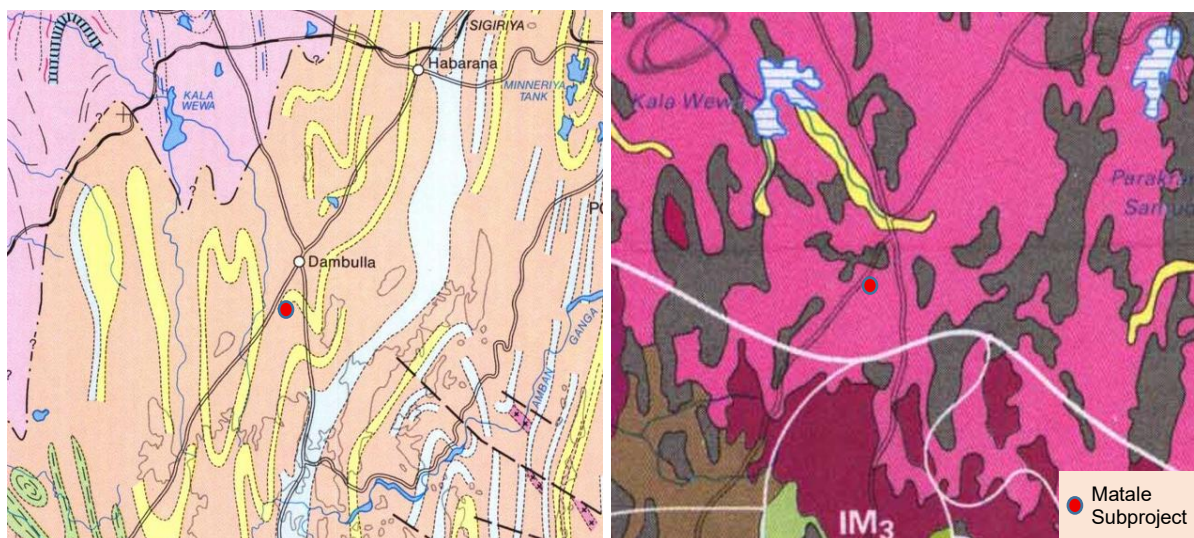


Figure A-7: Geology map (L) and Soil map (R): Matale subproject

Natural Hazards

104. The Matela subproject site, located in Dambulla, is situated in a relatively low disaster-risk area. The site is not located within a designated flood-prone area; however, historical records indicate that flooding has occurred in lower-lying areas towards the Dambulla Junction, particularly around the Dambulla Base Hospital Area. During such flood events, temporary disruptions to road access and connectivity may occur in surrounding areas, although the subproject site itself is not expected to be significantly affected.

2. Biological Environment

Fauna and Flora of the Area

105. The Dambulla town area lies within the intermediate climatic zone of Sri Lanka, where ecological characteristics are shaped by a mosaic of urban development, agricultural land, home gardens, and patches of natural vegetation. Although the town core is largely built-up, the surrounding environment supports diverse flora and fauna due to the presence of mixed-crop fields, home gardens, and forested rocky outcrops.

106. Flora: Vegetation in and around Dambulla is typical of the dry-mixed evergreen forests, combined with cultivated crops and urban greenery. Common trees include Neem (*Azadirachta indica*), Mango (*Mangifera indica*), Jackfruit (*Artocarpus heterophyllus*), Tamarind (*Tamarindus indica*), Palmyrah (*Borassus flabellifer*), and Coconut (*Cocos nucifera*). Along rocky hillsides and temple areas, native species such as Kumbuk (*Terminalia arjuna*) and Weera (*Drypetes sepiaria*) occur, while agricultural fields and home gardens are dominated by vegetables, paddy, and fruit crops.

107. Several trees are present within the selected land at Dambulla, and some of them may need to be removed based on the proposed building layout and design. Details of the recorded tree species are provided below.

Table A-1: List of Trees Recorded within the Matale Subproject Site

Family	Scientific Name	English Name	Local Name	No. of trees
Areaceae	<i>Cocos nucifera</i>	Coconut	Pol	22
Areaceae	<i>Areca catechu</i>	Areca nut	Puwak	2

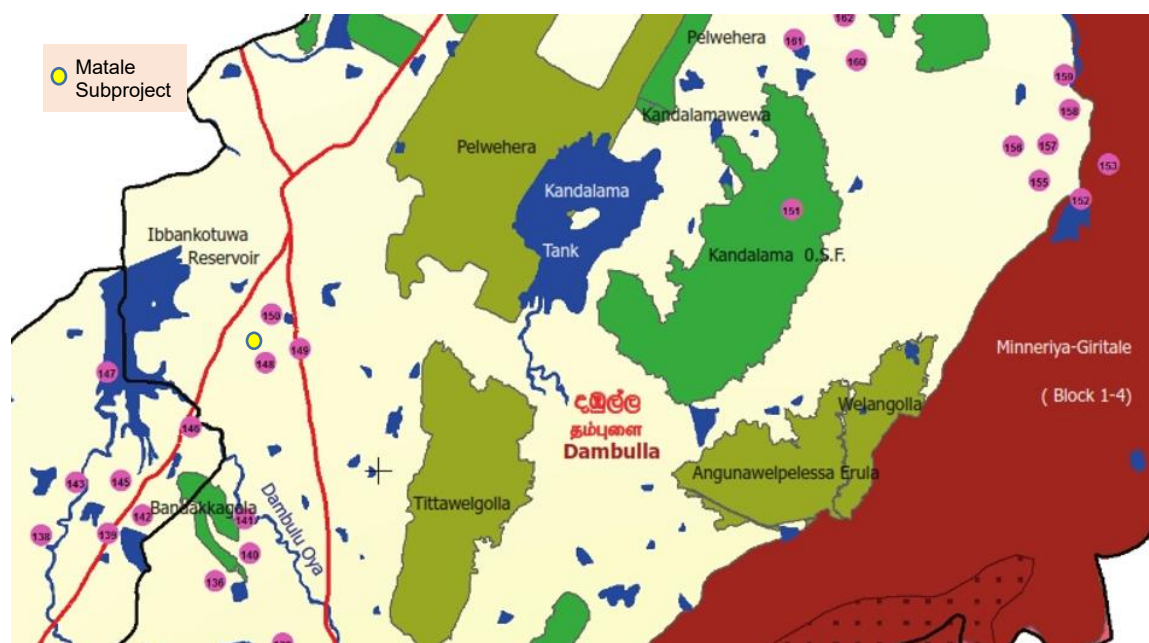
Moraceae	<i>Artocarpus heterophyllus</i> Lam	Jackfruit	Kos	3
Anacardiaceae	<i>Mangifera indica</i>	Mango	Amba	2
Lamiaceae		Teak	Thekka	2

108. Fauna: The area hosts both urban-tolerant species and wildlife associated with semi-natural habitats. Common mammals include Toque macaque (*Macaca sinica*), Palm squirrel (*Funambulus palmarum*), and Indian grey mongoose (*Herpestes edwardsii*). Avifauna is diverse, with species such as Common myna (*Acridotheres tristis*), Red-vented bulbul (*Pycnonotus cafer*), Black drongo (*Dicrurus macrocercus*), Asian koel (*Eudynamys scolopaceus*), and waterbirds like Cattle egret (*Bubulcus ibis*) frequenting paddy fields. Reptiles such as Garden lizard (*Calotes versicolor*) and House gecko (*Hemidactylus frenatus*) are widespread, while amphibians like Common Asian toad (*Duttaphrynus melanostictus*) are often recorded in wet areas.

109. Overall, while urbanization, commercial and agricultural expansion have modified the landscape, Dambulla town and its surroundings still support a representative set of dry zone flora and fauna, especially in sub-urban and semi-natural habitats. No endangered flora or fauna species were recorded within the site selected for the subproject activities.

Proximity to Protected Areas

110. There are number of protected areas located to the east of Dambulla town, at a considerable distance from the subproject site. The notable wildlife protected areas and forest reserves located nearby are listed below with distance from the proposed site and are shown in Figure 4.1-8: Environmentally Sensitive Area Map published by CEA.



Name	Agency	Area (ha)	Date Gazetted	Approx. Distance (km)
Pelwehera Forest Reserve	FD	1962	1936	3
Tittawalgoda Forest Resrve	FD	946	2009	5
Kandalama Proposed Forest Reserve	FD	1308	2009	7
Angunawelpessa Forest Reserva	FD	545	2009	8.6
Minneriya-Giritale (Block 1-5) Nature Reserve	DWLC	14,198	1988	10.2

Figure A-8: Environmental Sensitive Areas - Matale Subproject (CEA)

3. Physical Cultural Resources

111. There are seven archaeologically and culturally important locations in Dambulla DSD as per the List of Archaeological Protected Monuments in Matale District published by Department of Archaeology. Even though it is located outside the Dambulla DSD, it is noteworthy to mention that the Ibbankatuwa Megalithic Tombs is an ancient burial site located near Ibbankatuwa Wewa in Galewela DSD, at a distance of about 4 km from the subproject site. This site is thought to belong to the megalithic prehistoric and protohistoric periods of Sri Lanka and is considered one of the several ancient burial sites that have been found in the country. The radiocarbon dating carried out on remains found at the site have revealed that these tombs date back to 700 – 450 B.C. The details of the Archaeological Protected Monuments in the Dambulla DSD are as follows;

Table A-2: Archaeological Protected Monuments in Dambulla DSD

Monument	Designated on	Description	Image
Dambulla cave temple (Distance from the subproject – 1.1km)	30 August 1957	Dambulla cave temple, also known as the Golden Temple of Dambulla, is a World Heritage Site (1991) in Sri Lanka. There are more than eighty documented caves in the surrounding area. Major attractions are spread over five caves, which contain statues and paintings. These paintings and statues are related to Gautama Buddha and his life. There is a total of 153 Buddha statues, three statues of Sri Lankan kings and four statues of gods and goddesses.	
Sigiriya (Distance from the subproject – 15.6km)	21 March 1952 November 1982 (UNESCO World Heritage List)	Sigiriya (Lion Rock) is an ancient rock fortress built by King Kashyapa (CE 477–495). There is a palace on top of this rock and with decorated sides with colourful frescoes. A series of galleries and staircases emerging from the mouth of a gigantic lion constructed of bricks and plaster provide access to the site. This UNESCO World Heritage Site, often referred to as the "Eighth Wonder of the World," stands as a testament to the island's rich cultural tapestry and architectural prowess.	
Dambulugala inscriptions (Distance from the subproject – 1.1km)	20 August 1976	Inscriptions	
Kaludiya Pokuna Archeological Forest Site (Distance from the subproject – 9.1km)	1926	Formerly known as Dakkhinagiri Vihara	
Ruwanmadugalle Kanda Vihara (Distance from the subproject – 13.3km)	23 January 2009	Steps hewn on the rock, the foundation for the pillars, natural pond	
Samanthalayaya ruins (Distance from the subproject – 9.5km)	6 February 2009	Area in which rock pillars are situated at Galkuruyaya	

Monument	Designated on	Description	Image
Wewalawewa Gallen Aranya Senasana (Distance from the subproject – 14.2km)	12 June 2015	Cave complex with drip ledges and stone inscriptions and other archaeological evidences at the premises	

4. Socio-Economic Environment

112. The socio-economic environment of the Dambulla subproject area, including administrative divisions, land use, demographic characteristics, education, housing infrastructure, household income, employment, and unemployment, is discussed below based on the latest available Resource Profile (2024) of the Dambulla Divisional Secretariat.

Administrative Divisions

113. The subproject – Dambulla Dedicated Economic Centre – is situated in Dambulla Town (445) GND within Dambulla DSD. Dambulla DSD consists of 59 GNDs, has a population of 87,128, and covers an area of 453.25 km², with a population density of 192 people per km². Dambulla is a well-known destination for both local and international tourists, featuring two world heritage sites: the Dambulla Rock Temple and Sigiriya. The area also hosts the Kandalama Hotel and a wide range of other prominent star-class hotels and resorts. Significant establishments within the division include the Dambulla International Cricket Stadium, Pelwehera Farm, and the Dedicated Economic Centre. The town's strategic importance is enhanced by the joining of two major roads: the Kandy–Jaffna (A9) Road and the Colombo–Trincomalee (A6) Road.

114. Dambulla Town GND, where the subproject is located, lies right center of the DSD. Dambulla Town GND spans 3.853 km² and has a population density of 1,214 people per km². Administratively, Dambulla Town GND falls under the Dambulla Electorate, with the Dambulla Urban Council serving as the local governing authority.

Land Use

115. The land use pattern in Dambulla DSD demonstrates a mix of natural, agricultural, and built environments. Agricultural lands constitute the largest portion, covering 13,455.79 ha (38.4%), followed by forest lands at 11,346.01 ha (32.4%). Marshy areas account for 4,764.97 ha (13.6%), while built-up areas span 3,332.83 ha (9.5%). Home gardens occupy 3,114.35 ha (8.9%), and abandoned agricultural lands are negligible at 12 ha (0.03%). These figures highlight the predominance of agriculture and forest cover in Dambulla DSD, with built-up areas and home gardens forming smaller yet significant components of land use.

Demographic Characteristics

116. This section describes the demographic characteristics of Dambulla Town GND and the broader Dambulla DSD, based on the latest available Resource Profile of the Divisional Secretariat (2024). Dambulla DSD comprises 59 GNDs, covering an area of 453.25 km² and encompassing 164 villages. According to the 2024 census, the total population is 87,128, with 44,287 females and 42,841 males.

117. Population distribution by sector highlights that in Dambulla DSD, the majority of residents live in the rural sector, totaling 76,301 people (females: 38,690; males: 37,611; 88%), while 10,827 people (females: 5,597; males: 5,230; 12%) reside in the urban sector. In Dambulla Town GND, the total population is 4,676, comprising 2,194 females and 2,482 males. Of this population, 1,597 females and 1,924 males reside in the urban sector, accounting for the majority of the

GND's residents. The rural sector has 597 females and 558 males, representing a smaller portion of the population.

Education

118. The education levels of Dambulla Town GND and Dambulla DSD, based on the Resource Profile of Dambulla DSD, are presented in the following Table 4.1-3.

Table A-3: Educational profile of the area

Division	Total population	Status of education											
		No school education		1-5 Grade		6 - 10 Grade		Upto GCE (O/L)		Upto GCE (OAL)		Degree/ Postgrad	
		F	M	F	M	F	M	F	M	F	M	F	M
Dambulla Town GND	4676	38	31	28	27	31	30	34	33	23	25	34	30
Dambulla DSDදිවුල්ල	87128	1374	1294	5669	5354	7944	7984	8695	8102	3591	3050	732	551

Source: Resource Profile, Dambulla Divisional Secretariat (2024)

Housing Infrastructure

119. The information on housing infrastructure by housing unit type (on number of story and nature of housing type) in the Dambulla Town GND and Dambulla DSD has been compiled from the data provided by the Resource Profile.

Table A-4: Number of houses by housing unit type

Division	Dambulla Town GND	Dambulla DSD
Single unit	1130	23215
Twin units/Line rooms	-	105
Shanties	2	160
Annex	-	446
Storied	158	1025
Other	-	158
Total	1290	25106

Source: Resource Profile, Dambulla Divisional Secretariat (2024)

120. **Drinking water.** The number of households in terms of drinking water facilities are given in the following table. The data show that, the majority of households in both Dambulla Town GND and the Dambulla DSD have access to safe water through pipe-borne systems.

Table A-5: Status of drinking water sources

Drinking water source	Dambulla Town GND	Dambulla DSD
Protected well	20	4308
Unprotected well	-	642
Pipe borne water	1,264	14133
Rural water schemes	-	1601
Tube well	6	2133
Tank/River/Stream/Fountain/Rainwater	-	151
Bottled water	-	1293
RO water scheme	-	537
Other	-	311
Households without access to drinking water		249
Total	435	25109

Source: Resource Profile, Dambulla Divisional Secretariat (2024)

121. **Sanitation facility.** Regarding sanitation facilities, the majority of households in both Dambulla Town GND and the Dambulla DSD have access to water-sealed toilets. The following table gives the number of residential housing units by toilet facilities for the GND and DSD.

Table A-6: Status of access to sanitation facilities

Division	No. of HH	HH having toilet		No toilet for HH/shared with other	Public toilet	Not using a toilet	Water sealed	Not water sealed	Pit toilet	Other
		Owned at HH	Shared with other HH							
Dambulla Town GND	1290	1288	2	-	-	-	1288	-	2	-
Dambulla DSD	25109	23146	1240	667	4	52	23309	1389	229	182

Source: Resource Profile, Dambulla Divisional Secretariat (2024)

122. **Electricity.** The number of households in terms of sources of lighting within Dambulla Town GND and Dambulla DSD are given in the following table.

Table A-7: Status of sources of lighting

Division	No. households	Sources of lighting				Without electricity
		Electricity	Kerosine	Solar	Other	
Dambulla Town GND	1,290	1,288	2	-	-	2
Dambulla DSD	25,109	24,844	156	35	74	230

Source: Resource Profile, Dambulla Divisional Secretariat (2024)

Employment and Unemployment

123. The following data, obtained from the Resource Profile of Ratmalana DSD, present the distribution of employment by sector and the number of unemployed individuals.

Table A-8: Status of employment and unemployment by education level

Division	Total employed		Employment										Unemployed	
			State sector		Semi govt		Private sector		Self employed		Foreign employment			
	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Dambulla Town GND	1647	1439	295	310	458	344	794	664	60	63	40	58	190	208
Dambulla DSD	22097	25686	1948	2495	1480	1439	9681	11113	8012	9913	976	726	7708	4585

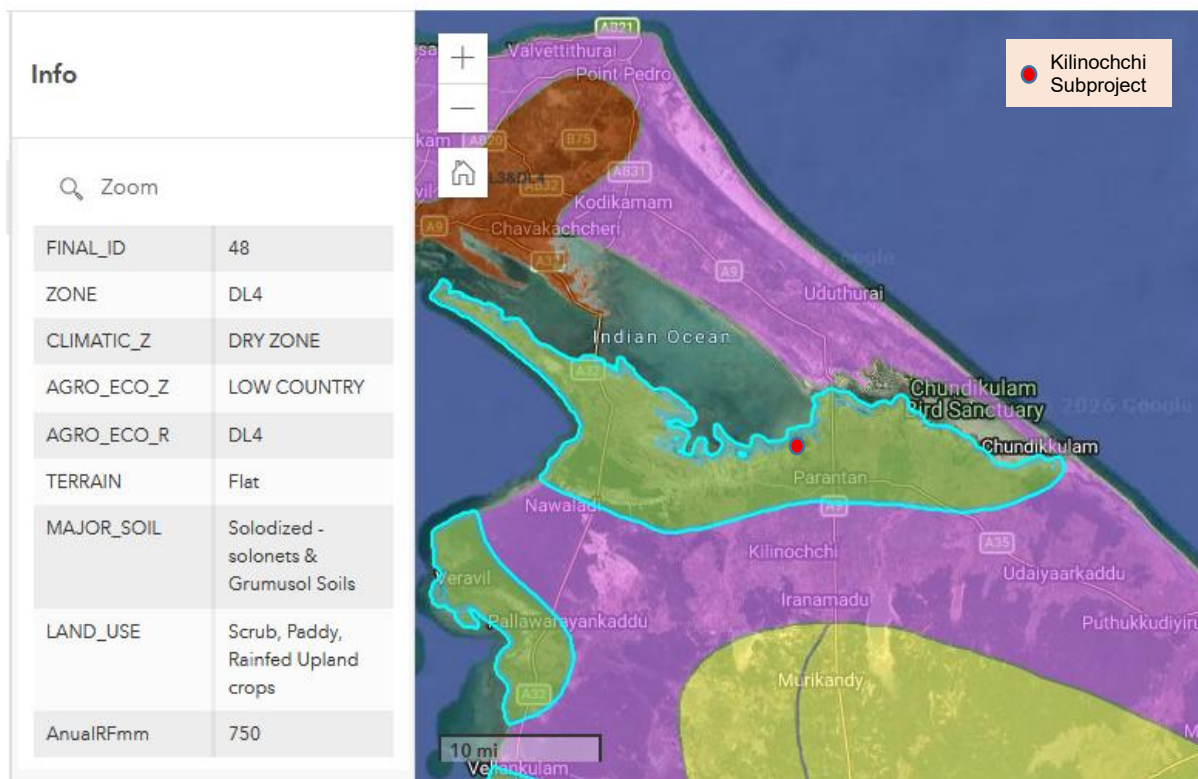
Source: Resource Profile, Dambulla Divisional Secretariat (2024)

B. Existing Environment - Kilinochchi Subproject

1. Physical Environment

Climatic and Meteorological conditions

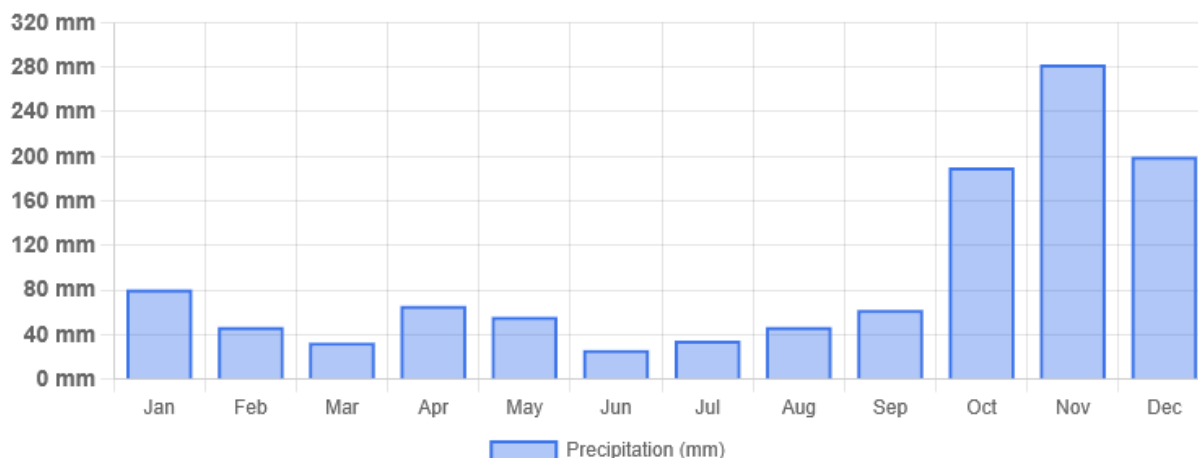
124. **Climatic zone.** The Kilinochchi subproject area is located in the DL4 agro-ecological region of the Dry Zone Low Country, characterized by predominantly flat terrain. The area experiences a tropical, dry climate, with an average annual rainfall of about 750 mm. The landscape supports a mix of scrub vegetation, rainfed upland crops, and paddy cultivation.



Source: Department of Agriculture

Figure B-1: Agro-ecological Area around Kilinochchi Subproject

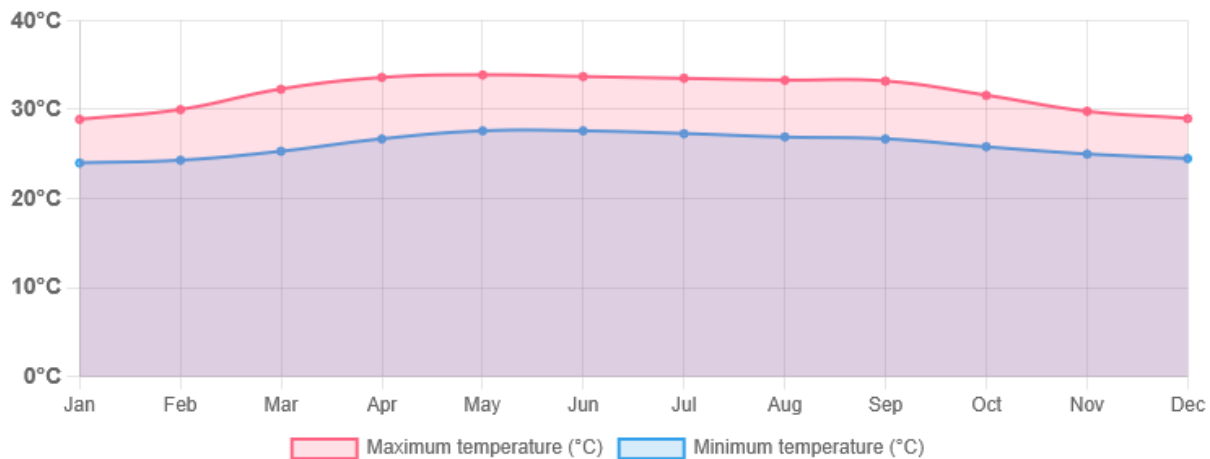
125. **Rainfall Pattern.** Paranthan area in Kilinochchi receives moderate rainfall throughout the year, averaging 1,123 mm annually. The rainfall pattern is influenced by Sri Lanka's monsoonal climate, with the Northeast Monsoon (October–January) contributing the highest precipitation. Seasonal variations are notable, with November being the wettest month, receiving an average of 283 mm of rainfall, while June is the driest month, with around 26 mm of rainfall.



Source: <https://www.weather-and-climate.com>

Figure B-2: Rainfall Pattern of the Area - Kilinochchi Subproject

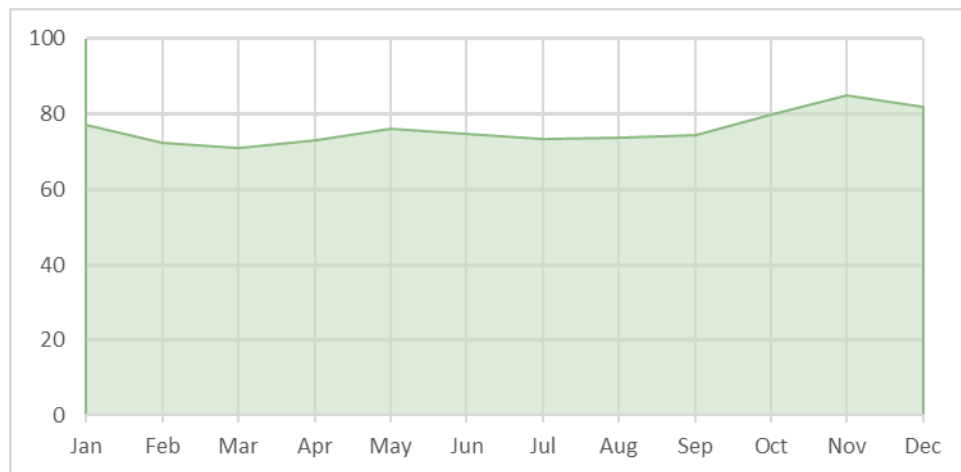
126. **Temperature** in the Paranthan area of Kilinochchi remains fairly consistent throughout the year, characterized by a persistently warm climate with minimal seasonal variation. Average daytime temperatures range from 33.9°C in May to 28.9°C in January, while average nighttime temperatures vary from 27.6°C in May/June to 24.0°C in January.



Source: <https://www.weather-and-climate.com>

Figure B-3: Temperature Variation of the Area - Kilinochchi Subproject

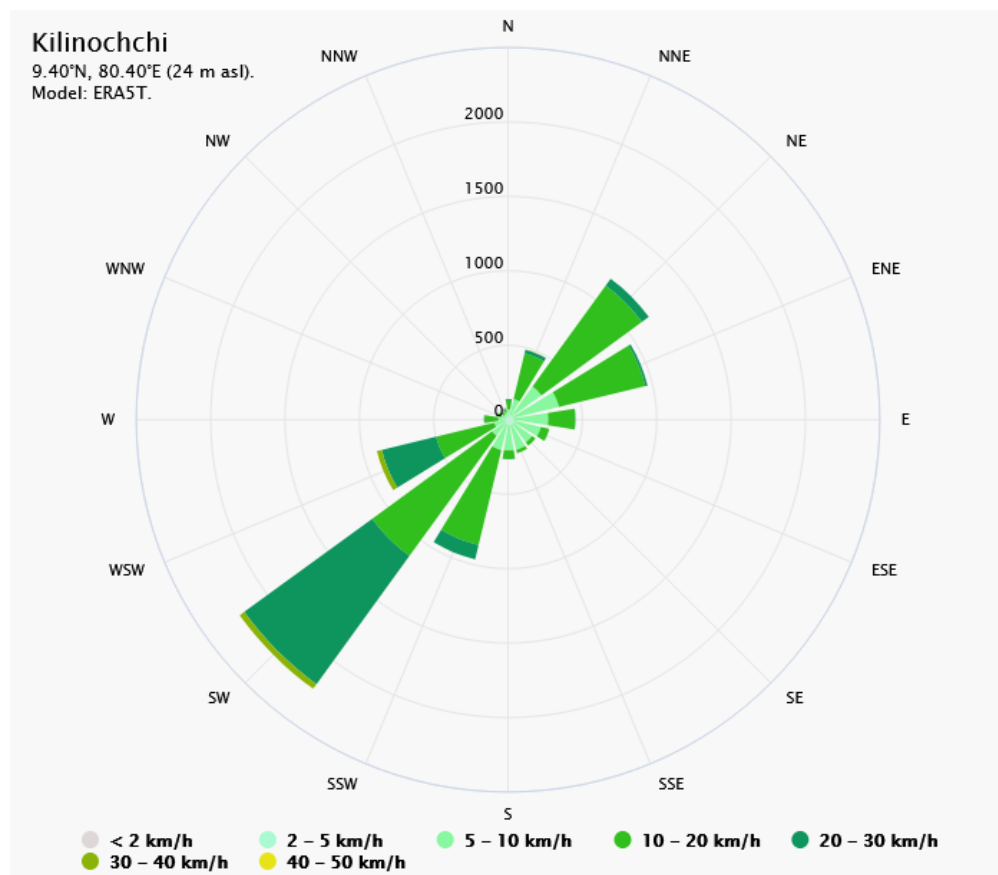
127. Relative humidity in the Kilinochchi area shows seasonal variation in relative humidity, with peak levels recorded in November at about 84.9% and the lowest levels in March at around 71.0%. The annual average relative humidity is approximately 76.1%, indicating a generally tropical, coastal climatic condition.



Source: Department of Census and Statistics

Figure B-4: Relative Humidity of the Area - Kilinochchi Subproject

128. Wind pattern. Kilinochchi experiences seasonal variations in wind conditions, with relatively stronger winds occurring during the Southwest Monsoon period from May to September and comparatively calmer conditions during the inter-monsoonal and Northeast Monsoon periods. The prevailing winds are mainly from the southwest and northeast directions, with the strongest and most frequent winds predominantly originating from the southwest sector. Moderate winds from the northeast and east-northeast directions are also notable during certain periods of the year. The Windrose for Kilinochchi, shown below, illustrates the number of hours per year that the wind blows from each indicated direction.



Source: <https://www.meteoblue.com>

Figure B-5: Windrose for Kilinochchi

Air Quality

129. The Kilinochchi subproject site is located in a predominantly rural setting within Paranthan area, characterized by agricultural land uses and low population density. Ambient air quality in the area is generally good, with minimal influence from industrial or major urban emission sources. The primary contributors to air emissions are localized and intermittent, mainly arising from train movements, vehicular movements on nearby rural roads, etc. In addition, dust generation may occur during dry periods, particularly from unpaved access roads; however, such impacts are temporary and localized. No recent air quality monitoring data are available for the project area. Therefore, baseline ambient air quality monitoring will be carried out prior to the commencement of construction activities.

Ambient Noise

130. The existing noise levels at the proposed subproject site is generally quiet and is dominated by occasional train movements. Background noise levels are mainly associated with intermittent vehicular traffic along the nearby access roads. There are no significant continuous noise generating sources such as industries, in the immediate vicinity of the site. Noise sensitive receptors are limited to a few scattered rural residences located at some distance from the site. Therefore, ambient noise levels are generally low to moderate and are typical of a rural setting, with no significant noise related environmental concerns under normal conditions, except for the high noise levels during train movements. No recent noise monitoring data are available for the project area. Therefore, baseline noise level monitoring will be carried out prior to the commencement of construction activities.

Topography

131. The Paranthan area is characterized by predominantly flat and low-lying terrain, typical of the Northern coastal plains of Sri Lanka. Ground elevations in the area are generally very low, typically below 10 m above mean sea level (MSL). The highest point in the area is likely the Paranthan Railway Station, which is situated at approximately 7.9 m MSL. The surrounding landscape mainly consists of open plains, scrublands, settlements, and low-lying areas with minimal topographic variation. Due to the relatively flat terrain and low elevation gradients, surface drainage is generally slow during periods of heavy rainfall.

Hydrology and Drainage

132. Kilinochchi District have seven (7) river basins such as Irranamadu, Akkarayan, Kalmadu, Kariyalai Nagapaduvan, Puthumurippu, Piramantha, Vannerik, and Kanakambigai. In addition to these there are 391 minor irrigation schemes, 9 medium and major reservoirs, and 20 saltwater exclusion schemes are available. This natural and manmade drainage systems will have the capacity to safeguard the entire area from flash flood during rainy seasons. However, due to improper maintenance of this drainage network the functionality of the drainage is very poor within the region.

133. The selected site is located in close proximity to Paranthan Railway Station and is situated at a relatively higher elevation, with no significant risk of flooding. The natural drainage pattern is characterized by shallow surface runoff paths that discharge flows towards the lagoon. Runoff from the site generally flows towards the north and northwest into the existing drainage channel, Nay Aru, located at a distance about 400m from the which is connected to the Jaffna Lagoon. Nay Aru is a short natural stream originating from the opposite side of the railway line, with its flow finally draining into the lagoon. An anicut has been constructed across Nay Aru in close

proximity to the site, providing irrigation water to 1,300 acres of agricultural land in the surrounding area. Together, these natural and manmade drainage system form an integrated network that facilitates stormwater conveyance and contributes to flood mitigation in the surrounding area.



Figure B-6: Roadside drains (L) & Nay Aru irrigation system (R)

Geology and Soil

134. The soils in the Kandawalai Division are generally fertile and contain sufficient mineral content to support the growth of a wide range of crops. The soil characteristics and land patterns are well suited for agricultural cultivation, making the area highly favorable for farming activities. In addition, the terrain and soil conditions support the storage of rainwater in both minor and major tanks, contributing to local water management and irrigation. Overall, the soils in the Kandawalai Division are conducive to diverse agricultural production due to their fertility and favourable physical properties. The following categories indicate the topography and soil classification of the division.



Figure B-7: Geology Map (L) and Soil Map (R) – Kilinochchi Subproject

Natural Hazards

135. **Tsunami.** During the 2004 Indian Ocean Tsunami, the part of Kilinochchi District where the subproject is located was not among the severely affected areas in Sri Lanka. According to the tsunami hazard map, the hazard level at the nearest coastline is low. The nearest coast is located more than 5 km from the subproject site.

136. **Floods.** The selected site is located in close proximity to the Paranthan Railway Station and is situated at a relatively higher elevation, with no significant risk of flooding. The natural drainage pattern is characterized by shallow surface runoff channels that convey stormwater towards the lagoon. Together, the natural and man-made drainage systems form an integrated drainage network that facilitates efficient stormwater conveyance and contributes to flood mitigation in the surrounding area.

137. **Cyclones.** More recently, during Cyclone Ditwah (2025), parts of the Kilinochchi District experienced severe flooding due to intense rainfall. The flooding primarily affected the downstream areas of the Iranamadu Tank, the Kanakarayan Aru, and its tributaries, with floodwaters overtopping and damaging several bridges in the area. However, these flood-affected areas are located well away from the subproject site, which was not affected by the flooding.

138. **Droughts:** Kilinochchi District is periodically affected by droughts, particularly during prolonged dry periods, resulting in water shortages for domestic, agricultural, and other uses. Strengthening water resource management, including improved water conservation, storage, and distribution practices, would help reduce the impacts of drought and enhance the resilience of the district, particularly its agricultural sector.

2. Biological Environment

Fauna and Flora of the Area

139. The vegetation in the subproject area in Kumarapuram closer to Paranthan area is typical of the Northern dry zone, comprising a mixture of scrublands, agricultural lands, and scattered tree cover. Common tree species observed in the area include Palmyrah (*Borassus flabellifer*), Neem (*Azadirachta indica*), Tamarind (*Tamarindus indica*), Weera (*Drypetes sepiaria*), Palu (*Manilkara hexandra*), Kon (*Schleichera oleosa*), Mango (*Mangifera indica*), and Coconut (*Cocos nucifera*), together with various shrub and scrub species. Tree cover is generally sparse to moderate, with denser vegetation occurring within reserved forest areas and along watercourses.

140. Within the selected half-acre land, there are no trees except for a few bushes and shrubs. A large Neem tree (*Azadirachta indica*) is located near the south-east corner, close to the village kovil. However, it is situated outside the selected land and will not be removed or affected by the proposed project activities.



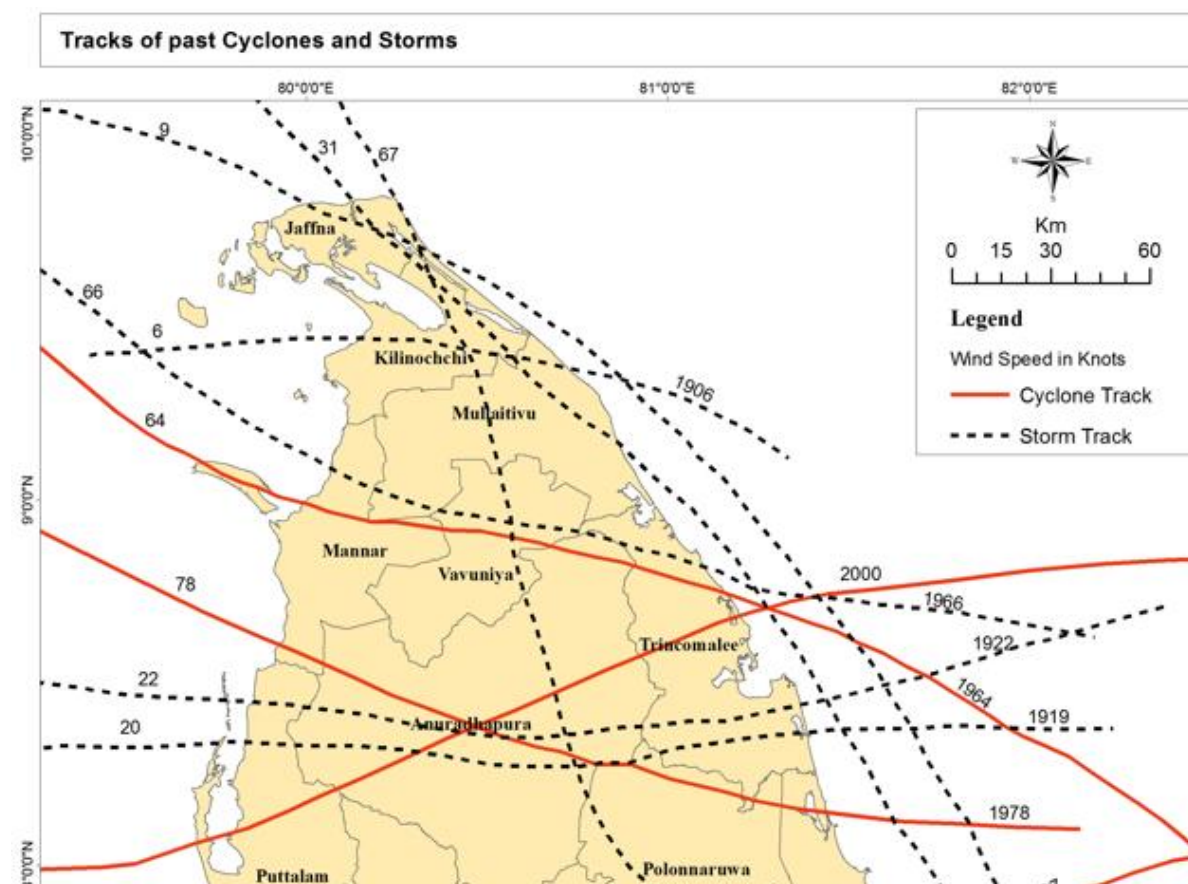
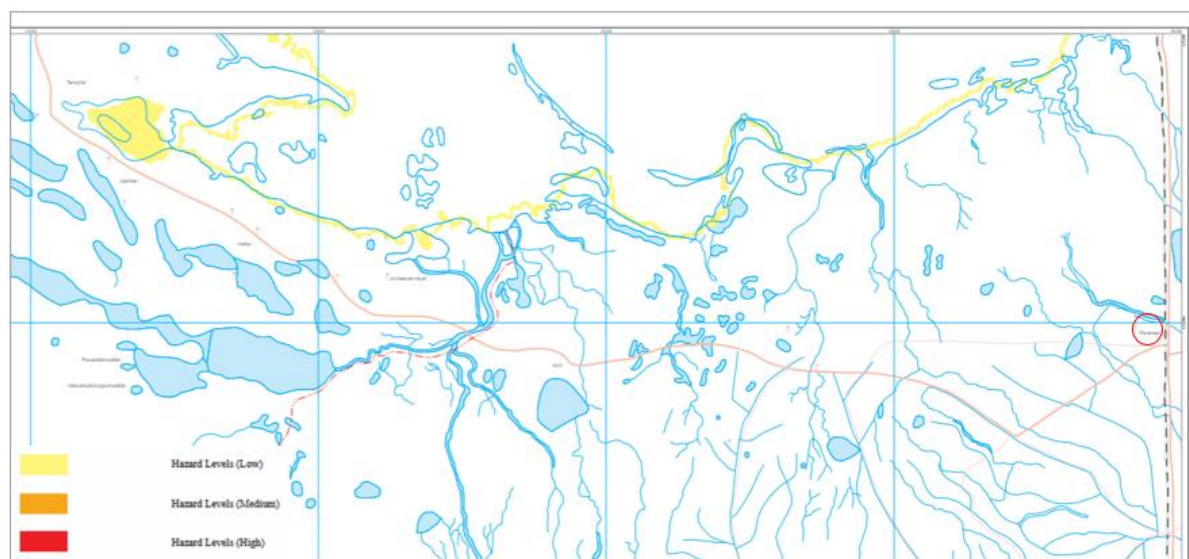


Figure B-8: Tsunami Hazard Map (Top) and Tracks of Past Cyclones & Storms (Bottom)

141. The area has been a long established mixed development zone for several decades. Following the civil conflict, buildings were fully demolished and the land was subsequently cleared. At present, the site predominantly consists of vacant land with remnants of past development. As a result, the fauna is largely dominated by domestic and synanthropic species, with limited occurrence of natural wildlife.

Proximity to Protected Areas

Name	Agency	Area (ha)	Date Gazetted	Approx. Distance (km)
Chundikkulam National Park	DWLC	19,565	22 Jun 2015 25 Feb 1938 (sanctuary)	12
Nagarkovil Nature Reserve	DWLC	7,882	01.03.2016	18
Kovikoduvittuvil Proposed Forest Reserve	FD	6,430	2012	16

Source: Central Environmental Authority

Figure B-9: Environmental Sensitive Areas – Kilinochchi Subproject

3. Physical Cultural Resources

145. There are several archaeologically and culturally important locations in Kilinochchi subproject area around Paranthan as per the List of Archaeological Protected Monuments in Kilinochchi District published by Department of Archaeology. The monuments are, Allirani Fort in Arasapuram Shivanagar Kovil ruins in Uruttipuram and Punakari (Poonaryn) Dutch Castle. The details are as follows:

Table B-1: Archaeological Protected Monuments around Kilinochchi Subproject

Monument	Declared on	Description	Image
Pooneryn Fort (Distance from the subproject – 22km)	25 March 2016	Poonaryn Dutch fortress. Built by the Portuguese and then the fort was captured by the Dutch in 1658, and subsequently by the British in 1796.	
Allirani Fort in Arasapuram (Distance from the subproject – 21km)	25 March 2016	Hillocks of ruins	
Shivanagar Kovil ruins in Uruttipuram (Distance from the subproject – 10km)	25 March 2016	Hillock of Buddhist Stupa and ruined buildings at the premises	

4. Socio-Economic Environment

146. The socio-economic environment of the Kilinochchi subproject area, including administrative divisions, land use, demographic characteristics, education, housing infrastructure, household income, employment, and unemployment, is discussed below based on the latest available Resource Profile (2024) of the Kandawalai Divisional Secretariat, within which the Kilinochchi subproject is located.

Administrative Divisions

147. The Kilinochchi subproject is located in Kumarapuram (KN/43) GND within the Kandawalai DSD. The DSD comprises 16 GNDs and has a population of 28,091, covering an area of about 209.7 km². The Kandawalai DSD is well suited for agriculture and livestock rearing due to its fertile soils and favorable environmental conditions. Agriculture is the primary livelihood of the majority of the population, with paddy cultivation being the main economic activity. In addition to farming, many households engage in supplementary livelihood activities such as livestock rearing, fisheries, small-scale industries, and self-employment. These activities contribute significantly to household income and support the socio-economic well-being of the community.

148. The Kumarapuram GND, where the subproject is located, lies along the western border of the DSD, adjoining the Karachchi DSD. The Kandawalai DSD covers a land area of 209.7 km², with a population density of 134 people per km², while Kumarapuram GND comprises 14.88 km², with a population density of 91 people per km². The Kumarapuram GND area belongs to the Kilinochchi Electorate, and the local authority is the Karachchi Pradeshiya Saba.

Land Use

149. According to available land use statistics, Kandawalai DSD is predominantly characterized by agricultural land, which accounts for 45.04% of the total land area, reflecting the area's strong dependence on farming and related livelihood activities. Home gardens constitute 10.95% of the land, contributing to household food production and income generation. Water bodies cover 12.44% of the area, providing important resources for irrigation, fisheries, and ecosystem services. Forest lands account for 8.00%, supporting biodiversity and environmental conservation. Wetlands represent 4.00% of the land area and play a vital role in maintaining ecological balance and water regulation. Non-agricultural lands occupy 1.81%, while other land uses account for 17.76% of the total area. Overall, the land use pattern of Kandawalai DSD highlights the predominance of agriculture, complemented by significant water resources, home gardens, and forest cover that collectively support the local economy and environmental sustainability.

150. According to the Kumarapuram Village Development Plan, the land use pattern of Kumarapuram GND is dominated by paddy cultivation, which covers approximately 956.73 ha (49.9%) of the total land area. Bare land including marshy areas accounts for 698.70 ha (36.4%), while mixed crops and home gardens occupy 202.57 ha (10.6%) and 201.33 ha (10.5%), respectively. Water bodies extend over 36.87 ha (1.9%), and natural forest covers 22.50 ha (1.2%). Other land uses account for 6.52 ha (0.3%). Overall, agriculture remains the predominant land use within the GND, with paddy fields forming the largest share of the landscape.

Demographic Characteristics

151. This section describes the demographic characteristics of the Kumarapuram GND and the broader Kandawalai DSD based on the latest available divisional statistics. The Kandawalai DSD has a total population of 28,091, comprising 14,419 females (51.3%) and 13,672 males (48.7%), distributed across 9,555 families, resulting in an average family size of approximately 2.9 persons per household. Within the Kumarapuram GND, the population totals 1,348, with 714 females (53.0%) and 634 males (47.0%) living in 461 families, giving an average family size of around 2.9 persons. These figures indicate a slight female predominance in both the DSD and GND, while household sizes remain generally consistent across the area.

152. In Kandawalai DSD, the largest ethnic group is Tamil, numbering 28,063 (99.9%), while Muslims account for 26 persons (0.1%) and Sinhalese for 2 persons (less than 0.1%). In terms of religious composition, Hindus form the largest group with 24,623 individuals (87.7%), followed by Roman Catholics with 1,755 (6.2%) and Other Christians with 1,685 (6.0%). Muslims account for 26 persons (0.1%), while Buddhists number only 2 persons (less than 0.1%). These figures indicate that the majority of Kandawalai DSD is Tamil and Hindu, with Christian communities also contributing to the social and cultural diversity of the area.

Education

153. There are 24 schools functioning in the Kandawalai Division, including two Type 1AB schools, four Type 1C schools, five Type II schools, and the remaining classified as Type III schools. All schools are administered under the Northern Provincial Council, and there are no national schools within the Kandawalai Division.

Housing Infrastructure

154. The information on housing infrastructure by housing type (based on number of storeys and nature of construction) in Kumarapuram GND and Kandawalai DSD is presented in this section. In Kumarapuram GND, the majority of housing units are permanent structures with 371 houses (80.5%), followed by semi-permanent houses with 47 units (10.2%), annexe units with 41 (8.9%), and a small number of temporary shelters with 2 units (0.4%), out of a total of 461 housing units. At the Kandawalai DSD level, permanent houses dominate with 7,823 units (81.9%), followed by semi-permanent houses with 630 units (6.6%), annexe units with 1,048 (11.0%), and temporary shelters with 54 units (0.6%), out of a total of 9,555 housing units. Overall, both the GND and DSD show a strong prevalence of permanent housing structures, indicating relatively stable housing conditions, with only a small proportion of temporary shelters remaining in both areas.

155. **Drinking water.** In terms of drinking water facilities, households in both Kumarapuram GND and Kandawalai DSD rely on a mix of wells, tube wells, and pipe-borne systems. In Kumarapuram GND, the main sources include open wells with 265 households (62.8%), tube wells with 101 households (23.9%), and pipe-borne water with 50 households (11.8%), while agriculture wells with 2 households (0.5%) and common wells with 4 households (0.9%), out of a total of 422 households. At the Kandawalai DSD level, the dominant sources are tube wells with 2,526 households (37.8%) and open wells with 2,361 households (35.3%), followed by pipe-borne water serving 1,611 households (24.1%). In addition, 129 households (1.9%) use common wells and 62 households (0.9%) use agriculture wells, out of a total of 6,689 households. Overall, the data indicates that groundwater sources such as wells and tube wells remain the primary means of drinking water supply, particularly at the divisional level, with pipe-borne water also playing a significant role.

156. **Sanitation facility.** With regard to sanitation facilities, the majority of households in both Kumarapuram GND and Kandawalai DSD have access to basic toilet facilities, although a small proportion still lack proper sanitation. In Kumarapuram GND, 369 households (93.7%) use water-sealed toilets, while 16 households (4.1%) have disabled-access toilets, 9 households (2.3%) use temporary toilets, and 29 households (7.4%) do not have any toilet facilities, out of a total of 394 households. At the Kandawalai DSD level, 7,842 households (93.5%) use water-sealed toilets, while 409 households (4.9%) have disabled-access toilets, 133 households (1.6%) use temporary toilets, and 667 households (8.0%) do not have toilet facilities, out of a total of 8,384 households. Overall, the data indicates that although water-sealed sanitation is the dominant facility in both areas, a notable minority of households still lack access to proper toilet facilities, particularly at the divisional level.

157. **Electricity.** As per the resource profile, electricity access in both Kumarapuram GND and Kandawalai DSD is relatively high. In Kumarapuram GND, out of a total of 446 housing units, 426 units (95.5%) have access to electricity, while 20 units (4.5%) do not have an electricity connection. At the Kandawalai DSD level, electricity is available in 8,641 housing units, representing about 96.1% of the total 8,990 housing units, while 349 units (3.9%) do not have electricity. Overall, both the GND and DSD show a high level of electrification, with only a small proportion of households still lacking access to electricity.

Household Income

158. The details of the number of families by monthly income level in Kumarapuram GND and Kandawalai DSD are presented in Table 4.2-2. The income distribution in both areas indicates that a significant proportion of families fall within the higher-income category, while lower-income

households form a smaller share. In Kumarapuram GND, 20 families (4.3%) earn below Rs. 2,500 per month, while 59 families (12.8%) fall within the Rs. 2,501–5,000 range and 47 families (10.2%) fall within the Rs. 5,000–10,000 range. A majority of 335 families (72.7%) earn above Rs. 10,000 per month. Similarly, in Kandawalai DSD, 456 families (4.8%) earn below Rs. 2,500, 1,540 families (16.1%) fall within Rs. 2,501–5,000, 1,213 families (12.7%) fall within Rs. 5,000–10,000, and a dominant 6,346 families (66.4%) earn above Rs. 10,000 per month. Overall, both the GND and DSD show a strong concentration of households in the higher income category, indicating comparatively moderate to strong income conditions across the area.

Table B-2: Household income distribution

Division	Category of Income (Rs.)				Total
	Below 2,500	2,501 - 5,000	5,000 - 10,000	Above 10,000	
Kumarapuram GND	20	59	47	335	461
Kandawalai DSD	456	1540	1213	6346	9555

Source: Resource Profile, Kandawalai Divisional Secretariat (2025)

Employment and Unemployment

159. **Employment** in Kumarapuram GND is mainly concentrated in agriculture and related activities. Farmers account for 275 persons (37.5%), followed by farm labourers with 261 persons (35.5%). Government officers represent 93 persons (12.7%), while fishing and masonry contribute smaller shares with 21 persons (2.9%) and 22 persons (3.0%) respectively. At the Kandawalai DSD level, employment is similarly dominated by agriculture and allied activities. Farmers account for 5,382 persons (38.6%), while farm labourers represent 4,792 persons (34.4%). Government officers number 1,376 persons (9.9%), followed by fishermen with 630 persons (4.5%) and masons with 384 persons (2.8%). Overall, both the GND and DSD show a strong dependence on agriculture and informal sector livelihoods, with comparatively lower representation in services and skilled trades.

