KINGDOM OF CAMBODIA

NATION RELIGION KING

MINISTRY OF RURAL DEVELOPMENT

CONTINGENCY EMERGENCY RESPONSE PROJECT - CERP (P511027)

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

[Final version for disclosure]

October 28, 2025

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ABBREVIATIONS AND ACRONYMS

ACM	Asbestos Containing Material
CEDAW	Convention Against All Forms of Discrimination Against Women
CERC	Contingent Emergency Response Component
CERP	Contingent Emergency Response Project
CFi	Community fisheries
CRP	Crisis Response Plan
CTP	Cash Transfer Programs
DRM	Disaster Risk Management
EIA	Environmental Impact Assessment
EHS	Environmental Health and Safety
EOC	Emergency Operation Center
ESCP	Environmental and Social Commitment Plan
ESMP	Environmental and Social Management Plan
ESF	Environmental and Social Framework
ESSs	Environmental and Social Standards
E&S	Environmental and Social
GBV	Gender-Based Violence
GIIP	Good International Industry Practice
GoC	Government of Cambodia
GRM	Grievance Redress Mechanism
GS-NSPC	General Secretariat of the National Social Protection Council
HCWM	Health Care Waste Management
HRF	Humanitarian Response Forum
ILO	International Labor Organization
IPC	Infection Prevention and Control
IPF	Investment Project Financing
KH-SEADRM1	Cambodia Southeast Asia Disaster Risk Management Project – Phase 1
LMP	Labor Management Procedures
M&E	Monitoring and Evaluation
MoLVT	The Ministry of Labor and Vocational Training
MOE	The Ministry of Environment
MOP	The Ministry of Planning
MoSVY	The Ministry of Social Affairs, Veterans and Youth Rehabilitation
NBC	National Bank of Cambodia
NCDM	National Committee on Disaster Management
NSPPF	National Social Protection Policy Framework
OHS	Occupational Health and Safety
PDO	Project Development Objective
PforR	Program for Result
PIU	Project Implementation Unit
POM	Project Operational Manual
PPE	Personal Protective Equipment
RGC	Royal Government of Cambodia

PSP	Payment Service Providers
SNA	Sub-National Administration
SEA	Sexual Exploitation and Abuse
SEADRIF	Southeast Asia Disaster Risk Insurance Facility
SEP	Stakeholder Engagement Plan
SH	Sexual Harassment
SPS	Social Protection System
SRSPF	Shock Responsive Social Protection Framework
TA	Technical Assistance
TOR	Terms of Reference
WBG	World Bank Group
WHO	World Health Organization
WMP	Waste Management Plan
WGM	Workers Grievance Mechanism

1. INTRODUCTION

1.1. BACKGROUND

Cambodia is among Southeast Asia's most disaster-prone countries**,** frequently facing floods, droughts, storms, and heatwaves due to its geography, climate, urbanization, and socio-economic factors. Over 80% of its land lies in flood-prone areas, exposing much of the population—especially rural communities—to natural hazards. Ranked 16th out of 181 in the 2020 World Risk Index, Cambodia remains highly vulnerable despite recent risk reduction efforts and is the region's most disaster-prone nation among its peers.

In recent years, Cambodia has strengthened its ability to prepare for and respond to emergencies. The Royal Government of Cambodia (RGC) has taken significant steps to enhance Disaster Risk Management (DRM), particularly following the adoption of the Law on Disaster Management in 2015 and the integration of DRM into national and sectoral development strategies such as the Cambodia Sustainable Development Goals 2016–2030. The DRM law establishes the framework for disaster management, appointing the National Committee on Disaster Management (NCDM) as the lead agency for coordinating DRM activities nationwide. The NCDM works closely with its local branches to oversee DRM efforts at the community level, while various other ministries are tasked with implementing disaster management support activities. Furthermore, the Ministry of Planning (MOP) issues guidance that requires all ministries to factor disaster and climate risks into their planning processes.

The RGC, following the Disaster Management Law, has established a well-structured and efficient system for coordinating emergency preparedness and response across the nation. The NCDM, based at the government's headquarters, leads and organizes disaster management operations. NCDM has put in place dedicated Standard Operating Procedures (SOPs) for managing evacuation centers and multi-hazard warning systems. In addition, the committee advises the Prime Minister and, when disasters or emergencies occur, brings together relevant stakeholders to plan the response. It proposes necessary measures and actions to the Royal Government for disaster declarations and directs relief and emergency operations in the wake of such events.

The World Bank has played a key role in strengthening disaster risk management in Cambodia by supporting climate resilience, institutional capacity, and financial preparedness. Recent projects include Cambodia Southeast Asia Disaster Risk Management Project – Phase 1 KH-SEADRM1 (2017–2023), which focused on flood-resilient infrastructure and disaster financing strategies; the ongoing KH-SEADRM2 (2022–2027), which builds on these results with expanded training and diagnostics; and regional technical assistance for Southeast Asia Disaster Risk Insurance Facility (SEADRIF), enhancing access to catastrophe risk insurance.

The Cambodia Contingent Emergency Response Project (CERP) will further increase the amount of pre-arranged financing for crisis response by allowing reallocation of up to 10 percent of undisbursed and uncommitted balances in the World Bank's Investment Project Financing (IPF) and Performance for Results (PforR) portfolio per fiscal year. The CERP will support rapid disbursement of funds to support vulnerable populations and critical economic activities following an eligible crisis. This operation will finance quick-disbursing crisis response items and will complement the existing Contingent Emergency Response Components (CERC) of active IPF Projects. While the project does

not anticipate establishing a permanent physical footprint, it is recognized that certain emergency response activities—such as debris removal, temporary storage of relief supplies, and the potential set-up of temporary shelters—may result in short-term environmental and social impacts. The Environmental and Social Management Plan (ESMP) has addressed the identification, evaluation, and mitigation of these short-term impacts following best practices in environmental and social management.

1.2. PROJECT DESCRIPTION

The Project Development Objective (PDO) is to respond promptly and effectively to an eligible crisis or emergency in Cambodia. The CERP has a national scope. The exact beneficiaries will be defined in the Crisis Response Action Plan based on the eligible emergency or crisis for each CERP activation and the geographical spread of the impacts. The beneficiaries will include the affected citizens of Cambodia, encompassing a broad range of vulnerable groups, including children, elderly, persons with disabilities, women and girls, who will receive support to ensure their safety and resilience during and after the crises.

In the event of an eligible crisis, the CERP can be activated to finance immediate response needs, as applicable, given the nature of the crisis. This is intended to mitigate the immediate impacts on affected populations by aiding access to critical supplies and the resources needed for immediate response. The main categories of activities supported by the CERP include fast-disbursing expenditures under activities without any new physical footprint including, inter alia: a) emergency livelihood support to households; b) provision of essential emergency supplies and services; and c) emergency response coordination and management.

a) Emergency Livelihood Support to Households: The CERP will provide direct emergency income support to people / households affected by disasters by proving cash transfers tailored to crisis context. Should conditions allow, provision of cash-for-work programs may also be considered. This will aid in stabilizing their livelihoods, smoothen consumption and enhance their ability to source food and items for basic needs**.** These payments will be activated in affected provinces and disbursed using existing Cash Transfer Programs (CTP) managed by the General Secretariat of the National Social Protection Council (GS-NSPC) through the National Social Assistance Fund (NSAF). The CTP under the CERP will adhere to the Shock Responsive Social Protection Framework (SRSPF) formally approved for Cambodia, which establishes eligibility criteria (such as elderly, people with disabilities, single women-headed households, orphans, and vulnerable children selected from national database/registry) in disaster-affected areas. Following the experience of cash transfer implemented in the aftermath of the 2023 floodings, the CERP-CTP will be disbursed to vulnerable families in affected provinces as detailed in the CERP Manual.