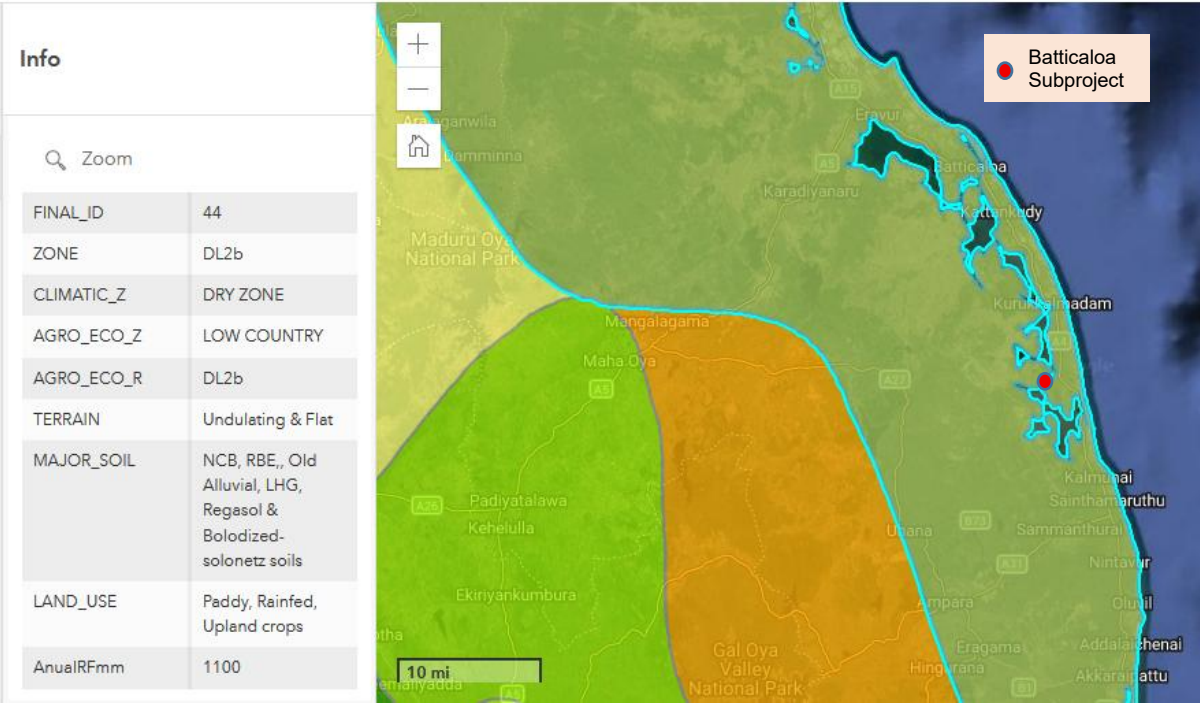
160. **Unemployment** is present at both levels but is more pronounced at the divisional level. In Kumarapuram GND, out of a total working-age population of 925 persons, 191 persons are unemployed, representing about 20.6%. At the Kandawalai DSD level, unemployment is significantly higher, with 4,120 persons unemployed, accounting for about 22.8%. This indicates that although a large share of the population is engaged in agriculture and informal employment, a notable proportion remains without stable income opportunities, particularly at the divisional level.

C. Existing Environment - Batticaloa Subproject

1. Physical Environment

Climatic and Meteorological conditions

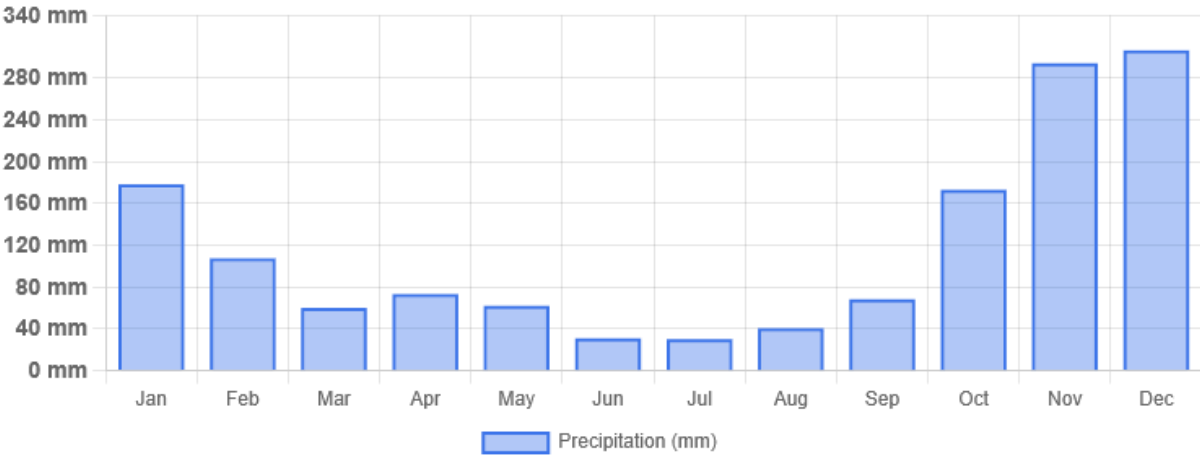
161. Climatic zone. The Batticaloa subproject area is located in the DL2b agro-ecological region of the Dry Zone Low Country, characterized by predominantly undulating and flat terrain. The area has a tropical wet and dry climate, also generically referred to as 'dry-monsoonal climate', with an average annual rainfall of about 1,100 mm. The land is utilized for both paddy cultivation and the production of rainfed upland crops.



Source: Department of Agriculture

Figure C-1: Agro-ecological Area around Batticaloa Subproject

162. **Rainfall Pattern.** Kalawanchikudi area where the subproject is located in Batticaloa, receives moderate rainfall throughout the year, averaging 1,426 mm annually. The rainfall pattern is influenced by Sri Lanka’s monsoonal climate, with the Northeast Monsoon (October–January) contributing the highest precipitation. Seasonal variations are notable, with December being the wettest month, receiving an average of 307 mm of rainfall, while June - July are the driest month, with around 30 mm of rainfall.

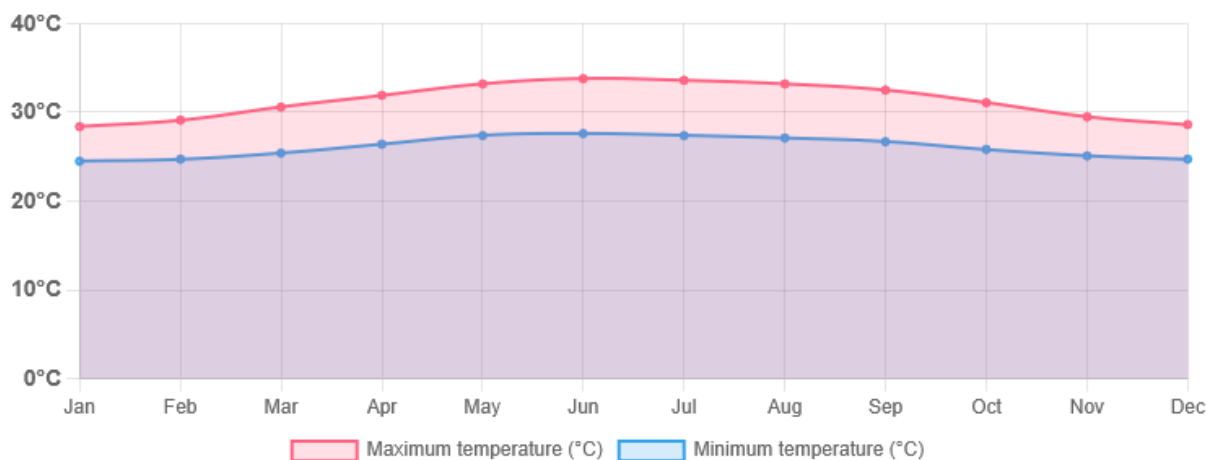


Source: <https://www.weather-and-climate.com>

Figure C-2: Rainfall Pattern of the Area - Batticaloa Subproject

163. **Temperature** in the Kaluwanchikudy area of Batticaloa remains fairly consistent throughout the year, characterized by a persistently warm climate with minimal seasonal variation.

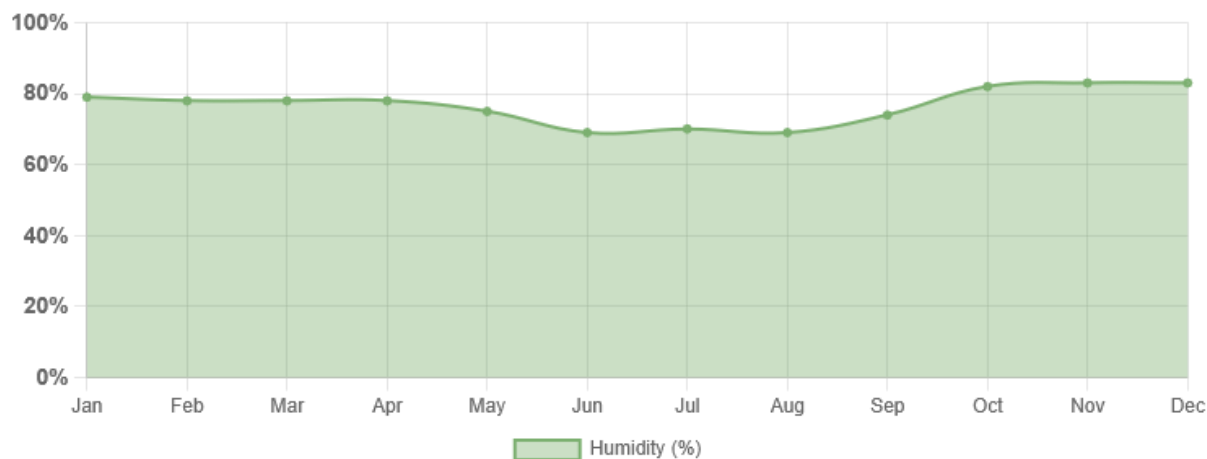
Average daytime temperatures range from 33.8°C in June to 28.4°C in January, while average nighttime temperatures vary from 27.6°C in June to 24.5°C in January.



Source: <https://www.weather-and-climate.com>

Figure C-3: Temperature Variation of the Area - Batticaloa Subproject

164. **Relative humidity** in the Batticaloa area shows seasonal variation in relative humidity, with peak levels recorded in November at about 83.0% and the lowest levels in June at around 69.0%. The annual average relative humidity is approximately 76.5%, indicating a generally tropical, coastal climatic condition.



Source: <https://www.weather-and-climate.com>

Figure C-4: Relative Humidity of the Area - Batticaloa Subproject

165. **Wind pattern.** Kaluwanchikudy area experiences seasonal variations in wind conditions, with relatively stronger winds occurring during the Northeast Monsoon period from November to February and comparatively calmer conditions during the inter-monsoonal and Southwest Monsoon periods. The high winds are mainly from the north-northeast / northeast and southwest directions, with the strongest and most frequent winds predominantly originating from the north-northeast / northeast directions. Moderate winds from the north-northeast, northeast, and southwest directions are also experienced during certain periods of the year. The Windrose for Kaluwanchikudy, shown below, illustrates the number of hours per year that the wind blows from each indicated direction.

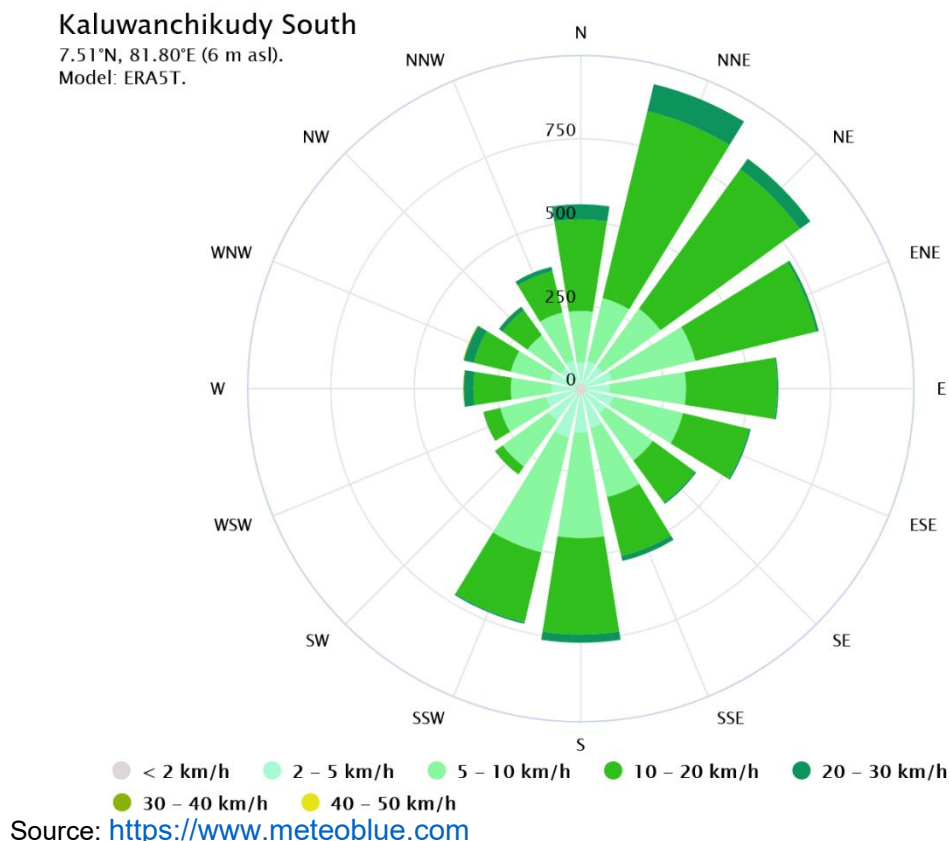


Figure C-5: Windrose for Kaluwanchikudy

Air Quality

166. The ambient air quality in the subproject area in Onthachchimadam North is generally good due to the absence of major industrial activities and the coastal setting, which promotes dispersion of air pollutants through prevailing sea breezes. The main sources of emissions are occasional vehicular traffic on local roads, domestic activities, and seasonal dust generation during dry periods. Overall, air quality in the area is expected to be consistent with a rural coastal environment and does not indicate any significant air pollution concerns. No recent air quality monitoring data are available for the project area. Therefore, baseline ambient air quality monitoring will be carried out prior to the commencement of construction activities.

Ambient Noise

167. The ambient noise environment in Onthachchimadam North is generally quiet and typical of a rural coastal setting. Existing noise sources are limited to occasional vehicular traffic on local roads, community activities, and natural sounds such as wind and wave action. As there are no major industrial, commercial, or other continuous noise-generating sources in the vicinity, ambient noise levels are generally low and do not pose any significant environmental concerns. No recent noise monitoring data are available for the project area. Therefore, baseline noise level monitoring will be carried out prior to the commencement of construction activities.

Topography

168. Batticaloa area exhibits a diverse topographic landscape comprising a range of landforms, including islands, sandbars, marshes, undulating plains, plateaus, hills, valleys, and isolated

elevated areas. These geomorphological features contribute to the district's distinctive natural character and scenic value. Based on its morphological characteristics, the district can be broadly divided into three major relief zones: (i) Coastal Lowlands, (ii) Coastal Undulating Plains, and (iii) Coastal Uplands. The proposed Batticaloa subproject, situated in Kaluwanchikudy, falls within the Coastal Lowland zone. The project area is generally flat, with an average elevation of approximately 5 m MSL, while the highest elevations in the surrounding area reach about 15 m MSL. Coastal lowlands constitute approximately 85% of the land area of Batticaloa District, whereas the remaining 15% is represented by undulating plains and upland areas. The predominance of low-lying terrain is a defining characteristic of the district's topography.

Hydrology and Drainage

169. The Batticaloa Lagoon extends across the district for approximately 73.5 km, from Verugal in the north to Batticaloa Town, and further southwards for about 35.2 km up to Thuraineelavanai. A significant proportion of the local population is concentrated within the narrow land strip between the lagoon and the sea. The major irrigation reservoirs in the area, namely Unichchai and Rugam tanks, are situated in two separate valleys, west to the lagoon in the main land. The Unnichchai valley is connected to the Batticaloa Lagoon, while the Rugam valley is linked to the Valaichchenai Lagoon near Sittandy.

170. The Batticaloa subproject site at Kaluwanchikudy is located within the narrow land strip between the lagoon and the sea, approximately 500 m from the coastline. Natural drainage in the area is characterized by shallow surface runoff paths that convey flow towards the sea. A *thona*, a notable local geomorphological feature, is located to the north of the site (at a distance over 100m from the site) and extends in a west to east direction, connecting to the sea. *Thonas* are typically shallow, stagnant natural water bodies that become active during the rainy season, discharging accumulated water to the sea over the sand bar. Surface runoff from the site generally flows northwards towards the *thona*, and the site is situated at a relatively higher elevation, with no significant risk of flooding.



Figure C-6: *Thona* located near the subproject site

Geology and Soil

171. **Geology.** The Batticaloa subproject area is located within a coastal environment characterized by recent beach and dune sand deposits along the shoreline. The western side of the lagoon is underlain predominantly by crystalline basement rocks comprising charnockitic (hypersthene) gneiss and charnockitic biotite gneiss. These high-grade metamorphic rocks form part of the Precambrian geological terrain of eastern Sri Lanka and are generally overlain by varying thicknesses of unconsolidated coastal and lagoonal sediments.

172. **Soils.** The soils within the Batticaloa subproject area vary according to the coastal and lagoonal landscape. Along the beach, the dominant soil type is regosols developed on recent

beach and dune sands. On the western side of the lagoon, the area is characterized mainly by alluvial soils of variable drainage and texture, together with solodized solonetz and solonchaks. These soil types reflect the influence of lagoonal processes, drainage conditions, and saline environments, resulting in considerable spatial variation in soil properties across the area

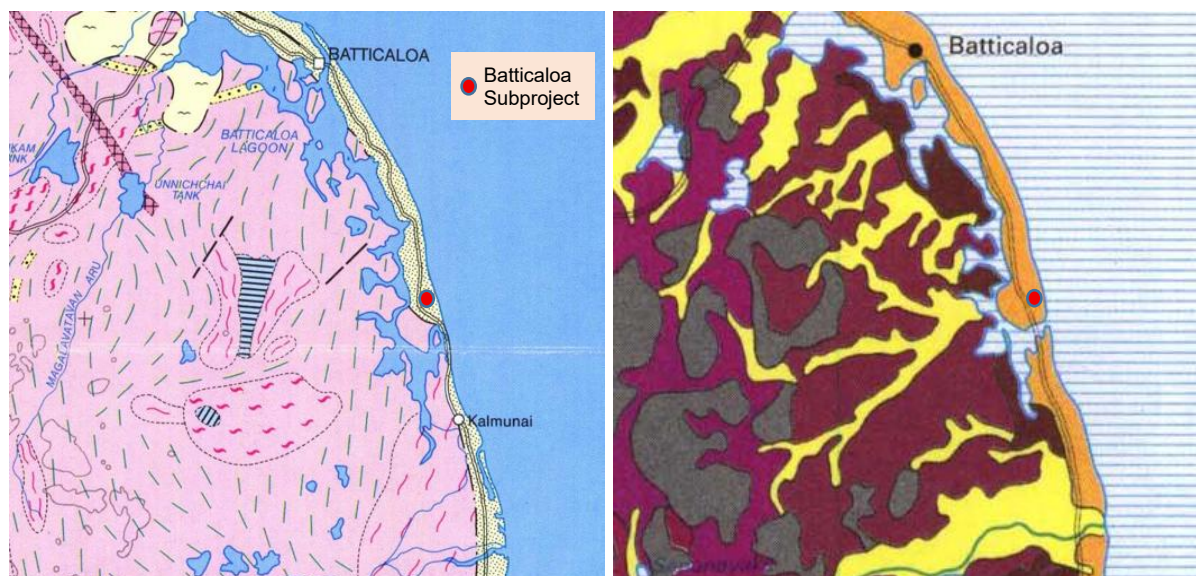


Figure C-7: Geology Map (L) and Soil Map (R) – Batticaloa Subproject

Natural Hazards

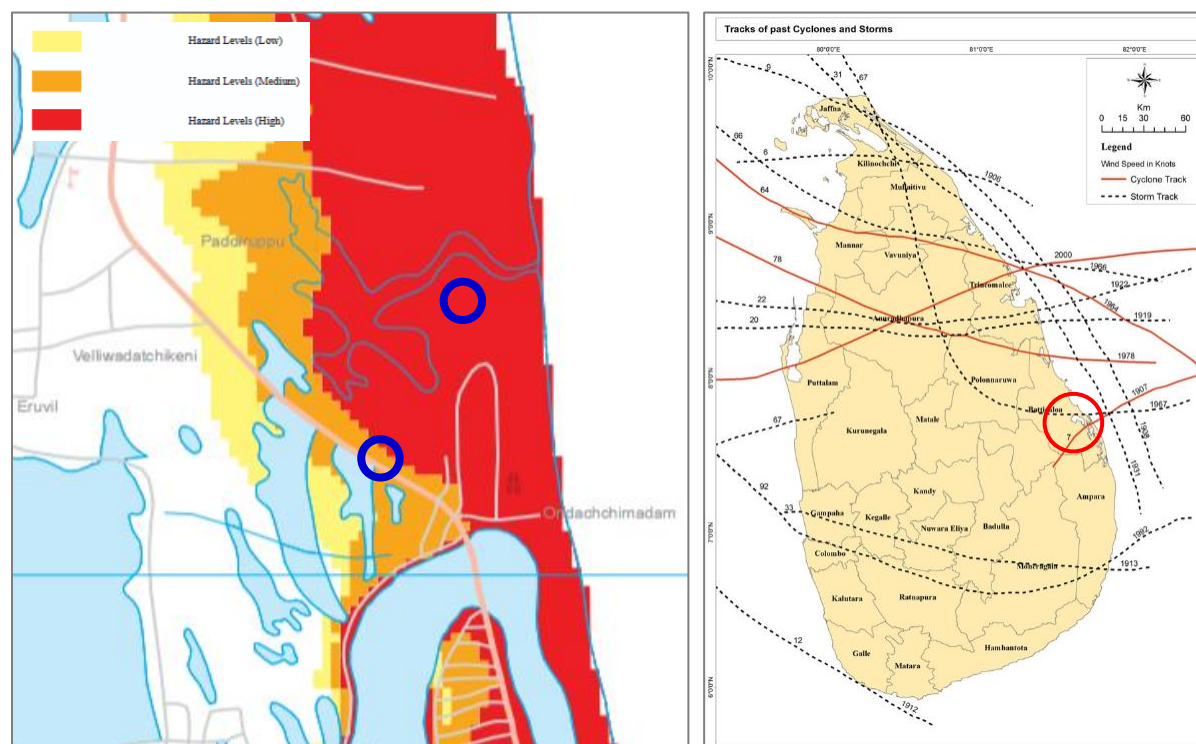


Figure C-8: Tsunami Hazard Map (L) and Tracks of Past Cyclones & Storms (R)

173. **Tsunami.** The Batticaloa District has historically been vulnerable to a range of natural hazards. During the 2004 Indian Ocean Tsunami, the district was among the most severely affected areas in Sri Lanka, experiencing significant loss of life, widespread displacement, and

extensive damage to housing, public infrastructure, and livelihoods. Coastal settlements along the eastern shoreline, including areas within and around Kaluwanchikudy in the Manmunai South and Eruvil Pattu DSD, were exposed to tsunami inundation due to their proximity to the coast and low-lying terrain. The disaster had severe impacts on coastal communities, fisheries, and local infrastructure, highlighting the region's vulnerability to coastal hazards and extreme sea-level events.

174. **Floods.** During the northeast monsoon season, many areas, including residential settlements and agricultural lands, are frequently affected by flooding. Excess runoff originating from the highlands of Uva is conveyed towards the sea through three main outfalls in Batticaloa. However, the capacity of these waterways is often insufficient to rapidly discharge floodwaters during periods of intense rainfall. As a result, extensive areas of paddy land become inundated, and families in flood-prone locations are occasionally displaced until water levels recede.

175. **Cyclones.** More recently, during Cyclone Ditwah (2025), Batticaloa District experienced severe flooding caused by heavy rainfall. Agricultural lands, particularly paddy cultivation areas, were significantly affected, while inundation of low-lying settlements, transport routes, and public infrastructure was reported across several DSDs. Given the low-lying topography of the Kaluwanchikudy area within the Manmunai South and Eruvil Pattu DSD, localized flooding and associated disruptions to livelihoods and accessibility were also experienced.

176. **Droughts.** During the dry season, many parts of the Batticaloa District are affected by drought conditions and shortages of irrigation water. Consequently, only about one-third of the available paddy lands are cultivated during this period. Improved water resource management, including the storage and effective utilization of excess floodwater for agricultural purposes, could help mitigate the impacts of both flooding and drought while enhancing the resilience of the district's agricultural sector.

2. Biological Environment

Fauna and Flora of the Area

177. The vegetation in the subproject area in Onthachchimadam North area is typical of the Eastern dry zone, coastal comprising a mixture of scrublands, agricultural lands, and scattered tree cover and thonas - stagnated water bodies . Common tree species observed in the area include Palmyrah (*Borassus flabellifer*), Neem (*Azadirachta indica*), Tamarind (*Tamarindus indica*), Weera (*Drypetes sepiaria*), and Coconut (*Cocos nucifera*), together with various shrub and scrub species. Within the selected land, there are no trees except for a few bushes and shrubs.



Figure C-9: Vegetation within and surrounding the subproject site

178. In a coastal settlement such as Kaluwanchikudy (Batticaloa District, Eastern Sri Lanka), the fauna typically reflects a combination of lagoon, paddy field, and human settlement environments. Commonly observed species include mammals such as Indian palm squirrel (*Funambulus palmarum*) and Toque macaque (*Macaca sinica*), along with birds like Common myna (*Acridotheres tristis*), Cattle egret (*Bubulcus ibis*), and Brahminy kite (*Haliastur indus*). Reptiles such as House gecko (*Hemidactylus frenatus*) and Garden lizard (*Calotes versicolor*) are also frequently recorded.

179. Overall, the flora and fauna are dominated by urban-adapted and wetland-associated species rather than forest-dependent wildlife. No endangered flora or fauna species were recorded within the site selected for the subproject activities.

Proximity to Protected Areas

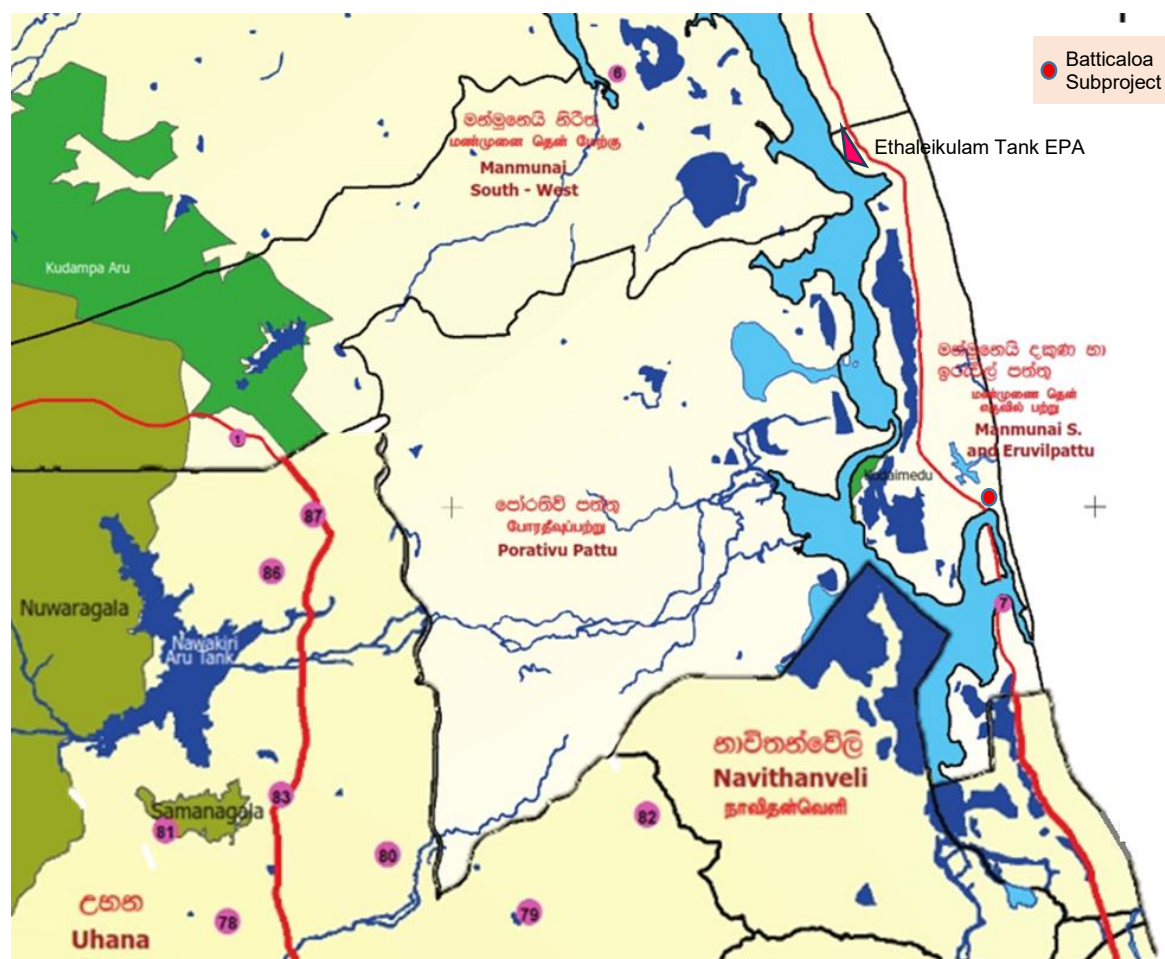
180. The notable wildlife protected areas and forest reserves located nearby are listed below with distance from the proposed site and are shown in Figure 4.5-9: Environmentally Sensitive Area Map published by CEA.

3. Physical Cultural Resources

181. There are no archaeological or culturally significant sites located in close proximity to the Batticaloa subproject site at Kaluwanchikudy. According to the List of Archaeological Protected Monuments in Batticaloa District published by the Department of Archaeology, several protected monuments are located within and around Batticaloa City (25km away from the site), including Batticaloa Fort, Buffalo Island, Kattankudy Heritage Museum, Mantivu Island, Bone Island, Batticaloa Lighthouse, and Batticaloa Old Lighthouse. Among these, Batticaloa Fort is the most notable archaeological monument. Details of Batticaloa Fort are presented below;

Table C-1: Archaeological Protected Monuments around Batticaloa Subproject

Monument	Declared on	Description	Image
Batticaloa Fort (Distance from the subproject – 25km)	--	The Batticaloa Fort was built by the Portuguese in 1628 and was captured by the Dutch on 18 May 1638. From 1795, the fort was used by the British. The fort has a structure of four bastions and is protected by the Batticaloa Lagoon on two sides and a canal on the other two sides. The fort is still in reasonable condition and currently houses several local administrative departments of the Sri Lanka government in new buildings, which are located within the old structure.	



Name	Agency	Area (ha)	Date Gazetted	Approx. Distance (km)
Kodaimedu Proposed Forest Reserve	FD	NA	NA	3.5
Ethaleikulam Tank Environmental Protection Area	CEA	36.42	02.02.2024	9
Kudampa Aru Proposed Forest Reserve	FD	7,331	2013	18
Nuwaragala Nature Reserve	FD	55,814	1929	20
Samanagala Nature Reserve	FG	290	2008	20

Source: Central Environmental Authority

Figure C-10: Environmental Sensitive Areas – Batticaloa Subproject

4. Socio-Economic Environment

182. The socio-economic environment of the Batticaloa subproject area, including administrative divisions, land use, demographic characteristics, education, housing infrastructure, household income, employment, and unemployment, is discussed below based on the latest available Resource Profile (2024) of the Manmunai South Eruvil Pattu Divisional Secretariat, within which the Batticaloa subproject is located.

Administrative Divisions

183. The Batticaloa subproject is located in Onthachchimadam North (111) GND within the Manmunai South Eruvil Pattu DSD. The DSD comprises 45 GNDs and has a population of 69,766, covering an area of about 52 km², with a population density of 1,341.6 people per km². The

Manmunai South and Eruvil Pattu DSD is bounded by the Manmunai Pattu DSD to the north, the Kalmunai North Division DSD to the south, and the eastern ocean to the east and the Batticaloa Lagoon to the west, occupying a narrow strip of land between the sea and the lagoon.

184. The Onthachchimadam North GND, where the subproject is located, is bounded by the Kaluwanchikudy South GND to the north-east, Onthachchimadam South GND to the south, and the eastern ocean to the east. The Onthachchimadam North GND has a population of 2,893 and an area of 1.31 km², resulting in a population density of 2,208 people per km². The Onthachchimadam North GND area belongs to the Batticaloa Electorate, and the local authority is the Manmunai South Eruvil Pattu Pradeshiya Saba.

Land Use

185. According to the land use data of the district, forest land is the dominant land use category, covering 111,465.71 ha (39.05%) of the total land area. Agricultural land is the second largest category, accounting for 101,189.78 ha (35.45%). Wetlands, including marsh lands, swamp lands, and water bodies, occupy 28,341.95 ha (9.92%), while homesteads and home gardens cover 18,407.51 ha (6.45%). Built up land accounts for 10,630.67 ha (3.72%) of the district area, and abandoned agricultural land covers 6,292.31 ha (2.20%). These land use patterns indicate that the district is predominantly characterized by forest and agricultural landscapes, together representing over 74% of the total land area. No DSD and GND level land use data are available.

Table C-2: Land Use Pattern in the District

Landuse Type	Area (ha)	Percentage (%)
Built Up Land	10,630.67	3.72
Homesteads / Home Gardens	18,407.51	6.45
Agricultural Land		
Tea	-	-
Rubber	-	-
Coconut	1,823.87	0.64
Paddy	87,417.86	30.63
Cashew	612.76	0.21
Mixed Tree and Other Perennials	-	-
Field Crops	10,867.35	3.81
Other Cultivation	467.94	0.16
Abandoned Agricultural Land		
Abandoned Paddy	6,292.31	2.2
Abandoned Rubber	-	-
Abandoned Tea	-	-
Forest Land		
Dense Forest	25,697.35	9
Open Forest	19,256.65	6.75
Scrub Forest	59,544.14	20.86
Grassland	5,794.57	2.03
Forest Plantation	1173	0.41
Wetland		
Marsh Land	3,861.87	1.35
Swamp Land	37.6	0.01
Water Bodies	24,442.48	8.56
Rocks	4,926.51	1.73
Sandy Area	693.23	0.24
Bare Land	2,593.61	0.91
Other	858.72	0.3
Total	285,400.00	100

Demographic Characteristics

186. This section describes the demographic characteristics of the Onthachchimadam North GND and the broader Manmunai South Eruvil Pattu DSD based on the latest available divisional statistics. The Manmunai South Eruvil Pattu DSD has a total population of 69,766, comprising 35,374 females (50.7%) and 34,392 males (49.3%), distributed across 22,673 families. This results in an average family size of approximately 3.1 persons per household. Within the Onthachchimadam North GND, the population totals 2,893, with 1,496 females (51.7%) and 1,397 males (48.3%) living in 805 families, giving an average family size of approximately 3.6 persons. These figures indicate a slight female predominance in both the DSD and the GND, with the average household size in Onthachchimadam North being slightly higher than the DSD average.

187. In the Manmunai South Eruvil Pattu DSD, the population is overwhelmingly Srilankan Tamil, accounting for 69,630 individuals (99.8%), with the Moor community comprising the remaining 136 persons (0.2%). Within the Onthachchimadam North GND, all 2,893 residents (100%) are Srilankan Tamil. These figures illustrate that both the DSD and the specific GND are predominantly composed of the Tamil ethnic group. The Religious Composition of the Manmunai South Eruvil Pattu DSD is majorly Hindu, with 63,894 (91.6%), followed by Catholics with 4,752 (6.8%), other Christians with 846 (1.2%), and Muslims with 174 (0.4%). The Onthachchimadam North GND exhibits a completely uniform religious structure, where all 2,893 residents (100%) are adherents of the Hindu.

Education

188. The Manmunai South Eruvil Pattu DSD exhibits a varied educational profile across its population. The data indicates that the largest segment of the population has attained education up to the G.C.E. (O/L) level, with 26,790 individuals (38.4%) having achieved this qualification. Those who have completed primary education (up to Grade 5) comprise 15,413 individuals (22.1%), while those with G.C.E. (A/L) qualifications and above make up 15,000 individuals (21.5%). A smaller portion of the population has attained education up to Grade 6–10, totaling 10,607 individuals (15.2%), and 1,953 individuals (2.8%) reported no formal schooling. These figures suggest that while the majority of the DSD population has achieved at least a secondary level of education, there remains a notable segment with primary or no formal schooling.

189. In contrast, the Onthachchimadam North GND demonstrates a more concentrated educational profile. The majority of its residents have completed education up to the G.C.E. (O/L) level, representing 1,218 individuals (42.1%). This is followed by those who have attained education up to Grade 6–10, with 703 individuals (24.3%), and those with primary education up to Grade 5, totaling 622 individuals (21.5%). Individuals with G.C.E. (A/L) qualifications and above account for 283 individuals (9.8%), while 67 individuals (2.3%) reported no formal schooling. These figures indicate that the educational attainment in Onthachchimadam North is heavily weighted towards secondary school levels, with a smaller proportion of the population achieving higher academic qualifications compared to the broader DSD.

Housing Infrastructure

190. In Onthachchimadam North GND, the total number of housing units is 521. The majority are single houses, accounting for 401 units (76.97%), followed by 36 attached houses (6.91%), 41 flat/luxury apartments (7.87%), 26 twin/row/line houses (4.99%), and 17 units categorized as "other" (3.26%). Notably, there are no recorded hut/shanty units in this division. At the Manmunai South Eruvil Pattu DSD level, there is a total of 18,593 housing units. Single houses are the predominant type, with 17,049 units (91.70%). The remaining units consist of 321 attached houses (1.73%), 298 flat/luxury apartments (1.60%), 38 twin/row/line houses (0.20%), 533 hut/shanty units (2.87%), and 354 units categorized as "other" (1.90%).

191. **Drinking Water.** In terms of drinking water facilities, households in both the Onthachimadam North GND and the Manmunai South Eruvil Pattu DSD rely on a variety of sources. In Onthachimadam North GND, the primary source of drinking water is protected wells, utilized by 380 households (47.2%), followed by pipe-borne water provided by the NWSDB (listed as National Water Supply), which serves 367 households (45.6%), and tube wells, used by 41 households (5.1%), out of a total of 805 families. At the Manmunai South Eruvil Pattu DSD level, the data shows that protected wells are the dominant source, used by 11,830 households (52.2%), followed by NWSDB pipe-borne water serving 8,032 households (35.4%), and tube wells serving 1,290 households (5.7%). Additionally, a smaller number of families rely on other sources, including unprotected wells (601 households), others (374 households), rural water supply (307 households), and bottled water (25 households), out of a total of 22,673 families. Overall, the data indicates that groundwater sources, particularly protected wells, remain the primary means of drinking water supply in both the GND and the DSD, with pipe-borne water supplied by the NWSDB playing a critical supporting role.

192. **Sanitation Facility.** In Onthachimadam North GND, the majority of housing units have exclusive access to toilet facilities, serving 422 units (81.0%). Additionally, 47 units (9.0%) are reported as sharing toilets with other housing units, while 47 units (9.0%) are recorded as not having toilet facilities, out of a total of 521 housing units. At the Manmunai South Eruvil Pattu DSD level, a high proportion of housing units have exclusive access to toilet facilities, accounting for 14,795 units (81.2%). Furthermore, 782 units (4.3%) share toilets with other housing units, and 1,067 units (5.9%) do not have access to toilet facilities, out of a total of 18,218 housing units. It is noteworthy that there are no recorded public toilet facilities across the division. Overall, the data indicates that while the vast majority of households in both the GND and the DSD have exclusive sanitary facilities, a notable minority still lack access to toilet facilities,

193. **Electricity.** households in both the Onthachimadam North GND and the Manmunai South Eruvil Pattu DSD rely primarily on grid electricity, though some usage of alternative sources persists. In Onthachimadam North GND, the primary source of lighting is an electricity connection, utilized by 519 families (64.5%). Additionally, 2 families (0.2%) are recorded as having no electricity connection, and 2 families (0.2%) rely on kerosene for lighting, out of a total of 805 families. At the Manmunai South Eruvil Pattu DSD level, electricity connections are the dominant source of power, serving 17,878 families (78.9%). Other energy arrangements include 21 families using both electricity and solar power, 15 families using only solar power, and 62 families using kerosene. Furthermore, 689 families (3.0%) are recorded as being without an electricity connection, out of a total of 22,673 families. Overall, the data indicates that the vast majority of families in both the GND and the DSD have access to electricity connections, while a small proportion of households continue to rely on alternative energy sources like kerosene or remain without formal electricity connections.

Household Income

194. The details of the number of families by monthly income level in Onthachimadam North GND and Manmunai South Eruvil Pattu DSD are presented in the table below. The Official Poverty Line (OPL) for Batticaloa is Rs. 15,452. Based on this threshold, 55.4% of families in the Onthachimadam North GND fall below the poverty line, compared to 34.0% of families at the Manmunai South Eruvil Pattu DSD level; consequently, the poverty rate in this GND is significantly higher than the average for the DSD.

Table C-3: Household income distribution

Division	Category of Income (Rs.)				
	Below 15,452	15,452 - 19,999	20,000 - 39,999	40,000 - 49,999	50,000 and above
Onthachimadam North GND	453	147	140	22	47
Manmunai South Eruvil Pattu DSD	7,690	3,691	3,519	2,369	4,362

Source: Resource Profile, Kandawalai Divisional Secretariat (2025)

Employment and Unemployment

195. **Employment.** Within Onthachimadam North GND, the workforce is predominantly comprised of private sector employees, with 842 individuals (90.3%), followed by 63 public sector employees (6.8%). Additionally, 21 individuals contribute to family self-employment (2.3%) and 6 are self-employed (0.6%), with no private employers recorded, out of a total working population of 932. At the Manmunai South Eruvil Pattu DSD level, the employment landscape is more diversified. Public sector employment is the most significant category with 5,532 individuals (34.9%), followed by 3,471 private sector employees (21.9%). There is also substantial participation in family-based self-employment (3,820 individuals; 24.1%) and self-employment (2,611 individuals; 16.5%), alongside 433 individuals working as private employers (2.7%), out of a total of 15,867 individuals.

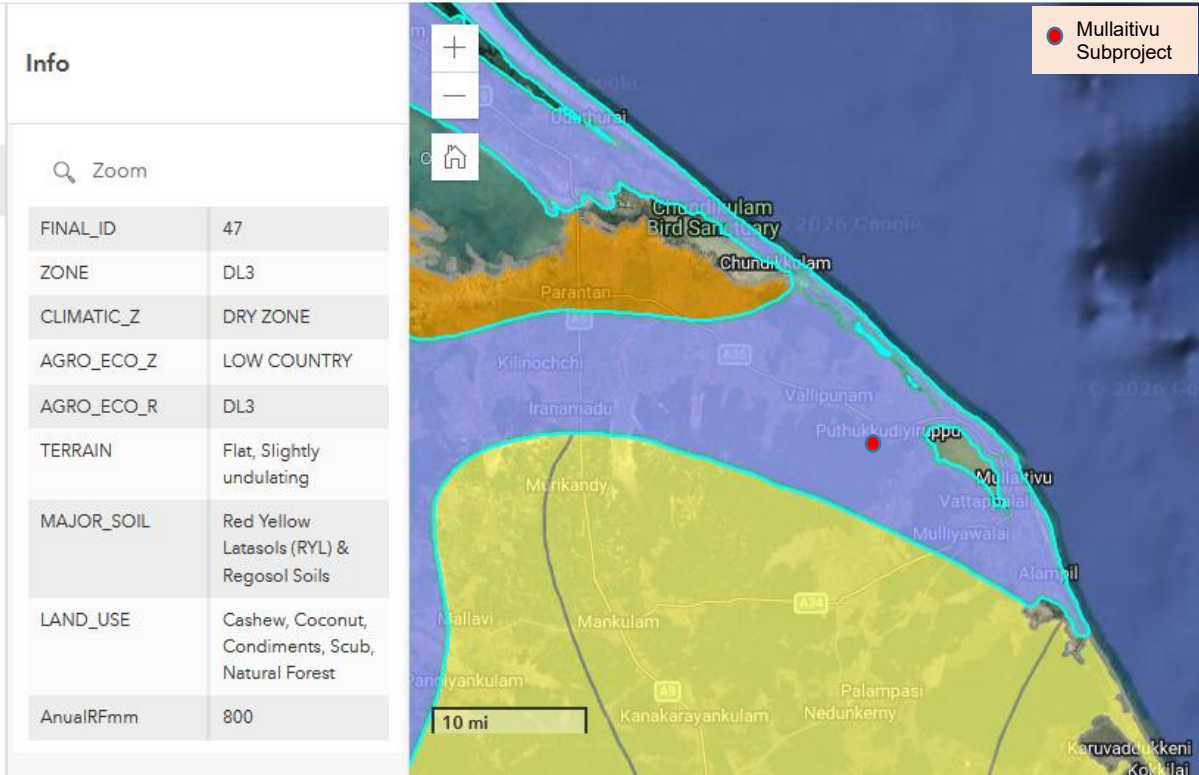
196. **Unemployment.** Employment structures and unemployment rates in both Onthachimadam North GND and the Manmunai South Eruvil Pattu DSD are calculated based on a working-age population of 993 individuals in the GND and 19,612 individuals at the DSD level. Within Onthachimadam North GND, the total employed population of 932 (93.9%) leaves 61 individuals categorized as unemployed (6.1%). At the Manmunai South Eruvil Pattu DSD level, there are 15,867 employed individuals (80.9%), while 3,745 individuals are categorized as unemployed (19.1%). These figures indicate a higher rate of unemployment at the divisional level compared to the GND, suggesting a disparity in job and economic opportunities between the two administrative levels.

D. Existing Environment - Mullaitivu Subproject

1. Physical Environment

Climatic and Meteorological conditions

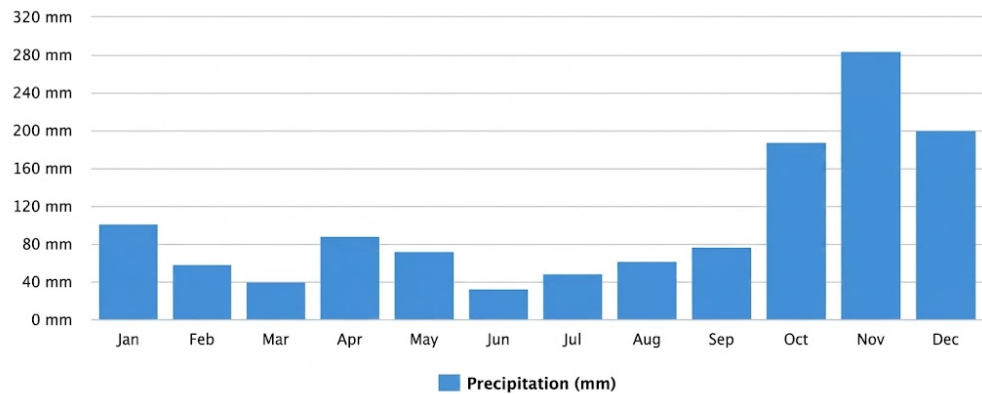
197. Climatic zone. The Mullaitivu subproject is located in the DL3 agro-ecological region of the Dry Zone Low Country, characterized by predominantly flat and slightly undulating terrain. The area experiences a tropical, dry climate, with an average annual rainfall of about 800 mm. vegetation in the area includes cashew and coconut plantations, scrublands, and natural forest cover.



Source: Department of Agriculture

Figure D-1: Agro-ecological Area around Mullaitivu Subproject

198. Rainfall Pattern. Mullaitivu receives moderate rainfall throughout the year, averaging 1,282 mm annually. The rainfall pattern is influenced by Sri Lanka’s monsoonal climate, with the Northeast Monsoon (October–January) contributing the highest precipitation. Seasonal variations are notable, with November being the wettest month, receiving an average of 291 mm of rainfall, while June is the driest month, with around 32 mm of rainfall.

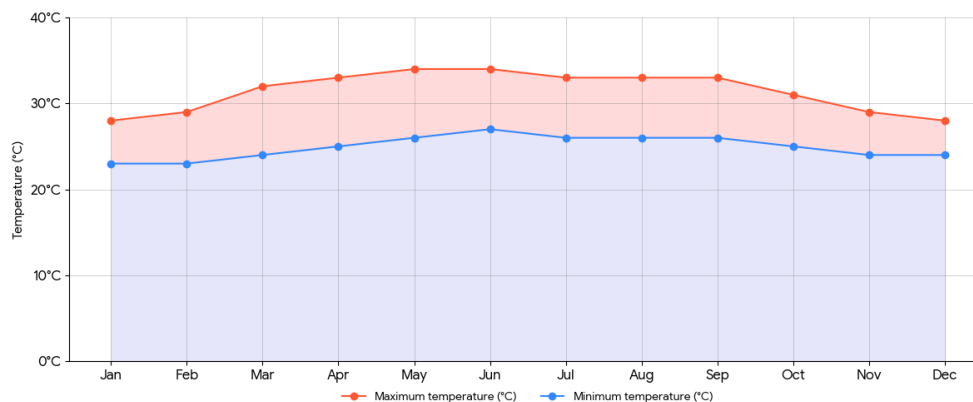


Source: <https://www.weather-and-climate.com>

Figure D-2: Rainfall Pattern of the Area - Mullaitivu Subproject

199. Temperature in the Mullaitivu area remains fairly consistent throughout the year, characterized by a persistently warm climate with minimal seasonal variation. Average daytime temperatures range from 34°C in May/June to 28°C in December/January, while average nighttime temperatures vary from 27°C in June to 23°C in January/February.

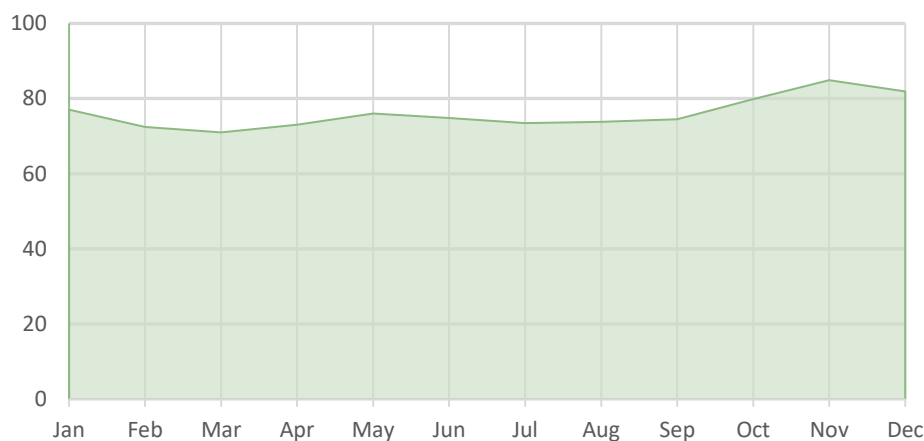
200.



Source: <https://www.weather-and-climate.com>

Figure D-3: Temperature Variation of the Area - Mullaitivu Subproject

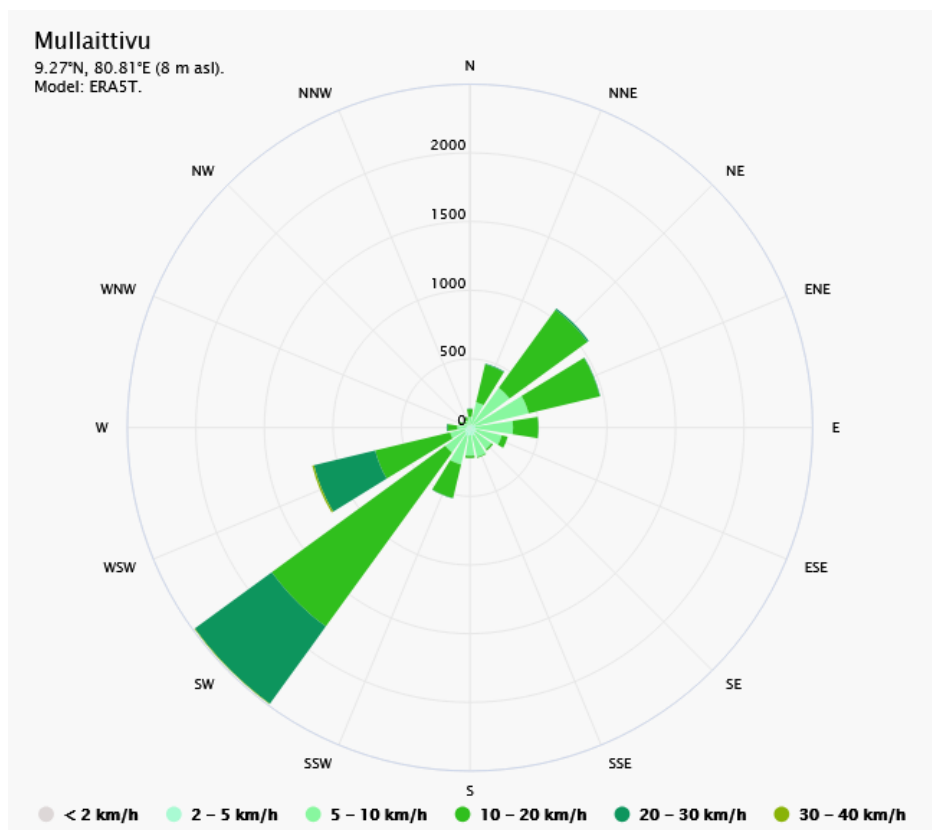
201. Relative humidity. Mullaitivu experiences relatively high humidity throughout the year due to its coastal setting and tropical climate. Average relative humidity generally ranges between 70% and 85%, with higher values recorded during the Northeast Monsoon period. Humidity levels tend to be lower during the drier months but remain relatively high compared to inland areas.