b) Provision of Essential Emergency Supplies and Services: Support will be provided to sustain delivery of critical services and ensure the accessibility of essential supplies during and after emergencies. This will include financing the procurement and distribution of necessary supplies and services to meet immediate needs of affected persons, such as water supply (bottled water) and sanitation (excluding works), light equipment and supplies, food staples, essential emergency supplies, pharmaceutical, medicines, and medical equipment, agricultural inputs and veterinary medicines (when needed), green stoves, and rental of light

equipment for restoration of access and implementation of CERP activities. All supplies will be tailored to the nature of the crisis and sourced from both local and international suppliers to ensure rapid delivery to the most affected areas.

c) Emergency Response Coordination and Management: Support will be provided for incremental operational expenditures incurred by the RGC for response and early recovery efforts including, inter alia, evacuation process, shelter administration, additional transportation costs (use of other transportation), increased electricity bills for the public sector, staff overtime and rental of light and critical machinery (i.e., generators for emergency and shelter operation, equipment for removal of debris, etc.). It will also support mobilization of necessary technical expertise (consultancy) to support emergency response activities, provide just-in-time technical assistance, and/or support preparation of technical documents for procurement etc.

1.2.1. POSITIVE LIST

Table 1 presents the Positive List of eligible expenditures for financing under the CERP to help respond to a specific eligible emergency or crisis. At each CERP activation, the Positive List will be assessed to confirm its alignment with the Paris Agreement Goals, as required for all Bank financing since July 1, 2023. New activities added to the list will require this assessment.

Table 1. Positive List: Eligible Expenditures

Items	Relevance for emergency response	Used in previous emergencies in Cambodia	Existence of distribution channels
Humanitarian sector: Non-perishable food including food staples (maize, rice, and beans), water supply and sanitation equipment (bottled water, mobile water treatment plants, bladders, portable water filters, water purification tablets, latrine slabs, community mobile toilets, and plastic sheets. Essential supplies (tents, tarpaulin, buckets, sleeping mats, personal hygiene kits, and household kits). Rental of light equipment (including fuel for their operation) and green cookstoves for community kitchens (when applicable)	Highly relevant	Yes	NCDM in coordination with humanitarian agencies
Health sector: Medicines, medical supplies, equipment, diagnostic tools, and surge of responders in the health sector, including logistics. and Personal protective equipment (PPE)	Highly relevant	Yes	MOH
Agriculture Sector: Seeds, tools, essential fertilizers, livestock feed, and veterinary medicine and supplies	Highly relevant	Yes	MAFF
Cash transfers: electronic payments as defined in the Social Protection System)	Highly relevant	Yes	Social Protection System

Source: Annex 2 – AM Appraisal Mission June 2025 and CERP Operational Manual (version September 18, 2025)

1.2.2. EXCLUSION LIST

The following activities are excluded from the Project (Source: ESCP Appraisal – September 2025)

- Procurement of goods and services through security forces (including but not limited to Cambodia Defense Force, Cambodia Police Force, Forestry Officers, Wildlife Officers and Rangers, etc.).
- Staff overtime payments for members of the security forces (as per the above).
- Use of prison labor, child labor, forced labor or trafficked labor
- Any civil works including but not limited to boreholes, water supply schemes, irrigation schemes, temporary road repairs, repairs/ refurbishment to infrastructure and buildings.
- Installation of logistical support bridges (e.g. Bailey, Mabey & Johnson)
- Construction or refurbishment of storage facilities
- Activities involving land acquisition, restrictions on land use or resettlement (both temporary and permanent).
- Activities in protected and sensitive areas including riverbanks, key biodiversity areas, and critical habitat.
- Activities in known national or internationally recognized cultural heritage sites.
- Activities that can cause severe deforestation and pollution of the environment.
- Activities that will lead to violation of human rights including SEA/SH and discrimination on the basis of ethnicity, color, sex, political affiliation etc.
- Any activities requiring site specific environmental and social risk and/ or impact assessment.
- Procurement, storage, or distribution of fuel.
- Procurement, storage, or distribution of goods with chlorine or other hazardous substances.
- Direct operation of shelters, including activities such as camp establishment, land agreements and compensation, and the provision of sanitation and waste management services.
- Production or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements, or subject to international bans, such as pharmaceuticals, pesticides/herbicides, ozone depleting substances, Polychlorinated biphenyls (PCBs), wildlife or products regulated under the Convention on International Trade in Endangered Species (CITES).
- Production or trade in weapons and munitions.
- Production or trade in alcoholic beverages.
- Production or trade in tobacco.
- Gambling, casinos and equivalent enterprises.
- Production or trade in radioactive materials. This does not apply to the purchase of medical equipment, quality control (measurement) equipment and any equipment whereas the Association considers the radioactive source to be trivial and/or adequately shielded.
- Production or trade in unbonded asbestos fibers. This does not apply to purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%.
- Drift net fishing in the marine environment using nets in excess of 2.5 km. in length.