Source: Department of Census and Statistics

Figure D-4: Relative Humidity of the Area - Mullaitivu Subproject

202. Wind pattern. Mullaitivu experiences seasonal variations in wind conditions, with relatively stronger winds occurring during the Southwest Monsoon period from May to September and comparatively calmer conditions during the inter-monsoonal and Northeast Monsoon periods. The strongest (20 – 30 km/h) and most frequent winds predominantly originating from the southwest and west-southwest directions. Moderate winds (10 – 20 km/h) from the northeast and east-northeast directions are also notable during certain periods of the year. The wind rose presented below illustrates the distribution of wind directions and the corresponding number of hours during which winds are observed from each direction throughout the year.



Source: <https://www.meteoblue.com>

Figure D-5: Windrose for Mullaittivu

Air Quality

203. The Mullaittivu subproject site is located in a predominantly rural setting within a recently resettled area. The site is situated approximately 350 m from the Oddusudan Reserved Forest. An apparel garment factory is located in the vicinity; however, it is not expected to contribute significantly to local air quality impacts. Ambient air quality in the area is generally good, with minimal influence from major urban or industrial emission sources. The primary contributors to air emissions are localized and intermittent vehicular movement on nearby main road and rural roads, and other small-scale activities. In addition, dust generation may occur during dry periods, particularly from unpaved access roads; however, such impacts are temporary, localized, and limited in extent. No recent air quality monitoring data are available for the project area. Therefore, baseline ambient air quality monitoring will be carried out prior to the commencement of construction activities.

Ambient Noise

204. Background noise levels are mainly influenced by intermittent vehicular movements on nearby main and access roads. No significant continuous noise sources, such as industries, are present in the immediate vicinity. Noise-sensitive receptors are limited to a few scattered rural residences located at a distance. Overall, ambient noise levels are low to moderate and typical of a rural environment, with no significant noise-related concerns under normal conditions. No recent noise monitoring data are available for the project area. Therefore, baseline ambient noise level monitoring will be carried out prior to the commencement of construction activities.

Topography

205. The Puthukkudiyiruppu area is characterized by predominantly flat to gently undulating terrain, typical of the lowlands of Northern Sri Lanka. Ground elevations generally range from approximately 30 m to 35 m above mean sea level. The site is located approximately 7 km inland from the coast. The surrounding landscape consists mainly of open plains, scrublands, agricultural lands, and settlements, with minimal topographic variation. Owing to the relatively flat terrain and low elevation gradients, surface drainage is generally slow, particularly during periods of intense rainfall.

Hydrology and Drainage

206. The drainage system in the Puthukkudiyiruppu area is characterized by a network of natural streams, seasonal watercourses, irrigation canals, and tanks that convey runoff towards the coastal lagoons and the sea. The site lies within the lower catchment, close to the northern boundary of the Per Aru River basin (Figure 4.4-6), which ultimately discharges into the Indian Ocean through the Nanthikadal Lagoon. Due to the predominantly flat terrain and low elevation gradients, drainage is generally slow, particularly during periods of heavy rainfall. Surface runoff is conveyed through shallow natural drainage paths and man-made irrigation channels associated with the agricultural landscape. Several tanks and water retention structures in the area also play an important role in regulating surface water flows, supporting irrigation activities, and influencing localized flooding conditions. Within the selected site, natural drainage is characterized by shallow surface runoff paths that convey stormwater towards the lagoon. Surface runoff from the site generally flows eastward, following the natural ground slope. No significant flooding has been reported within the site or its immediate surroundings.



Figure D-6: Per Aru River basin

Geology and Soil

207. **Geology.** The Mullaitivu area is underlain predominantly by Precambrian high-grade metamorphic rocks of the Wannu Complex, including gneissic formations and granitic gneisses. In many locations, the bedrock is overlain by unconsolidated Quaternary deposits such as coastal sands, alluvium, and lagoonal sediments. The terrain is generally flat to gently undulating, with groundwater occurring mainly within weathered and fractured bedrock zones and shallow sedimentary aquifers.

208. **Soils.** The soils in the Mullaitivu area mainly comprise red-yellow latosols, alluvial soils of variable drainage and texture, and regosols developed on recent beach and dune sands. The distribution of these soil types is influenced by the area's coastal setting, drainage conditions, and depositional processes, resulting in variations in soil texture, fertility, and drainage characteristics across the region.

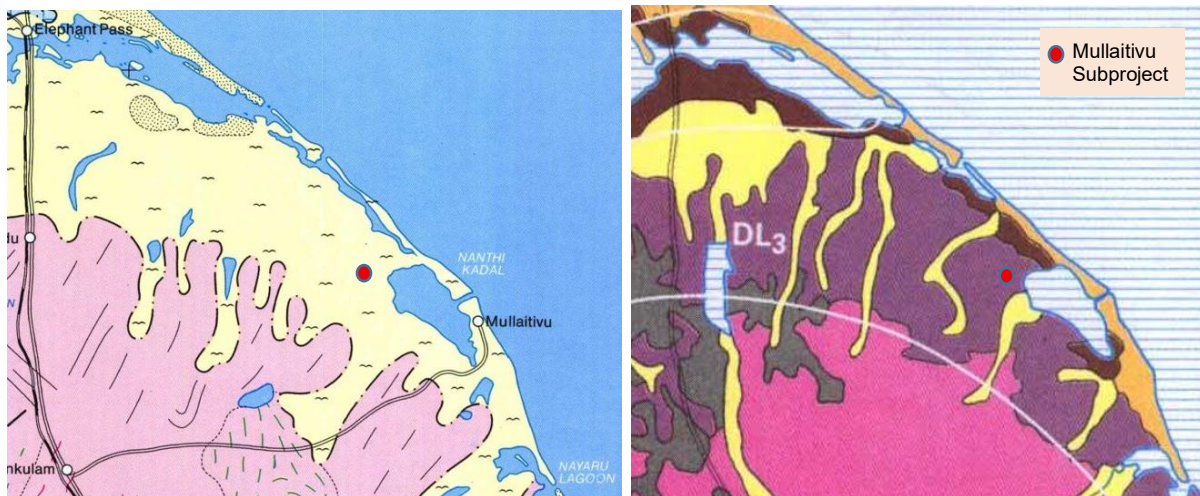
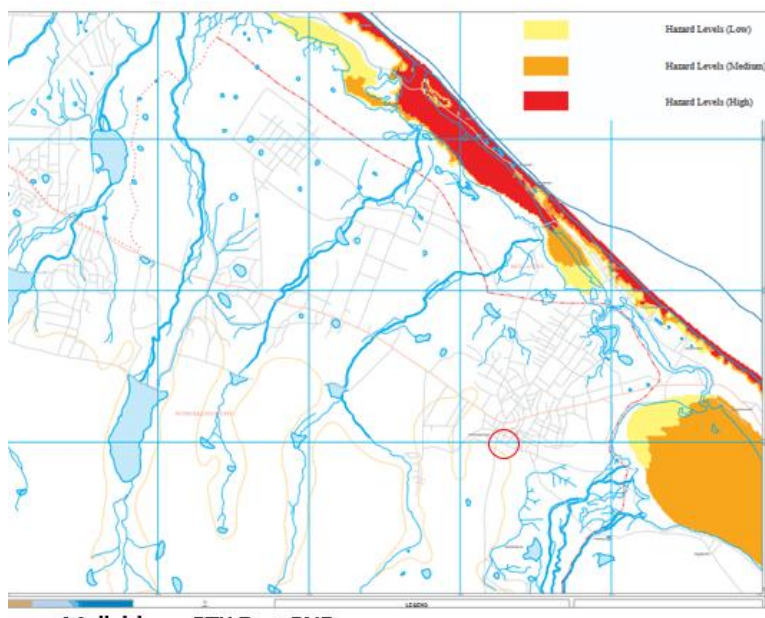


Figure D-7: Geology Map (L) and Soil Map (R) – Mullaitivu Subproject

Natural Hazards



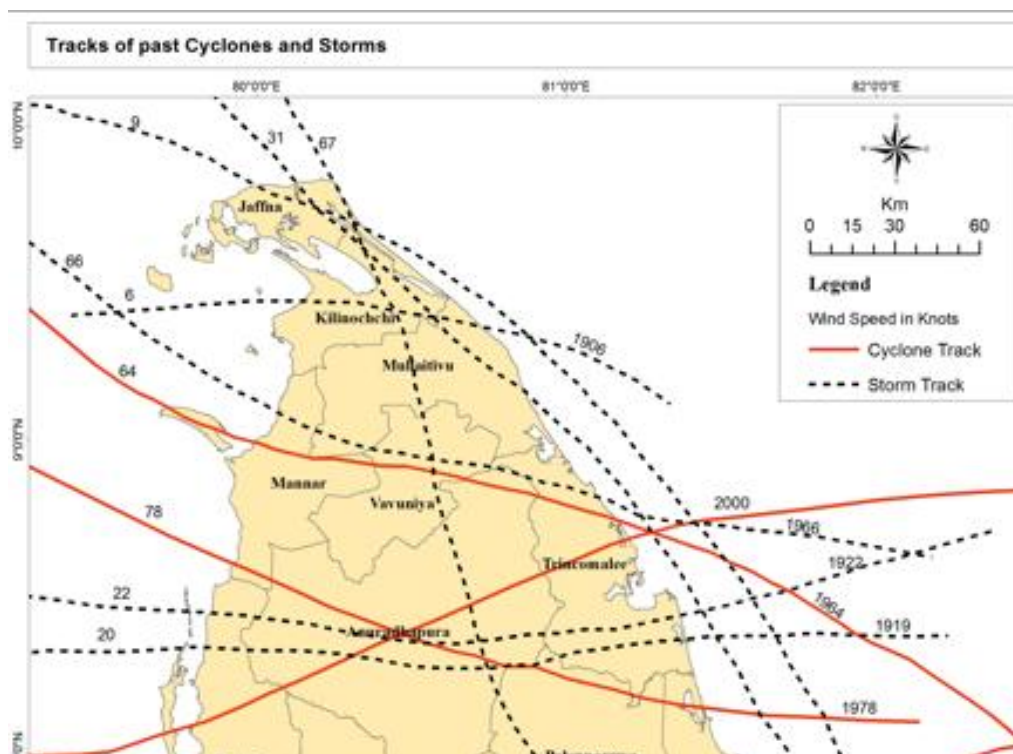


Figure D-8: Tsunami Hazard Map (Top) and Tracks of Past Cyclones & Storms (Bottom)

209. **Tsunami.** During the 2004 Indian Ocean Tsunami, the coastal areas of Mullaitivu District were among the severely affected areas in Sri Lanka. However, the subproject site is located more than 7 km inland from the coast and more than 3 km from the Nandikadal Lagoon, which is connected to the sea. According to the tsunami hazard map, the tsunami hazard level at the nearest exposed area, including the Nandikadal Lagoon, is classified as medium to low.

210. **Floods.** The natural drainage pattern of the area is characterized by shallow surface runoff channels that convey stormwater towards the Nandikadal Lagoon. The subproject site is situated at a relatively higher elevation and is not considered to be at significant risk of flooding. However, Mullaitivu District is vulnerable to flooding, particularly due to the overflow of streams and the movement of floodwaters through the district's drainage network. Similar to Kilinochchi District, during Cyclone Ditwah (2025), Mullaitivu experienced significant flooding impacts, particularly disruptions to road connectivity and access due to inundated roads and damaged infrastructure.

211. **Cyclones.** The subproject area is located within a region of Sri Lanka that is vulnerable to tropical cyclones. More recently, during Cyclone Ditwah (2025), parts of Mullaitivu District experienced severe flooding due to intense rainfall. The flooding primarily affected the downstream areas of tanks located in the upstream catchments, where increased flows resulted in floodwater overtopping and damage to several bridges and associated infrastructure.

212. **Droughts.** Mullaitivu District, similar to Kilinochchi District, experiences periodic drought conditions, especially during extended dry seasons. These conditions can lead to reduced water availability for domestic consumption, agricultural activities, and other water-dependent uses. Enhancing water resource management through improved conservation, storage, and efficient utilization of available water resources would contribute to reducing drought impacts and strengthening the resilience of the district, particularly the agriculture sector.

2. Biological Environment

Fauna and Flora of the Area

213. The flora in and around the Puthukkudiyiruppu area reflects typical Northern dry zone vegetation, influenced by a mix of scrubland, agricultural land, and secondary regrowth following past land disturbance and post-conflict resettlement. Natural vegetation is generally sparse to moderately dense, with higher cover observed along irrigation canals, tank bunds, and low-lying moisture-retaining areas. Common tree species in the area include Palmyrah (*Borassus flabellifer*), Neem (*Azadirachta indica*), Tamarind (*Tamarindus indica*), Weera (*Drypetes sepiaria*), Palu (*Manilkara hexandra*), Kon (*Schleichera oleosa*), Burutha (*Chloroxylon swietenia*), and Mango (*Mangifera indica*). Coconut (*Cocos nucifera*) and Banana (*Musa paradisiaca*) are also present in homestead gardens and cultivated areas. Shrub and understory vegetation is dominated by species such as Lantana (*Lantana camara*), Eupatorium (*Chromolaena odorata*), and various thorny scrub species typical of degraded dry zone habitats. Grasses and herbaceous plants are common in open areas, fallow lands, and road edges. Overall, the floral composition is characteristic of a disturbed dry zone landscape with a strong influence of agricultural activity and long-term human settlement, rather than natural forest ecosystems.

214. About 12 trees are present within the selected land at Mullaitivu, and based on the proposed elderly care center building layout and design, some of these trees may need to be removed to facilitate construction activities.



Figure D-9: Existing vegetation of the Mullaitivu subproject site

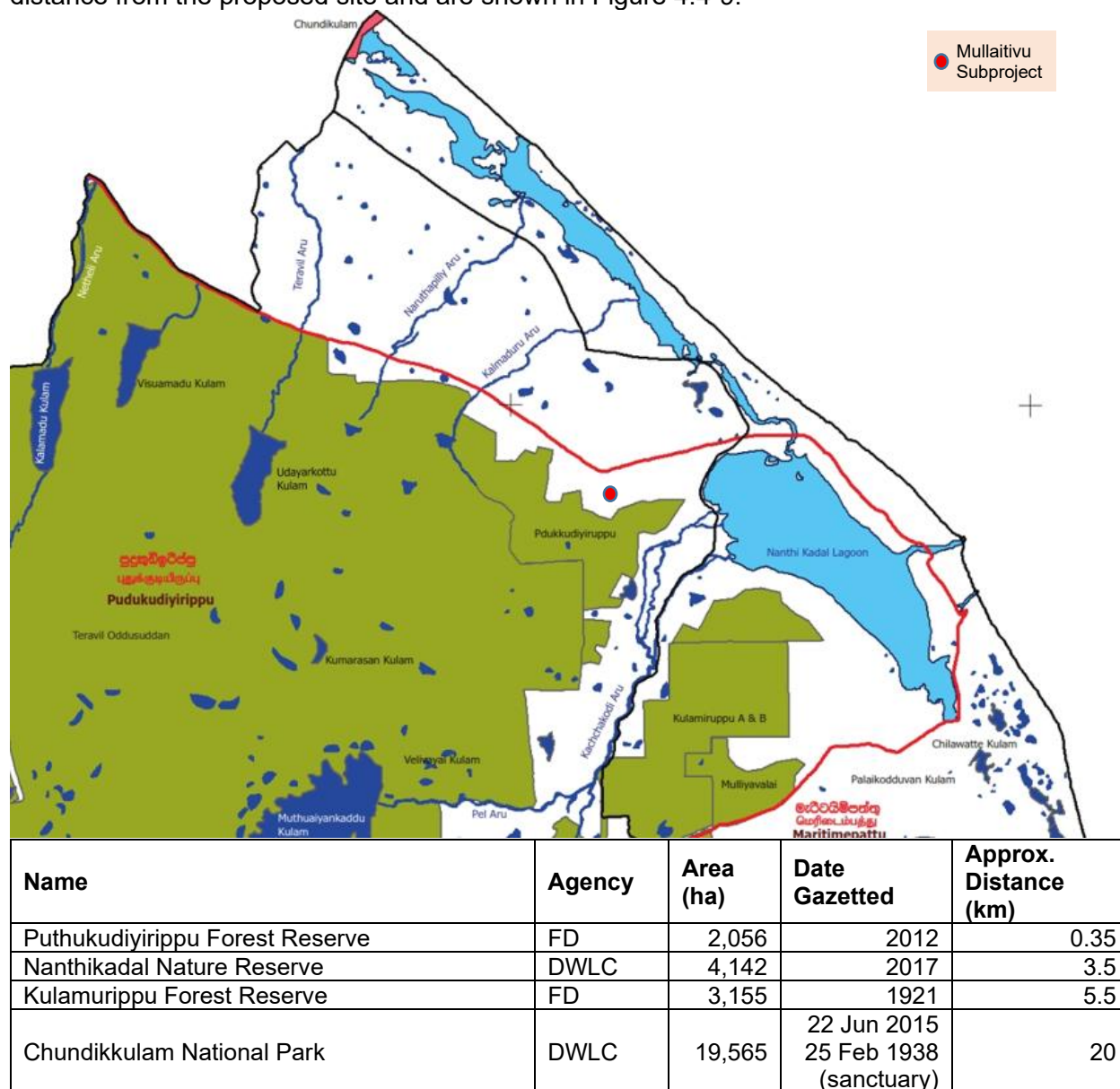
215. In a residential settlement area near the Oddusuddan Reserved Forest, fauna typically reflects a human-dominated landscape with occasional forest-edge influence. The wildlife is generally limited, with most species being synanthropic (adapted to human presence) or commonly found in rural home gardens and disturbed habitats. Toque macaque (*Macaca sinica*), Indian palm squirrel (*Funambulus palmarum*), Indian grey mongoose (*Herpestes edwardsii*), and occasional feral/domestic animals such as dogs (*Canis lupus familiaris*) and cats (*Felis catus*) are commonly observed around houses and cultivated plots. Commonly recorded avifauna include Common myna (*Acridotheres tristis*), Red-vented bulbul (*Pycnonotus cafer*), Black drongo (*Dicrurus macrocercus*), Asian koel (*Eudynamys scolopaceus*), House crow (*Corvus splendens*), and Cattle egret (*Bubulcus ibis*) in nearby paddy fields and open areas. Typical reptiles in residential environments include House gecko (*Hemidactylus frenatus*), Garden lizard (*Calotes versicolor*), and occasionally Water monitor (*Varanus salvator*) near drains and wetlands. Common Asian toad (*Duttaphrynus melanostictus*) is frequently found in gardens, moist ground areas, and drainage paths.

216. Overall, the flora and fauna composition reflects a semi-urban rural settlement adjacent to a forest reserve, where wildlife presence is moderate but largely influenced by human activity and

habitat modification. No endangered flora or fauna species were recorded within the site selected for the subproject activities.

Proximity to Protected Areas

217. The wildlife protected areas and forest reserves located nearby are listed below with distance from the proposed site and are shown in Figure 4.4-9.



Source: Central Environmental Authority

Figure D-10: Environmental Sensitive Areas – Mullaitivu Subproject

3. Physical Cultural Resources

218. There are several archaeologically and culturally important locations in Kilinochchi subproject area around Puthukudiyirippu as per the List of Archaeological Protected Monuments in Mullaitivu District published by Department of Archaeology. The monuments are, Keridamadu ruins and Mannakandal Kanniyar Kovil. The details are as follows;

Table D-1: List of Archaeological Protected Monuments around Puthukkudiyirippu

Monument	Declared on	Description	Image
Mannakandal Kanniyar Kovil (Distance from the subproject – 6.8km)	25 March 2016	Buddhist arama complex ruins with hillock of chaitya and stone pillar. The most prominent visible ruins include eight identifiable structures, forming a monastic complex enclosed by a boundary wall.	
Keridamadu ruins (Distance from the subproject – 6.2km)	17 May 2013	Ruins of a building from the Anuradhapura era were discovered at this site. The site features sculpted torsos of life-sized Buddha and Avalokiteshvara statues carved from limestone. (Believed to date to the 8th-10th centuries.)	

4. Socio-Economic Environment

219. The socio-economic environment of the Mullaitivu subproject area, including administrative divisions, land use, demographic characteristics, education, housing infrastructure, household income, employment, and unemployment, is discussed below based on the latest available Resource Profile (2024) of the Puthukudiyirippu Divisional Secretariat, within which the Mullaitivu subproject is located.

Administrative Divisions

220. The proposed Mullaitivu subproject is located in Puthukudiyirippu East (MUL/36) GND within the Puthukudiyirippu DSD. The DSD comprises 19 GNDs and has a population of 42,901, covering an area of about 366 km² with a population density of 17.2 people per km². The Puthukkudiyirippu DSD is bounded by Maritimpattu DSD to the east, Oddusudan DSD to the south and west, and Kandawalai DSD to the north and north-west..

221. The Puthukudiyirippu East GND, where the subproject is located, lies along the eastern boundary of the Puthukudiyirippu DSD, sharing its boundary with Maritimpattu DSD. It is bounded by Mannakandal GND to the south, Puthukudiyirippu West GND to the west, and by several GNDs to the north, namely Kombavil, Sivanagar, Manthuvil, and Malligaitheevu. The Puthukudiyirippu East GND has a population of 2,548 and comprises 19.4 km², with a population density of 130.0 people per km². The Puthukudiyirippu East GND area belongs to the Mullaitivu Electorate, and the local authority is the Puthukudiyirippu Pradeshiya Saba.

Land Use

222. According to district-level land use statistics, the area demonstrates a clear dominance of three major categories. Agriculture as a whole covers about 6,935 ha (18.94%), reflecting the region's reliance on cultivation for livelihoods. Forest lands extend over 14,082 ha (39.53%), underscoring the ecological importance of reservation and state forests. Meanwhile, highland housing occupies nearly 11,597 ha (30.63%), highlighting steady settlement growth and expansion of built-up areas. Overall, these figures emphasize a landscape shaped primarily by agriculture, forest cover, and housing development.

Table D-2: Land Use Patterns in Puthukkudiyirippu DSD

Category	Total (ha)	Percentage (%)
Agriculture		
Paddy	2,713.00	7.42

High Land Crops	4,135.00	11.28
Lift Irrigation	87.30	0.24
Forest Land		
Reservation forest	8,968.80	24.5
State Land	5,113.65	15.03
Other forest	36.00	0.10
Replanting forest	594.27	1.62
Road and Drainage Channel & Irrigation Channel	1512.7	4.13
Water bodies	1,420.00	3.88
High Land (Housing)	11,596.70	30.63
Others	422.63	1.15
Total Area	366.00	100

Demographic Characteristics

223. This section describes the demographic characteristics of the Puthukudiyiruppu East GND and the broader Puthukudiyiruppu DSD, based on the latest available Divisional Secretariat data (2024). The Puthukudiyiruppu DSD has a total population of 42,901, comprising 21,891 females (51.0%) and 21,010 males (49.0%), distributed across 15,207 families, resulting in an average family size of approximately 2.8 persons per household. Within the Puthukudiyiruppu East GND, the population totals 2,548, with 1,342 females (52.7%) and 1,206 males (47.3%) living in 876 families, giving an average family size of approximately 2.9 persons. These figures indicate a relatively balanced gender distribution in both the DSD and GND, with females slightly outnumbering males and household sizes remaining broadly consistent across the area.

224. In Puthukudiyiruppu DSD, the population is predominantly Tamil, numbering 42,598 (99.83%), followed by Muslims at 72 (0.17%). In terms of religious composition, Hindus form the largest group with 37,002 (86.72%), followed by Roman Catholics at 4,971 (11.65%), Christians at 629 (1.47%), and Islamic at 68 (0.16%). These figures indicate that the Puthukudiyiruppu DSD is overwhelmingly Tamil and Hindu, with smaller Islamic, Roman Catholic, and Christian communities contributing to the social and cultural diversity of the area. Puthukudiyiruppu East GND, the population is entirely Tamil, numbering 2,523 (100%). In terms of religious composition, Hindus form the majority with 2,373 (94.05%), followed by Roman Catholics at 115 (4.56%), and Christians at 35 (1.39%). These figures highlight that the GND is homogeneously Tamil in ethnicity and predominantly Hindu in religion, with small Roman Catholic and Christian communities adding to its cultural diversity.

Education

225. The educational profile of Puthukudiyiruppu DSD indicates that a significant proportion of the population has left school before completing Grade 5 (2,823 persons, 32.1%) and between Grades 6 and 9 (2,734 persons, 31.1%). Educational level data at the GND level are not available.

Table D-3: Educational Level of the Puthukudiyiruppu DSD

Education Level	Male	Female
Below grade 5	1,375	1,448
Grade 6–9	1,470	1,264
Grade 10	305	465
G.C.E O/L	428	400
G.C.E A/L	608	779
Edu.	-	1
Special Education in Center	10	11
Graduates	66	167

Housing Infrastructure

226. The information on housing infrastructure by housing unit type in the Puthukudiriypu East GND Puthukudiriypu DSD has been compiled from the data provided by the Resource Profile.

Table D-4: Housing Infrastructure by Housing Unit Type

Division	Permanent Houses	Huts	Temporary Shelter	Total
Puthukudiriypu East GND	525	49	95	669
Puthukudiriypu DSD	8,632	1,543	1,762	11,937

227. **Drinking water.** The number of households in terms of drinking water facilities are given in the following table. The data show that, the majority of households in both GND and DSD have access to safe water through open wells.

Table D-5: Status of drinking water sources

Division	Common Well		Open Well		Tube Well		Pipe Line
	No.	Benefit Families	No.	Benefit Families	No.	Benefit Families	Benefit Families
Puthukudiyiruppu East GND	7	44	497	497	5	65	400
Puthukudiriypu DSD	88	467	6,795	6,795	157	363	1,970

228. **Sanitation facility.** Regarding sanitation facilities, the majority of households in both GND and the DSD have access to water-sealed toilets. The following table gives the number of residential housing units by toilet facilities for the GND and DSD.

Table D-6: Status of Toilet Facilities

Division	Common Toilet		Water sealed		Temporary	
	No.	Benefit Families	No.	Benefit Families	No.	Benefit Families
Puthukudiyiruppu East GND	1	24	810	810	2	2
Puthukudiriypu DSD	1	24	13,083	13,083	24	24

229. **Electricity.** As per the resource profile, Puthukudiyiruppu East GND, 852 families (98.3%) have access to electricity, while 15 housing units (1.7%) do not have electricity and rely on kerosene for lighting. At the Puthukudiyiruppu DSD level, electricity is available in 13,745 families (95.5%), while 653 families (4.5%) do not have an electricity connection.

Household Income

230. According to the available data for 2024, 17.9% of families in the Puthukudiyiruppu DSD had a monthly income of less than LKR 5,000, while 24.5% earned between LKR 5,001 and 10,000. A further 25.0% of families had monthly incomes between LKR 10,001 and 15,000, 10.9% between LKR 15,001 and 20,000, and 6.5% between LKR 20,001 and 25,000. The remaining 15.2% of families reported monthly incomes above LKR 25,001. The following table present the family income distribution within the division for 2024.

Table D-7: Family income distribution

	Puthukudiyirippu East GND	Puthukudiyirippu DSD
Below Rs. 5000	119	2,925
Rs. 5,001 - Rs. 10,000	59	3,165
Rs. 10001 – 15000	67	2,894
Above 15,001.0	609	8,984
total	858	15,207

Employment and Unemployment

231. Based on the 2024 data, the total population of Puthukkudiyirippu DSD is 42,901. The employed population is 18,506 persons, while 6,741 persons are unemployed, resultin

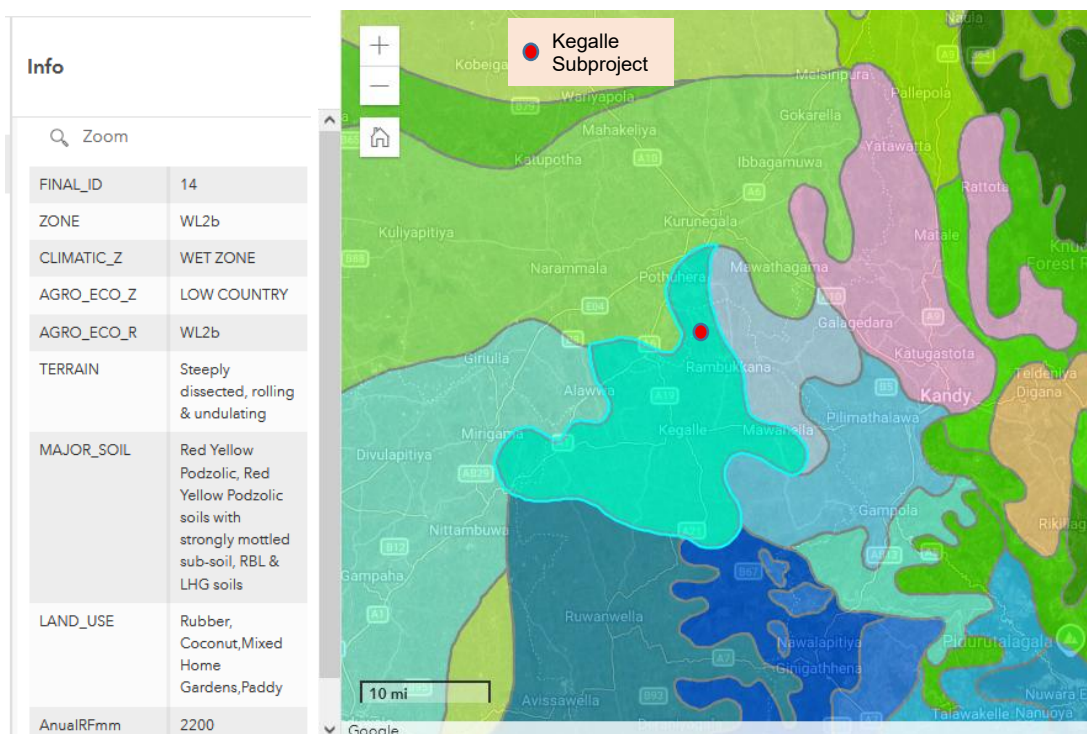
232. g in an economically active population (labour force) of 25,247 persons. Accordingly, the employment rate is 73.3%, while the unemployment rate is 26.7% within the labour force. However, detailed employment data at the GND level are not available.

E. EXISTING ENVIRONMENT – KEGALLE SUBPROJECT

1. Physical Environment

Climatic and Meteorological conditions

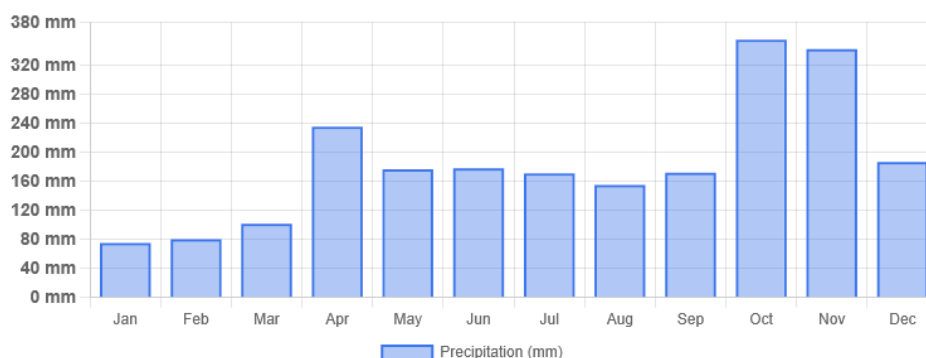
233. Climate The Matale subproject is located in Dambulla within the WL2b: Wet Zone Low Country agro-ecological region, characterized by steeply dissected, rolling & undulating terrain. The area experiences a tropical wet climate, with relatively high rainfall about 2,200 mm, supporting typical wet zone vegetation and agricultural practices such as rubber, coconut, mixed home gardens and paddy.



Source: Department of Agriculture

Figure E-1: Agro-ecological Area around Kegalle Subproject

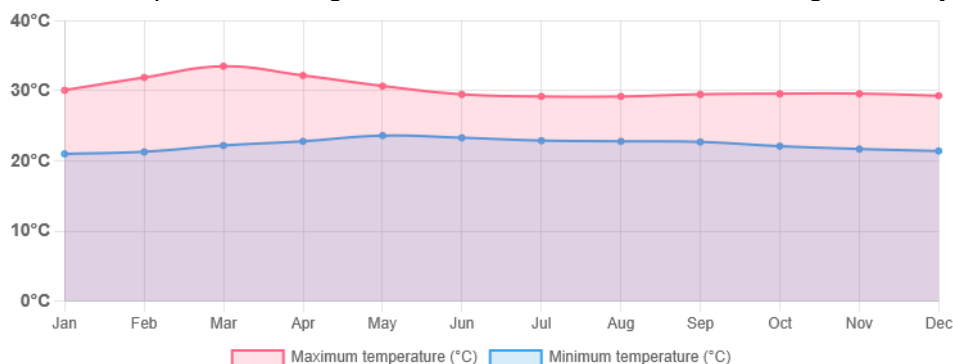
234. Rainfall Pattern Pinnawala is the nearest meteorological station to the proposed Kegalle subproject site. Located in the wet zone of the country, the area experiences a high rainfall, averaging 2,232 mm annually. October typically receives the most precipitation, with around 355.7 mm, while January is the driest month, with 75 mm. The rainfall pattern is largely influenced by Sri Lanka's monsoonal climate, with the Northeast Monsoon (October to December) bringing the highest rainfall. Consistent rainfall exceeding 150 mm is also received through the Southwest Monsoon and inter-monsoon periods.



Source: <https://www.weather-and-climate.com>

Figure E-2: Rainfall pattern of the area – Pinnawala

235. Temperature in the area are generally consistent throughout the year. Typically, average maximum daytime temperatures range between 29.3°C and 33.5°C through December to March. Average minimum temperatures range between 21.0°C and 23.6°C through January to May.

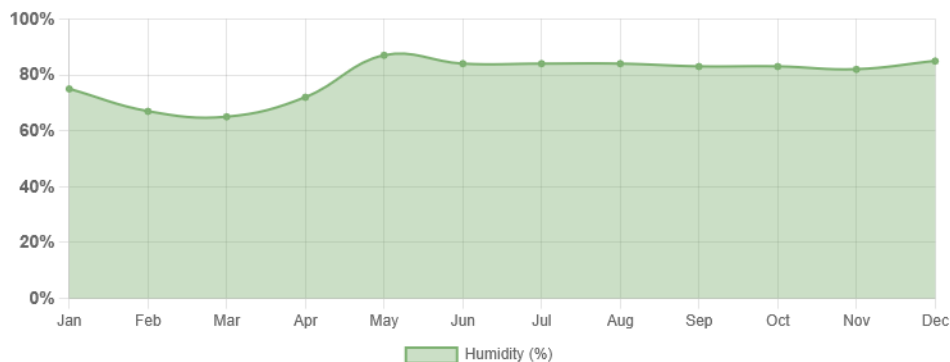


Source: <https://www.weather-and-climate.com>

Figure E-3: Temperature variation of the area - Pinnawala

236. Relative humidity. Pinnawala experiences relatively high and seasonally varying humidity throughout the year, reflecting its wet climatic conditions. The highest average relative humidity is recorded in May, reaching 87%, and remains above 80% from May to December. The lowest average relative humidity is observed in March, at 65%.

237.



Source: <https://www.weather-and-climate.com>

Figure E-4: Relative Humidity of the area - Pinnawala

Air Quality

238. The Kegalle subproject site is located within the Dambulla town area in an urban setting characterized by administrative and commercial land uses. The site is situated close to the Colombo - Anuradhapura - Trincomalee highway, which carries a considerable volume of vehicular traffic. Ambient air quality in the area is generally good, although the site is located in an urban environment. There are no significant industrial emission sources in the vicinity, and the primary contributors to air emissions are vehicular traffic on the nearby main road and other small-scale commercial activities. Dust generation may also occur during dry periods, particularly from unpaved access roads; however, such impacts are temporary, localized, and limited in extent. No recent air quality monitoring data are available for the project area. Therefore, baseline ambient air quality monitoring will be carried out prior to the commencement of construction activities.

Ambient Noise

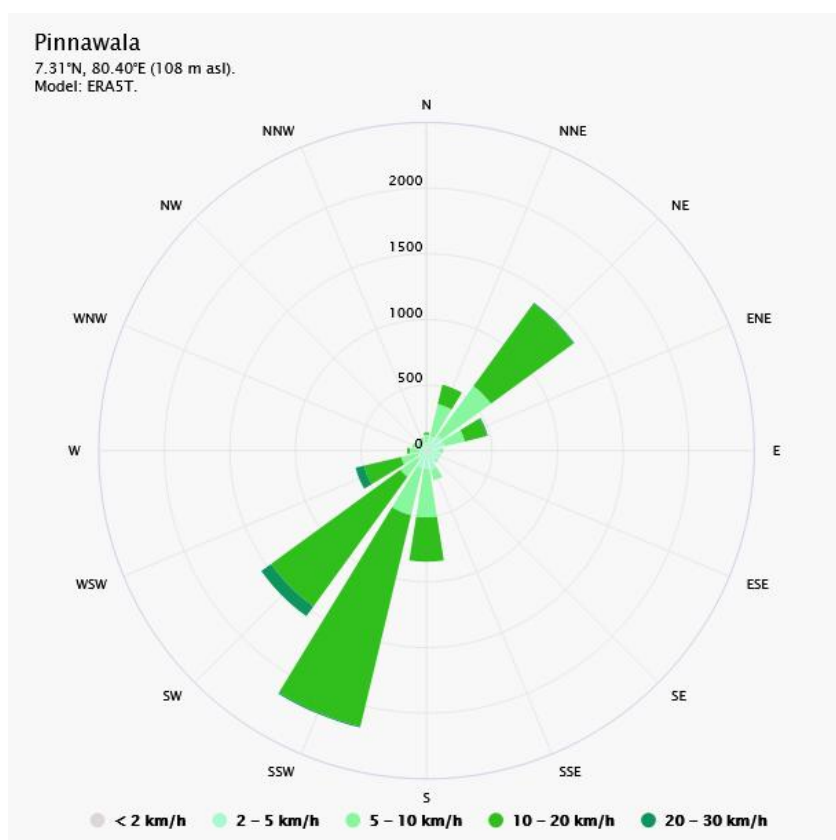
239. The ambient noise environment in the project area is primarily influenced by vehicular traffic on the nearby main road, together with activities associated with nearby administrative establishments and small-scale commercial operations. No significant continuous noise sources, such as industrial activities, are present in the immediate vicinity. The selected subproject site can be considered as a noise-sensitive receptor, while only a few scattered rural residences are located at some distance from the site. Overall, ambient noise levels are low to moderate and are typical of a non-industrialized urban environment, with no significant noise-related concerns under normal conditions. No recent noise monitoring data are available for the project area. Therefore, baseline noise level monitoring will be carried out prior to the commencement of construction activities.

240. Wind pattern. Pinnawala area experiences seasonal variations in wind conditions, with relatively stronger winds occurring during May to October and comparatively calmer conditions during the March, April and November. High wind speeds of 20 - 30 km/h predominantly occur from the west-southwest and southwest directions. Moderate winds ranging from 10 - 20 km/h are also experienced from the southwest, south-southwest, and northeast directions during certain periods of the year. Below given is the Windrose for Pinnawala which shows how many hours per year the wind blows from the indicated direction.

Topography

241. Considering the topography, the Kegalle DSD consists of gentle, moderate, and steep slopes. within the DSD, where the general ground elevation decreases from south to north and

the Kegalle subproject site is located in the northern boundary of the DSD. Locally, the site is situated on relatively high ground, sloping towards paddy fields located to the south, while the northern side slopes towards the Maha Oya, which flows at about 350 m distance from the site. The site elevation ranges between 120 m and 130 m MSL, while the Maha Oya is at 95 m MSL and the paddy fields are at about 100 m MSL. The elevation profile of the area is given in Figure 4.5-6. No distinctive topographic features such as rock outcrops or mountains are present in the immediate vicinity of the site. However, the surrounding landscape is characterized by upland terrain with hills, where elevations generally range between 200 m and 300 m MSL.



Source: <https://www.meteoblue.com>

Figure E-5: Windrose for Pinnawala

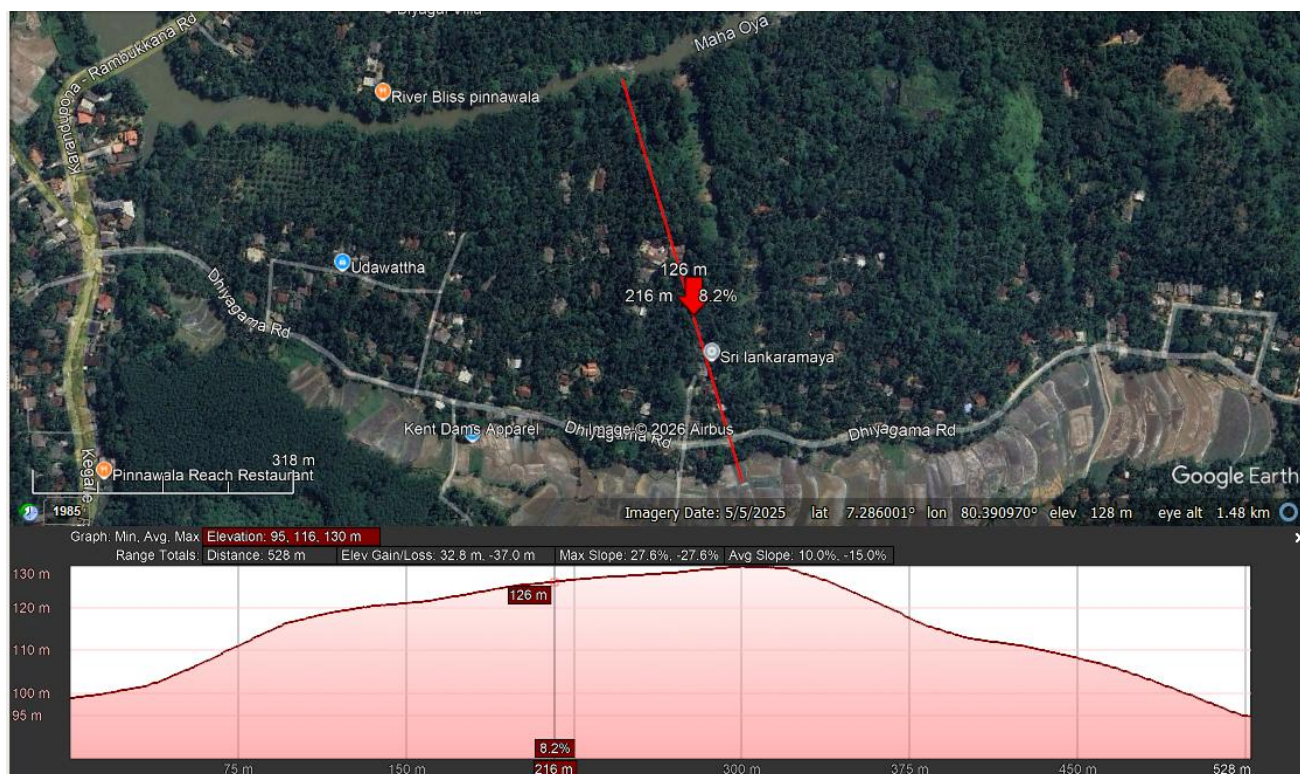


Figure E-6: Elevation Profile of the area

Hydrology and Drainage

242. The drainage system of the Kegalle DSD area consists of Kegalu Oya and Marapone Oya, which are tributaries of the Maha Oya (located at an aerial distance about 300m from the site) and drain the northern slopes of the area. The southern part of the area is drained by Gurugoda Oya and its tributaries, which form a major tributary system of the Kelani River. With respect to drainage in the immediate vicinity of the site, stormwater runoff flows towards the paddy fields located to the south of the land. The runoff subsequently drains into a tributary that flows northwards and joins the Maha Oya near the Pinnawala Bridge, ultimately conveying stormwater to the Maha Oya.

Geology and Soil

243. Geology. The Kegalle subproject area, located near Maha Oya, is underlain predominantly by rocks of the Undifferentiated Highland Series. The geological formations mainly comprise garnet-sillimanite schist and gneiss, quartz-feldspar granulite, charnockitic gneiss, pyroclastic, and pyroxene amphibolite. In addition, hornblende gneiss and hornblende-biotite gneiss occur within the area, with migmatitic and granitic characteristics observed in some locations. The bedrock exhibits prominent structural trend lines typical of the Highland Complex terrain.

244. Soils. The soils in the Kegalle subproject area are dominated by red-yellow podsollic soils and red-yellow podsollic soils with strongly mottled subsoil. Low humic gley soils are also present, particularly in poorly drained and low-lying areas. These soil types are characteristic of the wet zone environment and exhibit varying drainage conditions and fertility levels depending on topography and land use.

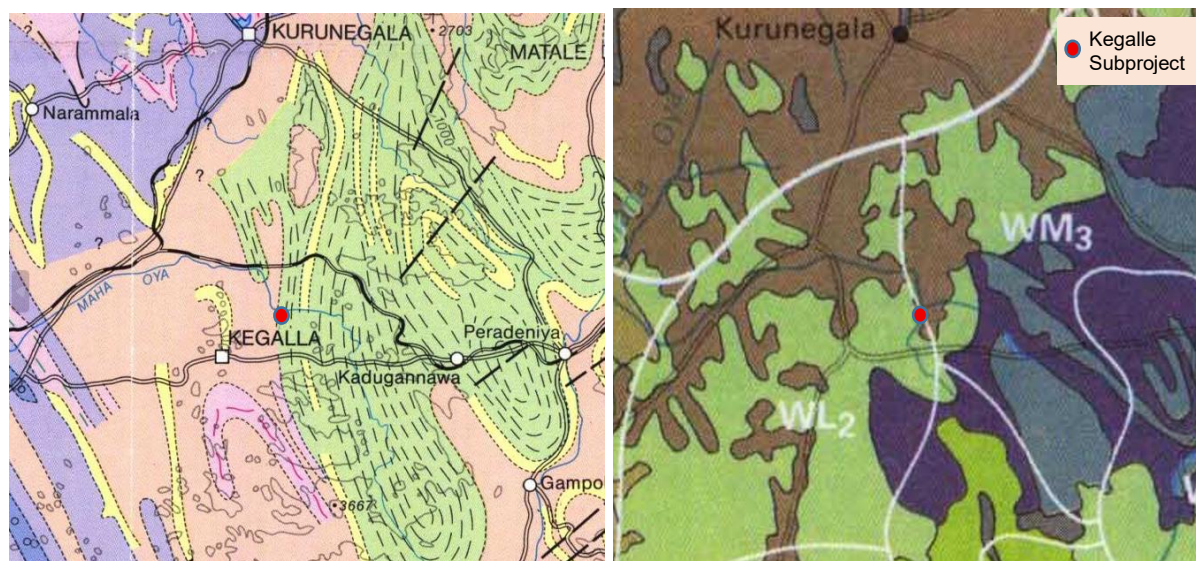


Figure E-7: Geology map (L) and Soil map (R) - Kegalle subproject

Natural Hazards

245. **Landslide.** Kegalle District is identified as one of the landslide-prone districts in Sri Lanka due to its undulating to mountainous terrain, steep slopes, high rainfall, and geological conditions. Landslide susceptibility is mainly concentrated in the hilly areas of the district, including Aranayake, Bulathkohupitiya, Mawanella, Deraniyagala, and other elevated areas. The subproject site is located in a relatively lower-risk area compared with the landslide-prone mountainous areas of Kegalle District. According to the Landslide Vulnerability Report prepared by NBRO (August 2021), the subproject site is situated within a Low Risk Landslide Hazard Zone. However, localized slope instability may occur in areas with steep terrain, cut slopes, or poor drainage conditions, particularly during prolonged heavy rainfall events.

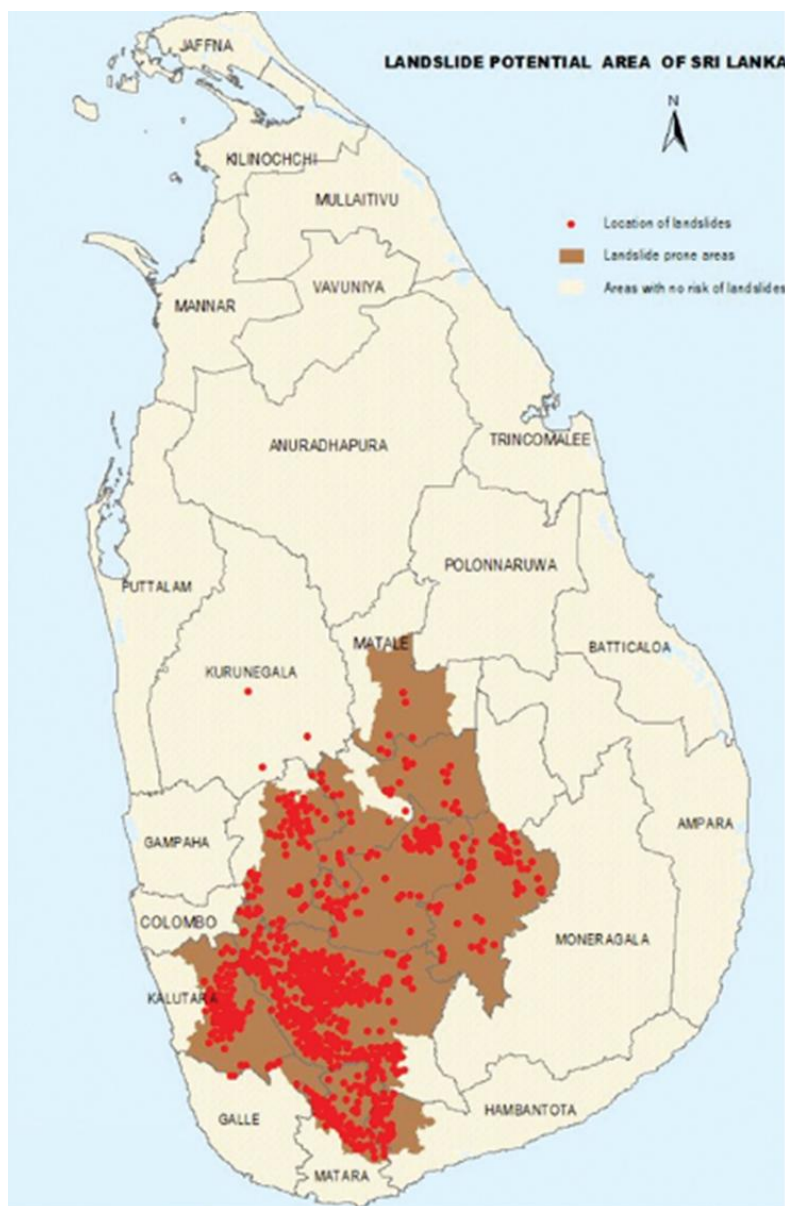


Figure E-8: Landslide potential area of Sri Lanka

2. Biological Environment

Fauna and Flora of the Area

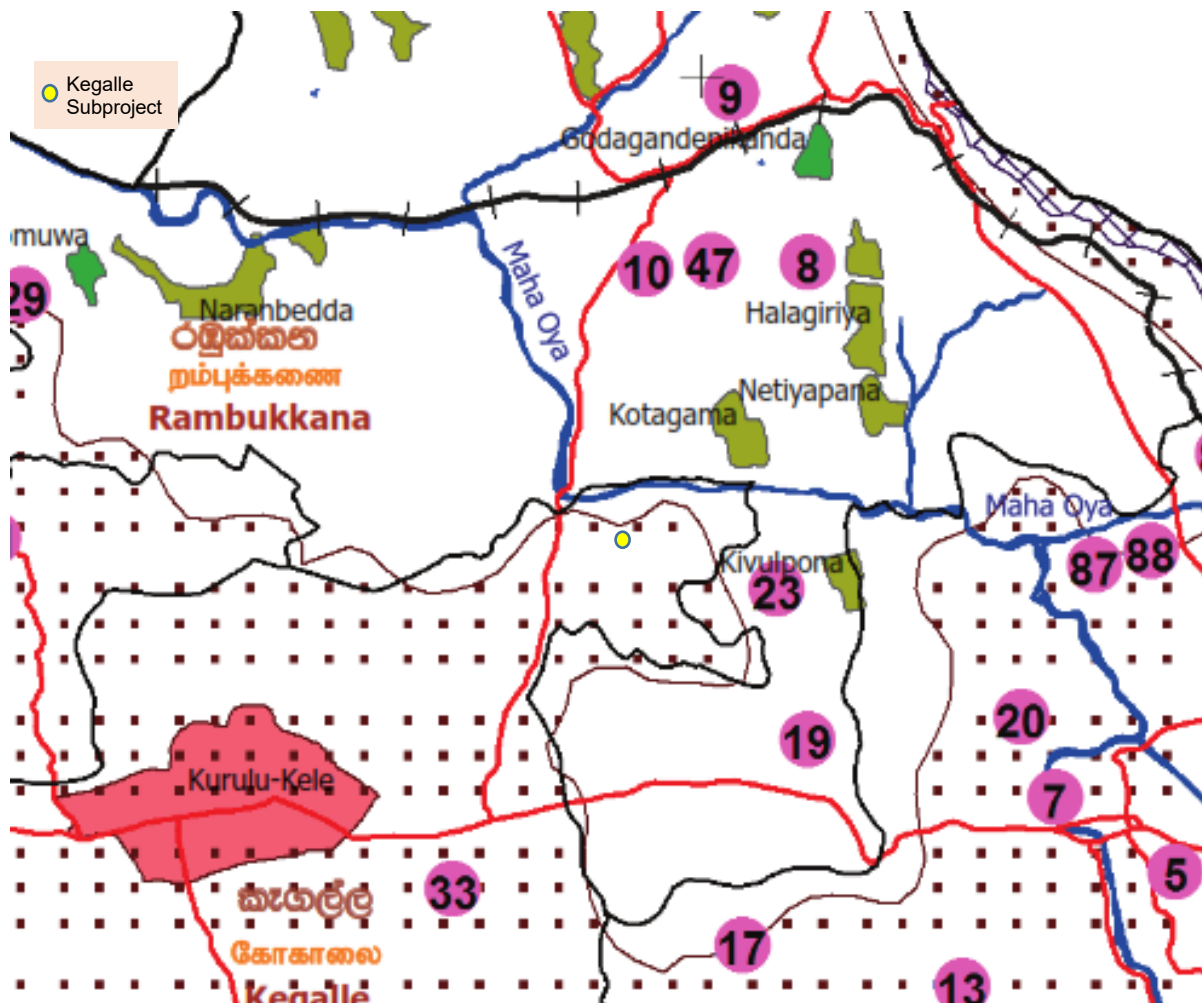
246. Vegetation in and around Kegalle subproject site is typical of the wet zone species, combined with cultivated crops and urban greenery. Common trees include Mango (*Mangifera indica*), Jackfruit (*Artocarpus heterophyllus*), Coconut (*Cocos nucifera*), Areca nut (*Areca catechu*), Cashew nut (*Anacardium occidentale*) and Kumbuk (*Terminalia arjuna*) while agricultural fields and home gardens are dominated by vegetables, paddy, and fruit crops. Within the selected site, 11 Coconut (*Cocos nucifera*), 5 Mahogany (*Swietenia macrophylla*), 1 Jak (*Artocarpus heterophyllus*), 1 Domba (*Calophyllum inophyllum*), and 1 Kahata (*Careya arborea*) tree were recorded. Based on the proposed elderly care centre building layout and design, some of these trees may need to be removed to facilitate construction activities.