2. POLICY, LEGAL AND REGULATORY FRAMEWORK

2.1. NATIONAL REQUIREMENTS

2.1.1. THE CONSTITUTION OF THE KINGDOM OF CAMBODIA

The Constitution of the Royal Kingdom of Cambodia (1993, with the latest amendment issued by Royal Krom No. NSRKM/0208/008 on February 13, 2008) serves as the primary legal framework that guarantees equal rights for all Cambodian citizens, irrespective of their race, color, language, or religion. It encompasses protections for various social groups, including those based on gender and indigenous status (articles 36, 45). Additionally, it provides for workers' rights, including the ability to form associations (article 42) and representative unions (article 36), while explicitly forbidding discrimination against women (article 45). Concerning environmental matters, article 59 mandates the State to safeguard the environment and manage natural resources effectively, covering aspects like land, water, air, geology, and wildlife. This constitutional backdrop led to the establishment of the Ministry of Environment (MOE).

2.1.2. ENVIRONMENTAL PROTECTION AND NATURAL RESOURCES MANAGEMENT

The Ministry of Environment (MoE), established in 1993, oversees the overall management of the environment. It is tasked with implementing the Law on Environmental Protection and Natural Resources Management. At the provincial and city levels, there are corresponding environment departments that enforce the environmental legislation under the MoE's authority.

The National Assembly enacted the Law on Environmental Protection and Natural Resources Management, which was officially promulgated as Royal Kram NSRKM 1296/36 on November 18, 1996. This law aims to:

- Safeguard and enhance environmental quality and public health by preventing, reducing, and controlling pollution.
- Evaluate the environmental impacts of proposed projects before the Royal Government decides.
- Ensure sustainable and rational conservation, development, management, and use of Cambodia’s natural resources.
- Encourage public involvement in the protection of the environment and management of natural resources.
- Prevent actions that harm the environment.

2.1.3. ENVIRONMENTAL IMPACT ASSESSMENT

The Environmental Impact Assessment (EIA) Sub-decree, established in 1999, along with supplementary guidelines from 2005, 2009, and 2017, outlines the requirements, processes, and roles of institutions involved in conducting environmental and social assessments. This Sub-decree mandates that an EIA be performed for all public and private projects and activities, which must then be reviewed by the MoE and submitted to the Royal Government for approval, unless a specific

exception allows for direct approval by the Royal Government. The EIA Sub-decree specifies the procedures for project review and approval, and outlines penalties for non-compliance. Additionally, it encourages public participation and requires project owners to create an environmental management plan (EMP). To comply with the law, project proponents can choose to conduct either an Initial EIA or a full EIA, with Article 8 indicating that only projects with significant impacts necessitate a full EIA.

The CERP-ESMP is the primary tool for environmental and social assessment, featuring screening and exclusion criteria aimed at preventing activities that could require a complete Environmental Impact Assessment (EIA).

2.1.4. LABOR AND EMPLOYMENT LAW (1997)

This is the overarching legal instrument that regulates and protects workers in Cambodia. The law governs relations between employers and workers. The Law considers that the rules, obligations and rights are the same for casual or permanent workers. The law prohibits discrimination in any forms, including by sex, religion, social origin, or ethnicity (article 12). Employers are required to make available a copy of the Law to workers at all business locations/ operations (article 15) and forced compulsory or the hiring of workers to pay off debts is prohibited (article 16). The Law defines the role and nature of Labor contracts be they are written or verbal, and sets out the acceptable working terms and conditions. Article 106 reaffirms equal conditions and wage for all work regardless of origin, age and sex for the same types of work. The Law establishes the limit for working hours to 8 hours per day and 48 hours per week as well as rates for working overtime and on public holidays.

The allowable minimum age for wage employment is set at 15 years (article 177). Children from 12-15 years of age can be hired to do light work provided that (a) the work is not hazardous to their health or mental and physical development, and (b) the work will not affect their regular school attendance, their participation in guidance program or vocational training approved by a competent authority. The Law recognizes statutory maternity leave on half wages (article 183), and for the performance of light duties for a further two months. Employers are prohibited from laying off women during their maternity leave (article 182).

Chapter eight of the Labor Law covers the health and safety of workers and requires maintaining standards of hygiene and sanitation in working environments and requirements for individual protective instrument and work clothes, lighting and noise levels (aricle 229). Machinery, mechanisms, transmission apparatus, tools, equipment and machines must be installed and maintained in the best possible safety conditions. The Ministry of Labor and Vocational Training (MoLVT) shall monitor working conditions and enforce compliance notices. The Law requires that every manager at a workplace shall have someone in charge to take all appropriate measures to prevent work related accidents (article 248). Workplaces must provide the primary health care to their workers and the levels of this vary according to the numbers employed (with 50 and 200 workers thresholds being specifically mentioned). The Law also mandates that a general insurance system obligatory for workers shall be set up and this system shall be managed under the insurance of the National Social Security Fund (article 256).

2.1.5. OCCUPATIONAL HEALTH AND SAFETY

The main legal document regulating occupational health and safety in Cambodia is the Labor Law of 1997, which outlines the fundamental rights and obligations of both employers and employees concerning working conditions. This law includes multiple chapters and articles that focus on health, safety, and welfare in the workplace. Furthermore, Cambodia is a member of the International Labor Organization (ILO) and has ratified several important ILO conventions pertaining to occupational safety and health, such as Convention No. 155 (Occupational Safety and Health) and Convention No. 187 (Promotional Framework for Occupational Safety and Health). Relevant sections of the Labor Law include: (a) Relates to worker health and safety by specifying requirements for safe working environments and employer responsibilities to reduce risks (Chapter VIII); (b) Requires all employers to guarantee workplace safety and health by providing and maintaining essential equipment, protective devices, and sanitary conditions (article 229); (c) Requires the creation of internal regulations to manage safety and health protocols (article 230); and (d) Describes the authority of labor inspectors to oversee compliance and enforce regulations (article 237)

2.1.6. INDIGENOUS PEOPLES

National Policy on Indigenous People Development: Approved by the Council of Ministers on April 24, 2009, this policy outlines governmental approaches concerning indigenous communities in areas such as culture, education, vocational training, health, environment, land, agriculture, water resources, infrastructure, justice, tourism, industry, mines, and energy. In conjunction with the Land Law (2001), this policy acknowledges the rights of indigenous peoples to their ancestral lands, as well as their culture and traditions.

2.1.7. DISASTER MANAGEMENT

The Law on Disaster Management (2015) serves as Cambodia's primary framework for disaster risk reduction and community protection. It establishes the National Committee for Disaster Management (NCDM) as the central body, defines the roles of government and community organisations, and promotes a multi-level approach. The legislation covers risk assessments, early warnings, preparedness plans, rapid response teams, and post-disaster recovery focused on resilience. It safeguards human rights, especially for vulnerable groups, sets up funding and resource mobilization mechanisms, and encourages active community participation throughout all stages of disaster management.

2.1.8. OTHER RELEVANT LAWS

Road Traffic 2015 (NS/RKAM/0115/001): This law is intended to ensure road traffic safety and order, and protection of human and animal health and lives, properties and environment. Its establishment a requirement for all motor vehicles, trailers, and semi-trailers moving on the road to obtain a technical inspection certificate. It also outlines road safety requirements.