247. The area hosts both urban-tolerant species and wildlife associated with semi-natural habitats. Common mammals include Toque macaque (*Macaca sinica*), Indian palm squirrel (*Funambulus palmarum*), Wild boar (*Sus scrofa*), Sri Lankan porcupine (*Hystrix indica*), and Indian grey mongoose (*Herpestes edwardsii*). Avifauna is diverse, with species such as Common myna (*Acridotheres tristis*), Indian peafowl (*Pavo cristatus*), Red-vented bulbul (*Pycnonotus cafer*), Black drongo (*Dicrurus macrocercus*), and Asian koel (*Eudynamys scolopaceus*). Reptiles such as Garden lizard (*Calotes versicolor*) and House gecko (*Hemidactylus frenatus*) are widespread, while amphibians such as the Common Asian toad (*Duttaphrynus melanostictus*) are often recorded in wet areas.

248. Overall, the landscape is being gradually modified by urbanization and agricultural activities. However, the subproject site and its surroundings within Diyagama GND still contain some wet zone flora and fauna associated with semi-natural habitats. No endangered flora or fauna species were recorded within the site selected for the subproject activities.

Proximity to Protected Areas

249. The notable wildlife protected areas and forest reserves located nearby are listed below with distance from the proposed site and are shown in Figure 4.5-9: Environmentally Sensitive Area Map published by CEA.



Name	Agency	Area (ha)	Date Gazetted	Approx. Distance (km)
Kotagama Forest Reserve	FD	39	1935	1.2
Kivulpona Forest Reserve	FD	-	-	2.5
Netiyapana Forest Reserve	FD	-	-	3.3
Halagiriya Forest Reserve	FD	59	1940	3.8
Kurulu Kele Sanctuary (Forest Reserve)	FD	11.32	14.03.1941	6

Figure E-9: Environmental Sensitive Areas - Kegalle Subproject

F. Physical Cultural Resources

250. There are several archaeologically and culturally important locations in Kegalle DSD as per the List of Archaeological Protected Monuments in Kegalle District published by Department of Archaeology. The monuments are, Mangalagama Ambalama, Nilwakka Raja Maha Vihara, and Kawudugama Vihara. The details of the Archaeological Protected Monuments in the Kegalle DSD are as follows;

Table F-1: List of Archaeological Protected Monuments in Kegalle DSD

Monument	Designated on	Description	Image
Mangalagama Ambalama (Distance from the subproject – 4km)	15 March 1974	Ancient granite pillars and wooden pillars	
Nilwakka Raja Maha Vihara (Distance from the subproject –4km)	1 November 1996	Image house with paintings	
Kawudugama Vihara (Distance from the subproject – 8km)	1 November 1996	Image house with paintings	

G. Socio-Economic Environment

251. The socio-economic environment of the Dambulla subproject area, including administrative divisions, land use, demographic characteristics, education, housing infrastructure, household income, employment, and unemployment, is discussed below based on the latest available Resource Profile (2024) of the Kegalle Divisional Secretariat.

Administrative Divisions

252. The proposed Kegalle subproject is located in Diyagama GND (12A) within the Kegalle DSD of Kegalle District. The DSD comprises 61 GNDs and has a population of 105,284, covering an area of about 104.76 km² with a population density of approximately 1,005 people per km². The Kegalle DSD is bounded by Rambukkana DSD to the north, Galigamuwa DSD to the west, Ruwanwella DSD to the south, and Aranayaka DSD to the east..

253. Diyagama GND has a population of 1308 and comprises 2.12 km², with a population density of 617 people per km². The Diyagama GND area belongs to the Kegalle Electorate, and the local authority is the Kegalle Pradeshiya Saba. The Diyagama GND, where the subproject is located, is bounded by Rambukkana DSD (Kivulpana GND) to the east, Kalugalla GND to the south, and Rambukkana DSD to the west (Hiriwadunna GND) and north (Yodhagama GND).

Land Use

254. The land use pattern of the Diyagama GND is predominantly agricultural in nature. Main crops constitute the largest land use category, covering 50.00 ha (23.6%) of the total area, followed by other land uses classified as "Others" with 34.37 ha (16.2%). Minor Export Crops occupy 30.00 ha (14.2%), while cultivating land under paddy accounts for 27.86 ha (13.1%). Home gardens cover 23.70 ha (11.2%), and seasonal crops other than main crops and Minor Export Crops extend over 22.00 ha (10.4%). Crown lands, including used, unused, and cultivable state lands, comprise 18.50 ha (8.7%) of the area.

Table G-1: Land Use Patterns in Diyagama GND

Category	Total (ha)	Percentage (%)
Main crops (1)	50	23.59
Minor Export Crops (2)	30	14.16
Paddy Cultivation		
Cultivating Land	27.86	13.15
Abandoned Land	1.5	0.71
Seasonal Crops Except 1 & 2	22	10.38
Home Gardens	23.7	11.18
Mixed crop	2.8	1.32
Water Land (Lake, Reservoirs, Irrigation, Rivers)	-	-
Crown Land (Used, Unused, unused but cultivable)	18.5	8.73
Bare land	0.1	0.05
Roads	0.8	0.38
Buildings and Constructions	0.3	0.14
Natural forest	-	-
Others	34.37	16.22
Total Area	211.93	100

Demographic Characteristics

255. This section describes the demographic characteristics of the Diyagama GND and the broader Kegalle DSD based on the available divisional statistics. The Kegalle DSD has a total population of 105,284, comprising 54,358 females (51.6%) and 50,926 males (48.4%), distributed across 28,919 families, resulting in an average family size of approximately 3.64 persons per family. Within the Diyagama GND, the population totals 1,308, with 679 females (51.9%) and 629 males (48.1%) living in 372 families, giving an average family size of around 3.52 persons per family. These figures indicate a slight female predominance in both the DSD and GND, while household sizes remain broadly comparable across both administrative levels.

256. In the Kegalle DSD, the largest ethnic group is Sinhalese, numbering 100,817 (95.8%), followed by Sri Lankan Moor/Muslims with 1,501 (1.4%), Tamils with 2,687 (2.6%), and smaller communities including Burgher (268, 0.3%), Malay (5, <0.1%), and others (6, <0.1%). In terms of religious composition, Buddhists form the dominant group with 99,534 individuals (94.6%), followed by Catholics with 1,648 (1.6%), Muslims with 1,500 (1.4%), Hindus with 2,516 (2.4%), and other religions with 86 persons (0.1%). These figures indicate that the Kegalle DSD is predominantly Sinhalese and Buddhist, with minority Tamil, Muslim, Hindu, and Christian communities contributing to the overall social and cultural diversity of the area.

257. In the Diyagama GND, the population is almost entirely Sinhalese, numbering 1,307 persons, while Muslims account for 1 person. In terms of religious composition, Buddhists form the largest group with 1,291 individuals (98.7%), followed by Catholics with 16 persons (1.2%) and Muslims with 1 person (<0.1%). These figures indicate that the Diyagama GND is overwhelmingly Sinhalese and Buddhist in character, with very small minority Muslim and Christian populations contributing to limited religious diversity within the area.

Education

258. The details of the schools, teachers and students of Kegalle DSD, based on the Resource Profile 2024, are presented in the following Table 4.5-3.

Table G-2: Details of the Schools, Teachers and Students

School Type	No.	No of teachers		No of student	
		Carder	Existing	Male	Female
1 AB	8	1071	1018	9491	13368
1C	14	441	399	2177	2095
Type 2	9	204	164	847	840
Type 3	14	157	174	1347	1179
Piriven (Buddhist)	4	41	40	34	214
Private	2		102	553	443
Total	51	1914	1897	14449	18139

Housing Infrastructure

259. The information on housing infrastructure by housing unit type (on number of story and nature of housing type) in the Diyagama GDN and Kegalle DSD has been compiled from the data provided by the Resource Profile.

Table G-3: Number of houses by housing unit type

Division	Diyagama GND	Kegalle DSD
Permanent		
Single story	311	23,589
Two story	37	3,007
More than two		253
Housing complex		
Single story		47
Two story		1
Estate line rooms		267
Estate house		167
Temporary	5	299
Not occupied		373
Other		58
Total	353	28,061

260. **Drinking water.** The number of households in terms of drinking water facilities are given in the following table. The data show that, the majority of households in both Diyagama GND and the Kegalle DSD have access to safe water through pipe-borne systems.

Table G-4: Status of drinking water sources

Drinking water source	Diyagama GND	Kegalle DSD
Protected well	88	8,015
Unprotected well	5	1,466
Tube well		83
Pipe borne water (NWSDB)	265	13,348
Rural water scheme		1,346
Tank/River/Stream/Fountain/Rainwater		2,531
Rainwater		17
No water supply throughout the year		425
Other		830
Total	358	28,061

261. **Sanitation facility.** Regarding sanitation facilities, the majority of households in both Diyagama GND and the Kegalle DSD have access to water-sealed toilets. The Table 4.5-6 gives the number of residential housing units by toilet facilities for the GND and DSD.

Table G-5: Status of access to sanitation facilities

Sanitation facility type	Diyagama GND	Kegalle DSD
Water sealed	354	27,969
Pit toilet		515
Temporary toilet	1	111
No toilet facility	3	132
Common toilet		27
Total	358	28,754

262. **Electricity.** As per the resource profile, Diyagama GND, 370 families (99%) have access to electricity, while 2 housing units (<1%) do not have electricity and rely on kerosene for lighting. At the Kegalle DSD level, electricity is available in 28,785 families (99.5%) and 7 families from solar panels, while 125 families (< 0.5%) do not have an electricity connection.

Household Income

263. The following table provides the family income distribution within Diyagama GND and Kegalle DSD based on 2024 data.

Table G-6: Family income distribution

Income class	Diyagama GND	Kegalle DSD
Less than 15,000	12	2326
15,000-25,000	95	5530
25,001-50,000	54	9986
50,001-75,000	150	6077
75,001-100,000	27	3233
Over 100,000	34	1767
Total	372	28919

Employment and Unemployment

264. Based on the 2024 data, the economically active population (labour force) in Kegalle DSD is 52,176 persons. The employed population is 35,162 persons, while 17,014 persons are unemployed. Accordingly, the employment rate is 67.4%, while the unemployment rate is 32.6% within the labour force. However, detailed employment data at the GND level are not available. In the Diyagama GND, the labour force is 915 persons. Out of this, 479 persons are employed and

436 persons are unemployed, resulting an employment rate of 52.3% and an unemployment rate of 47.7% within the labour force.

V. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A. Impacts Identification and Analysis

1. Impact identification

265. Prediction of impacts is one of the most important steps of an environmental assessment. The planning, pre-construction, construction, and operational phases of a subproject will result in a range of changes that can affect the surrounding environment. Therefore, the first step is to identify the changes that are most likely to occur and the receptors that might be affected. Placing the predicted impacts over baseline environmental conditions provides a realistic view of the overall environmental scenario.

266. Impacts can be categorized as:

- Direct or Indirect Impacts: Direct impacts are those caused by, and usually occurring concurrently with, the activities of the proposed project. They can also be either adverse or beneficial. Indirect impacts result not as a direct consequence of the project activities themselves but from changes in the environment brought about by the project. They can also be either adverse or beneficial.
- Cumulative Impacts: These are impacts resulting from incremental changes caused by other past, present, or reasonably foreseeable actions in combination with the project.
- Impact Interactions: These are the reactions between impacts, either within the project or between the impacts of other projects in the area.

267. The identification of impacts was aided by the development and application of a primary assessment tool. This is in a form of a matrix of environmental impacts which was used to screen each constituent activity for all potential interactions with each aspect of the environment. The environmental and social impacts of the project are identified and assessed according to a simplified version of impacts identification matrix, which describes the significance of the impacts according to the following attributes:

- Nature: Positive (impacts that positively alter one or more environmental or social aspect within the project's area of influence) or Negative (impacts that negatively alter one or more environmental or social aspect within the project's area of influence).
- Scale: The estimated size of the impact (e.g., the extent of the area impacted), assessed as Minimum, Low, Medium, or High.
- Frequency: The constancy or periodicity of the impact, assessed as Rare, Occasional, Frequent, or Constant.
- Significance: Describes the degree of change that the impact is likely to impart upon the resource / receptor. The Significance is determined as the product of the interaction of Scale and Frequency, as presented in Figure 5.1-1.

Scale	High	Moderate	Major	Major	Severe
	Medium	Minor	Moderate	Major	Major
	Low	Minor	Minor	Moderate	Major
	Minimum	Negligible	Minor	Minor	Moderate
		Rare	Occasional	Frequent	Constant
		Frequency			

Source: ERM Impact Assessment Standard (2012)

Figure A-1: Significance Categories of Impacts

268. The definitions of the above Significance categories of impacts are as follows:

- Negligible: The resource or receptor will essentially not be affected in any perceptible way or is indistinguishable from natural background variations.
- Minor: The resource or receptor experiences a noticeable effect, but the magnitude is sufficiently small (with or without mitigation).
- Moderate: The impact is within applicable standards but may range up to a threshold just below a legal limit.
- Major: A major impact either exceeds established standards or changes an environmental or socioeconomic aspect on a scale not previously observed in the project's area of influence.
- Severe: The impact significantly exceeds accepted limits or standards and presents material risk to the environment or human health.

269. The level of significance of the positive impacts were not assessed. It is sufficient to indicate that the activities will result in a positive impact, without characterizing the exact degree of positive change likely to occur.

270. The impacts were plotted in a matrix according to their significance, which allows prioritization of management actions during construction and operation. The matrix shows project activities along x-axis (columns) and components of the natural and social environment across the y-axis (rows). In each case, it indicates how the two interact, identifying sources of impact and their significance. The Impact Identification Matrix is provided in Annex 5.

271. In summary, for the proposed project, the significant impacts are limited to inconveniences such as noise, dust, solid and liquid waste, traffic, and health and safety concerns, which can be readily mitigated through proper planning and coordination.

2. Impact analysis

272. Environmental and social impacts are categorized as either primary or secondary. Primary impacts are those which are attributed directly by the project. Secondary impacts are those that are induced indirectly and typically include the associated investment and changed patterns of social and economic activities by the proposed action. These impacts arise during the preconstruction, construction, and operational stages of the project and can be categorized into reversible and irreversible impacts. Reversible and irreversible impacts are further categorized by significance of impact (Not significant, Low, Moderate and High) for identifying best possible remedial (mitigation measures) action to be taken. The impacts identified are also described according to their physical location. The impacts due to the proposed **5 subprojects** can also be categorized as:

- Short term, mainly the impacts during the construction period;
- Long term, mainly the impacts during the operation period;
- Permanent, special events mostly one-time impact

273. Although, in general, number of impacts have been identified according to each environmental aspect, it is necessary at this stage to identify the critical impacts that are likely to occur due to the proposed project in order to control them to the extent feasible.

274. Based on the Impacts Identification Matrix, further analysis of the impacts was evaluated according to the location of each impact, its potential significance and duration. Significance and the duration of impacts are judged based on existing environment data, established scientific knowledge and past experience with similar project. The nature and scale of the impacts is then determined in more detail, which summarizes the type of impacts likely to be associated with each activity in the project under each environmental aspect. This forms the basis for the discussion of impacts throughout the Section 5.3 below. This discussion under each environmental aspect, considers the impacts first in terms of the project activities, and then in terms of the main baseline parameters, which can be cross-referenced to ensure that all potential impacts are captured. Subproject site-specific environmental impacts and corresponding mitigation measures are discussed, where applicable, with particular reference to concerns identified based on the baseline environmental conditions and sensitivities of each site.

B. Environmental Impacts and Mitigation During Pre-construction

275. Some of the environmental impacts due to the proposed project could be avoided and mitigated during the design and pre-construction phase as discussed below.

1. Removal of trees

276. Removal of trees and vegetation may lead to increased disaster-related risks such as soil erosion and landslides, disturbance to existing drainage patterns, reduced ventilation and shading, and loss of aesthetic value and greenery within the area. These impacts are of particular concern at the **Kegalle** site due to potential landslide susceptibility, while at the **Mullaitivu** and **Matale** (Dambulla) subprojects, existing drainage conditions may be affected.

277. Mitigation Measures:

- Minimize the loss of trees and vegetation by exploring alternative design options;
- Obtain required approvals from the relevant authorities;

- Remove only ground cover, shrubs, and trees that directly affect the permanent or necessary temporary works;
- Conduct awareness programs for the workforce on the importance of vegetation conservation.

2. Shifting of utilities

278. Shifting of utilities including water supply and sanitation services, electricity lines, and drainage structures may result in temporary disruption to water supply and sewer pipes, drainage structures, and electric poles and wires. These impacts are of particular concern at the **Kegalle** and **Batticaloa** sites where existing utility and drainage connections are present within the proposed development areas.

279. Mitigation Measures:

- Plan the shifting of utilities and drainage structures well in advance of site clearing;
- Provide alternative or temporary service arrangements to minimize impacts on users, where required.

3. Access Interruptions

280. Movements of nearby residents and users may be affected during construction activities due to temporary access restrictions and movement of construction vehicles within the site and surrounding areas.

281. Mitigation Measures

- Coordinate and plan all activities thoroughly before commencing construction works;
- Ensure that no facility or service is discontinued due to construction works, and provide prior notice to users;
- Install temporary wayfinding boards to guide users and nearby residents.

4. Site Mobilization

282. The impacts during pre-construction activities include impacts due to mobilization, site clearance, and land preparation. The anticipated impacts and mitigation measures proposed for the impacts due to allocation of space for storage yard for construction material, labor camp, project office requires additional space.

283. Mitigation measures:

- Adequate provision should be made on site to mobilize the construction equipment.
- Siting of the construction camp shall be as per the guidelines below and details of layout to be approved by Sub-PIU.
- Potential sites, within the plot, for the labor camp will be lined up to be visited by the environmental expert of PMU.
- Construction camp sanitation facilities shall be adequately planned. Selection of local unskilled and skilled workers for the proposed construction activities can reduce the requirement of land for labor camps.
- Use local materials as much as possible to reduce the need for storage space.

C. Environmental Impacts and Mitigation During Construction

284. The following section discusses the environmental issues associated with the construction of the elderly care facility. Table 5.3-1 presents the corresponding mitigation measures during the construction period of the subprojects. Subproject site-specific impacts and mitigation measures are discussed in the relevant sections.

1. Demolition of Existing Buildings: Waste Management

285. Spoil material generated from demolition, cutting, breaking, and grinding works during building construction activities may lead to accumulation of construction and demolition waste on-site. If not properly managed, this can obscure the site environment, reduce working efficiency, and create safety hazards such as slipping and obstruction of movement for workers. It may also lead to dust generation and visual pollution affecting nearby receptors.

286. At the **Kegalle** subproject site, there are four (4) existing buildings identified for demolition (Figure 5.3-1(a)). These structures are generally dilapidated and require removal to facilitate the proposed development of the elderly care facility.

Two (2) existing buildings within the **Batticaloa** subproject site have been identified for demolition (Figure 5.3-1(b)). The buildings are currently vacant and will be demolished to facilitate the construction of the proposed elderly care facility.



Figure C-1: Buildings to be demolished at Kegalle & Batticaloa Subproject Sites

2. Demolition of Existing Buildings: Health and Safety Concerns for Workers and Community

287. Building demolition activities involve high-risk operations such as structural breaking, manual dismantling, and use of heavy machinery. Without proper safety controls, there is a risk of falling debris, structural collapse, and accidental injuries to workers. Nearby communities and

building users may also be affected if unsafe zones are not properly secured and access is not controlled.

3. Demolition of Existing Buildings: Asbestos Management

288. Out of the selected sites, only Batticaloa and Kegalle subprojects have existing buildings to be demolished. However, initial survey showed that none of them has asbestos roofing. The following discussion is applicable for sites having existing buildings with asbestos roofing sheets. Demolition of these buildings will require proper handling of asbestos roofing sheets: The Blue asbestos (or crocidolite) has been banned in Sri Lanka since 1997 but white asbestos (or chrysotile) is still being used as means of strengthening cement-based roofing sheets all around the country. Asbestos products are manufactured and used in Sri Lanka in the construction and automobile industries. Asbestos and asbestos-containing materials (ACM) will not be procured in this project.

289. According to the Fibre Cement Products Manufacturers Association (FCPMA) of Sri Lanka, asbestos cement (AC) roofing sheets are manufactured in Sri Lanka with a combination of 92% cement and water and the rest 8% of chrysotile fibre to provide strength to the sheet which complies with SLS9', ISO 14000, ISO 9001 and OHSAS 18001 quality standards. AC roofing sheets, commonly used in Sri Lanka and elsewhere, are bonded asbestos products. This suggests that these common AC roofing sheets (bonded, with a maximum asbestos content of 8%) do not fall under the ADB Prohibited Investment Activities List (item viii and footnote 12, which refer to unbonded asbestos with a content exceeding 20%).

290. ADB's Good Practice Guidance (GPG) for the Management and Control of Asbestos: Protecting Workplaces and Communities from Asbestos Exposure Risks 2022 aims to raise awareness of the risks of occupational asbestos exposure and how to address them. The GPG provides high level guidance on (among others): the duties of employers, workers/subcontractors, asbestos contractors and vendors; training requirements for working with asbestos; identification of asbestos; safety in the use of asbestos; managing the risks of asbestos removal; and managing asbestos waste - all of which are applicable for the relevant subproject sites.

291. A detailed asbestos management procedure has been developed and followed during any subproject site with buildings having asbestos roofs to ensure safe handling and regulatory compliance according to the Guidelines for the Management of Scheduled Waste in Sri Lanka published under the National Environmental (Protection & Quality) Regulations No. 01 of 2008 and the ADB Good Practice Guidance for the Management and Control of Asbestos: Protecting Workplaces and Communities from Asbestos Exposure Risks 2022. The disposal of asbestos sheets will strictly follow the relevant guidelines and the recommended safety precautions as per the GPG etc. Annex 6 provides a Guidelines for Asbestos Cement Containing Material Management including handling and disposal of Asbestos Cement roofing sheets during subproject works where applicable.

- During demolition of asbestos cement roofs, special precautions will be taken and strictly follow the guidelines of the ADB's Good Practice Guidance for the Management and Control of Asbestos: Protecting Workplaces and Communities from Asbestos Exposure Risks 2022¹², specially the sections; duties of employers, workers/subcontractors, asbestos contractors and vendors; training requirements for working with asbestos;

¹² Asian Development Bank (ADB). 2022. [*Good Practice Guidance for the Management and Control of Asbestos: Good Practice Guidance for the Management and Control of Asbestos Protecting Workplaces and Communities From Asbestos Exposure Risks.*](#)

asbestos risk assessment; managing asbestos exposure risks; safety in the use of asbestos; managing the risks of asbestos removal; and managing asbestos waste etc.

- Obtain the services of a qualified asbestos management professional prior to the commencement of building demolition works at subproject sites where asbestos cement roofing sheets are present;
- Provide covers properly and temporarily store at the premises until taken away for the disposal through scheduled waste management service providers registered under CEA.

4. Site Preparation Activities

292. Site preparation for building construction typically involves vegetation clearing, topsoil removal, cutting, filling, and levelling operations. These activities generate dust emissions, noise from machinery, and construction waste, which can affect surrounding sensitive receptors residential areas, and public facilities. Such impacts are commonly observed in urban building construction projects where sites are located close to active land uses, **Matale** subproject (Dambulla site) in particular.

5. Slope Instability and Soil Erosion

293. **Kegalle** subproject site consists of sloping terrain with a combination of relatively flat areas and sections with varying gradients. Therefore, during building construction, excavation, deep foundation works, cutting and filling activities, and removal of vegetation may expose soil surfaces and alter existing ground conditions. These activities may result in slope instability, localized ground failure, and soil erosion, particularly in areas with steeper gradients. In addition, sediment runoff from exposed surfaces may affect adjacent properties, drainage systems, and downstream areas if not properly managed during construction activities.

6. Drainage Issues

294. Building construction activities such as excavation for foundations, installation of underground services, and temporary site access roads may obstruct existing drainage networks. This can reduce stormwater flow capacity, cause water stagnation within the site, and increase the risk of localized flooding. Improper diversion of drainage during construction is a common issue in urban building projects.

7. Water Quality Impacts

295. Construction activities may generate wastewater, runoff from exposed soil, and accidental spills of fuel, oil, and chemicals used in building construction machinery. These pollutants can enter nearby drainage systems or surface water bodies, leading to deterioration of water quality through increased turbidity, contamination, and sedimentation.

296. At the **Matale Subproject** site in Dambulla, a drainage channel runs along the eastern boundary, outside of the site. Wastewater, sediment-laden runoff, or stormwater generated during construction activities may enter and pollute this water body. Therefore, adequate mitigation measures shall be implemented during the construction phase to prevent contamination and minimize potential impacts on water quality.



Figure C-2: Nearby drainage path at Matale Subproject Site

8. Impacts on Air Quality

297. Air quality impacts during building construction typically arise from excavation works, material handling, vehicle movement, and operation of diesel-powered equipment such as excavators, cranes, and generators. These activities generate dust and exhaust emissions, which can affect surrounding air quality, particularly in densely built-up urban environments.

9. Noise and Vibration

298. Building construction activities such as piling, demolition, excavation, and operation of heavy machinery generate high levels of noise and ground vibration. These impacts may disturb nearby sensitive receptors including residential buildings, and in some cases may cause structural vibrations in adjacent buildings if not properly managed.

10. Waste Generation: Construction Related Waste

299. The proposed building and associated facility construction activities will generate various waste streams, including construction debris, concrete waste, timber offcuts, spoil soil, packaging materials, and domestic waste from labor camps and workers' accommodations. If not properly handled and disposed of, these wastes may create environmental pollution, unsanitary conditions, pest infestations, and visual disturbances within and around the construction site. Labor camps, garbage bins, and material storage yards may also provide favorable habitats for disease vectors such as mosquitoes and rats, while decaying waste can attract pests including flies and rodents, creating unhealthy and unpleasant site conditions.

300. Therefore, proper solid waste management practices should be established at the site, including provision of adequate waste bins with standard color coding, source segregation, collection, reuse where possible, and disposal in coordination with the relevant LA using existing off-site disposal or composting facilities. On-site composting is not recommended, as it may attract pests and vectors such as monkeys, rats, flies, and mosquitoes.

Biodegradable	Paper	Glass	Plastic	Metal	Hazardous Waste
Green	Blue	Red	Orange	Brown	
					

301. **Recycle / Reuse.** Recycling will minimize the natural resources and energy spent on the production of raw materials. The project will establish a separate storage for recyclables and reusables. There are many options available for the recycling of paper, plastics and glass and the project management intends to create links with buyers in the province with the assistance of the CEA. List of Registered Collectors of Non-Hazardous Recyclable Waste in Sri Lanka as published in the CEA web site:

https://www.cea.lk/web/images/pdf/2026/HWM/collector_web_31.03.2026_1.pdf.

302. Minimal quantities of hazardous waste, such as waste paint, unused or waste chemicals used in construction, empty paint, adhesive and solvent containers, and waste lubricants/oils from construction equipment maintenance, may be generated during construction activities. In addition, electronic waste (e-waste), such as used batteries, computer accessories, electrical and electronic equipment, and related components, may also be generated. These hazardous wastes shall be collected, stored, and managed separately from other waste streams. Hazardous waste shall be handed over only to CEA-authorized hazardous waste management facilities. E-waste shall not be mixed with other types of waste and shall be handed over to designated collection centres or licensed e-waste recycling/recovery organizations. Authorized Hazardous Waste Management Facilities in Sri Lanka including Licensed Collectors of Electronic Waste Management in Sri Lanka as published by the CEA website:

https://www.cea.lk/web/images/pdf/2026/HWM/Waste_Management_Facilities_16.06.2026.pdf

303. Waste oil is another common type of scheduled waste, collected and disposed through third party collectors. List of Licensed Waste Oil Collectors in Sri Lanka as published in the CEA website:

https://www.cea.lk/web/images/pdf/2025/Wastemgmt/Waste_Oil_Collectors_List_.pdf

304. The use of asbestos containing materials, particularly asbestos cement roofing sheets and ceiling materials, is not recommended for the construction of the proposed elder care centers. Suitable non-asbestos alternatives shall be used instead.

11. Sourcing and Supply of Construction Materials

305. Transportation of construction materials such as cement, sand, aggregates, steel, and prefabricated components to building sites may lead to traffic congestion and temporary obstruction of access roads. This is particularly relevant in urban building construction where site access is limited and road networks are heavily used.

12. Occupational Health and Safety

306. The proposed building and related facilities construction sites involve some activities with potential O&HS concerns such as working at height, excavation, lifting operations, electrical installations, and use of heavy machinery. These conditions expose workers to risks including falls, electrocution, crushing injuries, and exposure to hazardous substances if proper safety procedures are not implemented.

13. Community Health and Safety

307. Construction of buildings in populated areas may restrict access to nearby facilities and create safety risks due to open excavations, movement of construction vehicles, falling objects, dust, and noise. These impacts can affect surrounding residents and road users in general,

particularly when construction activities take place within active institutional environments, such as the existing elderly home at the **Dambulla** subproject site.

Table C-1: Summary of Environmental and Social Impacts and Mitigating Strategy

E&S Impacts	Mitigating strategy
Demolition of existing buildings: Waste management	• Dispose of solid waste and sewage in accordance with relevant guidelines and with the assistance of the local authority. • Identify disposal locations before commencing demolition activities with coordination of DS. • Demarcate a designated area within the construction premises for waste collection until disposal. • Implement waste minimization practices, including reuse as filling material and recycling. • Prohibit open burning of any demolished material, both on-site and off-site.
Demolition of existing buildings: Health and Safety concerns for the workers and community	• Restrict the demolition area with barriers and install clear signage to prevent unauthorized access. • Carry out demolition activities at a convenient time with minimal disturbance, in consultation with nearby community. • Ensure that any electrical systems in the demolition area are switched off and isolated before commencing work. • Require workers to adopt safety measures and wear appropriate protective gear. • Erect dust screens if necessary, depending on the scale of the demolition.
Site preparation activities: clearing and land preparation, cutting and levelling	• Implement erosion control measures during land preparation, cutting, and filling within the site. • Avoid land clearing during rainy periods where possible. Divert surface runoff away from the site or construction area and channel drainage through silt traps if needed. Compact any loose soil as soon as possible. • Cover all spoil, topsoil, demolition waste, and cut vegetation with secure tarpaulins when stored on-site or transported off-site to prevent wind dispersal.
Slope instability due to exposed slopes, cutting and filling operations, altered landscape, removal of trees, roots, and trunks, drainage modifications, and modified flow patterns etc.	For Slope Instability: • Obtain recommendations from the National Building Research Organization (NBRO) for constructions in landslide-prone or potential slope stability areas to minimize risk. • Maintain buffer zones / reservation areas for sensitive parts of the land. • Consider medium- to long-term slope stability when selecting sites for treatment plants and project interventions, particularly in sloping terrain. • Avoid land clearing at sites with vertical relief to prevent slope instability, especially during rainy seasons. • Implement slope reinforcement techniques, such as retaining walls or terracing, to enhance stability. • Design proper drainage systems to manage surface water and prevent water-induced slope failure. For Soil Erosion and Sedimentation: • Install silt fences and sediment traps to prevent sediment from reaching water bodies. • Divert surface runoff away from disturbed areas to minimize erosion. • Revegetate disturbed areas promptly to stabilize the soil and reduce erosion. • Cover stockpiled materials to prevent them from being dispersed by wind or water.

E&S Impacts	Mitigating strategy
Drainage issues	▪ Ensure that drainage systems are designed and implemented separately for construction activities, preventing wastewater and runoff from affecting existing drainage. ▪ Maintain clear segregation of construction-related drainage and existing drainage systems to prevent cross-contamination. ▪ Do not discharge stormwater runoff from the work site directly into nearby streams or water bodies without passing through adequately designed catch pits or sediment control measures. ▪ Regularly inspect drainage systems to ensure they are functioning properly and do not allow construction waste to enter nearby streams.
Water quality impacts	▪ Washing of vehicles which are used to transport ready mix concrete etc. to the site will be avoided as much as possible specially during rainy season. ▪ The wastewater from washing of concrete mixers will be collected in separate pits and let it soak into the ground. ▪ The construction wastewater if any from the site will be directed to a settling pond as appropriate. ▪ Waste cement slurry will be collected and disposed within site or to an outside location with the coordination of LA. ▪ All discarded and used oil and lubricants will be collected, properly stored and disposed (reuse / sell). ▪ All potentially water polluting chemicals and oils will be stored (a) at locations sufficiently away from the storm water drainage paths and (b) in a manner that would minimize chances of spillage. ▪ Minimize the oil and chemical spillages and properly maintain the equipment and machinery. ▪ Ensure that drainage systems are properly designed to prevent contamination of water sources from construction activities. ▪ Monitor surface runoff and implement hydrological modifications to control water quality impacts.
Impacts on Air quality	▪ Erect effective dust barriers to prevent dust from being blown towards surrounding. These barriers should also serve as noise/dust containment and fencing for safety. Louvres/ pergolas of nearby buildings must be temporarily covered with polythene sheets until construction work is completed. ▪ Clean the site daily, particularly surfaces affected by soil and dust. Carry out regular watering at least twice a day (mid-morning and mid-evening) for dust suppression on the construction site and access roads. ▪ Cover excavated soil temporarily stored on-site with tarpaulins or other suitable materials to prevent dust particles from becoming airborne. ▪ Store construction stockpiles and debris piles away from the surrounding residential areas, where possible. ▪ Ensure that any equipment and machinery using diesel are properly maintained to control emissions. The contractor must ensure that vehicles entering the site have obtained Vehicle Emission Certificates.
Noise and vibration	▪ Ensure that construction work, vehicles, and equipment used in construction meet CEA standards for noise and vibration in Sri Lanka. ▪ Schedule high noise-generating activities after informing and obtaining consent from the surrounding communities and authorities.

E&S Impacts	Mitigating strategy
	▪ Erect noise barriers if needed to reduce high noise levels; alternatively, the contractor can use a delineated barrier that serves dual purposes of dust/noise containment and safety. ▪ Restrict the use of noisy machines and, where possible, implement noise-reducing measures for construction machinery. ▪ Conduct construction activity between 8:00 am and 6:00 pm daily to avoid discomfort caused by noise and vibration to in-patients and the surrounding neighborhood. ▪ If nighttime construction activities are unavoidable, ensure they are carried out using noise-reducing means or low-noise technologies. ▪ Liaise with nearby community regarding work schedules and provide prior notices of noise-generating activities to avoid confusion. ▪ Conduct a condition survey (crack survey) of existing nearby structures, to assess their condition prior to vibration-causing activities such as piling, excavation etc. ▪ Comply with the Interim Standard on Vibration Pollution Control for Sri Lanka. ▪ Ensure that if vibration causes structural damage to nearby structures, the contractor is responsible for rectifying such damage
Waste generation: construction debris and waste generated from labor camps, officer's accommodations	<u>Labor Camps and Domestic Waste:</u> ▪ Consult the LA at the onset of the activity regarding waste collection and disposal. ▪ Obtain approval from the Sub-PIU for the location of labor camps, ensuring compliance with guidelines and recommendations issued by the CEA and LAs. ▪ Provide proper solid waste disposal, sanitation, and sewerage facilities (drinking water, urinals, toilets, and washrooms) at the construction site and labor camps. ▪ Provide garbage bins at all worker-based camps and construction sites, and ensure regular disposal in a hygienic manner under the supervision of the Public Health Inspector (PHI). ▪ Waste containers shall be strategically placed in visible locations, clearly identified and marked for recyclables, organic waste, disposable waste, paper, glass, etc., and shall be properly covered. ▪ Educate employees on segregation of waste with demarcated bins for recyclables and perishables placed in common areas. ▪ Dispose of sewage collected in labor camps in accordance with relevant guidelines and with the assistance of the LA. <u>Construction Related Waste:</u> ▪ Seek approval from the DS for the storage and disposal of spoil material and other gravel. ▪ Ensure that the disposal site selected by the contractor is not located near public or environmentally sensitive areas. ▪ Reuse all debris and residual spoil materials generated from construction activities wherever possible. ▪ Collect and separate on-site recyclable materials from other waste. Collected recyclable material shall be re-used or sold to a waste collector for recycling with the assistance of the CEA. <u>Scheduled (Hazardous) Waste:</u> ▪ Ensure collection of waste oil, lubricants, and cleaning materials, properly labelled and stored separately from other solid waste with appropriate warning signs.

E&S Impacts	Mitigating strategy
	▪ Provide oil and grease traps at vehicle, machinery, and equipment maintenance areas and ensure regular disposal and removal. ▪ Recycle used oil and grease to the extent possible through a used oil recycling company approved under the CEA. ▪ Collect e-waste generated during construction and store at designated place at the site. ▪ Hazardous waste materials/substances shall not be mixed with other wastes and shall be collected separately as per the Guidelines for the Management of Scheduled Waste in Sri Lanka in accordance with the National Environmental (Protection & Quality) Regulation No. 01 of 2008. Disposal shall be carried out with the assistance of the Hazardous Waste Management Unit of the CEA.
Sourcing and supply of construction materials	▪ Purchase construction materials only from approved suppliers with the necessary approvals. ▪ Ensure that construction materials and machinery are placed in a manner that does not block roads, paths, or local access points. ▪ Unload construction materials in a way and at times that do not block roads, paths, or access. ▪ Prohibit the placement of waste on the road.
Occupational health and safety	▪ Ensure a safe construction site by: (i) Maintaining fully functional and well-kept equipment. (ii) Providing emergency equipment and safety warnings. (iii) Equipping workers with personal protective equipment (PPE) and enforcing strict safety practices with proper supervision, monitoring, and feedback. ▪ Provide workers with first-aid and health facilities. Train supervisors in first aid. ▪ Conduct occupational health and safety training programs for workers. ▪ Keep machinery and equipment prone to electrocution in a secure area within the site, under the supervision of an experienced worker. Conduct regular safety checks for vehicles, equipment, and labor huts. ▪ Assign responsibilities to relevant personnel. Enforce a strict prohibition on alcohol and narcotic substances that could impair workers' judgment during construction activities. ▪ Barricade excavated areas using barricading tapes and signboards. Ensure work at higher elevations is carried out and supervised by experienced workers
Community health and safety	▪ Demarcate the construction site using barricading tape or other suitable materials to create a physical separation. ▪ Provide a safe pedestrian pathways where applicable in case of access roads are blocked. ▪ Place warning signboards and directional signs for detours in both local languages at prominent locations, using large-sized lettering. Ensure the safety of peripheral areas and access paths at all times by maintaining non-slippery surfaces, clearing obstructions, and keeping the site clean and well-managed. ▪ Notify surrounding community and road users about the construction schedule, highlighting particular hazards, noise, and dust episodes. ▪ Prohibit parking of concrete mixer trucks and other construction vehicles outside the work site premises, especially on narrow or busy access roads. ▪ Rehabilitate storage areas, temporary offices, labor camps, access roads and paths to their original conditions upon completion of construction.
Physical Cultural Resources	▪ Obtain prior approval from Department of Archaeology where applicable. ▪ All the staff and laborers of the contractor should be informed about the possible items of historical or archaeological value, which include old stone foundations,

E&S Impacts	Mitigating strategy
	tools, clayware, etc. If something of this nature is uncovered, the Department of Archaeology shall be contacted, and work shall be stopped immediately. The chance finds procedure of archaeological and cultural artefacts should be established.

D. Environmental Impacts and Mitigation – During Operation

308. The anticipated environmental and social impacts during the operation phase of the proposed elderly care facilities are mainly associated with solid waste management and sanitation facility management, and potential risks from natural hazards. Adequate waste and wastewater management measures should be implemented throughout the operational phase. Given the vulnerability of elderly residents, the facilities should also establish and maintain emergency response preparedness procedures for natural hazard events.

1. Waste management

309. Lack of proper management of domestic waste generated from the facilities may create unhealthy and unpleasant conditions within the premises and increase risks to health. Inadequate solid waste management practices may also result in accumulation of waste within the site, creating favorable conditions for the breeding of vectors such as mosquitoes, flies, and rats, thereby increasing the risk of disease transmission. Therefore, proper waste collection, source segregation, temporary storage, regular collection, and disposal arrangements should be maintained in coordination with the relevant LA.

310. Mitigation measures:

- Ensure demarcated solid waste storage area with source separation for organic waste and other domestic non-organic waste.
- Provided adequate number of common disposal bins in such a manner to avoid nuisance and aesthetically acceptable.
- Place separate bins for food wastes at kitchen, dining areas; recyclables: paper, cardboard, polythene, plastics and glass and other wastes.
- Establish a separate storage for recyclables and reusables. Create links with buyers with the assistance of the CEA for the recycling of paper, plastics and glass etc.
- Collect food waste and garden waste, such as grass and leaves and sent to the compost yard operated by the relevant LA at a prior identified frequency.
- Collect disposable (non-biodegradable and non - recyclable) fraction of solid waste daily basis and stored in a main collection point and dispose with the assistance of the LA at a prior agreed frequency.
- Adhere to CEA guidelines of solid waste collection and disposal.
- If any healthcare waste generated at the facility, such waste will be collected securely and disposed through healthcare waste management service providers registered under CEA
- Educate employees and users on the waste management process at facility.

2. Sanitation and Sewage Disposal

311. Operation of sanitation and sewage disposal systems may also create environmental and health risks if not properly managed. Leaking sewer lines and septic tanks may contaminate soil and groundwater resources and pose health risks to residents, workers, and nearby communities. Inadequate treatment or disposal of domestic wastewater may further result in unsanitary

conditions and related health issues. Therefore, all sewage and wastewater management systems should be properly designed, regularly maintained, and periodically inspected to prevent leakages, blockages, and environmental contamination.

312. Mitigation measures:

- Ensure that domestic wastewater is directed to properly designed and suitable collection and treatment facilities, such as septic tanks and soakage pits, in compliance with relevant LA and CEA guidelines.
- Sewage is collected, treated, and disposed of through suitable collection and treatment facilities in accordance with applicable standards and relevant guidelines, with the assistance of the relevant LA.
- Maintain and regularly inspect sewage collection and treatment facilities with the assistance of the relevant LA to ensure proper operation and prevent leakages, blockages, and environmental contamination.
- Educate employees and users on the sanitation and sewage management process at facility.

3. Natural Hazards

313. The potential exposure and vulnerability of each subproject location to key climatic hazards were assessed considering regional and site-specific conditions, including the location characteristics, surrounding environment, and potential impacts on access and other infrastructure facilities. The relative level of risk associated with each hazard was classified using the following scale: **No** → **Unlikely** → **Low** → **Moderate** → **High** → **Severe**. The assessment results for the five subprojects are presented in the Table 5.4-1.

Table D-1: Disaster vulnerability of subprojects

Disaster Type	Kilinochchi	Mullaitivu	Matale (Dambulla)	Kegalle	Batticaloa
Cyclones	High	High	Moderate	Unlikely / Low	High
Extreme rainfalls	High	High	Moderate	High	High
Floods	Low	Moderate	Moderate	Moderate	High
Landslides	No	No	Unlikely	High	No
Extreme droughts	High	High	Moderate	Low	High
Tsunami	No	No	No	No	High / Severe

314. The District Disaster Management Unit serves as the lead agency for disaster management activities in each District. It is responsible for coordinating and implementing district and divisional level programmes aimed at reducing disaster risks through the active participation of relevant stakeholders. The Unit works closely with Divisional Secretariats, the Tri-Forces, and other line agencies to undertake disaster preparedness, response, and risk reduction activities, ensuring the safety and well-being of communities during disaster situations. To strengthen coordination and facilitate the effective implementation of Disaster Management Centre (DMC) programmes, Disaster Management Committees have been established at the district, divisional, and GND levels. These committees play a key role in coordinating and implementing Disaster Risk Reduction (DRR) activities at the local and regional levels.

315. Each Elderly Care Centre shall adopt and implement the government disaster management plans from the commencement of its operations. Necessary assistance and technical guidance from the DMC and the respective District and Divisional Secretariats shall be obtained to develop site-specific Emergency Preparedness and Response Plans. These plans shall include provisions for emergency communication, early warning systems, evacuation procedures, emergency response arrangements, identification of assembly points, availability of emergency equipment, and coordination mechanisms with relevant authorities and local emergency services. The existing government procedure in disaster management according to the Disaster Management Plan (2023-2030) is given in Annex 7.

E. Environmental Impacts and Mitigation Measures for Livelihood Activities under Output 1

1. Overview

316. The livelihood activities supported under Output 1 are expected to be small-scale and dispersed across the six (6) districts, namely Matale, Kilinochchi, Mullaitivu, Kegalle, Batticaloa and Nuwara Eliya. As the specific activities will only be identified during project implementation, a framework approach has been adopted. Environmental screening procedures will be applied prior to approval of livelihood grants or livelihood investments to identify potential risks and determine appropriate mitigation measures.

317. Environmental impacts associated with livelihood activities are expected to be minor, site-specific, and readily manageable through good environmental practices. No significant, irreversible, cumulative, or large-scale environmental impacts are anticipated.

2. Potential Environmental Impacts

318. **Solid Waste Generation.** Certain livelihood activities, including food processing, retail trade, and small-scale enterprises, may generate solid waste such as packaging materials, organic waste, and discarded materials. Improper disposal of such waste may create localized nuisance conditions and contribute to environmental pollution. Mitigation measures include source segregation, reuse and recycling where feasible, and disposal through local authority-approved waste management systems.

319. **Wastewater Generation.** Some livelihood activities may generate domestic or process wastewater. Uncontrolled discharge of wastewater may contaminate surrounding land and drainage systems. Beneficiaries will be required to manage wastewater in accordance with local authority requirements and ensure that wastewater is not discharged directly into watercourses, wetlands, or drainage canals.

320. **Occupational Health and Safety.** Livelihood activities may expose beneficiaries to occupational hazards associated with machinery, tools, chemicals, or agricultural inputs. Appropriate training shall be provided on safe work practices, use of personal protective equipment, safe handling and storage of chemicals, and emergency response procedures.

321. **Community Health and Safety.** Small enterprises may result in localized traffic, noise, dust, or waste-related nuisances if not properly managed. Beneficiaries shall ensure that activities do not adversely affect neighboring households or communities and that waste, noise, and safety risks are minimized.

3. Environmental Screening and Eligibility Criteria

322. All proposed livelihood activities shall undergo environmental screening using the project Environmental Screening Checklist (Annex 11). The checklist is a draft and will be further developed by the PMU, with support from the PMC and in consultation with the Samurdhi Development Officers (SDO).

323. Activities with potentially significant adverse environmental impacts shall not be eligible for project support. The following activities shall be excluded:

- Activities included in the ADB Prohibited Investment Activities List;
- Activities located within protected areas or environmentally sensitive habitats;
- Activities requiring significant vegetation clearing, forest conversion, or wetland modification;
- Activities involving hazardous chemicals beyond normal household or agricultural use;
- Activities requiring an environmental impact assessment under applicable national regulations; and
- Activities involving significant pollution, extraction of natural resources, or large-scale livestock production.

VI. ANALYSIS OF ALTERNATIVES

A. Site Alternatives

324. The project concept is based exclusively on defined. The project will focus on five (5) of the 12 ADB-supported pilot districts - Matale, Kilinochchi, Mullaitivu, Kegalle, and Batticaloa. Under Output 2, it is focused on establishing Model Elderly Care Centers and improving facilities, services, and standards for elderly care. At present, a total of 12 suitable sites have been identified from the selected districts, from which five (5) sites have been shortlisted. The five (5) subprojects are: Matale subproject, Kilinochchi subproject, Mullaitivu subproject, Kegalle subproject, and Batticaloa subproject. Of these, at least two (2) sites will be selected for advance actions i.e., finalization of detailed design of elderly care centers, preparation and posting of bidding documents for the civil works prior to program effectiveness.

B. Design Alternatives

325. Design alternatives for the proposed elderly care facility have been considered to optimize site utilization, minimize environmental and social impacts, and ensure user-friendly and accessible infrastructure for elderly residents. Alternative building orientations, spatial layouts, and circulation patterns have been evaluated to reduce disturbance to surrounding areas, improve natural ventilation and lighting, and enhance safety and comfort for users. Preference is given to designs that minimize earthworks, reduce tree removal, ensure efficient drainage, and maintain compatibility with the existing site context. The selected design will also ensure barrier-free access, ease of movement for elderly persons, and efficient provision of essential services while minimizing construction-related impacts.

C. No Action Alternative

326. The proposed project is expected to deliver significant environmental, social, and economic benefits as described in Chapter 1. If the project is not implemented, all of the above-mentioned benefits will not be realized by the country or its people, particularly the target beneficiary groups. Therefore, the “with project” alternative is clearly favorable and easily justifiable over the “no project” alternative.

VII. INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION

A. Information Disclosure

327. Disclosure of project-related information and potential impacts is essential for enabling stakeholders, i.e. the respective public facility's staff and users to recognize and understand the risks and implications of the project. Such disclosure, including documented in reports, notices and signboards should be made in a place, language, and format that are accessible and understandable to users of existing facility and other stakeholders. This process begins early in the project cycle and continues throughout the life of the project.

328. Highly technical reports such as IEE may not meet the information needs of the stakeholders. Key findings of the environmental assessment (including the proposed project facilities and activities and their locations and duration, any impacts or risks to users of existing facility, and relevant mitigation measures, consultation process, and grievance mechanisms etc.) may best be communicated in summary form through printed materials such as brochures, leaflets, or booklets, written in plain language understandable to the stakeholders and communities near the subproject premises. In areas where some communities and stakeholders may be illiterate, non-written communication methods such as verbal presentations in community meetings, pamphlets, and signs with pictorial illustrations may be utilized.

329. All environmental assessment and monitoring reports, once approved, will be disclosed on the ADB website as well as on the project website and relevant pages of the Ministry and NSE websites. While disclosure of each subproject-related information is neither mandatory nor common under the local regulatory framework, it is standard practice for internationally donor-funded projects. Ministry and NSE are already familiar with this process and capable of meeting the requirement without the need for additional training. Effective coordination between project staff and the personnel or administrators managing the respective websites will be essential to ensure smooth and timely implementation of the disclosure process.

330. During construction works, contractors, in coordination with Sub-PIUs as applicable, shall disclose timely and accessible information to users of stakeholders, public facility staff, and users regarding work schedules, site layouts, planned activities, and any expected disruptions. The executive summary of the IEE translated into local languages will be disclosed at the construction sites. Such information may be shared through consultation meetings, public notices, or on-site displays. Regular updates on progress and schedule changes are essential to maintain transparency, minimize disturbance, and prevent potential conflicts. This disclosure also plays a critical role in strengthening safety awareness, particularly in relation to construction activities and electrical risks.

331. During the operation period, NSE, in coordination with facility staff, will share relevant information on project activities with stakeholders, including general public and users. Information will be disclosed through appropriate means such as leaflets, signboards, on-site notices, and consultation meetings. Timely and clear disclosure will help stakeholders anticipate any inconveniences, understand safety precautions, and stay informed about routine operational activities.

B. Consultation and Participation

332. Meaningful stakeholder consultation is vital during project preparation and will continue throughout implementation. It serves as a platform to inform the public and other stakeholders about the project, gather and integrate their views into subproject design, address implementation

issues, develop mitigation measures, identify benefits and opportunities, and strengthen coordination. All subprojects must therefore be prepared and implemented with the active involvement of public and relevant stakeholders.

333. Key stakeholders were consulted during the IEE study. These included general public, staff from the NSE and relevant DS. The consultations took place during site visits on;

- 20 March 2026 – Kilinochchi Subproject.
- 21 March 2026 – Mullaitivu Subproject
- 27 Mar & 21 May 2026 – Kegalle Subproject
- 30 Mar & 20 May 2026 – Matale Subproject
- 26 May 2026 – Batticaloa Subproject

334. These visits and stakeholder consultations were coordinated through the NSE elderly care officers of the respective District accompanied by the relevant officer from DS office. The attendance sheets of these public consultation sessions are given in Annex 9.

335. **Discussions, Questions and Answers.** In the meeting, the participants were informed of the proposed project and potential environmental impacts due to the project. Thereafter, time was allowed for questions and answers to facilitate interaction with the stakeholders, exchange of information, collect their opinion on the environmental issues and any other issues that needed addressing. The consultations were carried out in a free and friendly environment and through formal/informal meetings, focus group discussions, and interviews as deemed suitable. The outcomes of all consultations and stakeholders met, time and location were properly documented for any future references. Gender disaggregated information will be collected.

336. **Record of the Meeting:** General information of the participants such as Name, gender, and name of the organization the participant belongs to along with their signature was recorded during the public consultation meetings. Registration was kept voluntary. Almost all of the participants registered themselves.

337. **Summary of the collected feedback.** A total of over 100 stakeholders participated in public consultation meetings conducted across the four subprojects. Matters discussed and information was gathered on the following topics;

- Introduction to proposed elderly care facilities
- Perception of facilities to be provided and the layout options
- Perception of the location of the proposed facility
- Environmental concerns during construction
- Perception on ecology and biodiversity issue
- Perception of the infrastructure available such as connectivity to the site through the road network
- Perception of community benefits as result
- Environmental concerns during operation phase - perception of the solid waste management and housekeeping
- Perception of wastewater management



(a) Kilinochchi Subproject



(b) Mullaitivu Subproject



(c) Kegalle Subproject



(d) Matale Subproject



(e) Batticaloa Subproject

Figure B-1: Public Consultation Sessions

338. The following are the major points of concern of the participants of public consultation meetings:

- During construction, contractors will consult the administration and operational staff of respective public facilities when selecting sites for temporary construction facilities, prior to finalizing their locations. For all subprojects, contractors will provide advance notice to facility staff and users regarding the work schedule, site layout, and planned activities, including any expected disruptions to access roads or from storage areas. Such notification will be provided through consultation meetings, on-site notices, and other appropriate means. Advance notice will help minimize disruption, reduce disturbances, and prevent potential conflicts with users of respective existing facility.
- Contractors are also responsible for keeping staff, users, and relevant stakeholders informed of construction progress and any changes to schedules, particularly where activities take place adjacent to active work areas, access routes, or material storage locations. In addition, the NSE, Sub-PIUs, and contractors will conduct awareness-raising programs prior to the commencement of construction activities and again upon

completion, focusing on construction-related risks and other operational hazards for staff and users of the respective public facilities.

- During the operation period, in coordination with NSE staff, schedules and procedures will be communicated through consultations with users of facility, and staff. This communication will specifically address maintenance activities of the elderly care facilities.

VIII. GRIEVANCE REDRESS MECHANISM

A. Background

339. A grievance redress mechanism (GRM) will provide a structured process for receiving, evaluating, and resolving concerns, complaints, and grievances related to the social and environmental risks, impacts, and performance of the project. Through this mechanism, all issues raised by any person/s disturbed during the project implementation will be addressed in a timely and satisfactory manner.

B. Grievance Redress Mechanism Process

340. Prior to the commencement of the project implementation, the GRM will be fully established to manage environmental and social issues that may arise. The mechanism will operate under a two-tier system: site / PIU level and PMU level. A summary of the GRM is given in Table 8.2-1 and the GRM Process is depicted in Figure 8.2-1. The GRM will be implemented across all project components to address concerns from affected parties, including facility users, workers, and nearby communities. The GRM will address concerns from affected individuals, including facility users, construction workers, and local residents, in accordance with IEE provisions. Contractors must designate a GRM focal point to document complaints and shall take necessary actions immediately in resolution at the site level. Any aggrieved person may lodge a complaint on subproject-related matters using various channels, including verbal communication, e-mail, SMS/WhatsApp, phone calls, or written submissions. The complaint must be recorded in the site register, and the complainant must be acknowledged within 3-5 days of receipt. Information on the GRM channels will be published on the websites of the EA and IAs, as well as displayed on notice boards at relevant sites. ADB's access to information policy (AIP) which reflects ADB's ongoing commitment to transparency, accountability, and participation by stakeholders may be accessed in <https://www.adb.org/documents/access-information-policy>.

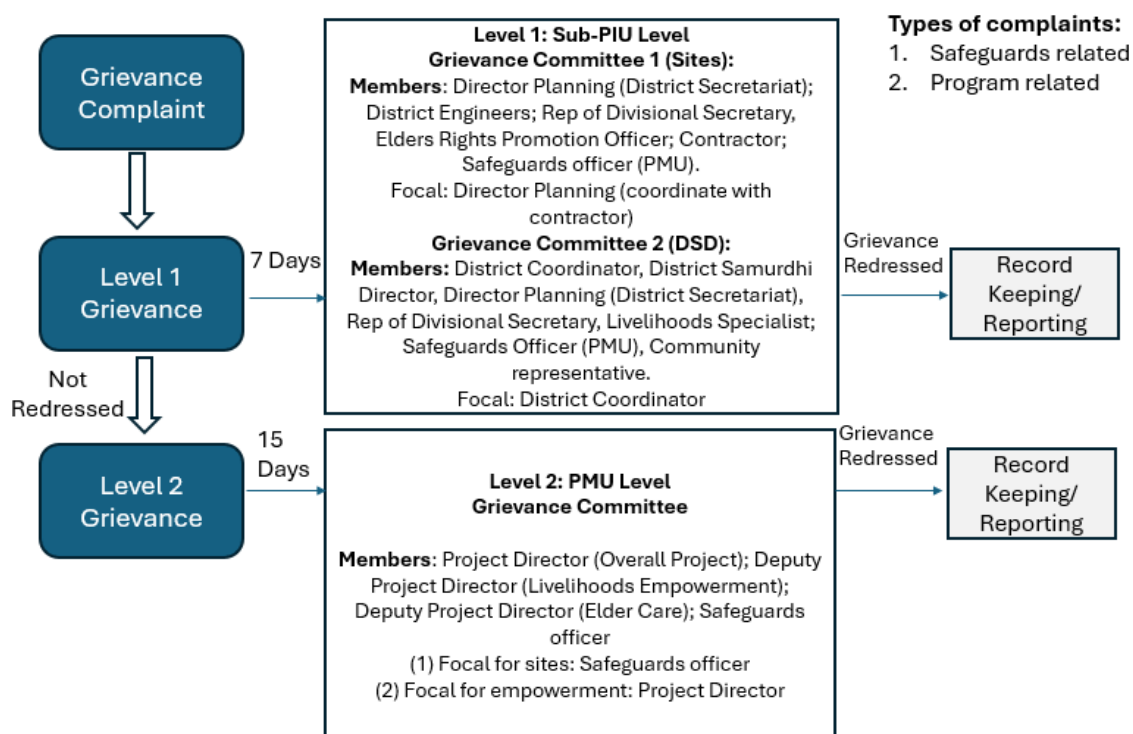
341. At the site level, the contractor, representatives of Sub-PIU, PIU and relevant government officers and safeguards officer (PMU), will address the complaint forwarded to them. A resolution should be provided within no more than 7 days. In case the complaint is not resolved at site level, or the outcome is not satisfactory, or the actions are not delivered in a timely manner as per the resolution, the aggrieved person / group can raise it to the PMU level.

342. At the PMU level, the project director, deputy project director (elder care) and safeguards officer (PMU) will address the complaint forwarded to them within a period of 15 days. If the grievance cannot be resolved within the stipulated time frame due to the complexity of the issue, the PMU will establish a mutually acceptable time frame for resolution in consultation with the affected person.

343. If the complaint remains unresolved at the PMU level, even after the mutually agreed time frame, the PMU will inform the aggrieved person and advise them to seek recourse through the legal system. The aggrieved or affected persons will have the right to seek justice under the courts of law if they do not want to go through the GRM.

344. Awareness of the GRM will be promoted among the project stakeholders, including staff of implementing agencies, contractors, and the public. The Ministry will take responsibility for ensuring that these parties are informed of their rights and the procedures for filing grievances from the outset of project implementation.

345. Special attention will be given to handling SEAH grievances according to the Good Practice Note on Addressing Sexual Exploitation, Abuse, and Harassment in ADB-Financed Projects with Civil Works, April 2023¹³. This note highlights that SEAH complaints must be responded to within 24 hours, and stresses the importance of strict confidentiality, ethical handling, survivor-centered reporting mechanisms, provision of support rather than compensation, and access to specialized expertise.



NSE = National Secretariat for Elderly, PIU = Project Implementation Unit, PMU = Project Management Unit

Figure B-1: GRM Process

¹³ ADB. 2023. [Good Practice Note on Addressing Sexual Exploitation, Abuse, and Harassment in ADB-Financed Projects with Civil Works](#).

Table B-1: Summary of the GRM including Members and Functions

Grievance Redresses Cells	Levels	GRC Members	Function
Grievance Committee Level 1	District / Sub-PIU Level / Site Level	Grievance Committee 1 (Sites / NSE): - Chairperson: Director Planning (District Secretariat) - Focal; - District Engineers; - Rep of Divisional Secretary; - Elders Rights Promotion Officer; - Contractor; - Safeguards Officer (PMU). Grievance Committee 2 (Empowerment / DSD): - Chairperson: District Coordinator – Focal; - District Samurdhi Director; - Director Planning (District Secretariat); - Rep of Divisional Secretary; - Livelihoods Specialist; - Safeguards Officer (PMU); - Community representative.	- Registration of Grievances - Forwarding Grievances to concerned person or authorities. - Communicating with complainant regarding receipt and resolution of complaints - Resolution of complaints raised within 7 days of receipt. - Feedback to the complainant on action completed against registered complaint and seeking complainant feedback on level of satisfaction. - Closure of grievance - If not resolved, then forwarding the complaint to Grievance Committee level 2.
Grievance Committee Level 2	National / PMU Level	- Chairperson: Project Director (Overall Project) - Focal for empowerment; - Deputy Project Director (Livelihoods Empowerment); - Deputy Project Director (Elder Care); - Safeguards officer (PMU) - Focal for sites	- Registration of complaints received - Information to the complainant about eligibility of the complaint - Grievance Redress Committee meetings to discuss grievances and action required - Ensuring collection of required information about the eligible complaint - Assessment of complaint to draw conclusion from discussions and make recommendations. - Develop action plan outlining activities required to implement the recommendations. - Ensuring implementation of recommendations by stakeholders or concerned authorities. - Monitoring actions of the recommendations in view of timeline - Closing complaint after all actions taken as per recommendations and feedback to the complainant with 15 days - Advise to complainants about approach/appeal to the concerned department in case the complainant is not satisfied, or complaint is beyond the scope of the Grievance Committee.

DSD = Department of Samurdhi Development; NSE = National Secretariat for Elderly, PIU = Project Implementation Unit, PMU = Project Management Unit

IX. ENVIRONMENTAL MANAGEMENT PLAN

A. General

346. The environmental management plan (EMP) was prepared according to the ADB SPS (2009) and the applicable national regulations and provides the detailed overall approach through which the adverse impacts of subprojects are avoided, reduced, mitigated or compensated for (in that order of priority) and positive impacts are assured and enhanced to the extent feasible. This Chapter contains the following key components:

- i. A summary of the potential impacts of the subproject (during each phase) and the mitigation and enhancement actions proposed in the IEE to address negative impacts and the agency responsible for each activity;
- ii. An Environmental Monitoring Plan (EMoP) describing monitoring to be conducted to ensure the mitigation is provided indicating monitoring parameters, locations, frequency and responsibility and reporting;
- iii. A description of the organizations and institutions involved in implementing the EMP and their roles;
- iv. Information management and reporting.

347. The EMP provides guidance to the implementation of mitigatory measures and monitoring throughout the implementation of the subproject and contributes to the overall process of project monitoring and auditing. The EMP therefore presents a consolidation of the recommendations given in this IEE.

348. The EMP is developed based on the details available on literature, related guidelines and the proposals and findings during the IEE study, including direct observations made during site visits. All these subprojects, after detailed designs, the IEE including EMP will be updated as required based on the site-specific details.

B. Environmental Management Plan and Environmental Monitoring Plan

1. Implementation of EMP

349. The EMP sets out the mechanisms for the implementation of actions with respect to mitigation measures, for which prior agreement has to be reached by the ADB, EA, IA and the regulatory authorities. The EMP will be used as means by which the IA (and contractors / sub-contractors) will implement the recommended mitigation measures and achieve the environmental performance standards defined by the Sri Lankan environmental legislation, and as per requirements of SPS 2009. Where applicable, international environmental guidelines (e.g., WHO, IFC EHS Guidelines) shall also be followed, particularly in cases where they are more stringent than national standards. The primary objective of the EMP approach is to make all parties aware of environmental responsibilities and to be proactive in their commitment to achieve the standards and guidelines specified.

350. The PIU will be required to ensure that the environmental and social mitigation measures contained in the subproject specific EMPs for the identified subprojects are budgeted for in the overall installation works estimates/bill of quantities (BOQs). To ensure this, the ADB cleared IEE and the respective EMPs will form part of the bid documents. Based on the IEE and in particular with the EMPs, the contractors appointed for each proposed subproject project shall develop and implement contractor's environmental management plans (CEMPs). The CEMP must be based on the subprojects EMP and the IEE, which were included in the bid documents. It should include site-specific measures for pollution prevention, solid and hazardous waste management, control of dust and other emissions, noise and vibration management, worker and community safety,

management of on-site storage, traffic control and a site mobilization plan. The CEMP must also outline monitoring, reporting, and emergency response procedures to ensure compliance with regulatory requirements during construction. Before implementation, these CEMPs shall be reviewed and approved by the PMU/PIU. The contractor of each subproject will be responsible in implementing the CEMP.

351. The ESMP is provided in Table 9.2-1 and the institutional set up proposed to ensure the implementation of EMP is discussed in details in Section 9.3 below.

2. Monitoring and Reporting

352. The project supported by ADB should ensure that social and environmental safeguard impacts and risks are adequately addressed. Periodic monitoring by each PMU of subproject's safeguard compliance, and ADB's assistance in project action plans to address weaknesses will help to enhance country safeguard system's application to the project. The PMU will develop a mechanism with ADB's assistance to reduce safeguard risks through credible results monitoring mechanism built into the project.

353. To ensure compliance with social and environmental safeguard requirements, NSE, through their own PIU and Sub-PIUs, will review, collect, and maintain completed screening checklists, site specific EMPs, IEEs, and periodic environmental and social monitoring reports. The Environmental and Social Consultant at the PMU will oversee monitoring and reporting of safeguard activities, supported by respective subproject staff appointed under NSE and Sub-PIU. The Sub-PIU's Environmental and Social Officers will also provide guidance to the subproject staff, providing the technical support, as well as with the contractor's staff. The relevant staff responsibilities are detailed in next section.

354. The environmental monitoring plan, presented in Table 9.2-2, outlines the basic monitoring parameters as part of compliance monitoring with reference to the monitoring locations provided in Figure 9.2-1 and both will be updated during the detailed design stage of the subprojects as required.

355. The national system and ADB will have their own safeguard compliance monitoring mechanisms. At the national level, NSE will establish a monitoring methodology tailored to the project through its PIU. PIU's Environmental and Social Consultant will carry out periodic monitoring visits for each subproject within the project implementation period. Compliance will also be reviewed during ADB implementation support missions. Lessons learnt from site specific EMP implementation will contribute to strengthening the safeguard management framework within NSE. The monitoring methodology will form an integral part of monitoring, evaluation, and reporting of project activities. The NSE as the IA will:

- i. establish and maintain procedures to monitor the progress of implementation of safeguard implementation plans for each subproject;
- ii. verify subproject's compliance with safeguard measures and their progress toward intended outcomes;
- iii. document and disclose monitoring results, and identify required corrective and preventive actions in semi-annual monitoring reports during construction of the project and annually during operation phase until the project completion (Outline for an environmental monitoring report is given in Annex 7). Submit monitoring reports on safeguard measures, as agreed with ADB; and
- iv. follow-up on the corrective and preventive actions to ensure progress toward the desired outcomes.

356. The environmental monitoring reports (EMR) will be submitted by the EA/IA to ADB for review. The EMR after review by ADB will be disclosed on the ADB, Ministry and NSE project websites as required by SPS 2009 and Access to Information Policy 2018. During project review missions, ADB will monitor safeguard compliance of selected subprojects and work with project authorities to develop corrective action plans, if significant lapses in safeguard compliance are noted. ADB will conduct periodic review missions and monitor the implementation of environmental safeguards in coordination with the executing and implementing agencies, including:

- implementation of environmental management plan (EMP) measures;
- effectiveness of mitigation measures in addressing identified environmental impacts and risks;
- establishment and functioning of the grievance redress mechanism (GRM);
- environmental monitoring and reporting requirements;
- implementation of corrective actions to address noncompliance or unforeseen environmental impacts;
- compliance with environmental loan covenants and applicable national environmental requirements; and
- adequacy of institutional arrangements, staffing, and budget for environmental safeguard implementation.

Table B-1: Environmental Management Plan

Subject for concern	Environmental & Social impact	Mitigation measures	Applicable Subproject	Monitoring Method	Responsibility Implement / Monitor	Cost / Source of funds	Time frame
Pre-construction							
Removal of trees	▪ Loss of trees and vegetation may lead to: ▪ Increase in disaster related issues (i.e. soil erosion, landslides); ▪ Lack of ventilation and shading; ▪ Reduction in aesthetic value and greening of area	▪ Minimize the loss of trees and vegetation by exploring alternative design options; ▪ Obtain required approvals from relevant authorities; ▪ Only ground cover or shrubs and trees that directly affect the permanent works or necessary temporary works shall be removed; ▪ Awareness programs should be organized for the workforce; ▪ Implement compensatory planting of trees (1:3) and vegetation of the same or similar species for any trees removed.	All subprojects; Kegalle in particular	Trees planted; Progress reports	<u>Imp:</u> NSE; DS <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Before construction
Shifting of utilities: water supply & sanitation services, electricity, telecom, drainage structures etc.	▪ Temporary disruption to water supply and sewer pipes, drainage structures, and electric/telecom poles and wires;	▪ Plan the shifting of utilities and drainage structures well in advance of site clearing. ▪ Provide alternative or temporary supplies to minimize the impact on users if any.	All subprojects; Kegalle, Batticaloa in particular	Site inspections and reporting	<u>Imp:</u> NSE; DS; LA; CEB; NWSDB; SLT <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Before construction
Access interruptions	▪ Movements of existing residents nearby may be affected during construction.	▪ Coordinate and plan all activities thoroughly before commencing construction works. ▪ Ensure that no facility or service is discontinued due to construction works, and issue prior notices from the users. ▪ Install temporary wayfinding boards to guide users / residents.	All subprojects;	Site inspections and reporting	<u>Imp:</u> NSE; LA; Contractor <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Before construction

Site Mobilization	▪ Allocation of space for storage yard for construction material, labor camp, project office may require additional amount of space. ▪ Use of additional land for resource mobilization during construction may lead to conflicts.	▪ Adequate provision should be made on site to mobilize the construction equipment. ▪ Potential sites, within the plot, for the labor camp will be lined up to be approved by Sub-PIU. ▪ Construction of camp sanitation facilities shall be adequately planned. ▪ Proper stormwater drainage facilities within and around the temporary facilities such as storage yards, labor camps shall be provided ▪ Selection of local unskilled and skilled workers for the proposed construction activities can reduce the requirement of land for labor camps. ▪ Use local materials as much as possible to reduce the need for storage space.	All subprojects;	Site inspections and reporting	<u>Imp:</u> NSE; DS; LA; Contractor <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Before construction
Design and location of subproject	▪ Risks associated with natural hazards	▪ Site selection and design will consider identified natural hazards and hazard-prone areas. ▪ Appropriate engineering measures (e.g., drainage systems, slope stabilization, flood protection measures, and emergency access routes) will be incorporated into project design where required.	All subprojects	Site inspections	<u>Imp:</u> Design consultant; Contractor <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Before construction
Construction							
Demolition of existing buildings: Waste management	▪ Spoil material generated due to any demolition work, cutting, and grinding work (e.g. for electrical work) would obscure the landscape and may be a health risk to the surrounding community and workers.	▪ Dispose of solid waste and sewage in accordance with relevant guidelines and with the assistance of the local authority. ▪ Identify disposal locations before commencing demolition activities with coordination of DS. ▪ Demarcate a designated area within the construction premises for waste collection until disposal.	All subprojects; Kegalle and Batticaloa	Site inspections and reporting	<u>Imp:</u> Contractor; DS; LA <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Before construction

		▪ Implement waste minimization practices, including reuse as filling material and recycling. ▪ Prohibit open burning of any demolished material, both on-site and off-site.					
Demolition of existing buildings: Health and Safety concerns for the workers and community	▪ Unless precautions are taken during demolition it may lead to accidents of workers and nearby community. ▪ Unless safety measures are adoption it may lead to compromised health.	▪ Restrict the demolition area with barriers and install clear signage to prevent unauthorized access. ▪ Carry out demolition activities at a convenient time with minimal disturbance, in consultation with nearby community. ▪ Ensure that any electrical systems in the demolition area are switched off and isolated before commencing work. ▪ Require workers to adopt safety measures and wear appropriate protective gear. ▪ Erect dust screens if necessary, depending on the scale of the demolition.	All subprojects; Kegalle and Batticaloa	Site inspections and reporting	<u>Imp:</u> Contractor <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Before construction
Demolition of existing buildings: Handling and management of asbestos cement roofing sheets	▪ Health and safety hazards with loose asbestos fibers for the workers and community near the existing buildings to be demolished.	▪ During demolition of asbestos cement roofs, special precautions will be taken and strictly follow the guidelines of the ADB's Good Practice Guidance for the Management and Control of Asbestos: Protecting Workplaces and Communities from Asbestos Exposure Risks 2022 , specially the sections; duties of employers, workers/subcontractors, asbestos contractors and vendors; training requirements for working with asbestos; asbestos risk assessment; managing asbestos exposure risks; safety in the use of asbestos; managing the risks of asbestos removal; and managing asbestos waste etc.	Subproject/s where applicable;	Site inspections and reporting	<u>Imp:</u> Contractor <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Before construction

		▪ Obtain the services of a qualified asbestos management professional prior to the commencement of building demolition works at subproject sites where asbestos cement roofing sheets are present; ▪ Prior to any installation works at sites with suspected asbestos-containing materials, a formal asbestos audit shall be conducted by a licensed assessor (qualified asbestos management professional) to identify, document, and assess the condition of asbestos-containing materials. This audit will inform safe work procedures and ensure compliance with national and international health and safety standards; ▪ Follow the rules and guidelines outlined by the CEA under the NEA and the ADB Good Practice Guidance for the Management and Control of Asbestos: Protecting Workplaces and Communities from Asbestos Exposure Risks 2022; ▪ Provide covers properly and temporarily store at the premises until taken away for the disposal through scheduled waste management service providers registered under CEA.					
Site preparation activities: clearing and land preparation, cutting and levelling	▪ Waste generation, emission of dust, and noise are direct impacts that can be expected ▪ Due to site clearing. Such impacts may cause a nuisance to workers and the neighborhood.	▪ Implement erosion control measures during land preparation, cutting, and filling within the site. ▪ Avoid land clearing during rainy periods where possible. Divert surface runoff away from the site or construction area and channel drainage through silt traps if needed. Compact any loose soil as soon as possible.	All subprojects;	Site inspections and reporting	<u>Imp:</u> Contractor <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Before construction

		▪ Cover all spoil, topsoil, demolition waste, and cut vegetation with secure tarpaulins when stored on-site or transported off-site to prevent wind dispersal.					
Slope instability due to exposed slopes, cutting and filling operations, altered landscape, removal of trees, roots, and trunks, drainage modifications, and modified flow patterns etc.	▪ Slope instability may lead to loss of ground, causing damage to public and private land and built property in the neighborhoods. ▪ Soil erosion and sedimentation may occur during construction due to land clearing, earthworks (cutting/filling, trenching, excavating, reclaiming, and landfilling), diversion of existing drainage paths, transport and stockpiling of construction material, residue, spoil, and dredged material.	For Slope Instability: ▪ Obtain recommendations from the National Building Research Organization (NBRO) for constructions in landslide-prone or potential slope stability areas to minimize risk. ▪ Maintain buffer zones / reservation areas for sensitive parts of the land. ▪ Consider medium- to long-term slope stability when selecting sites and project interventions, particularly in sloping terrain. ▪ Avoid land clearing at sites with vertical relief to prevent slope instability, especially during rainy seasons. ▪ Implement slope reinforcement techniques, such as retaining walls or terracing, to enhance stability. ▪ Design proper drainage systems to manage surface water and prevent water-induced slope failure.	Kegalle	Site inspections and reporting	<u>Imp:</u> Contractor, NBRO <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Regularly during site preparation
		For Soil Erosion and Sedimentation: ▪ Install silt fences and sediment traps to prevent sediment from reaching water bodies. ▪ Divert surface runoff away from disturbed areas to minimize erosion. ▪ Revegetate disturbed areas promptly to stabilize the soil and reduce erosion. ▪ Cover stockpiled materials to prevent them from being dispersed by wind or water.	All subprojects	Site inspections and reporting	<u>Imp:</u> Contractor <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Regularly during site preparation

Drainage issues	Impacts can occur from drainage obstruction during activities such as constructing access roads, land reclamation, diversion of drainage paths, trenching, filling, disposal of spoil, and material transport. These may lead to block the flow, surface water contamination, and potential flooding if not properly managed.	- Ensure that drainage systems are designed and implemented separately for construction activities, preventing wastewater and runoff from affecting existing drainage. - Maintain clear segregation of construction-related drainage and existing drainage systems to prevent cross-contamination.	All subprojects	Site inspections and reporting	<u>Imp:</u> Contractor <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Regularly during site preparation and construction
		- Do not discharge stormwater runoff from the work site directly into nearby streams or water bodies without passing through adequately designed catch pits or sediment control measures. - Regularly inspect drainage systems to ensure they are functioning properly and do not allow construction waste to enter nearby streams.	Dambulla				
Water quality impacts	Untreated or partially treated wastewater, improper disposal of waste (both liquid and solid waste), silt materials, runoff from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate nearby surface water quality.	- Washing of vehicles which are used to transport ready mix concrete etc. to the site will be avoided as much as possible specially during rainy season. - The wastewater from washing of concrete mixers will be collected in separate pits and let it soak into the ground. - The construction wastewater if any from the site will be directed to a settling pond as appropriate. - Waste cement slurry will be collected and disposed within site or to an outside location with the coordination of LA. - All discarded and used oil and lubricants will be collected, properly stored and disposed (reuse / sell). - All potentially water polluting chemicals and oils will be stored (a)	All subprojects	Site inspections and reporting	<u>Imp:</u> Contractor; LA <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Regularly during site preparation and construction

		at locations sufficiently away from the storm water drainage paths and (b) in a manner that would minimise chances of spillage. ▪ Minimize the oil and chemical spillages and properly maintain the equipment and machinery. ▪ Ensure that drainage systems are properly designed to prevent contamination of water sources from construction activities. ▪ Monitor surface runoff and implement hydrological modifications to control water quality impacts.					
Impacts on Air quality	▪ Emissions during site preparation, vehicles, equipment, and machinery used for excavation and construction may resulting in dust and air-borne pollutants.	▪ Erect effective dust barriers to prevent dust from being blown towards surrounding. These barriers should also serve as noise/dust containment and fencing for safety. Louvres/ pergolas of nearby buildings must be temporarily covered with polythene sheets until construction work is completed. ▪ Clean the site daily, particularly surfaces affected by soil and dust. Carry out regular watering at least twice a day (mid-morning and mid-evening) for dust suppression on the construction site and access roads. ▪ Cover excavated soil temporarily stored on-site with tarpaulins or other suitable materials to prevent dust particles from becoming airborne. ▪ Store construction stockpiles and debris piles away from the surrounding residential areas, where possible.	All subprojects	Site inspections and reporting	<u>Imp:</u> Contractor <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Regularly during site preparation and construction

		▪ Ensure that any equipment and machinery using diesel are properly maintained to control emissions. The contractor must ensure that vehicles entering the site have obtained Vehicle Emission Certificates.					
Noise and vibration	▪ Increased noise levels and vibrations may occur due to excavation, earth-moving, blasting (if any), and the transport of equipment, materials, and people. ▪ Installation of electro-mechanical components may emit high levels of noise. ▪ Operation of heavy equipment and machinery at night can cause a nuisance to the surrounding environment and people. ▪ Damages to existing nearby structures, both inside and outside, due to vibration-causing activities such as piling, excavation etc.	▪ Ensure that construction work, vehicles, and equipment used in construction meet CEA standards for noise and vibration in Sri Lanka. ▪ Schedule high noise-generating activities after informing and obtaining consent from the surrounding communities and authorities. ▪ Erect noise barriers if needed to reduce high noise levels; alternatively, the contractor can use a delineated barrier that serves dual purpose of dust/noise containment and safety. ▪ Restrict the use of noisy machines and, where possible, implement noise-reducing measures for construction machinery. ▪ Conduct construction activity between 8:00 am and 6:00 pm daily to avoid discomfort caused by noise and vibration to in-patients and the surrounding neighborhood. ▪ If nighttime construction activities are unavoidable, ensure they are carried out using noise-reducing means or low-noise technologies. ▪ Liaise with nearby community regarding work schedules and provide prior notices of noise-generating activities to avoid confusion. ▪ Conduct a condition survey (crack survey) of existing nearby	All subprojects	Site inspections and reporting	<u>Imp:</u> Contractor; LA <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Regularly during site preparation and construction

		structures, to assess their condition prior to vibration-causing activities such as piling, excavation etc. ▪ Comply with the Interim Standard on Vibration Pollution Control for Sri Lanka. ▪ Ensure that if vibration causes structural damage to nearby structures, the contractor is responsible for rectifying such damage					
Waste generation: construction debris and waste generated from labor camps, officer's accommodations	▪ Construction debris, spoil, and waste generated from labor camps, officer's accommodations may impose several negative environmental and social impacts to the activity affected area including impact on ecology, public health and scenic beauty.	<u>Labor Camps and Domestic Waste:</u> ▪ Consult the LA at the onset of the activity regarding waste collection and disposal. ▪ Obtain approval from the Sub-PIU for the location of labour camps, ensuring compliance with guidelines and recommendations issued by the CEA and LAs. ▪ Provide proper solid waste disposal, sanitation, and sewerage facilities (drinking water, urinals, toilets, and washrooms) at the construction site and labour camps. ▪ Provide garbage bins at all worker-based camps and construction sites, and ensure regular disposal in a hygienic manner under the supervision of the PHI. ▪ Waste containers shall be strategically placed in visible locations, clearly identified and marked for recyclables, organic waste, disposable waste, paper, glass, etc., and shall be properly covered. ▪ Educate employees on segregation of waste with demarcated bins for recyclables and perishables placed in common areas.	All subprojects	Site inspections and reporting	<u>Imp:</u> Contractor; LA <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Regularly during construction

		▪ Dispose of sewage collected in labour camps in accordance with relevant guidelines and with the assistance of the LA. <u>Construction Related Waste:</u> ▪ Seek approval from the DS for the storage and disposal of spoil material and other gravel. ▪ Ensure that the disposal site selected by the contractor is not located near public or environmentally sensitive areas. ▪ Reuse all debris and residual spoil materials generated from construction activities wherever possible. ▪ Collect and separate on-site recyclable materials from other waste. Collected recyclable material shall be re-used or sold to a waste collector for recycling with the assistance of the CEA. <u>Scheduled (Hazardous) Waste:</u> ▪ Ensure collection of waste oil, lubricants, and cleaning materials, properly labelled and stored separately from other solid waste with appropriate warning signs. ▪ Provide oil and grease traps at vehicle, machinery, and equipment maintenance areas and ensure regular disposal and removal. ▪ Recycle used oil and grease to the extent possible through a used oil recycling company approved under the CEA. ▪ Collect e-waste generated during construction and store at designated place at the site.					
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		▪ Hazardous waste materials/substances shall not be mixed with other wastes and shall be collected separately as per the Guidelines for the Management of Scheduled Waste in Sri Lanka in accordance with the National Environmental (Protection & Quality) Regulation No. 01 of 2008. Disposal shall be carried out with the assistance of the Hazardous Waste Management Unit of the CEA.					
Sourcing and supply of construction materials	▪ Transportation of construction materials may block the access roads and may lead to accessibility problems	▪ Purchase construction materials only from approved suppliers with the necessary approvals. ▪ Ensure that construction materials and machinery are placed in a manner that does not block roads, paths, or local access points. ▪ Unload construction materials in a way and at times that do not block roads, paths, or access. ▪ Prohibit the placement of waste on the road.	All subprojects	Site inspections and reporting	<u>Imp:</u> Contractor; LA <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Regularly during site preparation and construction
Occupational health and safety	▪ Occupational hazards can arise during construction (e.g., trenching, falling objects, high levels of noise and vibration, accidents, etc.)	▪ Ensure a safe construction site by: (i) Maintaining fully functional and well-kept equipment. (ii) Providing emergency equipment and safety warnings. (iii) Equipping workers with personal protective equipment (PPE) and enforcing strict safety practices with proper supervision, monitoring, and feedback. ▪ Provide workers with first-aid and health facilities. Train supervisors in first aid. ▪ Conduct occupational health and safety training programs for workers. ▪ Keep machinery and equipment prone to electrocution in a secure	All subprojects	Site inspections and reporting; Regular patrols to check unsafe areas; Checking accident reports	<u>Imp:</u> Contractor; LA <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Regularly during site preparation and construction

		area within the site, under the supervision of an experienced worker. Conduct regular safety checks for vehicles, equipment, and labour huts. ▪ Assign responsibilities to relevant personnel. Enforce a strict prohibition on alcohol and narcotic substances that could impair workers' judgment during construction activities. ▪ Barricade excavated areas using barricading tapes and signboards. ▪ Ensure work at higher elevations is carried out and supervised by experienced workers ▪ Accidents if any will be reported to the IA and EA (within 48 hours to ADB) etc. i. ▪ Initial Notification of incidents is to be provided to ADB no later than 3 working days (for severe cases/ fatalities 24 – 48 hours is recommended) ▪ A more detailed incident investigations report is required within 21 days of the incident (for severe cases/fatalities 72 hours recommended unless stopped all work) to be provided to ADB. Refer to Annex 8 for the reporting format.					
Community health and safety	▪ Disturbances and inconvenience caused to surrounding community during construction activities. ▪ Community hazards can arise during construction (e.g., machinery at work, open trenches, air quality, noise, falling objects, etc.).	▪ Demarcate the construction site using barricading tape or other suitable materials to create a physical separation. ▪ Provide a safe pedestrian pathways where applicable in case of access roads are blocked. ▪ Place warning signboards and directional signs for detours in both local languages at prominent locations, using large-sized	All subprojects	Site inspections and reporting; Regular patrols to check unsafe areas; Checking accident reports	<u>Imp:</u> Contractor; LA <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost	Regularly during site preparation and construction

Obtaining EPL for the operation of sewage treatment plant	▪ Unless approval by obtaining an EPL for the sewage treatment plant, environmental guidelines of the CEA will not be met.	▪ Apply for an EPL from the CEA for the operation of the sewage treatment plant 3 months prior to the commencement of operations. ▪ Ensure renewal of the license as stipulated in the CEA guidelines.	All subprojects	EPL in place	<u>Imp:</u> NSE <u>Mon:</u> CEA; LA; NSE;	Part of the project cost	3 months prior to the commencement of operations; Renewal of the license as per the guidelines.
Waste management	▪ Lack of management of domestic waste may cause health risks and obscure the landscape ▪ There is risk of solid waste piling up within the premises, if no proper solid waste management practicer not in place ▪ These can lead to an increase in vector population and health risks	▪ Ensure demarcated solid waste storage area with source separation for organic waste and other domestic non-organic waste. ▪ Provided adequate number of common disposal bins in such a manner to avoid nuisance and aesthetically acceptable. ▪ Place separate bins for food wastes at kitchen, dining areas; recyclables: paper, cardboard, polythene, plastics and glass and other wastes. ▪ Establish a separate storage for recyclables and reusables. Create links with buyers with the assistance of the CEA for the recycling of paper, plastics and glass etc. ▪ Collect food waste and garden waste, such as grass and leaves and sent to the compost yard operated by the relevant LA at a prior identified frequency. ▪ Collect disposable (non-biodegradable and non-recyclable) fraction of solid waste daily basis and stored in a main collection point and dispose with the assistance of the LA at a prior agreed frequency. ▪ Adhere to CEA guidelines of solid waste collection and disposal.	All subprojects	Site inspections and reporting; Checking records on disposal	<u>Imp:</u> NSC; DS through LA or registered service provider <u>Mon:</u> NSE; DS	NSE; DS	Regularly during the operation

		▪ If any healthcare waste generated at the facility, such waste will be collected securely and disposed through healthcare waste management service providers registered under CEA ▪ Educate employees and users on the waste management process at facility.					
Sewage management	▪ Leaking sewers and septic tanks can damage human health and contaminate soil and groundwater. ▪ Lack of disposal of the domestic wastewater will result in health issues to the worker	▪ Ensure that domestic wastewater is directed to properly designed and suitable collection and treatment facilities, such as septic tanks and soakage pits, in compliance with relevant LA and CEA guidelines. ▪ Sewage is collected, treated, and disposed of through suitable collection and treatment facilities in accordance with applicable standards and relevant guidelines, with the assistance of the relevant LA. ▪ Maintain and regularly inspect sewage collection and treatment facilities with the assistance of the relevant LA to ensure proper operation and prevent leakages, blockages, and environmental contamination. ▪ Educate employees and users on the sanitation and sewage management process at facility.	All subprojects	Site inspections and reporting; Checking records on disposal	<u>Imp:</u> NSE; DS; through LA or registered service provider <u>Mon:</u> NSE; DS	NSE; DS	Regularly during the operation
Ecological resources	▪ Impact due to removal of trees	▪ A tree planting program will be carried out to compensate for the removed trees. ▪ Some tree species growing in the project land at present could be used for this planting program.	All subprojects	Site inspections and reporting;	<u>Imp:</u> NSE; DS through LA or licensed service provider <u>Mon:</u> NSE; DS	NSE; DS	Regularly during the operation
Natural hazards (floods,	▪ Potential safety risks to elderly day care center	▪ Develop, adopt, and implement emergency preparedness and response procedures, including	All subprojects	Incident reports; drill record/reports	<u>Imp/Mon:</u> NSE	NSE	Regularly during operations

cyclones, tsunami, etc)	users and staff during natural hazard events.	evacuation procedures and periodic emergency drills.					
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ADB = Asian Development Bank, NSE = National Secretariat for Elderly, DS = Divisional Secretaria, LA = Local Authority, CEA = Central Environmental Authority, PIU = Project Implementation Unit, PMU = Project Management Unit, CEB = Ceylon Electricity Board, NWSDB = National Water Supply and Drainage Board, Imp = Implementation responsibility, Mon = Monitoring responsibility

Table B-2: Environmental Monitoring Plan (EMOP)

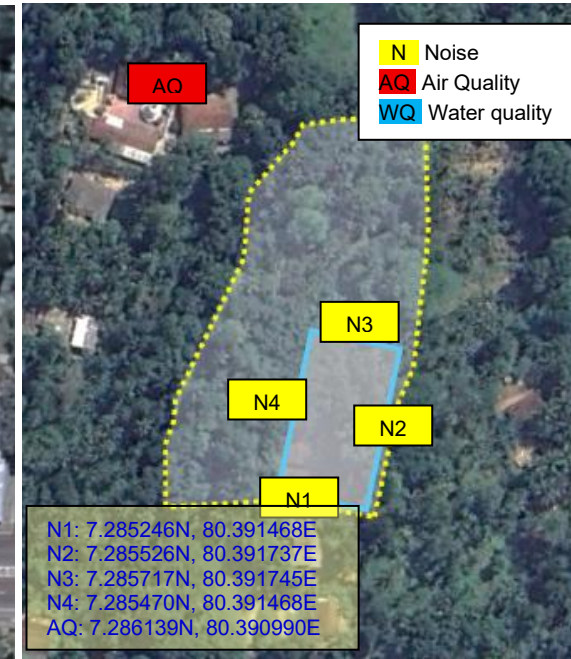
Environmental Component / Concern	Monitoring Parameter / Indicator	Applicable Standard / Baseline	Monitoring Locations	Monitoring Frequency	Implementation / Monitoring Responsibility	Monitoring Cost ¹
Ambient air quality	PM ₁₀ , PM _{2.5} , TPM, SO ₂ , NO ₂	National Environment (Ambient Air Quality) Regulations, 1994 – Gazette Notification No. 1562/22 dated 15.08.2008; Relevant WHO and IFC EHS Guidelines	Selected locations within/nearby the project site (Figure 9.2-1)	▪ Baseline measurement – prior to the commencement of construction works ▪ Semi annually ▪ On public complaints	<u>Imp:</u> Contractor <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost
Noise	Day and night time noise levels dB(A) LAeq	National Environmental (Noise Control) Regulations No.1 1996 – Gazette Notification No. 924/12 dated 23.05.1996; Relevant WHO and IFC EHS Guidelines	Selected locations along the boundary of the project site (Figure 9.2-1)	▪ Baseline measurement – prior to the commencement of construction works ▪ Semi annually ▪ On public complaints	<u>Imp:</u> Contractor <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost
Vibration	Peak Particle Velocity (PPV)	Proposed Interim Standards for Air-Blast Over Pressure (ABOP) and Ground Vibration Control published by Pollution Control Division of CEA on 04 th December 2008; Relevant WHO and IFC EHS Guidelines	Location/s of complainant/s	▪ On public complaints	<u>Imp:</u> Contractor <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost
Surface Water and Groundwater Quality	pH, EC, alkalinity, turbidity, color, TSS, TDS, DO, BOD ₅ , COD, NH ₃ -N, T-Phosphates, coliforms,	National Environment (Ambient Water Quality) Regulations No. 01 of 2019 – Gazette Notification No. 2148/20 dated 05.11.2019; Relevant IFC EHS Guidelines	Nearby surface water bodies or wells in the vicinity of the project site or labour camps (Figure 9.2-1)	▪ Baseline measurement – prior to the commencement of construction works ▪ Semi annually ▪ On public complaints	<u>Imp:</u> Contractor <u>Mon:</u> Sub-PIU; PIU; NSE	Part of the project cost

ADB = Asian Development Bank, LA = Local Authority, PIU = Project Implementation Unit, NSE = National Secretariat for Elderly, Imp = Implementation responsibility, Mon = Monitoring responsibility

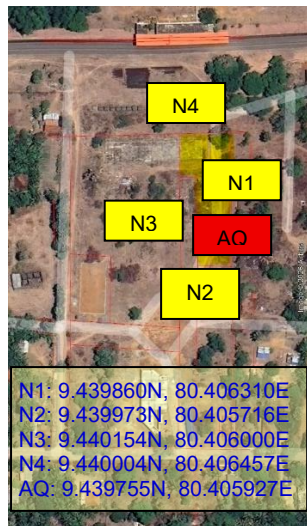
¹ Tentative cost estimate for air quality, noise, vibration and water quality for all five subproject sites is USD 8,000 (per cycle)



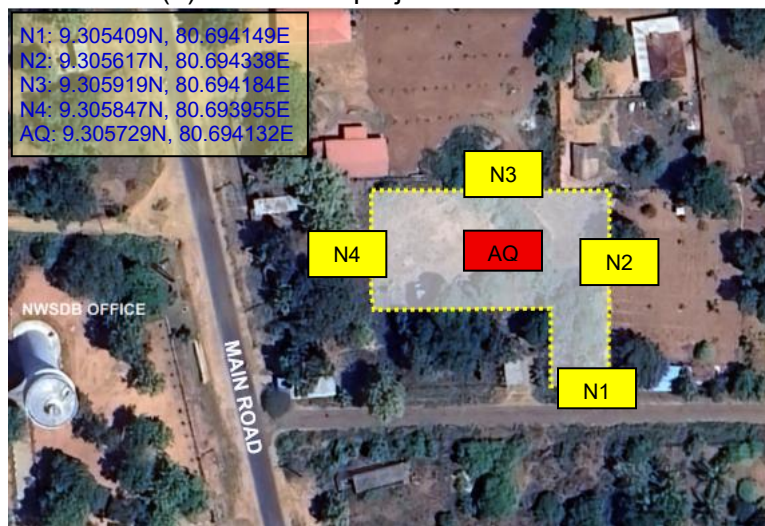
(a) Matale Subproject



(b) Kegalle Subproject



(c) Kilinochchi Subproject



(d) Mullaitivu Subproject



(e) Batticaloa Subproject

Figure B-1: Environmental Monitoring Locations

C. Implementation Mechanism

1. Institutional Arrangements

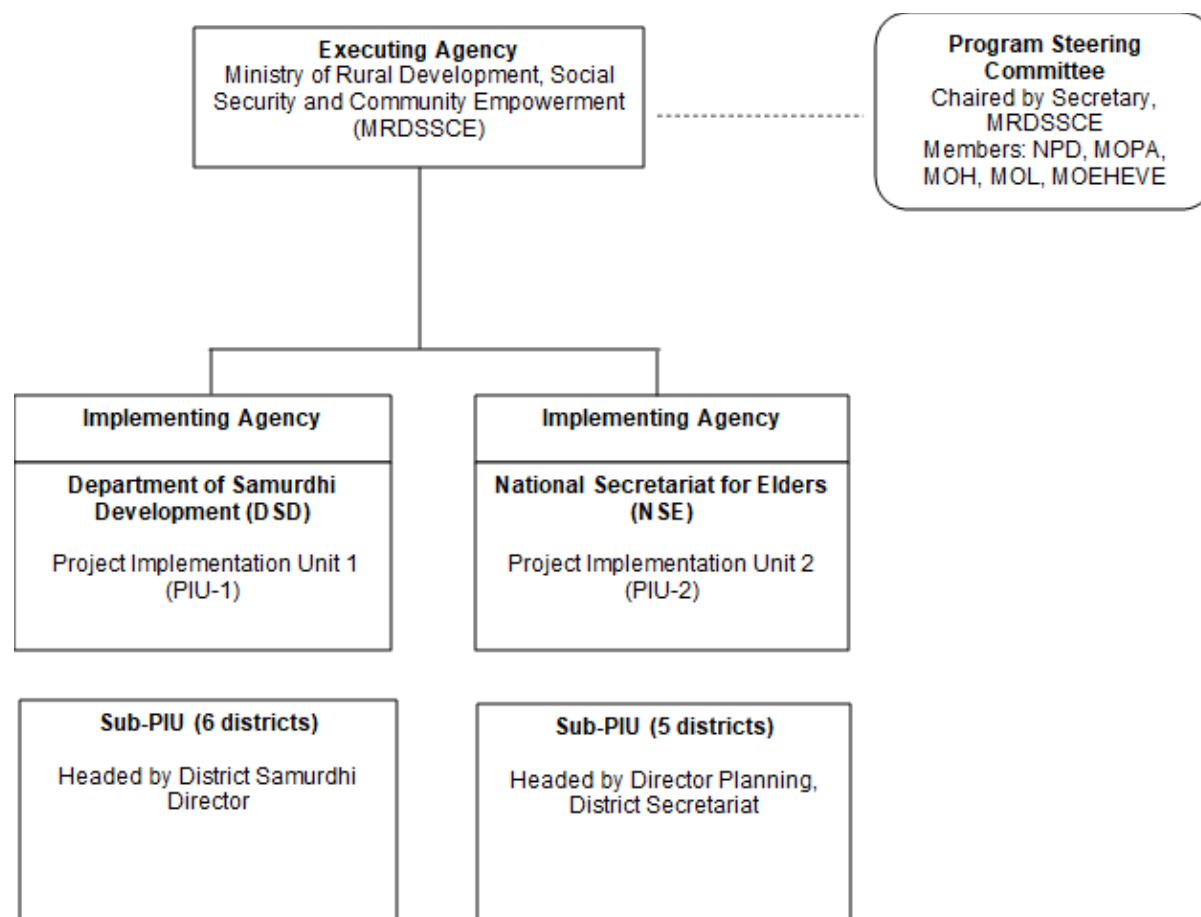
357. **Project Implementation.** The Ministry of Rural Development, Social Security and Community Empowerment (MRDSSCE) will be the executing agency (EA). The Department of Samurdhi Development (DSD) and National Secretariat for Elders (NSE) under MRDSSCE will be the implementing agencies (IAs). MRDSSCE will be responsible for overall project implementation and coordination for outputs 1, 2, and 3. DSD will be responsible for implementation of output 1, while NSE will be responsible for the implementation of output 2. MRDSSCE will establish a project management unit (PMU) to be headed by a project director. The project will establish two (2) project implementation units (PIUs) headed by respective deputy project directors, and six (6) sub-PIUs at the district level.

358. A project steering committee (PSC) will comprise high-level officials from MRDSSCE, MOF, Ministry of Health and Mass Media (MOH), Ministry of Public Administration, Provincial Councils and Local Government (MOPA), Ministry of Labour (MOL), Ministry of Education, Higher Education, and Vocational Education (MOE), Ministry of Agriculture (MOA), and Ministry of Industry and Entrepreneurship Development (MOI) will provide policy guidance and direction. The Secretary, MRDSSCE will chair the steering committee, supported by the Additional Secretary, Director General (DG) Planning, and DG DSD in MRDSSCE. Overall Organizational Structure is shown in Figure 9.3-1. The staffing, management roles and responsibilities are defined in the Project Administration Manual (PAM). The PMU and the PIUs will likewise receive support from consultants (individual, firm) during implementation.

359. With respect to the proposed elder day care facilities, the PIU under NSE will be responsible for the design, planning, implementation supervision and monitoring of subprojects as well as ensuring the implementation of site specific EMPs during the pre-construction, construction, operation, and decommissioning phases. Procurement and contracting will be undertaken by the PMU. The NSE, through its PIU and respective Sub-PIUs, will undertake the environmental, health and safety management and compliance with Sri Lankan regulatory requirements, the SPS 2009 of ADB and the project's loan covenants.

360. The design, planning, procurement and contracting of construction works of the subprojects will be done by the MRDSSCE / NSE through its own PIU and Sub-PIUs. The respective EMPs and IEE will be incorporated into each work contract to ensure the contractor is responsible for implementing the environmental and social requirements and recommendations. Subproject site-level environmental and social safeguard measures will be implemented by the respective contractors under the supervision of the Sub-PIUs who are responsible for contract supervision and project administration during construction period.

361. The EA through PMU will submit the final IEE and site specific EMPs if updated after detailed designs, for ADB review and clearance, from each of the subproject activities, prior to initiation of the bidding process. The PIU and Sub-PIUs will retain the originals of finalized IEE and site specific EMPs, monitoring reports while copies will be kept at the respective site offices.



ADB = Asian Development Bank, MRDSSCE = Ministry of Rural Development, Social Security and Community Empowerment, MOEHEVE = Ministry of Education, Higher Education and Vocational Education, MOF = Ministry of Finance, MOH = Ministry of Health, MOL = Ministry of Labor, MOPA = Ministry of Public Administration, Provincial Councils and Local Government, NPD = National Planning Department.

Source: MRDSSCE and ADB,

Figure C-1: Overall Organizational Structure

362. **Environmental and Social Safeguards Staffing.** It is proposed that PMU will appoint an Environmental Safeguards focal point, designated from internal staff, to serve for the entire project duration. The PMU will recruit a qualified and experienced Environmental Safeguards Consultant and responsible for coordination between subproject staff, contractors, Sub-PIUs, PIUs, PMU and ADB. Each Sub-PIU will appoint an Environmental Safeguards Officer will be responsible for coordinating environmental, health, and safety matters, providing technical inputs until project completion, and working in close collaboration with subproject staff, contractors, and PIU/PMU. These officers will be responsible for day-to-day supervision and monitoring of EMP implementation at subproject sites, acting as grievance redress focal points for environment-related concerns, and providing safeguard training and guidance to project and contractor staff. Where required, third-party specialists, will be engaged to strengthen safeguard management. The outline of the Terms of Reference (TOR) for the environmental safeguards staffing are provided in Annex 8.

363. For each contract package or subproject, contractors and their subcontractors will be responsible for implementing all assigned environmental and social safeguard measures under the supervision of the respective Sub-PIU. To ensure compliance, contractors will appoint a dedicated Environment, Health and Safety Officer per each subproject with required certifications or an equivalent qualification. These officers are to be based full-time on-site for the duration of

the works, monitoring and supervising day-to-day site specific EMP implementation and reporting directly to the contractor's management.

D. Existing Institutional Capacity

364. The executing and implementing agencies of the program, particularly MRDSSCE and DSD, have prior experience in implementing ADB and other donor-funded projects, whereas NSE lacks such prior experience. Therefore, the safeguards capacity of the NSE will need to be further strengthened in terms of procedures and staffing. A consultant with environment, health, and safety expertise will be appointed to provide the necessary support and training to project staff. The training will cover key topics, including the ADB SPS 2009, safeguards screening and categorization, IEE and site specific EMP preparation, incorporation of EMP provisions into bidding documents and construction/installation works contracts, site specific EMP implementation and monitoring during construction and operation phases, health and safety procedures and operational activities including waste disposal and sanitation, public engagement and information disclosure, GRM and complaints handling, and the country's environmental regulations applicable to the project.

E. Implementation and Monitoring Responsibilities

1. Project Management Unit's Responsibilities

365. Throughout the implementation phase of the project, through PMU, the MRDSSCE will undertake a range of responsibilities, including but not limited to the following activities.

- Ensure overall compliance with ADB SPS 2009 requirements and applicable national environmental regulations during construction of the elderly care facilities.
- Coordinate with ADB on environmental safeguard clearances, monitoring, reporting, consultations, and disclosure requirements.
- Allocate adequate budget, staffing, institutional support, and environmental safeguard personnel for effective implementation and monitoring of EMPs across all elderly care center subprojects.
- Ensure IEEs, EMPs, bidding documents, and contract documents incorporate all environmental safeguard requirements and mitigation measures.
- Establish and operationalize the GRM and ensure effective stakeholder consultation, coordination, and information disclosure.
- Guide, supervise, and monitor PIUs to ensure proper implementation of environmental mitigation measures during construction phase.
- Ensure safeguard review meetings, training programs, and overall environmental performance monitoring for all subprojects.
- Prepare and submit environmental monitoring reports and safeguard compliance reports to ADB.

2. Project Implementation Unit's Responsibilities

366. Throughout the implementation phase of the project, through PIU and Sub-PIUs, the NSE will undertake a range of responsibilities, including but not limited to the following activities.

- Coordinate with contractors, local authorities, nearby communities, and other stakeholders for implementation of subproject specific EMP requirements.
- Ensure IEEs, EMPs, bidding documents, and contract documents incorporate all environmental safeguard requirements and mitigation measures.

- Ensure contractors properly implement mitigation measures related to waste management, dust and noise control, occupational health and safety, traffic management, sanitation, wastewater management, and site restoration activities.
- Conduct regular site inspections and monitor environmental safeguard compliance during construction activities at elderly care facilities.
- Maintain environmental monitoring records and report safeguard implementation progress, non-compliances, incidents, and corrective actions to the PMU.
- Coordinate with nearby communities to minimize disturbances and environmental nuisance during construction activities.
- Review and approve the contractors OHS plans and CEMPs.
- Support operation of the GRM at subproject level and maintain communication with affected persons and relevant stakeholders.

3. Responsibilities of Consultants

367. A qualified Consultant will be appointed to provide technical supervision and safeguard implementation support for the respective subprojects. The responsibilities of the Consultant are as follows:

- Provide technical guidance and support to the PIU/Sub-PIU to ensure compliance with ADB's environmental and social safeguard requirements and applicable national environmental legislation.
- Review and advise on implementation of the EMP through regular supervision, inspections, and monitoring activities carried out by the contractor and Sub-PIU.
- Provide technical inputs on environmental safeguard monitoring, mitigation measures, occupational health and safety requirements, and site environmental management practices.
- Assist the PIUs in reviewing contractors' safeguard personnel arrangements, OHS Plans, CEMPs, and other safeguard-related documents.
- Coordinate with the PMU, PIUs, contractors, facility staff, and other stakeholders to minimize environmental disturbances related to construction activities, including noise, dust, traffic, access restrictions, and emissions.
- Participate in stakeholder consultations and grievance handling processes in accordance with the EMP and established GRM procedures.
- Provide technical support and awareness programs for contractors and site staff on EMP implementation, ADB safeguard requirements, OHS, and good construction practices.
- Conduct regular safeguard inspections and participate in monthly safeguard review meetings together with contractors and PMU/PIU safeguard officers.
- Review environmental monitoring records and reports prepared by contractors and provide recommendations to the PMU and PIUs prior to submission to ADB.

4. Contractor's Responsibilities

368. During the implementation phase of the subprojects, the contractor shall be responsible for the following activities.

- Implement all EMP provisions and mitigation measures assigned to the contractor throughout the construction period.
- Comply with all applicable national environmental, health, safety, labour, and occupational safety regulations and requirements.
- Adhere to ADB SPS 2009 requirements, IFC EHS General Guidelines, and other relevant international good practices applicable to construction activities.

- Allocate adequate budget, staffing, equipment, and resources for implementation, supervision, and monitoring of environmental, health, and safety safeguard measures at subproject sites.
- Appoint qualified and experienced environmental, social, health, and safety safeguard personnel to conduct regular site inspections, monitoring, and compliance activities.
- Coordinate with the Sub-PIU, nearby communities, local authorities, and relevant stakeholders to minimize disturbances related to construction activities, including dust, noise, traffic congestion, access restrictions, emissions, and waste generation.
- Prepare and implement site-specific management plans, including the CEMP, Health and Safety Management Plan, Pollution Prevention Plan, Traffic Management Plan, Labor Camp Management Plan, and Construction Waste Management Plan prior to commencement of works.
- Ensure all workers and subcontractors are aware of their EMP responsibilities and receive adequate training and awareness on environmental protection, occupational health and safety, emergency response, and good construction practices.
- Implement proper waste management, wastewater management, material storage, erosion control, pollution prevention, and site housekeeping practices throughout the construction period.
- Carry out environmental monitoring activities as specified in the environmental monitoring plan prior to and during construction works.
- Assist the PIU/Sub-PIU and PMU in stakeholder consultations and implementation of the GRM, including appointment of a grievance focal point at site level to record and address complaints.
- Maintain records of environmental monitoring results, incidents, grievances, corrective actions, and safeguard implementation activities at the site level.
- Submit regular environmental, health, and safety monitoring reports to the PIU and PMU as part of the contractor's progress reporting requirements.

F. Mitigation and Monitoring Cost

369. Normally, all mitigation and monitoring costs related to EMP implementation - including those incurred for compliance with health and safety requirements, staffing, and other related activities - will be internalized into the respective construction or works contract BOQs, unless specified otherwise. In order to strengthen the capacity of IA, formal training activities will be undertaken, and the associated costs shall be incorporated into the overall project estimates.

X. CONCLUSION AND RECOMMENDATION

370. The proposed Promoting Resilience and Opportunity for Inclusive Recovery (PROIR) Sector Development Program will support Sri Lanka in addressing long-standing constraints in the social protection sector, particularly in relation to economic inclusion, labour markets, and social care systems. The program is designed to enhance employment and economic opportunities for poor and vulnerable populations, expand access to quality elderly care services, and strengthen institutional capacity for delivering inclusive and responsive social protection. The MRDSSCE will serve as the EA, while the Department of Samurdhi Development (DSD) and National Secretariat for Elders (NSE) will function as key (IA). The investment component of the project will be implemented under NSE.

371. The Program, which is closely aligned with the Government's reform agenda aimed at improving access to decent work and sustainable livelihoods, while also promoting inclusive, rights-based systems that ensure the dignity, health, and active participation of older persons. The program will be implemented in six (6) districts.

372. Under Output 1, all livelihood activities shall be screened using the environmental screening checklist prior to approval and implementation. Only activities with minimal or no adverse environmental impacts (equivalent to Category C) will be eligible for support. Activities included in the ADB Prohibited Investment Activities List (PIAL), activities located in environmentally sensitive areas, and activities with potentially significant environmental impacts will not be supported. The environmental screening checklist is currently in draft form and will be further developed and refined by the PMU, with support from the PMC and in consultation with SDOs, prior to implementation of livelihood activities.

373. Under Output 2 of the program, the focus is on establishing up to five model EDCCs and improving the quality of elderly care facilities, services, and operational standards. A total of twelve (12) suitable sites have been identified across the selected districts, of which five (5) sites have been shortlisted located in Matale, Kilinochchi, Mullaitivu, Kegalle and Batticaloa districts. From the shortlisted locations, at least two (2) sites will be selected for advance actions i.e., finalization of detailed design of elderly care centers, preparation and posting of bidding documents for the civil works prior to program effectiveness.

374. In accordance with SPS 2009 of ADB, the project is classified as category B for environment, based on the screening and categorization exercise using the rapid environmental assessment (REA) checklist. For category B projects, impacts are generally site-specific, few if any are irreversible, and mitigation measures can be readily developed. Based on SPS 2009, an IEE is required to assess potential risks and impacts and to outline suitable management and monitoring measures. The IEE met the requirements of the Government and, in principle, has complied with SPS 2009. The IEE considers: (i) the existing environment of the project area; (ii) the potential environmental impacts (including their magnitude and significance) caused by the proposed subprojects; and (iii) the ability to eliminate and/or minimize negative impacts through best engineering / technological practices and mitigatory measures.

375. An EMP, including an environmental monitoring plan, has been prepared to minimize the subproject's potential adverse environmental impacts and to enhance its positive impacts. No irreversible or unmanageable environmental impacts are anticipated from the construction and operation of the proposed subprojects, provided that the recommended mitigation measures are implemented.

376. Recommendations are as follows:

- Execution of the subprojects shall ensure implementation of all proposed mitigation measures throughout the pre-construction, construction, and operation, phases of the elderly care facilities.
- All necessary contractual provisions and stipulations related to environmental mitigation measures shall be incorporated into the contract documents, and the EMP shall form an integral part of the contracts.
- Construction activities shall be planned and implemented to minimize disturbances to nearby communities, road users, and adjacent land users from dust, noise, vibration, traffic congestion, material transport, and construction waste generation through proper scheduling, site management, and advance notification where necessary.
- Appropriate erosion control, drainage management, and pollution prevention measures shall be implemented to minimize contamination of surrounding land, surface water, and groundwater resources from wastewater, spoil disposal, fuel, chemicals, and construction materials.

- Proper solid waste and wastewater management practices shall be established at all construction sites and labour camps, including source segregation, collection, temporary storage, reuse where possible, and disposal through approved facilities in coordination with the relevant LA and in compliance with CEA requirements.
- Labour camps, storage yards, and construction sites shall be maintained under proper sanitary and housekeeping conditions to prevent mosquito breeding, pest infestations, vector-borne diseases, and unhealthy site conditions.
- All construction workers and subcontractors shall receive adequate training and awareness on environmental protection, occupational health and safety, emergency response, traffic safety, waste management, and good construction practices prior to and during construction activities.
- The PMU shall be responsible for overall project implementation, coordination, supervision, environmental safeguard compliance, monitoring, and reporting in accordance with Sri Lankan regulations, ADB SPS 2009, and project safeguard requirements.
- The PIUs through Sub-PIUs shall coordinate and monitor implementation of subproject specific environmental mitigation measures together with contractors, local authorities, and other relevant stakeholders at subproject level.
- Qualified and experienced environmental and social safeguard personnel shall be appointed to support environmental monitoring, supervision, reporting, and compliance activities throughout the project duration.
- Stakeholder consultation, participation, and information disclosure activities shall continue throughout project implementation in accordance with the requirements established in the IEE and EMP.
- The established GRM shall be maintained throughout the project period to address environmental and social concerns raised by affected persons, workers, and nearby communities at both site and project management levels.
- Environmental monitoring results, incidents, grievances, corrective actions, and safeguard compliance status shall be documented and reported regularly during construction and operation phases in accordance with project monitoring and reporting requirements.

ANNEXES

ANNEX 1: Relevant National Regulations

ANNEX 2: Environmental Screening Checklist

ANNEX 3: Checklist for Conducting Audit/Assessment of Existing Facility

ANNEX 4: ADB Prohibited Investment Activities List

ANNEX 5: Impacts Identification Matrix

ANNEX 6: Guidelines for Asbestos Cement Management

ANNEX 7: Disaster Preparedness and Response According to the Disaster Management Plan (2023 – 2030)

ANNEX 8: ADB Incident and Root Cause Investigation and Corrective Action Forms

ANNEX 9: Attendance Sheets of the Public Consultation Sessions

ANNEX 10: Format for a Semi-Annual Environmental Monitoring Report

ANNEX 11: Screening of Livelihood Activities

ANNEX 1: RELEVANT NATIONAL REGULATIONS

National Environmental Act No. 47 of 1980 (and its subsequent amendments)

1. The NEA provides conservation and development guidelines for natural resources management including water, forest, flora, and fauna in Sri Lanka. The 1988 amendment appointed the Central Environmental Authority (CEA) as the enforcement and implementing agency of the Act. CEA has special powers to assess and monitor critical environmental conservation programs and to advise the government on environmental protection, conservation, management, and development issues.

2. Types of projects that need mandatory environmental clearance ("prescribed projects") were made public after the amendments to NEA was approved in 1988. The Act 1988 states that all prescribed projects undertaken by any government department, corporation, statutory board, local authority, company, firm, or an individual will be required to obtain approval under this Act before their implementation. The approval will have to be obtained from the appropriate project approving agencies (PAAs) who are concerned or connected with such prescribed projects. At present, there are 31 such PAAs to deal with review and approval of environmental plans. This unit will also be responsible for monitoring progress.

3. Activities of SSDP could come under the purview of the following sector level Acts according to the specific circumstances. However, screening, scoping, formulation of Initial Environmental Examination (IEE), Environmental Management Plan (ESMP) and procedures for IEE and ESMP disclosure and public comments will be governed by NEA of 1980 and its subsequent amendments of 1988 and 2000, and by environmental regulations.

Pradeshiya Sabha Act No. 15 of 1987

4. Section 12 (2) of the Pradeshiya Sabha Act authorizes the appointment of a committee at the divisional level to advice on environmental matters. Section 105 of the Act prohibits polluting water or any streams, while Section 106 refers to pollution caused by industry and related offences. The Pradeshiya Sabha grants permission for construction activities within its jurisdiction. Such construction will have to comply with environmental requirements stipulated with permits. It also ensures that public health issues are efficiently dealt with and solid waste collection and disposal are appropriately done under this Act.

Flood Protection Ordinance, Act No. 22 of 1955

5. This ordinance provides necessary provisions to acquire land or buildings or part of any land or building for the purpose of flood protection.

Soil Conservation Act, No. 25 of 1951

6. The Soil Conservation Act provides for the conservation of soil resources, prevention or mitigation of soil erosion, and for the protection of land against damage by floods and droughts. Under the Act, it is possible to declare any area defined as an erodible area and prohibit any physical construction. The following activities are also prohibited under Act:

- (i) weeding of land or other agricultural practices that cause soil erosion;
- (ii) use of land for agriculture purposes within water sources and banks of streams; and
- (iii) exploitation of forests and grassland resources and setting fire in restricted areas.

Fauna and Flora Protection Ordinance, Act No. 49 of 1983

7. The Act provides for the protection, conservation, and preservation of the fauna and flora of Sri Lanka. Under the Ordinance, five categories of protected areas are established, namely,

strict nature reserves, national parks, nature reserves, jungle corridors, and intermediate zones. The Section 9 (a) states that "no person or organization, whether private or state, shall within a distance of 1 mile of the boundary of any national reserve declared by an order issued under Section 2 of the Ordinance carry out any development activity of any description whatsoever, without obtaining the prior written approval of the Director". Each application for a development activity has to follow the procedures stipulated under NEA. An application falls within the meaning of Section 9(a) has to be supported by an environmental impact assessment (EIA) or initial environment examination (IEE) according to the significance of environmental impacts.

National Water Supply and Drainage Board Law of No. 2 of 1974

8. The National Water Supply and Drainage Board (NWSDB) is the principle water supply and sanitation agency in Sri Lanka. It was established in January 1975 under the Law No. 2 of 1974. NWSDB develops, provides, operates, and controls water supply and distributes water for public, domestic and industrial purpose.

Prevention of Mosquito Breeding, Act No. 11 of 2007

9. This Act was enacted to prevent and eradicate mosquito-borne diseases such as dengue. Under this Act, it shall be the duty of every owner or occupier of any premises to remove and destroy open tins, bottles, boxes, coconut shells, split coconuts, used tires, or any other article or receptacle found in such premises, and to maintain water wells in such premises to prevent breeding of mosquitoes. People are also bound to ESMP any artificial pond or pools at least once in a week. Shrubs, undergrowth, and all other types of vegetation other than ornamental vegetation and food plants are to be removed.

The Urban Development Authority, Law, No 41 of 1978

10. The Urban Development Authority (UDA) promotes integrated planning and implementation of social, economic and physical development of areas which are declared as urban development areas under the UDA Act. UDA provides technical support to local councils who require assistance in developing plans. It has the authority to develop plans when local authorities fail to do. The UDA monitors urban areas, including 1 km. inland from the coasts in all areas of the coastal zone, and develops land use policies for designated development areas.

Municipal Council Ordinances and Acts - Urban Council Ordinance 61 of 1939, Act 29 of 1947, Act 18 of 1979, and Act 13 of 1979

11. The Municipal Councils and Urban Councils share with Pradeshiya Sabhas powers regarding the approval of buildings plans, control of solid waste disposal, sewerage and other public utilities. Under these laws, new constructions and modifications to current buildings require approval of Municipal or Urban Council or Pradeshiya Sabha. Municipal and Urban councils follow planning and building guidelines of UDA.

Water Resources Board Act No. 29 of 1964, Amendment No.42 of 1999

12. Control, regulation, and development (including conservation and utilization) of water resources; prevention of pollution of rivers, streams, and other water resources; formulation of national policies relating to control and use of water resources.

ANNEX 2: ENVIRONMENTAL SCREENING CHECKLIST

Note: All three checklists need to be completed for all activities and submitted to ADB for approval before commencement of bidding process for the respective activity.

Rapid Environmental Assessment (REA) checklist

Activity name: Matala, Kilinochchi, Mullaitivu, Kegalle and Batticaloa subprojects - Promoting Resilience and Opportunity for Inclusive Recovery Sector Development Program

Province / District: Matala Subproject – Central Province / Matala District; Kilinochchi Subproject – Northern Province / Kilinochchi District; Mullaitivu Subproject – Northern Province / Mullaitivu District; and Kegalle Subproject: Sabaragamuwa Province / Kegalle District; Batticaloa Subproject – Eastern Province / Batticaloa District

Screening Questions	Yes	No	Remarks
A. Project Siting Is the Project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site		X	None of the proposed subproject sites are located adjacent to or within any of the environmentally sensitive areas. The closest site is Batticaloa subproject site but it is located sufficiently away from the coastal zone (of 300m) and from the nearby <i>thona</i> (of 60m)
▪ Legally protected Area (core zone or buffer zone)		X	
▪ Wetland		X	
▪ Mangrove		X	
▪ Estuarine		X	
▪ Special area for protecting biodiversity		X	
B. Potential Environmental Impacts Will the Project cause...			
▪ impairment of historical/cultural areas; disfiguration of landscape or potential loss/damage to physical cultural resources?		X	In Kegalle subproject, a temple is located at the surrounding area of the site. However, no impacts are anticipated.
▪ disturbance to precious ecology (e.g. sensitive or protected areas)?		X	None of the sites are located closer to any sensitive or protected area.
▪ Alteration of surface water hydrology of waterways resulting in increased sediment in streams affected by increased soil erosion at construction site?	X		Minimum activities with earth works, significant only in Kegalle subproject as slope terrain; can be managed through erosion control techniques during construction
▪ Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?	X		Possible, but moderate if not properly managed the sanitary waste from labor camps and chemicals used in construction.
▪ increased air pollution due to project construction and operation?	X		Only during construction: During machinery operations and due to construction vehicles, but mitigable easily. For Matala subproject, it is recommended to avoid night works (This was requested during the consultation session)
▪ noise and vibration due to project construction or operation?	X		Only during construction: During machinery operations and due to construction vehicles, but mitigable easily. For Matala subproject, it is recommended to avoid night works (This was requested during the consultation session)
▪ involuntary resettlement of people? (physical displacement and/or economic displacement)		X	No involuntary resettlement of people, physical and/or economic displacement are involved for any of the subproject.

Screening Questions	Yes	No	Remarks
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?		X	No disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups are involved for any of the subproject.
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STI's and HIV/AIDS) from workers to local populations?	X		Possible, but all health and safety measures will be taken to avoid deceases; Provide continuous training and awareness to the construction staff.
▪ creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents?	X		Possible, but rarely as all health and safety measures will be taken to control pests and mosquitoes; Provide continuous training and awareness.
▪ social conflicts if workers from other regions or countries are hired?		X	Rare possibility: Priority will be given for the local labour. Only skilled labor will be recruited from outside areas.
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		X	No large population influx is anticipated.
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?	X		Significant health and safety during construction such as work at height fall hazard, electrocution, fire hazards, accidents etc. Precautions will be taken with continuous training and awareness
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?	X		Significant health and safety risk during construction, and proper precautionary and mitigation measures will be adopted at the site with proper communication with the community and continuous training and awareness.
▪ community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?	X		As explained above
▪ generation of solid waste and/or hazardous waste?	X		Proper waste management with source separation, reuse, and disposal with coordination of relevant Local Authority during construction and operation
▪ use of chemicals?	X		During construction, chemicals will be used but can be handled and managed properly
▪ generation of wastewater during construction or operation?	X		During construction – mainly sanitation due to labor camps; During operation – kitchen wastewater and sewage . Bot can be managed easily with proper disposal practices.
Environment Category ☐ Category A ☒ Category B ☐ Category C			
Required Assessment: ☒ IEE ☐ ESMP			
Prepared by:		Approved by:	

Screening Questions	Yes	No	Remarks
Date: 25-Aug-2025	Date:		

ANNEX 3: CHECKLIST FOR CONDUCTING AUDIT/ASSESSMENT OF EXISTING FACILITY
(indicative and will be revised as per site conditions, if required)

Subprojects: Kegalle Subproject

S. No.	Particulars	Existing status of compliance		Details, if any
		Yes	No	
A	Regulatory Permits/License (as per applicability)			
1.	Documentation and reporting of record of waste generation			NA
2.	Permission for water abstraction/usage	Yes		NWSDB supply
3.	Authorization for storage of Hazardous Waste		No	
4.	Consent to Establish and Consent to Operate from CEA under National Environmental Act			NA
5.	Permission for discharge of Wastewater/sewage	Yes		Relevant LA
6.	Valid Fire Precautions Adequacy Certificate from the Fire Service Department			Not known
7.	Building Plan Approval from Local Authority or UDA	Yes		
8.	Other Regulatory Permits/License (as per applicability)			Not known
9.	Land ownership documents in name of project authority	Yes		
B	Others			
10.	Internal grievance redress mechanism for workers and community:		No	No specific system
11.	Availability of well experienced and trained staffs for Waste and wastewater Management:			No specific system
12.	Infrastructure availability for Waste and Wastewater Management	Yes		
13.	Mechanism for disposal of other waste (including hazardous waste, plastic, e-waste, municipal solid waste)			Collect separately and dispose through collectors; Disposal at site
14.	Contamination of surrounding environment including land/water bodies/ groundwater sources/air, if any due to mis management of any kind of waste including hazardous wastes?			No pollution observed
15.	Any complaints about the site from local community/ staffs or other institutional entities regarding environmental safeguards (waste management, noise, spread of diseases etc)?			Not known
16.	Any case pending in the court of law or arbitration?			Not known
17.	Any notice issued (or probes) by the local authority, CEA, Forest Department, or any other regulatory authority?			Not known
18.	Monitoring of environment safeguards and waste management done during construction and operation of such facility			NA

Corrective Action Recommended

Gaps / Findings	Risk/Impact Level (Low/Moderate/High)	Corrective Action Recommended	Timeline for closure	Responsible Entity
Kegalle subproject: During the consultations, the existing buildings will be demolished. The disposal sites will be designated prior to the demolition works commenced. Recommendations are provided in EMP. Alternatively, disturbances to the existing building can be avoided by incorporating appropriate design modifications to the proposed facility, including exploring alternative orientations of the conceptual design to minimize potential impacts.				

CHECKLIST FOR CONDUCTING AUDIT/ASSESSMENT OF EXISTING FACILITY
(indicative and will be revised as per site conditions, if required)

Subprojects: Batticaloa Subproject

Note: This checklist covers the Site 2 of the Batticaloa subproject which has two abandoned buildings.

S. No.	Particulars	Existing status of compliance		Details, if any
		Yes	No	
A	Regulatory Permits/License (as per applicability)			
1.	Documentation and reporting of record of waste generation			NA- Abandoned buildings
2.	Permission for water abstraction/usage			NA - Abandoned buildings
3.	Authorization for storage of Hazardous Waste			NA - Abandoned buildings
4.	Consent to Establish and Consent to Operate from CEA under National Environmental Act		No	Both buildings or their activities are not under EPL prescribed list
5.	Permission for discharge of Wastewater/sewage			NA - Abandoned buildings; On site sewage pits
6.	Valid Fire Precautions Adequacy Certificate from the Fire Service Department			NA - Abandoned buildings
7.	Building Plan Approval from Local Authority or UDA			NA – Not within a UDA declared development plan area
8.	Other Regulatory Permits/License (as per applicability)			Not known
9.	Land ownership documents in name of project authority	Yes		Land owned by DS
B	Others			
10.	Internal grievance redress mechanism for workers and community:			Not known - Abandoned buildings
11.	Availability of well experienced and trained staffs for Waste and wastewater Management:			Not know - Abandoned buildings
12.	Infrastructure availability for Waste and Wastewater Management			Not known - Abandoned buildings
13.	Mechanism for disposal of other waste (including hazardous waste, plastic, e-waste, municipal solid waste)			Not known - Abandoned buildings
14.	Contamination of surrounding environment including land/water bodies/ groundwater sources/air, if any due to mis management of any kind of waste including hazardous wastes?		No	No pollution observed

15.	Any complaints about the site from local community/staffs or other institutional entities regarding environmental safeguards (waste management, noise, spread of diseases etc)?			Not known- Abandoned buildings and not operative for long term
16.	Any case pending in the court of law or arbitration?			Not known
17.	Any notice issued (or probes) by the local authority, CEA, Forest Department, or any other regulatory authority?			Not known
18.	Monitoring of environment safeguards and waste management done during construction and operation of such facility			Not known - Abandoned buildings

Corrective Action Recommended

Gaps / Findings	Risk/Impact Level (Low/Moderate/High)	Corrective Action Recommended	Timeline for closure	Responsible Entity
Batticaloa subproject: Prior to the construction the two existing buildings will be demolished. The disposal sites will be designated prior to the demolition works commenced. Recommendations are provided in the EMP. Sewage pits will required to be emptied through coordination with the LA disposal facilities. Alternatively, disturbances to the existing building can be avoided by incorporating appropriate design modifications to the proposed facility, including exploring alternative orientations of the conceptual design to minimize potential impacts.				

ANNEX 4: ADB PROHIBITED INVESTMENT ACTIVITIES LIST

The following investment activities will not qualify for ADB support:

- a. production or activities involving harmful or exploitative forms of forced labor¹ or child labor;²
- b. production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements or subject to international phase outs or bans, such as (a) pharmaceuticals,³ pesticides, and herbicides,⁴ (b) ozone-depleting substances,⁵ (c) polychlorinated biphenyls⁶ and other hazardous chemicals,⁷ (d) wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora,⁸ and (e) trans boundary trade in waste or waste products;⁹
- c. production of or trade in weapons and munitions, including paramilitary materials;
- d. production of or trade in alcoholic beverages, excluding beer and wine;¹⁰
- e. production of or trade in tobacco;¹⁰
- f. gambling, casinos, and equivalent enterprises;¹⁰
- g. production of or trade in radioactive materials,¹¹ including nuclear reactors and components thereof;
- h. production of, trade in, or use of unbonded asbestos fibers;¹²
- i. commercial logging operations or the purchase of logging equipment for use in primary tropical moist forests or old-growth forests; and
- j. marine and coastal fishing practices, such as large-scale pelagic drift net fishing and fine mesh net fishing, harmful to vulnerable and protected species in large numbers and damaging to marine biodiversity and habitats.

¹ Forced labor means all work or services not voluntarily performed, that is, extracted from individuals under threat of force or penalty.

² Child labor means the employment of children whose age is below the host country's statutory minimum age of employment or employment of children in contravention of International Labor Organization Convention No. 138 "Minimum Age Convention" (www.ilo.org).

³ A list of pharmaceutical products subject to phaseouts or bans is available at <http://www.who.int>.

⁴ A list of pesticides and herbicides subject to phaseouts or bans is available at <http://www.pic.int>.

⁵ A list of the chemical compounds that react with and deplete stratospheric ozone resulting in the widely publicized ozone holes is listed in the Montreal Protocol, together with target reduction and phase-out dates. Information is available at <http://www.unep.org/ozone/montreal.shtml>.

⁶ A group of highly toxic chemicals, polychlorinated biphenyls are likely to be found in oil-filled electrical transformers, capacitors, and switchgear dating from 1950 to 1985.

⁷ A list of hazardous chemicals is available at <http://www.pic.int>.

⁸ A list is available at <http://www.cites.org>.

⁹ As defined by the Basel Convention; see <http://www.basel.int>.

¹⁰ This does not apply to investee companies who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to an investee company's primary operations.

¹¹ This does not apply to the purchase of medical equipment, quality control (measurement) equipment, and any equipment for which ADB considers the radioactive source to be trivial and adequately shielded.

¹² This does not apply to the purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%.

ANNEX 5: IMPACT IDENTIFICATION MATRIX

Environmental Elements			Pre-construction and Construction Stage												Operation Stage								
			Preliminary approvals (Relevance)	Site mobilization	Shifting of utilities	Demolition of existing buildings	Land clearing / Vegetation removal	Earth works (cutting and filling etc.)	Construction & domestic Wastewater disposal	Construction & domestic solid waste disposal	Construction material supply & transport	Construction of the building and access etc.	Landscaping	Temporary labour camps	Accidents / Natural Hazards	Power supply	Water supply	Storm water drainage	Wastewater disposal	Solid waste disposal	Healthcare waste disposal	Accidents / Natural Hazards	
Physical	Soil & Geology	Soil quality										+											
		Geology										+											
	Water	Surface water										+											
		Groundwater										+											
		Coastal water																					
		Sea																					
	Air	Air quality																					
		Odour																					
	Noise & Vibration	Noise																					
		Vibration																					
Hydrology / hydraulics	Drainage											+											
	Flooding																						
	Erosion											+											
	Geo-hydrology																						
Biological	Flora	Terrestrial										+											
		Aquatic / semiaquatic																					
		Crops																					
		Coastal																					
		Marine (sea grasses, etc.)																					
		Endemic species																					
		Threatened species																					
		Invasive species																					
	Fauna	Mammals											+										
		Birds											+										
		Other vertebrates											+										
		Butterflies											+										
		Dragonflies											+										
		Other invertebrates											+										
		Marine species																					
		Endemic species																					
		Threatened species																					
		Migratory species / paths																					
		Invasive species																					
	Ecosystems / vegetations / habitats	Terrestrial (Scrublands, etc.)																					
		Terrestrial aquatic																					
		Coastal ecosystems																					
		Marine ecosystems																					
	Sensitive areas	Other*																					
		Protected areas (Wildlife)																					
	Social	Landuse	Forests																				
			Rural										+										
Fisheries																							
Urban											+	+											
Industrial																							
Recreational uses																							
Landscape												+											
Accessibility												+											
Socio-economic		Archaeological / cultural sites																					
		Wilderness quality																					
		Population density																					
		Employment	+	+	+	+	+	+	+	+	+	+	+	+				+	+	+	+		
		Hazards / nuisance																					
		Other social conditions																					
		Infrastructure										+	+				+	+	+	+	+		

Note:

- The Impact Identification Matrix was prepared with the columns assigned to Project Activities, and Rows assigned to Environmental Elements.
- The cells corresponding to each environmental elements that were affected by the project activities were marked using a color code according to the significance of the impact.
- The marking of cells is based on the significance of impact, considering the scale and the frequency. Color code used is as follows;

Scale	High	Moderate	Major	Major	Severe
	Medium	Minor	Moderate	Major	Major
	Low	Minor	Minor	Moderate	Major
	Minimum	Negligible	Minor	Minor	Moderate
		Rare	Occasional	Frequent	Constant
		Frequency			

- A blank cell indicates that there are No impacts or Not Relevant.
- Positive impacts are denoted by "+" sign. The level of significance of the positive impacts were not assessed.

*Home gardens, agriculture lands, etc.

ANNEX 6: GUIDELINES FOR ASBESTOS CEMENT MANAGEMENT

Introduction

This guideline applicable for management of asbestos cement containing material specially the waste due to demolition of buildings having asbestos cement roofing sheets and handling of asbestos cement containing material during construction. Drilling or cutting asbestos sheets can release fine asbestos fibers that are hazardous when inhaled, potentially causing asbestosis, lung cancer, and mesothelioma. Therefore, strict control measures shall be applied during handling asbestos cement containing materials.

Guidelines and Control Measures

1. Avoidance

- As a priority, use of asbestos cement containing materials shall be avoided. Alternative materials, shall be used wherever feasible.
- As much as possible, do not demolish buildings with asbestos cement roofing sheets and consider the existing building/s into the designs of facility.

2. Dust Suppression and Collection

- A **HEPA-filtered vacuum attachment** shall be used with power drills to capture fibers at source if drilling is involved.
- Disposable plastic sheeting shall be placed beneath the drilling area to collect debris.

3. Personal Protective Equipment (PPE)

- Workers shall wear **P2 or N95 respirators approved for asbestos work**, disposable coveralls, gloves, and footwear covers.
- PPE shall be carefully removed after work and disposed of as asbestos waste.

4. Work Area Management

- The work zone shall be isolated, with access restricted to trained personnel only.
- Eating, drinking, or smoking shall be strictly prohibited in the work area.

5. Clean-up and Waste Disposal

- Dry sweeping and compressed air cleaning shall be strictly prohibited.
- Debris and contaminated PPE shall be cleaned using **wet wiping or HEPA vacuuming**.
- Clean the equipment used in handling asbestos and the area with damp rags.
- Put debris, used rags, polythene sheeting and other waste in the asbestos waste bag and tape it closed.
- All asbestos waste shall be collected and handed over to a **CEA-authorized hazardous waste facility** in accordance with Gazette No. 1534/18 of 01.02.2008.
 - Store the waste asbestos sheets in a safe location of the project site premises or transport them to a central disposal yard where waste from all sites in the district can be stored.
 - Transfer to the designation locations, for the disposal. The local manufacturers of asbestos cement containing items are accepting the waste asbestos cement containing materials for recycling.

6. Training and Monitoring

- All workers handling asbestos materials shall be trained in asbestos safety procedures.
- Where frequent work is anticipated, air monitoring shall be carried out to ensure occupational exposure limits are not exceeded.

4 GENERAL DUTIES/RESPONSIBILITIES

4.1 General Duties/Responsibilities of Employers and Project Managers

General duties/responsibilities of employers and project managers are as follows:

- **General**

- Employers/project managers shall ensure any work in the workplace and surrounding communities, including asbestos-related work, meets the national legislation and obligations and follows requirements for international best practice.

- **Before and/or during construction**

- Employers/project managers shall assess whether material supplied for their workplace contains asbestos.
- Where possible, asbestos and ACM should be avoided in new materials and alternative materials should be used.
- Where ACM is used in construction, employers/project managers should ensure that it does not present unacceptable risk to construction workers or future users and its location should be fully documented in an asbestos register to guide scheduled maintenance works.

- **During operation/maintenance**

- Employers/project managers shall provide reasonable measures to identify and assess the potential asbestos hazards currently present at the workplace and surrounding communities, within the materials and equipment / plant used by workers. An asbestos register shall be prepared by the manager prior to commencement of routine and ad hoc maintenance works.
- Employers/project managers are responsible for the control and prevention of exposures to airborne asbestos within a workplace and

surrounding communities, including (but not limited to):

- » Asbestos risk is mitigated through the various control measures provided in this document.
- » Provision of monitoring equipment (where necessary), which should be adequately maintained and calibrated.
- » Provision of health surveillance to workers (where necessary).
- » Provision of appropriate (type specific) personal protective equipment (PPE).
- Employers/project managers must conduct regular inspections of sites where asbestos work takes place to ensure asbestos controls are adequate.
- Employers/project managers shall make the following information available for workers and subcontractors, noting that they should engage a competent person to provide this information:
 - » Relevant legislation, regulations and safety precautions for work with potential asbestos exposure;
 - » Locations of identified or suspected ACM within the workplace;
 - » Potential hazards and risks of asbestos in the workplace;
 - » Appropriate mitigation measures for working in or around the presence of identified or suspected ACM; and
- Employer/projects managers shall liaise with relevant project development stakeholders to ensure the safety and wellbeing of surrounding communities against exposure from ACM from their workplace.
- Employers/project managers shall ensure that workers and other subcontractors are adequately trained in conducting their work, recognizing potential ACM in the workplace and any work with potential asbestos exposure.

- Employers/project managers shall engage suitably qualified and experienced asbestos contractors for all asbestos-related work, including assessments of areas where ACM may be present, before the start of work that could release asbestos fibers.
- **During asbestos removal/demolition of structures/buildings**
 - Employers/project managers shall engage suitably qualified, experienced and licensed (if required) asbestos contractors for asbestos removal work.
 - Employers/project managers shall ensure the asbestos removal work does not result in unacceptable risk to other workers and communities.
 - Employers/project managers shall ensure that the area of asbestos removal is appropriately validated following asbestos removal work by a suitably qualified, experienced and licensed (if required) competent person prior to allowing access to the area.

4.2 General Duties/Responsibilities of Workers and Subcontractors

General duties/responsibilities of workers/subcontractors are as follows:

- Workers/subcontractors shall follow instructions provided to them by their employers/project managers to prevent airborne asbestos in the workplace/surrounding communities and shall work within the national legislation and requirements and follow requirements of international best practice.
- Within the limits of their responsibilities, workers/subcontractors shall prevent, to the extent practicable, the release of airborne asbestos fibers in the working environment by ensuring safe asbestos work practices are followed and ensuring that any damaged asbestos or unexpected asbestos found in the workplace is managed in accordance with international best practice.
- Workers/subcontractors shall participate in health surveillance for asbestos where required by the employers/project managers.

- Workers/subcontractors shall inform the managers of observations of unidentified potential hazards in the workplace which may give rise to asbestos dust exposure.
- Workers/subcontractors shall wear appropriate PPE provided and take other asbestos control measures as instructed by employers/project managers.

4.3 General Duties/Responsibilities of Asbestos Contractors

General duties/responsibilities of asbestos contractors are as follows:

- Asbestos contractors shall conduct work where asbestos may be present in accordance with national legislation and requirements and follow requirements of international best practice.
- Obtain and maintain asbestos-related licence/permits/accreditations in accordance with national legislation and requirements, and project requirements/international best practice.
- Asbestos contractors shall employ controls during work where asbestos may be present to prevent airborne asbestos, including but not limited to:
 - Isolating the area and limiting access to the area of work and providing adequate signage.
 - Decontaminating equipment and cleaning up of the area
 - Handling waste to mitigate spread of asbestos within the area, in soils, air or within waste locations.
 - Disposal of asbestos waste at a lawful location required to reduce spread of asbestos.
 - Conducting air monitoring.
- Asbestos contractors shall ensure that the workplace is cleaned to an appropriate standard to minimize asbestos exposure at the completion of the work.
- Asbestos contractors should provide validation/clearance following completion of the work, which states that asbestos has been adequately removed/encapsulated/stabilized and that the workplace is safe for work.

4.4 General Duties/Responsibilities of Vendors

General duties/responsibilities of vendors are as follows:

- Vendors shall provide goods in accordance with national legislation and requirements.
- Vendors shall provide purchasers with information on asbestos content within the goods they supply and instructions on how to safely use the product.

4.5 Consultation with Stakeholders

To ensure successful implementation of this Good Practice Guidance, it is important to obtain cooperation from all stakeholders involved in a project, such as representatives, government authorities, employers, project managers, workers, subcontractors, and occupational health and safety representatives.

General guidance for effective consultation includes (but is not limited to):

- Consultation between stakeholders shall be conducted early in the project development cycle (e.g., at project design and early procurement planning stages). This should consider appropriate national legislation and requirements and international best practice guidance requirements for the project.

- Regular consultation shall occur throughout the project duration between stakeholders with a focus on prevention of health hazards due to asbestos, including (but not limited to):
 - National legislation/requirements
 - Requirements for use of items or equipment where asbestos presence has been confirmed or is suspected
 - The nature of asbestos present at the workplace (within the buildings, structures or equipment used)
 - The results of any monitoring completed
 - Preventative or mitigation measures required to minimize asbestos exposure, including requirements of PPE and other controls
 - The outcomes of inspections
 - Any identification of new asbestos in the workplace

5 ASBESTOS TRAINING

5.1 Definition of Competent Person

Asbestos work must always be conducted by a **competent person**. Each country may have its own definition of a ‘**competent person**’ who is able to conduct work where asbestos may be present.

In this document, a **competent person** as it applies to asbestos work, is defined as someone who has the relevant knowledge, skills, experience, and attitude to perform asbestos work while applying the current state of knowledge on work, health and safety for controlling asbestos risks in the workplace.

It should be noted that asbestos work competency is often task specific. For example, a person who is competent to identify asbestos in the workplace may not be competent to conduct asbestos removal work. The person (or company) should therefore be assessed based on the proposed asbestos task.

Some countries may require a licence, permit or specific accreditation for certain activities/tasks (e.g., asbestos removal work, issuing clearance certificate, etc.) which may assess the competency of the specialists completing the tasks. In countries where such regulatory and permitting requirements are absent and/or inadequate, international best practices should be followed.

A guide to assess competency is provided in Section 3 of the Tool Kit in Appendix B

5.2 Training Requirements

Employers/project managers have the responsibility to ensure that workers/subcontractors are provided with training for items within this Good Practice Guidance related to their work, in accordance with national legislation/requirements and requirements of international best practice.

Specialized training and certification may be required for (but not limited to) the following asbestos-related work:

- Asbestos identification during workplace asbestos surveys
- Laboratory testing for asbestos
- Air monitoring
- Disturbance of asbestos-containing material
- Asbestos removal work
- Other asbestos remediation work (e.g., isolation)
- Issuing clearance certificate following asbestos removal work
- Handling and transport of asbestos waste
- Receiving asbestos waste

5.3 E-Learning Modules

Asbestos Awareness E-learning modules are available for building managers, and any other workers who need to understand the basic hazards and risks associated with asbestos. The course modules can be found at the following link:

<https://elearn.adb.org/course/view.php?id=425>.

6.3 Asbestos Risk Assessment

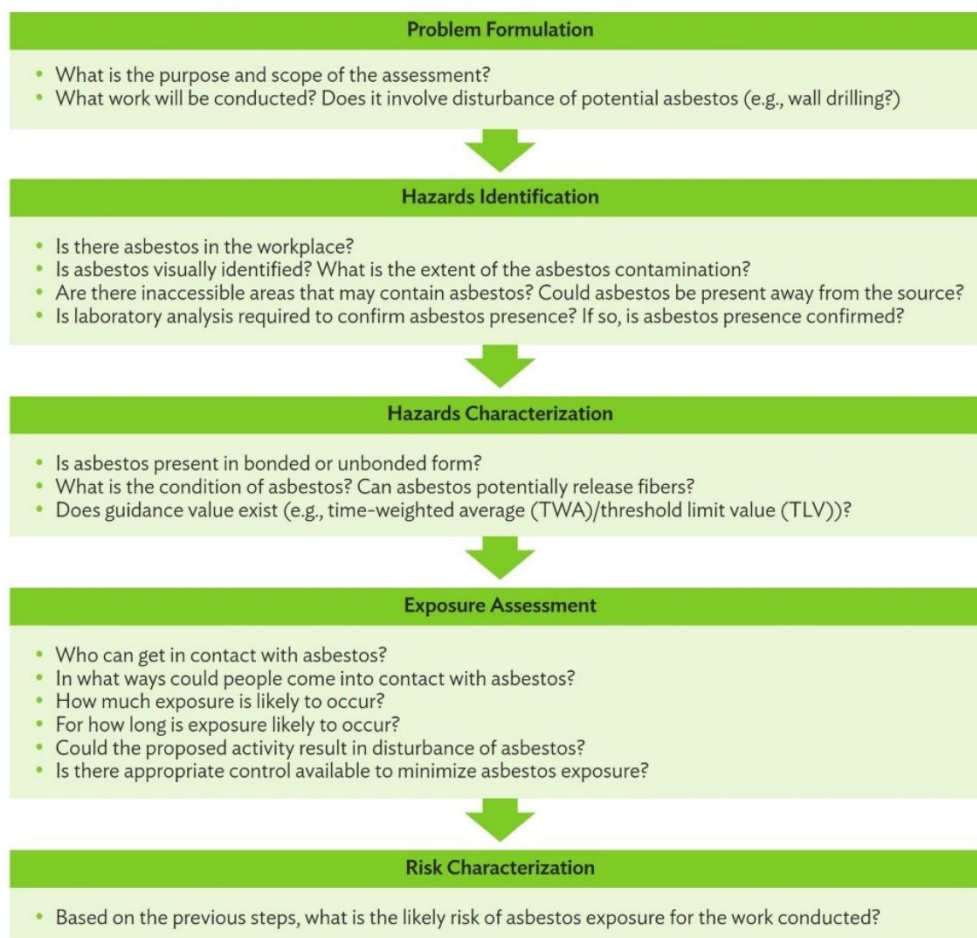
While undisturbed, adequately encapsulated ACM is unlikely to present a risk. It is important to conduct asbestos risk assessment when conducting work that may potentially disturb ACM.

There are many available international resources which provide methodologies to assess the risk of asbestos exposure. The International Program on Chemical Safety (IPCS, 2010) provides a WHO human health risk assessment tool kit for chemical hazards, such as asbestos.

National requirements may specify what information an asbestos risk assessment should consider. It is recommended that any requirements for asbestos risk assessment and management planning are referenced against international best practice that seeks to protect health. As a guide, a risk assessment process may comprise the steps provided in Figure 1 and may include details of the work conducted and information on:

- Type(s) and quantity of asbestos
- Expected level of exposure
- Controls to reduce exposure (e.g., ventilation, wetting, PPE, enclosures, etc.)

Figure 1: Generic Road Map for Asbestos Risk Assessment



(modified from IPCS [2010])

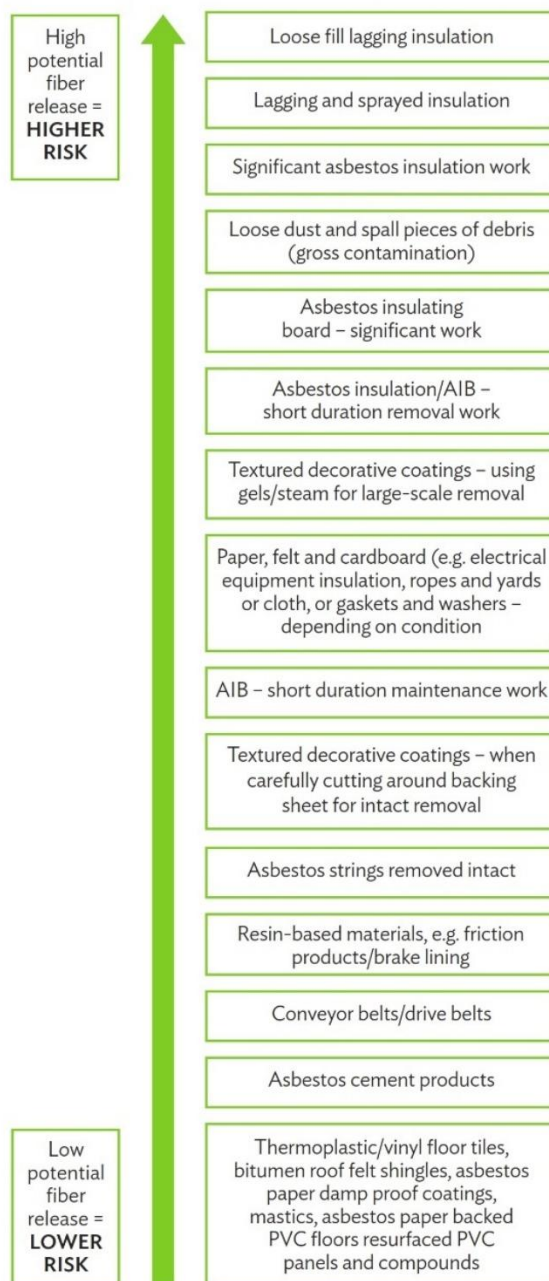
- Decontamination procedures
- How asbestos waste will be managed
- Emergency procedures

In general, unbonded asbestos generally presents higher risk than bonded asbestos. Figure 5 provides examples of the likelihood of fiber release for different ACM. The risk for certain materials may be different in each country depending on how the material is produced and applied. A competent person should be engaged to assess the risk.

Important considerations include:

- Asbestos could be present away from the source, e.g., on the ground beneath the roof drip line due to roof weathering.
- Plumbers working on a long pipe that does not have asbestos insulation where the work is being done may cause disturbance to asbestos insulation some meters away.
- Historical asbestos may be present (e.g., around new pipes, as a result of previous incomplete removal).

Figure 2: Illustration on Likely Asbestos Risk Based on Work Types



Source: UK Health and Safety Executive. Control of Asbestos Regulations 2012. <https://www.hse.gov.uk/asbestos/regulations.htm>.

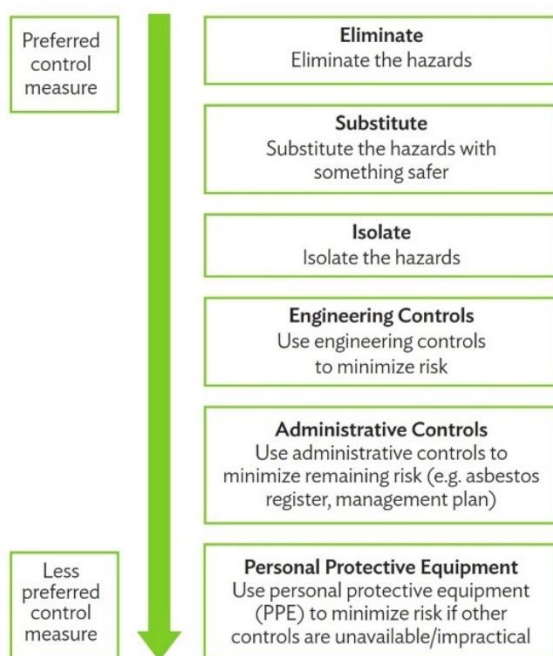
7 MANAGING ASBESTOS RISK

7.1 What Is Involved in Managing Asbestos Exposure Risks?

The risk of exposure to asbestos can be managed using a systematic process as follows:

- Identify hazard
- Assess risk, as outlined in Section 6.3
- Control risk
- Review control measures
- When choosing the control measures, the following hierarchy should be considered:

Figure 3: Hierarchy of Control Measures



The above control measures are explained in the sections below.

Administrative control and PPE alone do not control the hazards at the source as they rely on human behavior and supervision, so the use of these is the least effective in minimizing the risk. As a control measure, PPE should be the last control measure after all other control measures have been exhausted as part of the hierarchy of control measures.

A combination of control measures may be required for controlling the risk of an activity. There may be national requirements to adopt certain control measures for asbestos work. The adequacy of any national measures required to be employed to control risk of asbestos exposure should be assessed against international best practice that protects health.

7.2 Elimination/Removal

Elimination involves removal of asbestos or ACM.

This is often the preferred control measure as it requires removal of the source (i.e., asbestos) and is consistent with the WHO and ILO advice.

For new materials installed in the workplace, this involves the use of non-asbestos alternative material. Guidance for removal of asbestos is further discussed in Section 10.

7.3 Substitution

Substitution involves changing work methods and/or designs to alternatives to reduce the exposure to the hazard.

For example, instead of drilling holes through asbestos-containing wall to install screws for hanging pictures, consideration could be given to attaching a hook on the wall with double tape.

Any use of substitution method should ensure the substitution activity does not result in the release of asbestos fibers.

7.4 Isolation

Isolation involves removing the exposure to the asbestos by isolating asbestos from the air or the receptor. Isolation can be conducted through enclosing, encapsulation or sealing of ACM.

Enclosing ACM is the preferred alternative control measure when asbestos removal is not practicable. The choice to use this method may depend on the condition of asbestos or ACM and the likely risk and cost.

An example is the installation of a non-asbestos false wall in front of an asbestos wall. Note that conducting this activity may present additional hazard when not appropriately conducted or recorded. For example, future workers may conduct drilling through the non-asbestos wall, not knowing there is a second asbestos wall behind, which may result in the asbestos wall being disturbed.

When asbestos is isolated in an enclosure it is important to register the presence of asbestos and the method of isolation in an asbestos register together with an asbestos management plan and ensure this asbestos management plan is available and documents procedures to conduct work in the area (see below in Section 7.6).

Encapsulation of asbestos involves sealing asbestos product in a resilient matrix, such as in reinforced plastics, vinyl, resins, mastics, bitumen, flexible plasters and cement, which have low likelihood to release fibers unless damaged.

Any asbestos controlled by encapsulation should also be recorded in an asbestos register with asbestos management plan documenting long term management of the material, which includes maintenance and potential intrusive work.

Sealing of asbestos involves covering the surface of the ACM with a protective coating to prevent fiber release. This method is the least effective isolation method particularly where coating may degrade due to temperature, weather, etc.

Any asbestos controlled by sealing should also be recorded in an asbestos register with asbestos management plan documenting long term management of the material, which includes maintenance and potential intrusive work.

Any isolation work should be conducted by a competent person experienced with conducting such work and may need to consider:

- The condition and extent of asbestos
- Potential airborne asbestos release during the work and any controls required
- Any other aspects to control asbestos release provided in this guidance
- Potential future asbestos disturbance in the area
- Maintenance requirements
- Strength and durability of the isolation method (e.g., chemical resistance in area requiring chemical resistance, weather resistance for outdoor items, etc.)
- Requirement of labelling
- PPE requirement

7.5 Engineering Control

Engineering control involves the use of tools/equipment to reduce the potential asbestos risk. This includes the use of hand tools instead of a power tool and the use of other alternatives to high-pressure water and compressed air for cleaning asbestos roof, to minimize potential asbestos fiber release.

Where possible, the use of local exhaust ventilation fitted into tools and/or vacuuming technique should be used to extract any released fibers. There may be national requirement of the vacuum cleaner required for asbestos work. Generally, a household vacuum cleaner is not adequate.

A combination of several engineering controls and also a wet method involving wetting ACM may be required. Where engineering control is used, air monitoring may need to be conducted to ensure the effectiveness of the system.

7.6 Administrative Controls

Administrative controls include the use of documentation to control the risk, such as through preparation of an asbestos management plan or asbestos register. Guidance on asbestos registers is provided in Section 7.6.1. Asbestos registers are typically attached to an asbestos management plan of a workplace.

7.6.1 Asbestos Register

Where asbestos is identified in the workplace and will remain, the information should be documented in an asbestos register. There may be different national requirements for asbestos registers, which may need to be followed. As a guide, an asbestos register should include at a minimum the following information:

- Date asbestos was identified
- Location (sample reference, material description, building floor, room area)
- Normal occupant activity (main type of activity in the area)
- Likelihood of disturbance (consideration of location, accessibility, extent/amount)
- Human exposure potential (e.g., no. of occupants, frequency of use, average time in the area)
- Maintenance activity (type of work, frequency)
- Material (product type, extent of damage, surface treatment (e.g., painting, behind other material), asbestos type (if known))
- Management plan

An example of an asbestos register is provided in Appendix A.

An asbestos register should be regularly maintained and be made accessible to everyone working in the workplace.

7.6.2 Asbestos Management Plan

An asbestos management plan is a plan that states how asbestos in the workplace will be managed. There may be national requirements for information which needs to be included in an asbestos management plan. As a guide, the information recorded in an asbestos management plan should include at a minimum the following information:

- Asbestos identification in the workplace, including a link to the asbestos register
- An outline on how the risks for each ACM are controlled, e.g., some ACM may require labelling, others may require prohibition in drilling, etc.
- Control measures on the management of asbestos and ACM in the workplace, such as safe work method statements (details provided in Section 7.6.3)
- Procedures for accidents, incidents and emergencies involving asbestos in the workplace

- Responsibilities in implementation of the plan
- Worker requirements for conducting asbestos work, e.g., licences/permit requirement, training, responsibilities, supervision, health surveillance, etc.
- Air monitoring requirement during each type of asbestos work
- Requirement of communication of the plan to workers and other relevant stakeholders

An asbestos management plan should be prepared and reviewed by competent people experienced in assessing asbestos risk and control measures, and in carrying out activities in the workplace that may risk ACM exposure.

The plan should be regularly reviewed and revised (including after an incident) to ensure it is up to date international best practice.

The employer/managers responsible for the workplace should ensure the asbestos management plan be adequately resourced and communicated to all workers who may conduct work that may disturb or have the potential to be exposed to asbestos.

7.6.3 Safe Work Method Statements

When conducting work that potentially disturbs asbestos or ACM (including work that is conducted to control asbestos risk), it is important to prepare a safe work method statement (SWMS). A SWMS documents the hazards identified in a work activity, assesses the risk of each hazard and details the measures to be put in place to control the risk.

There may be national requirements on information which needs to be considered in a SWMS. As a guide, SWMS should include at a minimum the following information:

- Details of work activity
- Person responsible for ensuring compliance with the SWMS and contact details
- Tasks involved
- The hazards identified for each task and assessment of risk for each hazard
- The control measures to control the risk
- Records of workers who have been inducted to the SWMS

The SWMS should be prepared by a person familiar with the proposed work who has prior experience with

the activity to be conducted. Workers conducting the proposed work should be inducted to the SWMS to understand the risk of the work and the control measures required to minimize the risk.

7.7 Hygiene

Consumption of food, drinks or smoking should be avoided within the asbestos work zone until a person is appropriately decontaminated.

7.8 Personal Protective Equipment

The use of personal protective equipment (PPE) should be considered as the last method to control the risk of exposure to ACM in line with the hierarchy of control measures. There may be national requirements on PPE for asbestos work. As a guide, the following PPE comprises minimum requirements which should be considered:

- Face mask/respirators with appropriate filters (generally P1, P2 or P3 are used for asbestos work, with P1 being the least efficient and P3 being the most efficient in providing protection)
- Disposable overalls
- Gloves and rubber boots, preferably covered with disposable glove or boot covers to minimize exposure to clothing.

The type of face mask/respirators depend on the type of asbestos work and should be recommended by a competent person who is familiar with the activity. The choice of a respirator should also consider how much airborne asbestos is likely to be present during the work.

Some countries may have standards on the appropriate respirators for certain type of asbestos work, noting disposable face masks may not be appropriate for certain types of work.

Examples include:

- Negative pressure air-purifying respirator (half-face mask)
- Positive pressure respiratory equipment
- Direct air-line breathing apparatus

The following may need to be considered:

- All persons entering work zone may have minimum PPE requirements as listed in the SWMS.
- All workers who require PPE should be provided adequate training to appropriately use them.
- To achieve good seal on the face, respirators may need to be properly fitted and facial hair may need to be removed.
- PPEs should be appropriately maintained (e.g., some respirator filters may have expiry date) and appropriately stored (e.g., in areas that would not cause contamination).
- Used disposable PPE should be appropriately disposed of as potentially asbestos contaminated.
- Used non-disposable PPE should be placed in separate container labelled as potentially asbestos contaminated, until appropriately decontaminated.

Guidance for laundering of clothing is provided in Section 8.6.

8 SAFETY IN THE USE OF ASBESTOS

8.1 Asbestos Work Zone and Warning Signs

For work that may potentially disturb ACM, it is important to isolate the work area in an asbestos work zone to limit access to the area and potential asbestos exposure. The area should be appropriately barricaded with warning signs placed to indicate asbestos work is being conducted. The signs should remain until the asbestos work is complete and the area is adequately cleaned up.

Where dust can escape the work area (i.e., through windows, pipes, air-conditioning ducts, etc.), the work area should be adequately sealed with adhesive tape or isolated by sealed plastic sheeting. Floors, tools and equipment may also need to be sealed in plastic sheeting to minimize contamination.

8.2 Asbestos Monitoring

Asbestos monitoring should be measured in areas or places where workers and surrounding communities may be exposed to the risk of airborne asbestos. Asbestos monitoring may include:

- Air/static monitoring, which comprises measurement of airborne asbestos in air samples at the work place.
- Personal monitoring, which comprises air samples in the worker's breathing zone.

The type, frequency, method and the locations of monitoring may depend on the type of work, the likely airborne asbestos concentration generated with the activity and national requirements and should be recommended by a competent person. The air samples should be submitted to a laboratory (see Section 6.2 for analytical methods).

Asbestos monitoring results (generally provided as fiber/mL, fiber/cc or fiber/m³) should be compared with established action levels listed in the SWMS prior

to the work. Action levels may consider national and international threshold limit value (TLV), permissible exposure limit (PEL) or time weighted average (TWA).

The action levels may also consider:

- What happens if action level is exceeded? Does work need to be stopped?
- Who needs to be notified?
- What other control measures need to be put in place?

The following should also be considered when conducting air monitoring.

- To provide meaningful information, air monitoring results should be obtained as soon as practicable (i.e., results obtained weeks after work had been completed would be too late to respond to).
- The air monitoring results should be made available to workers. If action levels are exceeded, workers should be informed of the likely risk and additional control measures required.

8.3 Use of Enclosure

During large-scale asbestos removal work or asbestos work that may cause a significant airborne asbestos, an enclosure may be required. The design of the enclosure should be completed by a competent person and may be dependent on national requirements. At a minimum, the design should include the following information:

- The activity conducted
- Method used to contain asbestos release
- The strength of the enclosure material, to prevent tearing during work. Typically, enclosure may be constructed with heavy-duty polyethylene sheeting.
- Location of decontamination area and changing facility
- Requirement of negative pressure exhaust units

- Air quality and temperature within the enclosure
- Lighting types
- Potential for dust to escape
- Any other hazards, including emergency/evacuation

Other factors which will assist in an appropriate design include:

- Minimization of moveable items (e.g., desk, chairs, etc.). Any moveable objects should be placed outside the enclosure.
- Tools should remain within the enclosure until appropriately cleaned and decontaminated.
- Adequate coverage of any non-moveable items, including floors.
- Any potential pathway for dust to escape (e.g., air-conditioning fan, pipes, ducts, windows, doors) should be appropriately sealed.
- Requirement of negative pressure exhaust units to prevent the escape of airborne asbestos fibers from an enclosed asbestos zone should be assessed.
- The effectiveness of the enclosure should be monitored prior to asbestos work commencing, such as through smoke test, visual inspection and/or negative pressure testing, and during asbestos work, such as by air monitoring outside the enclosure. Where any defects are identified, work should cease until the defects are rectified.
- It may be prudent to have a person standby outside the enclosure to provide communication to workers inside the enclosure in case of emergency.
- Air extraction equipment should remain in operation for at least 15 minutes after asbestos work has ceased (ILO 1984)
- Upon completion of works, a person working within the enclosure should appropriately decontaminate himself/herself and any clothing in a decontamination area (see further in Section 8.4).
- Following completion of the work, all disposable material (including plastic used for the enclosure) should be disposed of as asbestos waste. The person conducting cleanup should wear appropriate PPE.

8.4 Decontamination

A dedicated area should be provided to conduct decontamination of clothing, PPE and tools and equipment. The requirements of decontamination area depend on the national requirements, activity conducted, the number of workers involved, the number of tools and equipment, etc. and should be designed by a competent person. The minimum design should include:

- Decontamination area should be constructed adjacent to or as close as possible to the asbestos work zone.
- Where the decontamination unit is not located adjacent to the asbestos work zone, other control measures (e.g., additional overalls, etc.) may be required.
- Decontamination area should consist of contaminated area and clean area. A shower can be provided if considered necessary.
- Ventilation under positive pressure may also be considered.
- The contaminated area should have provision of storage of contaminated clothing and footwear in a labelled container.
- A vacuum dusting or hose to clean clothing and footwear can be provided.
- Exhaust ventilation creating negative pressure may also be considered.
- The clean area should have provision for storage of clean clothing.

8.5 Cleaning Up

Workplace (within and outside asbestos work zone) should be maintained in a clean state and free of asbestos waste at all times. Cleaning methodology depends on the activities conducted, the area asbestos is likely to be present, the extent of control during asbestos work, and should be prepared by a competent person. The following items should be included at a minimum:

- Cleaning should be carried out using vacuum cleaning equipment with special filters (e.g., high-efficiency particulate air (HEPA) filters) where practicable, or by some other means in such a way that asbestos dust neither escape nor

is discharged into the air, such as washing/wetting method. Where mechanical equipment is used for cleaning, they should not result in secondary generation of airborne asbestos. Generally, a household vacuum cleaner (even with HEPA filter) is not considered adequate. There may be national requirements of the vacuum cleaner required for asbestos work.

- Where washing is conducted, the asbestos-containing wastewater should be contained and appropriately disposed of and should not result in asbestos being dried out (e.g., on the floor) or migration to the area outside the asbestos work zone.
- Workers conducting cleaning should wear appropriate PPE.
- Where practicable, cleaning should be carried out where no other person is present. Where other person(s) are present, they should also wear appropriate PPE.
- Floors should be regularly cleared of accumulated dust and waste.
- Equipment and tools should be cleaned after use in the asbestos work zone. Cleaning can be done by vacuum cleaner or other methods. Parts of equipment inaccessible to the vacuum cleaner can be cleaned by other methods, such as oiled brushes.
- Cleaning should also include cleaning of overhead structures, which can be done by vacuum cleaning equipment or by some other means does not result in secondary generation of airborne asbestos.
- The collection bag within the vacuum cleaning filter should be disposable and be disposed of as asbestos waste after cleaning is complete.
- Contingencies - If the collection bag bursts open during use, the following approach should be employed:
 - The bag and its content should be removed and placed into an impermeable bag and disposed of as asbestos waste.
 - The vacuum cleaning equipment should then be cleaned using other equipment (e.g., another vacuum cleaner).
 - This activity should be conducted in an area identified as safe by a competent zone and should not result in contamination of a clean area.
- Prior to dismantling an enclosure, the following should be considered:

- The internal layer needs to be cleaned and any asbestos fibers stabilized (e.g., by sealing, etc.).
- Where disposable plastic enclosure is used, the plastic can be sprayed with tinted polyvinyl alcohol (PVA) of a similar acrylic emulsion using airless spray equipment to ensure any loose asbestos fibers are adhered to the plastic.
- Enclosure should not be dismantled until a competent person is satisfied that the dismantling process would not result in the release of asbestos fibers outside the enclosure.
- Monitoring should be completed outside the enclosure to ensure that airborne asbestos is not present, prior to dismantling.

Following cleanup, the area should be validated by a competent person to assess the completion of the asbestos removal and cleanup (see further in Section 10.6). Depending on the national requirements, there may be requirements of licence/permit of such competent person.

8.6 Laundering

There is evidence that secondary exposure to asbestos fibers in asbestos workers' clothes may be experienced by their families (WHO, 2011). Therefore, the employer/project manager should have provision for workers for the laundering of PPE and potentially contaminated works clothing.

There may be national requirements on laundering for asbestos work. As a guide, the laundering of asbestos contamination clothing should include at a minimum the following:

- Potentially contaminated clothing should be packed in secured dust proof containers, such as plastic bags which are appropriately sealed.
- Laundering should be conducted under controlled conditions (e.g., by a contractor that understands the precautions for handling asbestos-contaminated clothing) to prevent the emission of airborne asbestos during handling, transport and laundering.
- The laundering of potentially asbestos contaminated clothing in workers' homes should be avoided.

8.7 Selecting and Managing Contractors

Selection and management of contractors is important to ensure the asbestos risk is controlled. The following factors should be considered:

- Nature and scope of work
 - The type of contractor required (licensed, non-licensed, size, capability, etc.)
 - Type of work (removal, cleanup, validation, monitoring, etc.)
 - What reporting is required (validation of quality of work, validation of waste disposal, etc.)
- Company accreditation/permits/licence
 - Dependent on national requirements
 - Insurance requirements
- Individual competency
 - Asbestos knowledge
 - Task specific
- Ongoing onsite monitoring and revalidation

The selection of contractors will be dependent on the type of work and the national requirements for certain activities. Specialist advice may be required to determine the type of contractors required for certain activities.

Management of contractors should be conducted by a competent person.

Audits of the work may be required throughout to ensure it is conducted in accordance with the agreed scope, meets international best practice and national requirements, and does not result in unacceptable health risk.

8.8 Health Surveillance

Health surveillance may be required for workers to exposure with asbestos dust. There may be national requirements for information which needs to be considered in a health surveillance program. As a guide, the following should be considered:

- Workers subject to health surveillance should have the following rights:
 - Confidentiality of personal and medical information;

- Full explanations of the purposes and results of the surveillance and copies of their own medical records;
- The right to refuse invasive medical procedures; and
- Results should not be used to unfairly discriminate against workers.
- Health surveillance relevant for asbestos-related work generally involves a physical examination of the worker with emphasis on the respiratory system, including standardized respiratory function tests. Other forms of surveillance may be recommended by a registered medical practitioner.
- Where deemed necessary, health surveillance should be conducted prior to conducting asbestos dust work (pre-assignment surveillance), at regular intervals as deemed necessary (periodic surveillance), and following cessation of employment.
- The pre-employment health surveillance should aim to:
 - Determine condition which would be a contraindication to occupational exposure to asbestos dust.
 - Establish baseline records for future health surveillance of workers.
 - Educate and advise workers about the risks associated with exposure to asbestos dust.
- The periodic health surveillance should aim to:
 - Detect the earliest signs of asbestos-related disease.
 - Detect any significant change in health status relative to the baseline examination.
 - Continue to educate and advise workers about health risks and to check that appropriate preventative measures are being taken to minimize risk.
- Health surveillance should be provided at no expense to the workers.

10 MANAGING THE RISKS OF ASBESTOS REMOVAL

This section provides high-level guidance for management of asbestos exposure risks during asbestos removal work. For removal work, relevant guidance covered under other sections of this document should also be considered in particular Sections 7 Managing Asbestos Risk, 8 Safety in the Use of Asbestos, 9 Managing Incidents and 11 Asbestos Waste.

It is also important that asbestos removal work is conducted by a competent person who has adequate qualification, training and experience conducting the relevant removal work, as outlined in Section 5.2 Training Requirements and 8.7 Selecting and Managing Contractors, noting that asbestos removal work may require licence / permit / accreditation in some countries.

A safe work method statement should be prepared prior to removal work, which identifies the hazards, risk and any potential mitigation measures required and considers all the steps of the removal, including cleaning up and management of waste.

10.1 Demolition

Demolition of buildings/structures should be conducted in accordance with national requirements and in line with international best practice.

Prior to conducting demolition of buildings/structures, risk assessment should be completed to assess whether asbestos is present in the buildings/structures to be demolished/decommissioned in accordance with the guidance in Section 4 of the GPG. Any suspected ACM (e.g., sprayed insulation, lagging, textured coating, etc.) should be treated as asbestos-containing, unless otherwise confirmed through testing.

Any asbestos or suspected ACM should be removed prior to demolition of buildings/structures, to minimize asbestos contamination to the rest of the demolished material, as typically the cost of disposal of asbestos waste is higher than the cost of disposal of non-asbestos waste. Contamination of asbestos to non-asbestos material may require disposal of all the waste as asbestos waste.

10.2 Removal using Wet or Dry Methods

The selection of removal method should be based on the technique that eliminates or minimizes the potential release of asbestos fibers. The following is summarized from guidance in Australia (Safe Work Australia, 2020):

Asbestos removal work can include dry and wet methods. These methods are summarized as:

- Wet spray method, requires the use of a constant low-pressure water supply for wetting down ACM and associated items to suppress asbestos fibers.
 - The water spray is in the form of fine spray or mist and should not result in release of fiber.
 - The spray should be maintained so that the ACM is saturated throughout the removal work, while at the same time run-off is minimized.
 - A wetting agent (such as detergent) can be added to the water to facilitate more rapid wetting.
 - Saturation and water injection method, which requires injection of water or a water-based solution into friable asbestos using a special applicator. This is typically conducted on a thick asbestos, where wet spray method is unlikely to achieve full saturation. Specific training may be required to use this process and equipment.
- Dry method which involves removal of ACM without initial wetting of the ACM
 - This method has the highest likelihood to release airborne asbestos fibers and should only be used if the wet method is not practicable.

The selection of the method may be dependent on the type of the ACM and will need to be determined by a competent person. Where possible, ACM should be removed whole (e.g., by removal of nails), rather than by breaking the material, to remove potential release of asbestos fibers. Unbonded asbestos may need to be pre-treated (e.g., sealed) prior to removal to minimize the release of fibers.

10.3 Removal Tools and Equipment

The removal tools should be chosen as to minimize the potential release of asbestos fibers. As such, high pressure water sprays or compressed air are not recommended, unless for firefighting or fire protection purposes.

Other tools that may potentially release high amount of airborne asbestos fibers include high-speed abrasive power and pneumatic tools (such as angle grinders, sanders, saws, high speed drills), brooms or brushes, unless the use of equipment is controlled (e.g., through the use of enclosure and/or with attachments that capture airborne asbestos fibers) (Safe Work Australia, 2020).

The tools and equipment should be assessed by a competent person and meet national requirements. All tools and equipment should be adequately maintained and inspected prior to use to ensure they are fit for purpose and can be decontaminated after every use.

At minimum the tools would include:

- Manually operated hand tools and equipment that have been designed to capture or suppress respirable dust
- Equipment to capture asbestos fibers (e.g., vacuum cleaner with appropriate filters)
- Engineering controls (e.g., extraction ventilation, negative pressure units)
- Enclosure
- Disposable cleaning rags
- Buckets of water or low-pressure misting spray bottle
- Sealant to seal potential unbonded asbestos
- Suitable asbestos waste container
- Warning signs and/or barrier tape
- Polyethylene plastic and tape for cover or wrap asbestos waste

10.4 Large Scale Asbestos Removal Work

There may be national requirement identifying the quantity that would be classified as large-scale removal. As a guide, large-scale removal work usually involves asbestos removal that may include a large amount of asbestos, is of a longer duration or high frequency and can result in significant amount of airborne asbestos fibers.

It is important that a large-scale asbestos removal work be conducted by a competent person experienced in such removal work. The following items should be included as a minimum for large-scale asbestos removal work:

- National legislation/requirements and international best practice.
- The permit/licence/accreditation required for asbestos removalist.
- Requirement of an enclosure. Should an enclosure be required, methodology for decontamination and removal strategy should be developed.
- Requirements of negative pressure exhaust units.
- PPE requirements.
- Validation requirements.

10.5 Small Scale Asbestos Removal Work

Small-scale removal work has the potential of generating a smaller quantity of asbestos fibers compared with large scale removal work. It is still important that small scale asbestos removal work is conducted by a competent person experienced in such removal work.

The following items should be included at a minimum for small scale asbestos removal work:

- National legislation/requirements.
- The permit/licence/accreditation required for asbestos removal specialists.
- Requirement of an enclosure, which may include a mini-enclosure or glove bag enclosure. A mini enclosure generally fits a person or more while a glove bag enclosure generally only fits parts of the body (e.g., arms). Should an enclosure be required, methodology for decontamination and removal strategy should be developed.
- A wrap and cut asbestos removal method can also be used. This method includes removal of whole undamaged ACM (without breaking the ACM), wrapping it in two layers of plastic sheeting, and disposal of the material. Some countries may have requirements for the plastic type and thickness. As a guide, heavy duty polyethylene sheeting (minimum 200µm thickness) can be used.
- PPE requirements.
- Validation requirements.

10.6 Validation / Clearance of Asbestos Removal

Following completion of asbestos removal, a validation of the removal should be conducted by a competent person to ensure that the removal has been adequately conducted. There may be national requirements for a competent person to issue a clearance certificate following completion of the validation.

The following validation should be considered:

- Stage 1 – Clearance of site and assessment of job completeness to ensure all ACM has been adequately removed.
- Stage 2 – Visual inspection by a competent person, followed by issue of clearance certificate. This inspection should also include inspection of surrounding area, to ensure the removal process did not result in contamination of the surrounding area (e.g., the ground beneath).
- Stage 3 – Air monitoring, to validate that the removal process does not result in airborne asbestos fibers.
- Stage 4 – Clearance of work area after dismantling, which includes clearance of enclosures, decontamination area, equipment, and any other areas that may be affected by asbestos (e.g., transfer area where vehicles containing asbestos may travel, stockpile footprint, etc.).

As a guide, validation/clearance may include:

- Visual inspection by a competent person.
- Sampling (e.g., dust sampling, soil sampling, air monitoring, confirmatory solid sampling, etc.).

Where possible, creation of asbestos waste should be avoided, noting that in most countries asbestos waste disposal cost is higher than non-asbestos waste.

Asbestos waste should be segregated from non-asbestos waste to minimize asbestos contamination in the non-asbestos waste and to minimize disposal cost for asbestos waste.

Waste disposal should be conducted in accordance with national legislation and requirements. This chapter provides good practice guidance, which should be considered, and is based on ILO (1984).

Handling asbestos waste, including collection, storage, transport and disposal should be captured within the safe work method statement prepared for the work, which should identify the potential hazards, risk and mitigation measures throughout the process, including management of emergency (e.g., accidental spillage).

The strategy for waste disposal should be thoroughly documented prior to asbestos removal process as this may determine the appropriate asbestos removal method.

11 ASBESTOS WASTE

11.1 Waste Collection

In the addition to national requirements, as a guide the following measures should be included at a minimum:

- Where possible waste material should be wetted during collection to minimize potential fiber release.
- Collection method will be dependent on the type of ACM and should be determined by a competent person. Some collection methods may require vacuuming or dust extraction.
- Waste handling should be conducted by a competent person who is experienced in such activity. There may be national requirements for permit, licence or accreditation for waste collection.
- Appropriate PPEs should be worn when handling waste.
- Where possible, ACM should be removed and disposed of whole, without breaking the material, to minimize fiber release. Where breakage cannot be avoided, the methodology should be determined by a competent person (e.g., through the use of dust extraction hood).
- Waste disposal container shall be made out of material that does not easily be damaged, such as heavy-duty polyethylene. Containers such as paper bags should be avoided.
- Bagging of outlets from dust collection hoppers or vacuum cleaners should be designed to make bag changing easy and to minimize dust leakage.
- Bag changing should be conducted by a competent person trained to conduct this activity.
- Filled containers should be appropriately sealed to prevent escape of dust during handling. Plastic bags shall be appropriately tied and folded over and the neck shall be secured in a folded position by wire tie, adhesive tape, or other effective method.
- It is preferable that disposable bags/plastic that have been used to contain asbestos waste be disposed of together with the waste as asbestos waste.
- Asbestos waste in the form of sludge or slurry should preferably be placed in specially designed containers which are adequately sealed in such a way that no spillage could occur.
- Other disposable materials such as the plastic used for enclosure can be treated as waste, unless it is confirmed not to contain asbestos fibers. The inside of the enclosure should be spray painted (e.g., with polyvinyl alcohol or similar) with airless applicator to prevent any fibers from being released.
- Unbonded asbestos should be stabilized (e.g., with sealant), where practicable, to minimize fiber release.
- After collection, asbestos waste shall be ensured to be appropriately encapsulated (i.e., by bag/container) which does not result in potential release of fibers. Preferably a second bag/containers shall enclose the first bag to minimize any fiber release. The person handling the waste must take care of the waste placement such that the outside layer of the container/bag must be free of asbestos.

Section 9.2 of the ILO (1984) (link provided in Section 13) provides more detailed waste collection methods for the following types of waste, which should be referred to as necessary:

- Dust
- Loose fiber, swart, floor sweepings
- Waste material from fixing or removing insulation
- Offcuts, broken pieces and rejects of high-density material
- Sacks or bags which have contained asbestos
- Wet waste

11.2 Waste Storage

In the addition to national requirements, as a guide, the following measures should be considered:

- It is preferable that asbestos waste storage is minimized, and asbestos waste is disposed of to a lawful facility as soon as practicable.
- All asbestos waste waiting for disposal should be clearly marked on the bag/containers. It is preferable that the area is barricaded to prevent unauthorized access.
- Asbestos waste should be stored in such a way that it is not exposed to damage likely to cause release of fibers (e.g., by exposure to sun, chemicals, heat, pests, etc.).
- Asbestos waste should not be mixed with non-asbestos waste, as this may result in contamination of the non-asbestos waste. Where practicable, asbestos waste should be stored in a designated area.
- If asbestos waste is stored in long term, the bag/containers should be monitored for damage and any damage should be rectified. Remediation of surrounding area may be required where damage is identified.

11.3 Waste Transport

In the addition to national requirements, as a guide, the following measures should be considered:

- Waste transportation should be conducted by a competent person who is experienced in such activity. There may be national requirements for permit, licence or accreditation for waste transportation. In some countries, prior approval of disposal may be required from the disposal facility. The transporter should be inducted to the safe work method statement and understand the actions required should accidental spillage occurs.
- Asbestos waste should be transported in such a way that there is no asbestos fiber or dust emitted during transport.

- Where accidental spillage occurs, action to contain the spillage and minimize the release of fibers should be conducted immediately. The appropriate actions should be determined by a competent person and may include containing spillage, wetting, covering, etc. Appropriate PPE should be worn when handling spillage.

11.4 Waste Disposal

Asbestos waste should be disposed of in a lawful facility.

In some countries, there may be legislation or requirements for facilities that can receive asbestos waste, location of such facility, permits/licence/accreditation for such facility, how asbestos waste must be handled and placed in the facility, placement of temporary and final cover material, and the long-term management for such facility.

The following guidance is not intended to provide guidance for disposal in a facility not designed for receiving waste (i.e., properties other than landfill). In the absence of national legislation/requirements, the following measures should be considered, which are in accordance with the ILO (1984):

- The site should be specifically designed to accept waste, particularly asbestos waste. Such site is generally referred to as a landfill and has specific designs on location, size, depth of burial, leachate and landfill gas control, etc, which may have national legislation/requirements and should provide appropriate measures to prevent pollution of soil, air and water.
- Placement of asbestos waste should be conducted by a competent person as such to minimize damage to the bags/containers encapsulating the waste and subsequent release of asbestos fibers. The competent person should be inducted to the safe work method statement for the work and be made aware of the potential hazards and risk of the activities.
- Asbestos waste is preferably covered daily with a daily cover (the ILO suggests 20-25 cm (8-10 in)) of non-asbestos material as soon as possible. There may be national requirements of the required type and depth of daily cover.

- At the completion of landfill life, a final cover is generally provided. The ILO recommends a minimum depth of 2m (6 ft 6 in) of final cover. There may be national requirements of the required type and depth of daily cover.
- The placement of waste should be as such that it will not be damaged and potentially release asbestos fibers as a result of vehicle movement.
- Vehicles and personnel conducting the work should be appropriately decontaminated prior to leaving the facility.
- Records of waste disposal (usually presented as waste dockets or invoices from the landfill facility) should be kept to track waste disposal. Location of waste disposal should also be kept as a record.

Where national legislation/requirements allow, there may be potential for burial of asbestos waste outside a landfill environment. There are many factors that need to be considered for this:

- National legislation/requirements
- Future use of the site
- Depth of placement, with consideration of the depth of soil that is likely to be disturbed in the future (e.g., for service maintenance, tree planting, etc.)
- How the risk of asbestos will be managed in the future and how this is communicated to future site owners/occupiers
- Ongoing records and ongoing management of buried asbestos as well as associated costs

Where there is no national legislation/requirement for burial in places other than a landfill, the above decision should be made by a competent person familiar with national legislation/requirements, with potential consultation with authority, to ensure that the long-term risk of asbestos is considered and managed.

ANNEX 7: DISASTER PREPAREDNESS AND RESPONSE ACCORDING TO THE DISASTER MANAGEMENT PLAN (2023-2030)

Disaster management at sub-national levels

1. The DM Act 2005 provides for institutional arrangements at sub national stages namely, provincial, district and divisional levels connecting to the village level or the GN level, in coordination with the national level (Figure 1) authorities.

1.1. District level disaster management

2. District Disaster Management Coordination Units (DDMCUs) are established in the 25 administrative districts by the DMC for the purpose of coordinating disaster management activities at district level. The District Disaster Management Coordinating Committees (DDMCCs) comprise of representative heads of various government institutions, departments, technical agencies and representatives of CSOs and NGOs at district level. The District Secretary acts as the Chairperson of the Committee, while the DDMCU provides support to the secretariat. The DDMCC helps the District Coordinating Committee (DCC) of the Ministry of Home Affairs to coordinate and supervise all development activities at district level. The DCC is co-chaired by a senior minister of the government who is appointed by the President and the Chief Minister of the Provincial Council. The DCC and the Divisional Coordinating Committee provide a potential forum and platform to pursue DRR mainstreaming and risk informed development at local level.

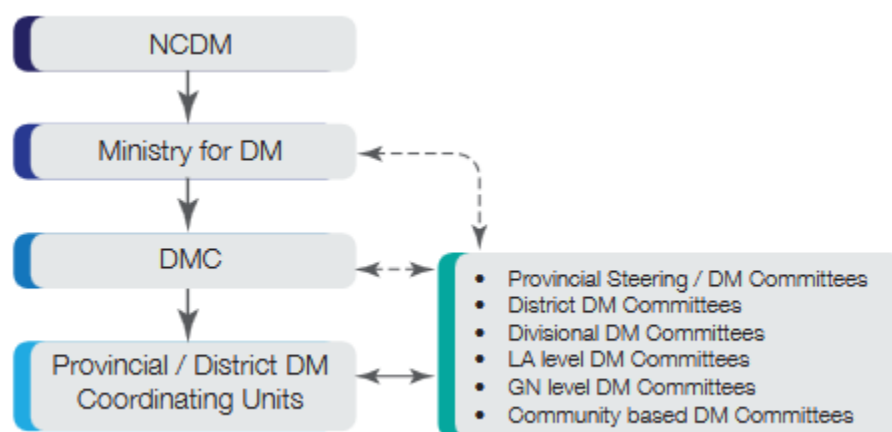


Figure 1: Coordination of DM committees at sub-national level

1.2. Divisional level disaster management

3. Representatives of government line ministries, authorities, departments, boards, NGOs and CSOs form the divisional level management committee. Under the guidance of the District Secretary, the Divisional Secretary together with the DDMCU officers coordinate the implementation of DRM activities at divisional level. It is the principal committee, which is responsible for the coordination and supervision of all development activities implemented within the respective area at divisional level. Divisional level disaster management is closely linked with the local government system for operational purposes.

1.3. Local governments in disaster management

4. Local Authorities (LAs) are mandated with the regulation, control and administration of all matters relating to public health, utility services and public thoroughfares. The national policy on local government endorsed by the Parliament, has recognised LAs as a planning authority with area based jurisdiction and is required that LAs give the highest consideration to environment and hazard concerns in local planning. The policy further states that "the local authority shall be proactively involved in disaster preparation, risk reduction, mitigation and management within the overall district framework for disaster management". These LAs are expected to identify the disaster prone areas, potential disaster risks and hazards towards formulating comprehensive, area specific plan of actions with locally identified strategies and response systems, in line with the operational aspects of the relevant regulatory Act. The LAs functioning under the Urban Development Authority (UDA) Act, have provisions to incorporate disaster risk reduction measures in preparing urban development plans and develop the regulatory processes. The UDA has issued guidelines to incorporate disaster risks in preparing zonation plans and in approving applications for development projects.

1.4. Grama Niladhari level disaster management

5. Grama or village level Disaster Management Committees are established for frontline coordination of disaster risk management activities in general and for implementation of Community Based Disaster Risk Management (CBDRM) activities, in particular. This committee is expected to play a catalyst role in all activities related to disaster risk reduction. Potential exists to strengthen this level of administrative support by obtaining the services of Development Officers at the Divisional Secretary, including the newly appointed District Officers (DOs) for environment conservation under the Ministry of Environment. Furthermore, banks, micro financing institutions INGOs and NGOs extend support to strengthen CBOs at village level, which can be allied to divisional and district level disaster management operations. Potential areas identified for strengthening of disaster management capacity at GN level includes the following.

- Generation of early warnings through observations (e.g. landslides)
- Enhancing emergency response preparedness including in aspects such as swimming, search and rescue, first-aid, safety centre management etc.
- Improving skills in hazard and vulnerability mapping including use of open source GIS, phone/mobile applications etc.
- Creating greater awareness and education on ecosystem processes related to disasters and adaptation measures
- Encouraging active participation in monitoring and use of tracking tools such as in measuring and recording of rain fall, monitoring water levels in identified rivers (i.e. flood prone areas), gauging of other environment sensitive factors etc.

2. Hazard monitoring and forecasting

6. Since the catastrophic Indian Ocean Tsunami in 2004, Sri Lanka has strengthened its disaster preparedness and response capacities significantly. DMC has been spearheading the national disaster preparedness and response efforts including local level activities through its district coordination units. The government took steps to establish a multi-hazard, impact based forecasting and early warning system while strengthening the agencies responsible for hazard forecasting and early warning.

7. NDMP 2023 2030 promotes an integrated system of hazard forecasting combined with risk assessments, communication and warning systems strengthened or designed with effective implementation. Hazard monitoring, forecasting and developing early warnings is the responsibility of key technical agencies for specific hazards. Timely dissemination of warnings to

the last mile is coordinated by DMC with the support of others. Emergency Operations Centre (EOC) employs number of mechanisms to disseminate early warnings and also to track the disaster impacts and response effectiveness. It maintains 117 call centre/ disaster hotline and also closely work with national networks (e.g. Police: 119, Suwa Seriya: 1990, Fire:110) depending on the types of emergencies that occur, including incidents such as oil and chemical spills, in addition to common hazards or disasters such as floods, landslides, drought etc.

2.1. Standard Operating Procedures (SOPs)

8. Standard Operating Procedures (SOPs) in the context of disaster management are a set of agreed processes to be followed by a trained group of professionals or stakeholders at different stages of the disaster management process. The SOPs could be disaster specific, agency/ institution specific or time sensitive. Under NDMP 2023 2030, all agencies/ institutions involved in disaster management are required to develop agency/institution specific SOPs that will include checklists/standing orders for actions to be taken by the agencies on preparedness and on receiving early warning, emergency response, recovery, rehabilitation and reconstruction work. These SOPs need to be included in the specific IDMPs prepared by the respective technical agencies and government institutions as required by the DM Act 2005. Standing Orders (SOS) for specific DM tasks and for various government departments/agencies need to be agreed upon and finalised under the respective SOPs with the approval of the NCDM and the Cabinet/ Parliament as appropriate.

2.2. Early warnings

9. As per the DM plans and SOPs, DMC will facilitate the execution of the early warning process (Figure 2) by,

- Coordinating with local technical agencies responsible for forecasting different hazards, who will be in constant communication with regional and international early warning agencies on respective hazards.
- Issuing messages and bulletins developed by the mandated technical agency on the nature of the disaster,
- impending threat and the warning level. EOC will analyse the technical messages received from respective technical agencies prior to the dissemination.
- Using the EOC of the DMC to disseminate early warnings to vulnerable communities with the support of DDMCUs and the district administrative authorities including GNs. The dissemination process would include the geographical areas likely to get affected along with the level of alert and how the community members are expected to respond. Message content could be verbal, SMS, CB, HF/VHF, fax, sign language and other formats delivered through media, mobile service providers, cell broadcasting, EW towers and other EW methods available at the EOC.
- Facilitating agency coordination with situation reports, international and local appeals for assistance etc. in a timely manner, including the adoption of Incident Command system as per approved SOPs.
- Creating greater awareness and providing regular situation updates to the media on early warning alerts, evacuation notifications, emergency response and support service contacts etc.

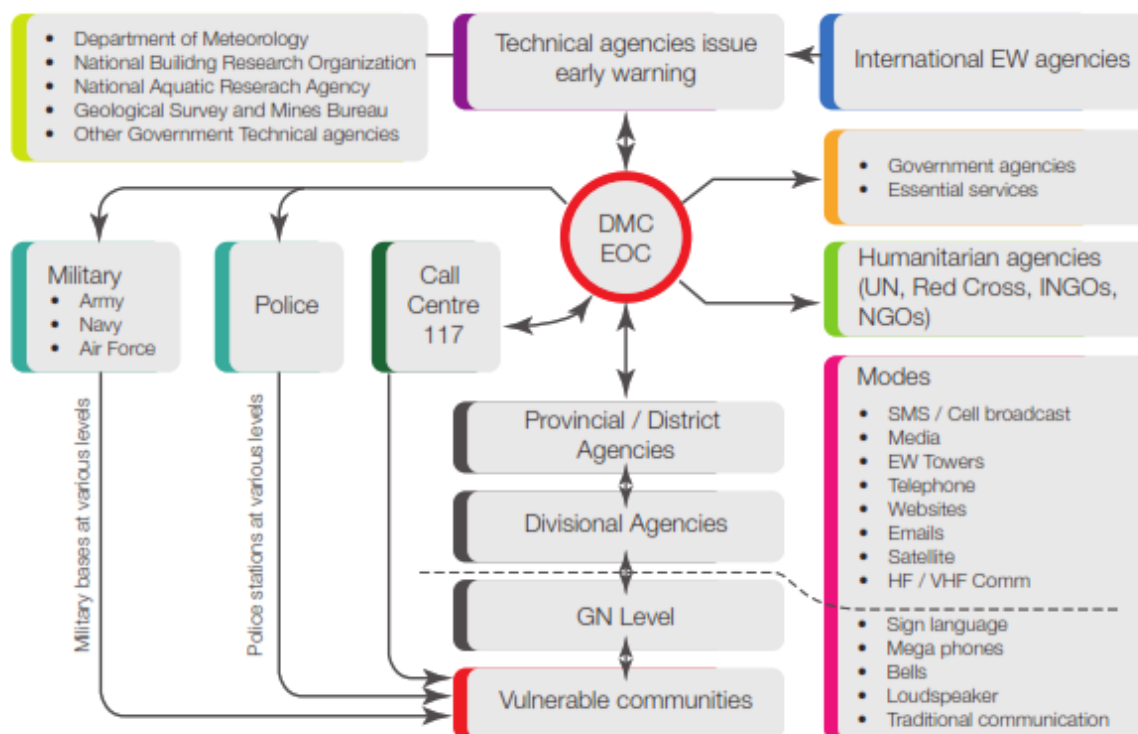


Figure 2: Process of last mile dissemination of early warning messages

3. Preparedness for response

10. The following activities are coordinated and carried out by the Preparedness Planning division of DMC as preparatory measures for emergency response.

- Coordination and organising of national level meetings annually with the support of key technical agencies (e.g. Department of Meteorology, Irrigation Department, National Building Research Organisation, Ministry of Health) for preparedness for emergency response for the southwest and north east monsoons. This also includes effective coordination of information gathering from key technical agencies and dissemination of early warnings/ alerts/updates to all stakeholders through early warning mechanisms as well as coordinating emergency response and relief requirements.
- Guiding the District Disaster Management Coordinating Units (DDMCUs) of all twenty five districts to conduct meetings for disaster preparedness and emergency response at district, divisional and GN level to respond to natural calamities such as monsoons, floods, cyclones, landslides, drought, Tsunami etc, as well as endemics and pandemics.
- Preparation, review and finalising of District/Divisional Disaster Risk Management plans, District Operational plans and Monsoon Preparedness plans
- Conduct of preparedness drills or practical exercises, table top exercises (TTXs) at national and local level to create awareness and strengthen the level of preparedness with regard to frequent natural disasters and Tsunami threats experienced by vulnerable communities across Sri Lanka. These are conducted targeting schools, hospitals, hotels, key government institutions, small and medium enterprises (MSMEs) and communities at large.
- Implementing activities and programmes in strategising disaster risk reduction (DRR) among local authorities

- Preparation of SOPs for key natural disasters such as floods, landslides, cyclones and Tsunami
- Developing and sensitisation of the book on "Institutional Disaster Management Plan - Guidelines for preparation for all ministries, government institutions, departments and agencies" as obligatory by the DM Act 2005
- Preparation of emergency management plans for chemical accidents, oil spills and industrial hazards and organising national level evacuation drills and mock drills, awareness programmes for prevalent common and/or high-risk hazards.
- Coordination and preparation of Annual Action Plans of DMC encompassing the key areas in disaster management
- Reviewing and updating of key national documents on disaster management with the support of relevant stakeholders
- Sensitising the publication and guidelines on "Gender, Sexual and Gender Based Violence (SGBV) in Disasters" at national and local level for target groups of policy makers, response staff and community
- Handbook on "Management of Safety Centres Amidst COVID-19."

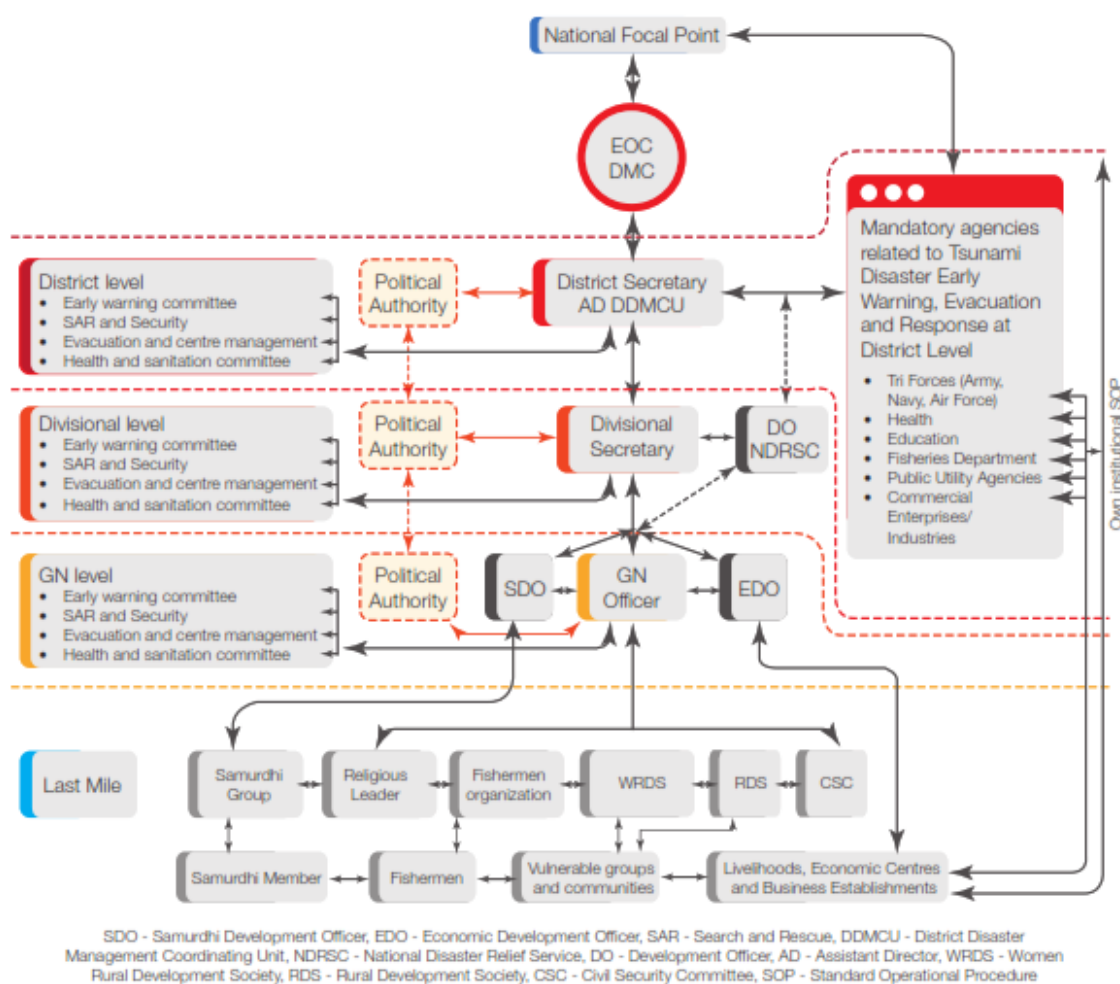


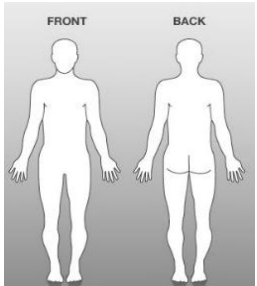
Figure 3: Tsunami Early Warning and Evacuation Process

Source: Disaster Management Centre. 2024. [National Disaster Management Plan 2023 – 2030](#).

ANNEX 8: ADB INCIDENT AND ROOT CAUSE INVESTIGATION AND CORRECTIVE ACTION FORMS

Incident Notification Form

Project:		Incident Date:	
Location:		Incident Time:	
Equipment Involved:		Operation in Progress:	
Weather: ☐ Clear ☐ Dark ☐ Rain ☐ Snow ☐ High Winds ☐ Other (describe): Visibility: ☐ Artificial Light ☐ Dark ☐ Dawn ☐ Daylight ☐ Dusk			
Reporting Level of Incident:			
☐ Fatality ☐ Lost Time ☐ Restricted Work ☐ Medical Aid ☐ First Aid	☐ Near Miss ☐ Equipment Damage ☐ Property Damage ☐ Fire/Explosion	☐ Business Interruption ☐ Security/Trespass/Theft ☐ Mobile Equipment ☐ Vehicle ☐ Spill/Release	☐ Government Reportable ☐ Non-reportable ☐ Contravention ☐ Public Complaint
Contractor Incident: ☐ Yes ☐ No Contractor name:			
Report Prepared by:		Supervisor's Name:	
Signature: _____ Date: _____		Tel. No. _____ Date: _____	
AFFECTED PERSONS (Worker Positions)			
DESCRIPTION OF INCIDENT (Describe what, when, why, who and how. Use separate pages if required. Attach photos if applicable.)			
WITNESSES- Provide separate witness reports			
Name	Position	Contact Information	
NOTIFICATIONS			
What internal notifications have been made?		What external notifications have been made?	
INJURY INFORMATION (if applicable)			

Position:	Current condition:	
Was injured person(s) taken to hospital? Yes ☐ No ☐ <i>(If yes, provide name and location of the hospital)</i>		
Indicate the area of injury, if applicable, on the diagram to the right, and describe the injury in the space below:		
VEHICLE INFORMATION (if applicable)		
Driver's Name:	Driver's License No.:	
Year, Make & Model:	Driver's Phone Number:	
Licence Plate or Serial Number:	Insurer and Policy No.:	
Was seat belt done up? ☐ Yes ☐ No	Was a cell phone being used? ☐ Yes ☐ No	
Were police notified? Yes ☐ No ☐	Name of police officer:	
Road conditions: ☐ Dry ☐ Gravel ☐ Wet ☐ Icy	Other Info/Attachments:	
Spill/Release Information (if applicable)		
Product:	Volume:	Quantity Recovered:
Initial Causal Analysis of Incident:		
Direct Cause: (what / how)		
Root Cause: (why)		
Corrective Actions to Prevent Recurrence:		

Note: Refer to the "ADB Root Cause Investigation & Corrective Action Form" for further detail.

Incident Root Cause Investigation and Corrective Action Form

Project:		Incident Date:	
Location:		Incident Time:	
Incident Title:			
Has the Incident Notification Form been completed? ☐ Yes ☐ No If not, complete the incident notification form before completing this form.			
☐ Fatality ☐ Lost Time ☐ Restricted Work ☐ Medical Aid ☐ First Aid	☐ Near Miss ☐ Equipment Damage ☐ Property Damage ☐ Fire/Explosion	☐ Business Interruption ☐ Security/Trespass/Theft ☐ Mobile Equipment ☐ Vehicle ☐ Spill/Release	☐ Government Reportable ☐ Non-reportable ☐ Contravention ☐ Public Complaint
Report Prepared by:		Supervisor's Name:	
Signature: _____ Date: _____		Signature: _____ Date: _____	
This form is used to help analyze incident root causes and contributing factors . Incidents rarely arise due to one single cause, and there are often multiple contributing factors that are involved in an incident. A cause is a condition that produces an effect. If a cause is eliminated, the effect is eliminated. A contributing factor is a condition that influences the effect but does not cause the effect. If the contributing factor is eliminated, the effect is not necessarily eliminated but may be influenced in other ways, such as being less severe, less likely, proceeding more slowly, or other similar effects.			
DESCRIPTION OF INCIDENT (Use separate pages if required. Attach photos if applicable.)			
Root Cause and Contributing Factor Analysis (add more pages if necessary for any section)			
LEADING EVENTS ANALYSIS (Describe the events leading up to the incident that were different to a normal sequence of events for this activity. Consider whether changes from normal sequences of events were causes or contributing factors to the incident.)			
Were the proper safe work practices and procedures being used by the workers in the events leading up to the incident? If not, why not?			
Were relevant legislation and standards being followed by the workers in the events leading up to the incident? If not, why not?			

Were there any mechanical failures or defects that led to the incident? If yes, describe below:

Were the proper safety devices in place and being used? Were workers using proper personal protective equipment (PPE)? If not, why not?

Did the actions or lack of actions of anyone at the worksite contribute to the incident? If yes, describe below:

Were there any unusual conditions that contributed to the incident, such as (but not limited to) weather, other activities in the area, or anything else that was not typical for the task?

Did the workers present at the incident respond in a safe and appropriate way? Describe below:

Were the workers adequately trained to respond to the incident? If not, what training would have helped to lead to a better outcome?

Are there adequate procedures in place to respond to similar incidents? If not, what procedures need to be developed?

Check any causes and contributing factors from the following list. If necessary, add additional causes and contributing factors.

☐ Operating equipment without training ☐ Operating equipment without proper care ☐ Operating equipment without safety devices in place or with inoperable safety devices ☐ Inadequate warning to workers of a safety issue ☐ Inadequate barriers or barricades ☐ Using defective tools or equipment ☐ Proper equipment unavailable ☐ Improper loading ☐ Poor housekeeping practices ☐ Repetitive action injury ☐ Poor maintenance of tools/equipment ☐ Hazardous conditions (gas, dust, fumes)	☐ Inadequate site security ☐ Inadequate worker protection from toxic substances ☐ Inadequate PPE ☐ Improper use of PPE ☐ Inadequate lighting ☐ Inadequate ventilation ☐ Inadequate supervision ☐ Inadequate training ☐ Fatigue ☐ Worker(s) under the influence of substances such as alcohol or medications ☐ ☐ ☐
---	--

List the contributing factors and their involvement as a cause of the incident.

Contributing Factors	Involvement

Describe the root cause (s) below:

--

Corrective Action Analysis

List the corrective actions already taken or planned to prevent a similar incident from occurring. Indicate whether the corrective action is already complete and who is responsible for implementing it.

Corrective Action	Person Responsible	Status?

Summarize any further information learned from this root cause and contributing factor analysis, including any information that needs to be shared with the workers or worksite management.

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ANNEX 9: ATTENDANCE SHEETS OF THE PUBLIC CONSULTATION SESSIONS

Kilinochchi Subproject

SRI: Promoting Resilience and Opportunity for Inclusive Recovery Sector Development Program

Venue: Kumarpuram
SIS OFFICE - (Kandawalai DS)

Public / Stakeholder Consultation

Date: 20/03/2026

Time: 10:30am

No.	Name	Designation / Agency / Village	Email / Telephone	Signature
1	1. 105 0011	village		
2	2. 105 0011	village	0779450289	
3	3. 105 0011	village	0774212851	
4	4. 105 0011	village	0771759350	
5	5. 105 0011	village		
6	6. 105 0011	village - 105 0011	077-8555165	
7	7. 105 0011	village - 105 0011	0775103634	
8	8. 105 0011	village - 105 0011	0772479302	
9	9. 105 0011	village - 105 0011	0760711435	
10	10. 105 0011	village - 105 0011	076-3937910	
11	11. 105 0011	SIS OFFICE		
12	12. 105 0011	Elders Officer - Kandawalai	0766057445	
13	13. 105 0011	Amama nikadhami KN-42	0774496593	
14	14. 105 0011	SS20 District Secretariat	0772125329	
15	15. 105 0011	village - Kumarpuram	0771835081	
16	16. 105 0011	ADB - Social Safeguards Consultant	0772587692	
17	17. 105 0011	ADB - Social Safeguards Consultant	0765503231	
		ADB - Env Safeguards Consultant	0770868501	

Mullaitivu Subproject

SRI: Promoting Resilience and Opportunity for Inclusive Recovery Sector Development Program

Venue: Puthukkudiyiruppu East GN Division
(MUL/36)

Public / Stakeholder Consultation

Date: 20/03/2026

Time: 4:30 pm

No.	Name	Designation / Agency / Village	Email / Telephone	Signature
1	1. 105 0011			
2	2. 105 0011			
3	3. 105 0011			
4	4. 105 0011			
5	5. 105 0011			
6	6. 105 0011			
7	7. 105 0011	Puthukkudiyiruppu East		
8	8. 105 0011	MUL/36		
9	9. 105 0011			
10	10. 105 0011			
11	11. 105 0011			
12	12. 105 0011			
13	13. 105 0011			
14	14. 105 0011			
15	15. 105 0011	Development officer PTK	077613029	

Pudiykudiyirippu Public Consultation 30.03.2026

No.	Name	Agency / Designation	Email	Telephone	Signature
16	S. Jayaraj	Dist. Board	jayaraj@gmail.com	0791940428	[Signature]
17	A. Ganin Wilfrance	ADB/Consultant	ganinwilfrance@yahoo.com	0463503235	[Signature]
18	Ananda Dissanayake	ADB/Consultant	[blank]	0772585692	[Signature]
19	Buddhika De Silva	ADB/Consultant	[blank]	0770868501	[Signature]

Dambulla Subproject

SRI: Promoting Resilience and Opportunity for Inclusive Recovery Sector Development Program

Public / Stakeholder Consultation

Venue: Dambulla Date: 30-MAR-2026 Time: 11.00AM

No.	Name	Designation / Agency / Village	Email / Telephone	Signature
1	K.M. Sumanaratne	පළාත්, දඹුල්ල	0728935250	[Signature]
2	ආර්ථික, සෞඛ්‍ය සේවා	02 වැනි ප්‍රදේශය, දඹුල්ල	0717748423	[Signature]
3	G.C. Sumanaratne	පළාත්, දඹුල්ල	815515650	[Signature]
4	සෞඛ්‍ය සේවා	පළාත්, දඹුල්ල	0717748423	[Signature]
5	B.M.H. Sumanaratne	පළාත්, දඹුල්ල	1966521022304	[Signature]
6	P.D.C. Sumanaratne	පළාත්, දඹුල්ල	0711401712	[Signature]
7	D.R.T.B. Sumanaratne	13, පළාත්, දඹුල්ල	0770324386	[Signature]
8	සෞඛ්‍ය සේවා	පළාත්, දඹුල්ල	0770868501	[Signature]
9	M.A. Sumanaratne	පළාත්, දඹුල්ල	0706706201	[Signature]
10	K.A.D.U. Sumanaratne	පළාත්, දඹුල්ල	0770370979	[Signature]
11	J.M.S. Sumanaratne	පළාත්, දඹුල්ල	0771599948	[Signature]
12				
13				
14				
15				

පැමිණිලි නාම ලේඛනය 2026.03.30 (වැඩිහිටි දිවා ස්ථානයේ මධ්‍යස්ථානය ඉදිකිරීම)

අනු අංකය	නම	තනතුර	දු.අංකය	අත්සන
01	එන්.එම්. ලේඛනාකර්	ප්‍ර.ලේකම්	0702690042	
02	K.M.P.M. අනුබණ	න.අ.ප.	0714601380	
03	එම්. එස්. එස්.	තරණ කළමනාකරු	077/6671170	
04	S.M.S. අනුබණ	ප.අ.ප.	077/5994443	
05	K.S.D. අනුබණ	මහේස්වරී මහා විහාරය	0740882099	
06	Gamini Wickramasighe	A.D.B	046350323	
07	Buddhika DeSilva	X.D.B	0970868501	
08	Anura Kumara	A.D.B	0777583492	

Kegalle Subproject

SRI: Promoting Resilience and Opportunity for Inclusive Recovery Sector Development Program

Public / Stakeholder Consultation

Venue: Diyaagama, Kegalle.

Date: 27 March 2026

Time: ප්‍රභාත 8:00 ප්‍ර.ව. 3:00

No.	Name	Designation / Agency / Village	Email / Telephone	Signature
1	M.L. සිල්වා	දිගාගම, පිටියාගම ප්‍රදේශ	0750118557	
2	R.P. විමලසේන	දිගාගම නිරිතමුණ	0768070320	
3	ඩී.එම්. ප්‍රසාද්	දිගාගම නිරිතමුණ	0762425595	
4	එම්. ප්‍රසාද්	දිගාගම නිරිතමුණ		
5	එම්. ප්‍රසාද්	දිගාගම, නාගායාලපිටිය		
6	එම්. ප්‍රසාද්	දිගාගම, නාගායාලපිටිය		
7	ඩී.එම්. ප්‍රසාද්	දිගාගම - නිරිතමුණ	0771904240	
8	එම්. ප්‍රසාද්	දිගාගම - නිරිතමුණ		
9	එම්. ප්‍රසාද්	දිගාගම - නිරිතමුණ		
10	එම්. ප්‍රසාද්	දිගාගම - නිරිතමුණ		
11	එම්. ප්‍රසාද්	දිගාගම - නිරිතමුණ		
12	එම්. ප්‍රසාද්	දිගාගම - නිරිතමුණ		
13	එම්. ප්‍රසාද්	දිගාගම - නිරිතමුණ	071 6728097	
14	එම්. ප්‍රසාද්	දිගාගම - නිරිතමුණ	0701486254	
15	එම්. ප්‍රසාද්	දිගාගම - නිරිතමුණ		

SRI: Promoting Resilience and Opportunity for Inclusive Recovery Sector Development Program

Public / Stakeholder Consultation

Venue: Diyagama, Kegalle

Date: 27 March 2026

Time: 10:30 AM

No.	Name	Designation / Agency / Village	Email / Telephone	Signature
1	S. A. C. R. Bandara	Grama Niladhari, Digana	077-2066677	
2	සමන්ත රත්න	දිසාය - නිරිතපුර	072 66244756	
3	සාමික ප්‍රදාන	නොදොරේ, දිසාය	0717306220	
4	P. M. M. පාදමාන	මොරොට්-දිසාය නිරිතපුර	070 5114797	
5	S. G. ජයරත්න	115, දිසාය, නිරිතපුර	0772555196	
6	P. සමරේ ආචාර්ය	780/1, දිසාය, නිරිතපුර	0774373080	
7	H. P. බණ්ඩාර	5/261, දිසාය, නිරිතපුර	0354369493	
8	H. W. ප්‍රදානපති	කො. 801, පොලිස් උපකරණ	077 054 1326	
9	R. P. සිංහල	7 1/3 දිසාය - නිරිතපුර	0715103705	
10	M. K. R. කේ. ආලෝක	C 7 දිසාය-බදාමුල්ල-නිරිතපුර	076-6140223	
11	සී. ආර්. ආලෝක	දිසාය වල්ලමුල්ල-නිරිතපුර	0771546169	
12	H. V. සමරේ රත්න	දිසාය - බදාමුල්ල නිරිතපුර	071-7391847	
13	M. V. රාජපක්ෂ	දිසාය නිරිතපුර නගරාධිපති	2263172	
14	සී. ජී. ලියනා	දිසාය නිරිතපුර නගරාධිපති	076 2187265	
15	M. ම. ආර්ථික	දිසාය, නිරිතපුර	071 3044731	

[illegible]

Batticaloa Subproject

SRI: Promoting Resilience and Opportunity for Inclusive Recovery Sector Development Program

Public / Stakeholder Consultation

Venue: Batticaloa Subproject Site,
Onthachimadam North.

Date: 26-May-2026

Time: 4.00 pm

No.	Name	Designation / Agency / Village	Email / Telephone	Signature
1	ප්‍රියන්ත - මුහුණ	Onthachimadam North	0768337456	ප්‍රියන්ත
2	ප්‍රේමානන්ද - පොත්තන	"	0759830777	ප්‍රේමා
3	මංගලානන් - පොත්තන	"		
4	සුභාසිරිසිංහ - පොත්තන	"	0760483115	සුභාසිරිසිංහ
5	ඩී. ප්‍රනාන්දු	"	0762030338	ඩී. ප්‍රනාන්දු
6	ප්‍රේමා - පොත්තන	"	0771647880	ප්‍රේමා
7	ඩී. ආර්ථික	"		ඩී. ආර්ථික
8	ඩී. ප්‍රනාන්දු	"		ඩී. ප්‍රනාන්දු
9	S. Sathursika	Onthachimadam.	0762280621	S. Sathursika
10	ඩී. ප්‍රනාන්දු	"	0772494937	S. Sathursika
11	P. Sathursika	Onthachimadam.	0775510670	P. Sathursika
12				
13				
14				
15				

ANNEX 10: OUTLINE FOR THE ENVIRONMENTAL MONITORING REPORT

Environmental Monitoring Report

PUBLIC

Semestral 2026
[Month] 2026

**SRI: Promoting Resilience and Opportunity for
Inclusive Recovery Sector Development Program**

Prepared by: Ministry of Rural Development, Social Security and Community Empowerment,
Government of Sri Lanka for the Asian Development Bank

CURRENCY EQUIVALENTS

(as of Day Month Year)

Currency Unit	–	currency name in lowercase (Symbol)
Symbol 1.00	=	#{ }
\$1.00	=	Symbol_____

ABBREVIATIONS

AAA	–	spell out (capitalize only proper names)
BBB	–	spell out
CCC	–	spell out

{WEIGHTS AND MEASURES}

symbol 1 (full name 1)	–	Definition 1
symbol 2 (full name 2)	–	Definition 2
symbol 3 (full name 3)	–	Definition 3

{GLOSSARY}

Term 1	–	Definition 1
Term 2	–	Definition 2
Term 3	–	Definition 3

NOTE{S}

- (i) The fiscal year (FY) of the Government of name of borrower {and its agencies} ends on day month. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2024 ends on day month 2024. Delete this note if the text does not refer to FYs.
- (ii) In this report, "\$" refers to United States dollars {if the text refers to a second \$ currency, e.g., NZ\$ or S\$, add: unless otherwise stated}. In the text, use "\$" for United States dollars and the appropriate modifier, e.g., NZ\$ or S\$, for other currencies that use the "\$" symbol.

This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of the Board of Directors, Management, or Staff of the Asian Development Bank (ADB), and may be preliminary in nature. Your attention is directed to the "[terms of use](#)" section of ADB's website.

¹ Use the applicable ADB book rate on the first day of loan negotiations to convert United States (US) dollar amounts into the loan currency stated in the loan agreement. *Loan Disbursement Handbook* (2022, as amended from time to time; p. 4, footnote 7).

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, ADB does not intend to make any judgments as to the legal or other status of any territory or area.

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1. 2 Project Progress Status and Implementation Schedule.....	Error! Bookmark not defined.
2. Compliance to National Regulations and International Agreements.....	Error! Bookmark not defined.
3. Compliance to Environmental Covenants from the ADB Loan Agreement.....	Error! Bookmark not defined.
4. Compliance to Contract	Error! Bookmark not defined.
5. Compliance to Environmental Management Plan and Corrective Action Plan (if any)	Error! Bookmark not defined.
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7. Environmental Safeguards Inspection and Audits	Error! Bookmark not defined.
8. Quantitative Environmental Monitoring	Error! Bookmark not defined.
9. Occupational and Community Health and Safety Monitoring.....	Error! Bookmark not defined.
10. Meaningful Consultation and Grievance Redress	Error! Bookmark not defined.
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Project Name: Promoting Resilience and Opportunity for Inclusive Recovery Sector Development Program	
Executing Agency	Ministry of Rural Development, Social Security and Community Empowerment
Implementing Agency	National Secretariat for Elders (NSE)
Environmental Safeguards Categorization	Category B
Environment Safeguards Documentation	EARF/EIA/IEE/Existing Facilities CAP/EMP
Project Stage Obtained	Design/Pre-Construction/Construction/Commissioning/O&M
Detailed Design Required Post-Approval	Yes/No if yes include remarks on status of design progress (%) and if more than one design package, provide details if any differences between the status
Contract(s) Awarded	Yes/No if more than one contract package, provide details
Bidding Document(s) Include EMP Cleared by ADB	Yes/No if more than one contract package, provide details if any difference between the status
Contract(s) Awarded Include EMP Cleared by ADB	Yes/No if more than one contract package, provide details if any difference between the status
National Environment, Health and Safety Clearance(s) Obtained	Yes/No/NA provide details if any clearances are outstanding or there is any difference between the status of contract packages, use NA if any clearances not yet required
Contractor(s) Given Access to Site	Yes/No if more than one contract package, provide details if any difference between the status
Construction Progress (%)	If more than one contract package, provide details if any difference between the status
Unanticipated Impacts including Change of Scope of Design	Yes/No if yes, provide brief details with how the IEE and EMP updated as required
Number of Site Inspections and Audits Undertaken by Environment Safeguards Staff in Reporting Period	
Corrective Action Required from Previous Monitoring Period	Yes/No/NA use NA if this is the first project reporting period
Outstanding Corrective Action this Reporting Period	Yes/No/NA if yes, provide bulleted summary of the key actions still required, use NA if the response to above is No or NA
Non-compliances Recorded this Reporting Period	Yes/No if yes, provide bulleted summary of the key non-compliances recorded
Corrective Action Required	Yes/No if yes, provide bulleted summary of the key actions to be taken in
Number of Health and Safety Incidents	Provide brief details including how they were responded to

GRM Functional	Yes/No briefly elaborate on set up if differs to description in IEE/EMP
Number of Unresolved Grievances from Prior Reporting Period	
Number of Grievances Resolved this Reporting Period	
Number of Grievances Still Outstanding	Provide brief details with timeline for resolution
Number of Grievances referred to Court of Law	Provide brief details
Number of Grievances referred to Accountability Mechanism	Provide brief details

1. Introduction

1. 1 Brief Project Description

{Maximum two pages to succinctly convey who the executing and implementing agencies are, the project outputs, construction works involved, details of contract packages, details of construction camps and other related facilities, national and ADB environmental safeguards project categorizations, and the environment safeguard documents (dates) applicable to the project}

{Include maps and plans showing the project site locations and project area of influence}

{Include table and/or organogram of environmental safeguards staffing and relationships between executing and implementing agencies, consultants, contractors, subcontractors, lenders, etc.}

1. 2 Project Progress Status and Implementation Schedule

{Describe the implementation stage reached (design, pre-construction, construction, commissioning or O&M) and the % progress, main project activities and milestones achieved during the reporting period, including bidding documents issued and contracts awarded during the reporting period etc. No need to repeat progress information included in previous monitoring reports if no change, cross reference the previous monitoring reports if needed}

{Highlight any changes in the project organization and environmental safeguards staffing during the reporting period, if none confirm this}

{Report on any unanticipated impacts and updates to IEE/EMP that were required during the reporting period, status of delivery of documents, required amendments, consultation and disclosure undertaken etc.}

{The project Gantt chart may be included}

{Include a simplified table like the sample below to report progress}

Project Component/Stage	Target Completion Data (Revise Target Date if delayed)	Progress Status (Not yet started; ongoing; completed)	Percent Completed	Remarks
Kegalle Model Elderly Day Care Center	30 Jan 2027	Completed	100%	Contract awarded to XYZ contractor, copy of ADB cleared EMP included
Batticaloa Model Elderly Day Care Center				

2. Compliance to National Regulations and International Agreements

{Status of compliance and further action to ensure ongoing compliance; if there is partial or no compliance recommendations for corrective action are required. Provide explanations of any instances where the requirements of regulations or agreements were breached along with details of responses taken to rectify the breach once identified. Include all the applicable National Regulations and International Agreements following the sample e

Table 3 Statutory Rules & Regulations as applicable

National Regulation or International Agreement	Compliance Requirements under the Regulation or Agreement including any Environmental Clearances Required	Compliance Status (complied; partially complied; not complied; still ongoing or n/a at current stage of the project)	Remarks (provide details or evidence to show how compliance was achieved or explain the corrective action to be taken if there was non-compliance including timeline and budget)
National Environmental Act (NEA) and its regulations and procedures.	Environmental clearance via CEA screening (Basic Information Questionnaire – BIQ)	Complied for Kegalle and Batticaloa subproject Ongoing application for Matale	Kegalle Letter dated XX Dec 2026 was received from CEA... Batticaloa Letter dated XX Dec 2026 was received from CEA... Matale – Awaiting result of the application.

3. Compliance to Environmental Covenants from the ADB Loan Agreement

{Status of compliance and further action to ensure ongoing compliance; if there is partial or no compliance recommendations for corrective action are required. Provide explanations of any instances where covenants were breached along with details of responses taken to rectify the breach once identified. Include all the applicable Loan Agreement covenants on environment following the sample table below}

Schedule #, Para #	Covenant	Compliance Status (complied; partially complied; not complied; still ongoing or n/a at current stage of the project)	Remarks (provide details or evidence to show how compliance was achieved or explain the corrective action to be taken if there was non-compliance including timeline and budget)

4. Compliance to Contract

{Status of compliance and further action to ensure ongoing compliance; if there is partial or no compliance recommendations for corrective action are required. Provide explanations of any instances where tasks allocated to the contractor have not been undertaken along with details of responses taken to rectify the situation once identified. Include all contract packages and

provisions relating to environment, health and safety management following the sample table below}

Contract Package	Contract Provisions	Compliance Status ((complied; partially complied; not complied; still ongoing or n/a at current stage of the project)	Remarks {provide sufficient details (evidence) to show how compliance was achieved; or explain the corrective action to be taken if there was non-compliance including timeline and budget}
Package 1	Clause xx: Environment Protection	Partially complied	Provide details, if given in EMP compliance table just refer the table
Package 2	Clause xx EMP	Partially complied	Provide details, if given in EMP compliance table just refer the table
Package 3....			

5. Compliance to Environmental Management Plan and Corrective Action Plan (if any)

{With reference to the EMP (design, pre-construction, construction or operation as applicable in a particular reporting period) of the project, include a table following sample table below with the compliance status during the reporting period, with sufficient details (evidence) to show how compliance was achieved, or corrective action to be taken if there was non-compliance including timeline and budget}

{Flag if previous environmental monitoring report(s) included corrective action plan, if it did I{Provide explanations of any instances where performance standards were temporarily exceeded during the reporting period, along with details of any response taken to rectify the exceedance once identified, even if at the end of the reporting period the project is deemed as being compliant}

{Copies of clearances, CEMP, construction method statements, and other documentation produced in accordance with EMP during the reporting period should be included as an appendix}

Item#	Environment Management Measures	Prior Corrective Action, if any	Compliance Status ((complied; partially complied; not complied; still ongoing or n/a at current stage of the project)	Remarks provide details or evidence to show how compliance was achieved or explain the corrective action to be taken if there

				was non-compliance including timeline and budget)

Item#	Management measures as per CAP drawn as part of audit of existing facilities, if any	Prior Corrective Action, if any	Compliance Status ((complied; partially complied; not complied; still ongoing or n/a at current stage of the project)	Remarks provide details or evidence to show how compliance was achieved or explain the corrective action to be taken if there was non-compliance including timeline and budget)

6. Environmental Safeguards Capacity Building

{With reference to the EMP capacity development plan summarize trainings for the executing and implementing agencies, contractors, and subcontractors, and other activities completed. Include as appendices the training agenda, attendance sheets, and photos. If no trainings or other activities in reporting period, please confirm. Copies of training records related to EMP during the reporting period should be included as an appendix)

Trainings	Number and Position of Participant/s	Location/s and Date/s	Remarks

7. Environmental Safeguards Inspection and Audits

{Site inspections and audits completed summarize the number and type of site visits, persons involved, the issues covered, and status of compliance with them, the number of non-compliance notices given out to the contractor as a result of the site visit, and the checklists/reporting format used (sample of checklists and reports to be included as an appendix)}

8. Quantitative Environmental Monitoring

{Summarize in a table Environmental monitoring results quantitative monitoring activities and data obtained in accordance with the Environmental Monitoring Plan (EMoP) of the project. Provide

explanations of any instances where performance standards were exceeded along with details of responses taken to rectify the exceedance once identified}

Typically, this section will include the results of: Noise and vibration surveys

Water quality surveys Air quality surveys

Flora and fauna surveys etc.

{Indicate the monitoring locations using a map or plan, dates, times, duration of samples as applicable, weather conditions as applicable, parameters measured, equipment used, standards, tests, and limits used etc.}

{Corrective actions with timeline and budget are required to ensure any exceedances will be prevented in the future}

{Graphs can be used in this section to show trends; however, large tables of data or multiple graphs should be attached as an appendix.

{Calibration and QA certifications of monitoring equipment and laboratories analyzing samples should be included as an appendix}

9. Occupational and Community Health and Safety Monitoring

{Summarize the reporting period's health and safety monitoring results activities and data obtained in accordance with the Environmental Monitoring Plan (EMoP) of the project. Provide explanations of any instances where performance standards were exceeded along with details of responses taken to rectify the exceedance once identified}

{Corrective actions with timeline and budget are required to ensure any exceedances will be prevented in the future}

{Include the occupational and community trainings/drills/inspections conducted during the reporting period following the sample table below. Include as appendices the training/drill/inspection agenda, attendance sheets, and photos. If no trainings/drills/inspections, please confirm}

Trainings/Drills/Inspections	Number and Position of Participant/s	Location/s and Date/s	Remarks
Overview of ADB SPS 2009	20 NSE staff members	NSE Head Office 08 Feb 2027	
Safety Induction Training	30 laborer	Construction camp 13 March 2027	

{If there was any near-miss or accident, illness, or other occupational or community health and safety related incident during the reporting period (or a previously reported incident with ongoing rectification) report following the sample table below. Include as appendices work safety checklists, incident reports, and other relevant supporting documents. If no incidents, please confirm}

	Number and Position of Peron/s Involved	Location/s and Date/s of Incident	Detailed Description of Incident – Attach root cause analysis report	Time-bound Corrective Action
Fatality				
Non-fatal Injury (Lost Time)				

Non-fatal Injury (Minor)				
Near-miss				
Illness				
Other Incidents				

10. Meaningful Consultation and Grievance Redress

{Meaningful consultation report on any ongoing consultation undertaken, and main issues raised by consultees; detailed consultation records should be included as an appendix. If no ongoing consultation, please confirm}

Date		Sub-project and Venue			
Sl. no	Participants Name	Occupation	Gender	Issues raised by participants	Response Given by EA/PMU/ Contractors

{Include a brief description of the GRM, provide a flowchart, list of grievance redress committee members and any trainings they have received}

{If there was any grievance or complaint, regardless informal or minor, during the reporting period (or previously reported complaint with ongoing rectification) provide the corrective action taken following the sample table below. Detailed grievance records and response reports should be included as an appendix}

Complainant's name and contact details	Date/s of Complaint	Mode of Communication to EA/ADB	Description of Complaint	Resolution Details	Date of Resolution	Mode of communication to complainant
XXXXXX	XX March XXXX	Complaint lodge at Kegalle site	Solid waste blocking the road	LA was requested to collect the solid waste.	XX March XXXX	Letter informing that the complaint has been addressed.

11. Compliance to Recommendations of Previous Reporting Period EMR

Non-compliance identified in previous EMR	Corrective Action recommended in previous EMR	Compliance Status	Continued noncompliance if any (please add this to the current EMR's recommendation as continued NCs)

12. Conclusions and Recommendations

{Summarize the project's environmental performance during the reporting period based on the previous sections and, if any non-compliance identified, provide detailed recommendations including responsibilities, timeliness and budget for the preparation and completion of corrective action}

{if non-compliance is major or not readily addressed then a separate corrective action plan may need to be prepared. For minor and readily addressed non-compliances the corrective action plan can be incorporated into this final section of the environmental monitoring report following the sample table below}

Non-compliance	Corrective Action to be Taken	Responsibility	Timeline	Budget

APPENDICES

Photographs {Include relevant photographs of the project site and project area of influence taken during the reporting period to provide evidence of compliance and/or non-compliance. For each photo, provide a caption with description of what it illustrates, accurate location, and date taken}

Supporting Documents {E.g. Maps and plans, Sample checklists and reports Clearances and documentation Training records, Detailed monitoring data, laboratory results etc. Calibration and QA certificates, Consultation records, Meeting agendas and attendance records, Grievance records,

ANNEX 11: SCREENING OF LIVELIHOOD ACTIVITIES

1. The livelihood and economic inclusion activities supported under Output 1 are expected to have minimal environmental and social impacts (Category C equivalent), given their small-scale and household-based nature. To ensure this, all proposed livelihood activities shall be subject to environmental and social screening prior to approval and disbursement of funds. The screening checklist below is a draft and will be further developed by the PMU, with support from the PMC, and in consultation with Samurdhi Development Officers (SDOs).
2. The SDOs, with support from Project Management Unit, will complete the Environmental and Social Screening Checklist for each proposed livelihood activity. Screening shall be based on field verification and supported by evidence including photographs and required documents such as consents and permits, as applicable. The completed screening checklist will form part of the documentation required for grant approval.
3. The Environmental Specialist supporting the PMU will provide capacity building and training to SDOs and relevant implementing staff on the use of the screening checklist and identification of environmental risks, to ensure consistent and effective application to all proposed livelihood activities.

Environmental and Social Screening Checklist Livelihood Empowerment Program

Applicant's Name:	
National Identity Card Number:	
Aswesuma HH number:	
District	
Divisional Secretariat	
Grama Niladhari Division	
Project Address:	

Item	Details/Selection	Evidence/Notes/Photos
Livelihood Type	☐ Agriculture (crop-based) ☐ Livestock and Fisheries ☐ Agro-processing ☐ Cottage industry ☐ Services sector ☐ Others	Brief Description:
Premises condition	☐ Not applicable/ ☐ Maintained ☐ Not Maintained	Photograph of the premises
Premises status	☐ Not applicable / ☐ Owned ☐ Rented ☐ Community facility ☐ Residence ☐ ☐ Market/shop ☐ Other	Brief description
Consent / undertaking	Beneficiary consent: ☐ Yes ☐ No /	Owner/landlord details Attach draft/scan

Item	Details/Selection	Evidence/Notes/Photos
	Owner-landlord consent (if relevant): ☐ Yes ☐ No	
Women included	☐ Yes ☐ No	Participant list broken down by gender
Is the livelihood activity included in the list of activities supported by the grant?	☐ Yes ☐ No	If "No" → No-Go
If the livelihood activity will require permit or license from government authorities	☐ Yes ☐ No If yes, has it been obtained? ☐ Yes ☐ No If not yet obtained, when will it be available?	Copy of permit (Refer to the list of activities under Part C and Part D)
Pesticide / agro-chemical use involving banned or restricted products	☐ Not applicable / ☐ Yes ☐ No	If "Yes" → No-Go (record product name)
Lead or mercury-containing equipment, hazardous materials generating hazardous waste for disposal e.g., paints, light fittings, batteries	☐ Yes ☐ No	If "Yes" → No-Go (switch to lead and mercury-free)
Drugs/narcotics linkage	☐ Yes ☐ No	If "Yes" → No-Go
Tobacco primary business line	☐ Yes ☐ No	If "Yes" → No-Go
Alcohol primary business line	☐ Yes ☐ No	If "Yes" → No-Go
Gambling/weapons involvement	☐ Yes ☐ No	If "Yes" → No-Go
Child labor involvement	☐ Yes ☐ No	If "Yes" → No-Go
Forced labor involvement	☐ Yes ☐ No	If "Yes" → No-Go
Other ADB prohibited investment list exclusion and/or selection criteria	☐ Yes ☐ No	If "Yes" → No-Go (specify item)
If the livelihood activity will cause involuntary resettlement of people (physical	☐ Yes ☐ No	If "Yes" → No-Go

Item	Details/Selection	Evidence/Notes/Photos
displacement and/or economic displacement)		
If the livelihood activity will cause disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?	☐ Yes ☐ No	If "Yes" → No-Go
If livelihood will use asbestos containing materials (i.e., asbestos cement sheet roof, insulation)	☐ Yes ☐ No	If "Yes" → No-Go
If the livelihood activity will result in disturbance to wildlife or sensitive habitats (e.g., protected areas, forest patches, wetlands) based on community knowledge and desk-based screening	☐ Not applicable / Disturbance due disposal of wastes: ☐ Yes ☐ No Vegetation clearance is required: ☐ Yes ☐ No	If "Yes" → No-Go
If livelihood activity produces continuous noise or high-level noise affecting sensitive receptors (<50 m)	☐ Yes ☐ No If yes, ☐ School ☐ Clinic ☐ Mosque ☐ Temple ☐ Residences ☐ Others	If yes, advised to implement noise attenuation measures: • Regular maintenance of equipment and machines; • Use of quieter equipment (e.g., grinders used for food processing); • Provision of enclosures (e.g., plywood barriers); • Installation of noise-absorbing materials (e.g., cork boards, foam panels); • Limiting of noisy operations; • Other measures as applicable to the livelihood activity.
If the livelihood activity will result in potential risks or impacts on physical cultural resources (PCR), such as heritage sites, sacred trees, groves, shrines, or other sites	☐ Yes ☐ No	If "Yes" → No-Go

Item	Details/Selection	Evidence/Notes/Photos
used for religious or cultural practices (including sites or customary use areas of Indigenous Peoples communities), based on community knowledge and desk-based checks?		
If livelihood will cause deterioration of water quality or pollution of nearby water bodies	☐ Yes ☐ No	If “Yes” → No-Go
If equipment used will produce air emissions	☐ Not applicable / ☐ Yes ☐ No	If yes, describe the measures to be implemented to reduce air emissions. • Regular maintenance of equipment and machines; • Use of cleaner fuels and energy-efficient equipment where feasible. • Installation of dust collection systems, cyclone separators, or simple bag filters for activities generating dust (e.g., grinding, woodworking). • Water spraying on materials and work areas, roads to suppress dust. • Covering raw materials and waste stockpiles to prevent wind-blown dust. • Provision of adequate natural or mechanical ventilation in workshops. • Installation of chimneys or exhaust stacks of adequate height to facilitate dispersion of emissions. • Avoidance of open burning of waste materials. • Proper storage and handling of fuels, paints, solvents, and chemicals to minimize volatile emissions.
If the livelihood activity will result in community and health and safety risks that	☐ Yes ☐ No	If “Yes” → No-Go

Item	Details/Selection	Evidence/Notes/Photos
cannot be prevented or mitigated		
Waste generation (Minimal waste/wastewater means small quantities that can be safely segregated, stored, reused, composted, recycled, discharged to an existing sewer/septic system, or handed over to an acceptable disposal route without open dumping, open burning, untreated discharge to drains/waterbodies, odor, pest attraction, nuisance, or community health and safety risk.)	☐ None ☐ Packaging ☐ Organic ☐ Clinical ☐ Other ☐ Solid Waste ☐ Wastewater ☐ Oil/grease ☐ Fuel/chemicals ☐ Electronics/batteries	Describe types and estimated volume
Waste types requiring special attention	☐ None / ☐ Clinical ☐ Hazardous waste ☐ E-waste	
Waste handling feasible (tick if yes)	☐ Segregation ☐ Home composting ☐ Covered storage area ☐ Enclosed garbage bins ☐ Sewer or septic tank with soakaway for wastewater ☐ Waste handling briefing provided	If waste cannot be safely and soundly handled → No-Go Describe waste handling method of identified wastes.
Waste disposal route	Disposal route available: ☐ Yes ☐ No Risk of open dumping: ☐ Yes ☐ No Risk of open burning: ☐ Yes ☐ No Waste disposal briefing provided ☐	If waste cannot be safely and soundly disposed → No-Go
Safety of equipment	Modern equipment: ☐ Yes ☐ No Safety devices installed: ☐ Yes ☐ No	If "No" → No-Go

Item	Details/Selection	Evidence/Notes/Photos
	For permanent installation electrical competency for its safe installation: ☐ Yes ☐ No	
Training provided understood	☐ Yes ☐ No	If "No" → No-Go
GRM contact shared and understood	☐ Yes ☐ No	If "No" → No-Go
Date of site visit and team members		
Decision rules for screening outcome: The screening checklist must be fully completed, signed and supported by required evidence which includes field verification and photographs. Go: The livelihood activity is eligible if it is included in the list of eligible livelihood options identified through the Livelihood and Employment Matching Exercise; if it does not involve land acquisition, physical or economic displacement; if it does not affect biodiversity, protected areas, wildlife, or sensitive habitats; if it will not have impacts on physical cultural resources (e.g., heritage sites, sacred areas); if it does not involve child labor, forced labor, or activities listed under ADB's Prohibited Investment Activities List; if it does not involve the use of banned or restricted agro-chemicals; hazardous materials (e.g., lead, mercury, asbestos); if it does not generate significant air emissions, wastewater, or hazardous waste; if any potential environmental, health, and safety risks (e.g., noise, minor waste generation) are minimal and manageable through standard mitigation measures; and if the activity does not pose unacceptable risks to community health and safety. Conditional Go: The livelihood activity may be approved subject to conditions, only where the activity is likely to meet all Go criteria, but some supporting evidence is pending, or minor, easily implementable corrective actions are required. Conditional Go cannot be used to override any No-Go exclusion. SDOs must specify the conditions to be met along with the supporting evidence that must be provided prior to approval. No-Go: The livelihood activity is not eligible if it triggers land acquisition or displacement; if it will impact protected areas/biodiversity, cultural or religious site, indigenous peoples; if it will result to significant pollution and produce hazardous materials that are more than minimal or cannot be mitigated; if it will involve child or forced labor; and if it involved illegal, harmful or restricted activities as specified in ADB's Prohibited Investment Activities List.		
Screening decision	☐ Go ☐ Conditional Go ☐ No-Go	If Conditional Go, specify conditions to be met:

Item	Details/Selection	Evidence/Notes/Photos
Screening approval	Screener (SDO): [] PMU E&S Focal: []	Date and Name over Signature
For Conditional Go		Details of conditions being complied with supporting evidence
Conditional go approval (after conditions are met)	Screener (SDO): [] PMU E&S Focal: []	Date and Name over Signature
Other Observations/Remarks (SDO):		

ADB PROHIBITED INVESTMENT ACTIVITIES LIST

The following do not qualify for Asian Development Bank financing:

- (i) production or activities involving harmful or exploitative forms of forced labor¹ or child labor²
- (ii) production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements or subject to international phaseouts or bans, such as (a) pharmaceuticals,³ pesticides, and herbicides,⁴ (b) ozone-depleting substances,⁵ (c) polychlorinated biphenyls⁶ and other hazardous chemicals,⁷ (d) wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora,⁸ and (e) transboundary trade in waste or waste products;⁹
- (iii) production of or trade in weapons and munitions, including paramilitary materials;
- (iv) production of or trade in alcoholic beverages, excluding beer and wine;¹⁰
- (v) production of or trade in tobacco;¹⁰
- (vi) gambling, casinos, and equivalent enterprises;¹⁰
- (vii) production of or trade in radioactive materials,¹¹ including nuclear reactors and components thereof;
- (viii) production of, trade in, or use of unbonded asbestos fibers;¹²
- (ix) commercial logging operations or the purchase of logging equipment for use in primary tropical moist forests or old-growth forests; and
- (x) marine and coastal fishing practices, such as large-scale pelagic drift net fishing and fine mesh net fishing, harmful to vulnerable and protected species in large numbers and damaging to marine biodiversity and habitats.

¹ Forced labor means all work or services not voluntarily performed, that is, extracted from individuals under threat of force or penalty.

² Child labor means the employment of children whose age is below the host country's statutory minimum age of employment or employment of children in contravention of International Labor Organization Convention No. 138 "Minimum Age Convention" (www.ilo.org).

³ A list of pharmaceutical products subject to phaseouts or bans is available at <http://www.who.int>.

⁴ A list of pesticides and herbicides subject to phaseouts or bans is available at <http://www.pic.int>.

⁵ A list of the chemical compounds that react with and deplete stratospheric ozone resulting in the widely publicized ozone holes is listed in the Montreal Protocol, together with target reduction and phaseout dates. Information is available at <http://www.unep.org/ozone/montreal.shtml>.

⁶ A group of highly toxic chemicals, polychlorinated biphenyls are likely to be found in oil-filled electrical transformers, capacitors, and switchgear dating from 1950 to 1985.

⁷ A list of hazardous chemicals is available at <http://www.pic.int>.

⁸ A list is available at <http://www.cites.org>.

⁹ As defined by the Basel Convention; see <http://www.basel.int>.

¹⁰ This does not apply to project sponsors who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to a project sponsor's primary operations.

¹¹ This does not apply to the purchase of medical equipment, quality control (measurement) equipment, and any equipment for which ADB considers the radioactive source to be trivial and adequately shielded.

¹² This does not apply.

ACTIVITIES THAT WILL REQUIRE ENVIRONMENTAL PROTECTION LICENSE

(Based on the Order specifying the activities (prescribed activities) required to obtain the environmental protection license under section 23A and the Gazette Notification No. 2264/18 dated 27.01.2022.)

Part C (medium industrial activities)

1. Soaps, detergents, softeners or any other cleansing preparations manufacturing or formulating industries having a production capacity less than 1000 kilograms per day.
2. Bulk petroleum liquid or liquefied petroleum gas (LP Gas) storages or petroleum liquid filling facilities including vehicle fuel filling stations having a total storage capacity of less than 150 metric tons.
3. Fireworks manufacturing industries including fire crackers where less than 1000 kg per month and or more than 200kg per month of explosives are used.
4. Industries involved in the use of fiber glass as a raw material where less than 10 workers are employed.
5. Ribbed smoke rubber sheet manufacturing industries having a production capacity of 50 kilograms per day or more and less than 100 kilograms per day.
6. Charcoal manufacturing industries having a production capacity of 250 kilograms or more and less than one metric ton per batch.
7. Industries involved in manufacturing or extracting or formulating of Ayurvedic or indigenous medicinal products where 10 workers or more and less than 25 workers are employed.
8. Commercial based Batik industries where 5 or more workers and less than 10 workers are employed.
9. Commercial laundries where 5 or more workers and less than 10 workers are employed or where cleaning capacity is less than 50 kg (dry clothes) per day.
10. Leather processing or finishing industries having dry process operations.
11. Natural fiber or coir based industries (coir drying, briquetting etc.) where 5 or more workers and less than 25 workers are employed.
12. Power looms (without sizing activities) having 5 or more machines and less than 25 machines.
13. Sugar cane based commercial industries excluding sugar manufacturing industries or refineries or domestic sugar cane based industries.
14. Cigarettes or tobacco based products manufacturing industries where 25 or more and less than 50 workers are employed.
15. Food manufacturing or processing industries where 10 or more and less than 25 workers are employed.
16. Bakeries and confectioneries having daily input capacity of 250 kilograms or more and less than 1000 kilograms of flour.
17. Rice mills having wet process with a production capacity of less than 5000 kilograms per day.
18. Grinding mills having a production capacity of more than 1000 kilograms per month.
19. Non- alcoholic beverages manufacturing or bottling industries having a production capacity of 100 liters or more and less than 500 liters per day.
20. Coconut oil extracting industries having a production capacity of 200 liters or more and less than 1000 liters per day.
21. Commercial based plant oil extracting industries having a production capacity of 10 liters or more and less than 30 liters per day excluding coconut oil and ayurvedic oil extracting industries.
22. All hatcheries where 200 or more and less than 500 Poultry eggs are hatched.
23. Poultry farms having 500 or more and less than 2500 matured birds at any time.
24. Piggeries or cattle farms having 10 or more and less than 50 matured animals at any time.
25. Goat farms having 50 or more and less than 250 matured animals at any time.

26. Mixed farming* having total of 500 or more and less than 2500 matured animals at any time.
27. *Rating for Mixed Farming = No. of Birds + [50x (No. of Pigs + No. of Cattles) + 10x (No. of Goats)]
28. All aquaculture farms and its hatcheries.
29. Commercial level animal feed manufacturing industries having a production capacity of 0.5 or more metric tons and less than 25 metric tons per day.
30. Commercial level animal oil/ fat extracting industries having a production capacity of 10 or more liters and less than 30 liters per day.
31. Incinerators having a maximum feeding capacity of less than 5 metric tons per day by weight.
32. Tea factories excluding instant tea manufacturing and blending industries.
33. Drinking water treatment plants having a treatment capacity of 2000 or more and less than 10000 cubic meters per day.
34. All ice manufacturing industries.
35. Concrete batching plants having a production capacity less than 50 cubic meters per day.
36. Mechanized mining activities with single bore hole blasting having a production capacity of less than 500 cubic meters per month.
37. Mechanical granite crushing or processing industries having a total production capacity of less than 25 cubic meters per day.
38. Lime kilns (excluding mined coral) having a production capacity of 20 or more metric tons per batch.
39. Ceramic industries where 10 or more and less than 25 workers are employed.
40. Municipal solid waste and other solid waste composting plants having a daily input capacity of less than 10 metric tons by weight (excluding composting at household level).
41. Solid waste (including plastic wastes) recycling/ recovery or processing plants having a daily input capacity of less than 10 metric tons.
42. Solid waste disposal facilities or sites having a disposal capacity of less than 10 metric tons per day (excluding household facilities).
43. Hostels or similar dwelling places where occupancy level of 100 or more and less than 200 persons.
44. Hotels without residential facilities or restaurants or reception halls where 10 or more and less than 25 workers are employed or food preparing places or catering services where 20 or more and less than 50 workers are employed.
45. Hotels or restaurants or guest houses or rest houses having 05 or more and less than 20 rooms.
46. Vehicle repairing and maintaining centers including spray painting or mobile air-condition repairing, installing and maintenance activities.
47. Spray painting industries where less than 25 workers are employed or lathe workshops or welding workshops where 5 or more and less than 25 workers are employed.
48. Machinery repairing industries where 5 or more and less than 25 workers are employed.
49. Repairing, maintaining, assembling and installation centers of refrigerators and domestic air conditioners.
50. Recycling or recovering centers of refrigerants from air-conditioners or refrigerators.
51. Three wheeler or motorcycle servicing centers or commercial level vehicle washing places.
52. All fishery harbours.
53. Crematoriums.
54. Foundries with furnaces having less than 5 workers are employed.
55. Saw mills having a milling capacity of 25 or more and less than 50 cubic meters per day or wood based industries where 10 or more and less than 25 workers are employed

56. Any activity/ industry not included in this Part C of the schedule where 50 or more and less than 200 workers per shift are employed.
57. Any activity/ industry not included in Part C of the schedule which discharges wastewater at the maximum capacity of 3 or more cubic meters and less than 10 cubic meters per day in its production process.

Part D (low polluting activities)

1. Manufacturing industries of candles where 10 or more workers are employed.
2. Batik industries where less than 5 workers are employed.
3. Commercial laundries where less than 5 workers are employed.
4. Hand looms or knitting or embroidery industry having 10 looms/machines or more.
5. Commercial level coconut oil extracting industries having a production capacity of less than 200 liters per day.
6. Commercial level plant oil extracting industries having a production capacity of less than 10 liters per day excluding coconut oil and Ayurvedic oil extracting industries.
7. Non- alcoholic beverages manufacturing or bottling industries having a production capacity of less than 100 liters per day.
8. Rice mills having dry process operations having a production capacity of 500 kg per day or more.
9. Grinding mills having a production capacity of less than 1000 kilograms per month.
10. Tobacco barns or cigarettes or tobacco related other products manufacturing industries where 10 or more and less than 25 workers are employed.
11. Cinnamon fumigating industries with sulphur fumigation having a feeding capacity of 250 or more kilograms per batch.
12. Edible salt packing and processing industries where more than 5 workers are employed.
13. Commercial based tea mixing / blending industries where more than 5 workers are employed.
14. Food manufacturing or processing industries where 5 or more and less than 10 workers are employed.
15. Commercial level bakeries and confectioneries having an input capacity of less than 250 kilograms of flour per day.
16. Poultry farms having 100 or more and less than 500 matured birds at any time.
17. Piggeries or cattle farms having 05 or more and less than 10 matured animals at any time.
18. Goat farms having 25 or more and less than 50 matured animals at any time.
19. * Mixed farming having total of 100 or more and less than 500 matured animals.
20. *Rating for Mixed Farming = No.of Birds + [50x (No.of Pigs + No.of Cattles)] + [10x (No.of Goats)]
21. Fruit or vegetables or meat or other food stores having a storage capacity of 100 cubic meters or more .
22. Concrete pre-cast industries.
23. Mechanized cement blocks manufacturing industries.
24. Lime kilns having a production capacity of less than 20 metric tons per day.
25. Any industry using "Plaster of Paris" as a raw material where more than 5 workers are employed
26. Lime shell crushing/pelletizing industries
27. Tile and brick kilns.
28. Glassware manufacturing industries without glass melting.
29. Granite cutting and polishing industries.
30. Artisanal mining activities with single bore-hole blasting using explosives.
31. Saw mills having a milling capacity of less than 25 cubic meters per day or wood based industries where 05 or more and less than 10 workers are employed.
32. Industries involved in Boron treatment of wood for timber seasoning
33. Carpentry workshops which use multipurpose carpentry machines

34. Hotels without residential facilities or restaurants or reception halls where 05 or more and less than 10 workers are employed or food preparing places or catering services where 10 or more and less than 20 workers are employed.
35. Hostels or similar dwelling places where an occupancy level in a day is 25 or more and less than 100 persons
36. Vehicle repairing or maintaining garages excluding spray-painting or repairing, maintaining and installing of mobile air-conditioners.
37. Container yards excluding the places where vehicle servicing activities are carried out.
38. Printing press and letter press machines excluding lead smelting.
39. Funeral parlors with embalming of corpses.
40. Any activity/ industry not included in Part D of the schedule, where 10 or more and less than 50 workers per shift are employed.

Gazette notification for EPL Prescribed activities:

https://www.cea.lk/web/images/pdf/2022/Act/2264-18_E.pdf

EPL Application Procedure

EPL application is published in the Form A of the schedule II of the Gazette Notification No. 1534/18 dated 01.02.2008. The application form could be obtained from CEA Head office, provincial office and district office. It could be downloaded from CEA web site.

Duly filled application with following supporting documents shall be submitted for each prescribed activity to the relevant Provincial Office / District Office of the CEA or relevant Local Authority 30 days prior to the commencement of the prescribed activity/ industry.

1. Copy of the Business Registration (If the activity is registered)
2. Legal authorization to use the land for the particular industrial activity. (Copy of deed, copy of the Lease agreement of the land etc.)
3. Copy of Survey Plan of the land.
4. Legal approvals for establishing the particular industry at the site. (Certificate of Conformity/Building plan approval /Trade License or Consent paper FOR Production Certificate necessary for specific products. (Distilleries, medicinal products, pesticide manufacturing etc.)
5. Proposal for pollutant abatement.
6. Road map showing the main landmarks from the nearest town.
7. Any other detail/document requested by the Authority

Relevant Provincial/ District office of the CEA or Local Authority will pre-evaluate to check the relevancy of issuing the EPL, the adequacy of the details furnished and to determine the inspection fee to be requested.

Determination and payment of inspection fee

Based on the details furnished by the industrialist, the relevant Provincial/District Office or Local Authority decides the amount of the inspection fee to be paid and a written request will be made to the industrialist.

The industrialist has to make such payment to the relevant Provincial/District Office, Head Office of CEA or through the GovPay system. After the payment is made the receipt should be submitted to the relevant Provincial/District Office or Local Authority.

Field Inspection, Inspection Report with Recommendations

Once the receipt of inspection fee is received, a team of officers will carry out a field inspection in order to assess the data furnished in the application with respect to the industry and to decide the possibility to operate such industry with controlling pollution.

Inspection team will prepare a report based on the field inspection details regarding the industry, technical reports provided by the applicant and social aspects along with their recommendations.

For industries in List “A” , list “B” and list “C”
If the site is recommended proceed to next step.

If the recommendation suggested requesting a proposal for additional pollution control measures, (the industrialists can consult reputed Consultants / Specialist) the industrialist will be informed to fulfill such request. Decision to issue the EPL will be made based on the evaluation of the additional details provided by the applicant. Proceed to next step.

If it is decided to refuse issuing of the license, the applicant will be informed accordingly.

According to the provisions of the National Environmental Act, any applicant for a license who is aggrieved by the refusal by the Authority to grant a license may within thirty (30) days, after the date of notification of such decision to him/her, appeal in writing against such decision, to the Secretary of the Ministry of Environment.

For industries in List “D”

The report that is prepared by the Inspection team is submitted to the Technical Evaluation Committee (TEC). The committee is appointed by the respective Local Authority. Responsibility of the TEC is to advise Local Authority in subject of licensing procedure. Divisional Environmental Officer or Environmental Officer of the Provincial/ District office of the CEA who are assigned to the respective Local Authority area functions as the Secretary to the TEC.

Technical Evaluation Committee

The TEC make their recommendation based on the report that is received from the Inspection team and other relevant documents related to the industry.

The TEC may decide to carry out a field inspection by them; the next step will be taken based on the inspection report of the TEC.

If the recommendations of the TEC suggested requesting proposal for additional pollution control measures; the industrialist will be informed to fulfill such request and proceed for issuance of EPL will be decided based on the evaluation of the additional reports provided by the applicant.

If the TEC recommends refusing granting EPL the applicant will be informed accordingly. According to the provisions of the National Environmental Act, any applicant for a license who is aggrieved by the refusal by the Local Authority to grant a license, may within thirty (30) days, after the date of notification of such decision to him/her, appeal in writing against such decision, could be forwarded to the Secretary of the Ministry of Environment.

Approval for issuing EPL

For industries in List “A” , list “B” and list “C” Authorized officers of the CEA grant approval for issuing of EPL based on the recommendation made by the inspection team and then Legal Division of the CEA grant legal approval for the draft conditions of the EPL.

For industries in List “D”, Authorized person of the Local Authority grants approval for issuing of EPL based on the recommendations made by the inspection team and TEC.

Payment of License Fee

Once the legal approval is granted; the industrialist is requested to pay the License Fee so as to enable the CEA or Local Authority to issue an EPL for the industrial activity.

a. Details of License Fee and validity period of an EPL(Without government approved tax) except the mining activities in list ‘A’, ‘B’ and ‘C’.

1. Industrial activities in List A - Rs: 15,000.00 per License / for not more than 01 (one) year
2. Industrial activities in List B - Rs:-10,000.00 per License/for not more than 01(one) year.
3. Industrial activities in List C - Rs. 4,000.00 per License/for not more than 02(two) years.
(Payable in 02 installments)
4. Industrial activities in List D - Rs. 4,500.00 per License/for not more than 03 (three) years.
(Payable in 03 installments)

b. EPL fee and validity period of an EPL for Mining Activities in List 'A', 'B' and 'C'. (According to the Cabinet Decision of Extraction of Geological Resources for development priorities dated 12.10.2021)

1. Industrial activities in List A - Rs: 45,000.00 per License / for not more than 03 (three) years.
2. Industrial activities in List B - Rs: 30,000.00 per License/for not more than 03(three) years.
3. Industrial activities in List C - Rs. 6,000.00 per License/for not more than 03(three) years.

Issuing EPL

Once the licence fee is paid, the licence will be issued with the signature of the authorized signatory for a period of time not more than the period as specified in the gazette. (List "A"- one year; Lists "B" – one year, List "C"- two years and List "D"- three years).