The Protection and Promotion of the Rights of Persons with Disabilities 2009 (NS/RKM/0709/010): The goal of the law is to protect and promote the rights of persons with disabilities in the country, and prevent, reduce and eliminate discrimination Against persons with disabilities. The law also seeks to

ensure that persons with disabilities are able to participate fully and equally in activities within society and provide equal opportunities for employment.

Water Resource Management 2007 (NS/RKM/0607/016): Requires license/permit/written authorization for the: (i) abstraction & use of water resources other than for domestic purposes, watering for animal husbandry, fishing & irrigation of domestic gardens and orchards; (ii) extraction of sand, soil & gravel from the beds & banks of water courses, lakes, canals & reservoirs; (iii) filling of river, tributary, stream, natural lakes, canal & reservoir; and (iv) discharge, disposal or deposit of polluting substances that are likely to deteriorate water quality and to endanger human, animal and plant health.

Law on animal Health and Production (NS/RKM/0116/003): Ensure the management and development of animal production and animal health sectors; protect human and animal health as well as animal welfare and the environment; control, prevent and eradicate the spread of animal diseases; protect and rationally use animal resources and animal breeds; ensure the sustainability of supplies of quality and safe animal products for domestic market and export.

2.1.9. OTHER RELEVANT SUB-DECREES

Sub-Decree No. 27 on ***Water Pollution Control*** (1999) seeks to manage water pollution to protect human health and maintain biodiversity. It addresses all sources and activities that lead to the pollution of public water bodies. The decree specifies the different sources of pollution, sets standards for waste discharges, and establishes water quality criteria for various areas. For this project, particular water quality standards for public water bodies will be implemented.

Sub-Decree No. 36 regarding ***Solid Waste Management*** (1999) aims to oversee solid waste management in a technically sound and safe manner, thereby safeguarding human health and preserving biodiversity. This Sub-Decree covers all activities related to the disposal, storage, collection, transportation, recycling, and dumping of both general and hazardous waste.

Sub-Decree No. 80 on ***Solid Waste Management in Provinces and Cities*** (2003) seeks to enhance the accountability of authorities and institutions engaged in solid waste management, ensuring effective and environmentally friendly practices in provinces and cities.

Sub-Decree No. 16 on ***Sanitary Inspection of Animals and Animal Products*** (2003) prevents epidemics of animal diseases and protects animals and public health by determining the examination for disease or toxins caused by bacteria in animal products originating from animals and by implementing the rules of veterinary medicine on all imports, exports, transits, and transports subject to the examination.

Sub-Decree on the ***Establishment of the Ombudsmen's Office*** (2017) creates a mechanism for receiving and handling complaints relating to sub-national administrations (SNA).

2.1.10. HEALTH SECTOR

Guideline of Medical Waste Management (2006): Guidance on separation and transport of waste from healthcare facilities. Also provides guidance on the capacity building and training required for clinical and administrative staff. Categories of medical waste are specified as follows: Category A: is

non-hazardous solid waste. Category B: non and infectious sharps waste. Category C: Infectious waste, that is dangerous to patients, medical staff, and other people.

National Policy for Healthcare Waste management (2009): This policy serves as a comprehensive framework for managing potentially hazardous waste generated by the country's health sector. It sets a goal that all healthcare waste will be handled and managed properly to avoid negative impacts on human health and environment. Cambodia is a signatory of Stockholm Convention. The National ***Policy on Healthcare waste management*** (HCWM) set an objective to put in practices HCW treatment technologies in line with Stockholm Convention. Prakas (ministerial declaration) on HCWM provides detailed regulations on definition, segregation, collection, transport, storage, treatment and disposal of healthcare waste.

National Guidelines for Infection Prevention and Control (IPC) for Healthcare Facilities (2017): The guidance provides information on the basics of infection and transmission pathways. It gives infection prevention and control measures including hand hygiene, use of personal protective equipment, environmental cleaning. It covers occupational health and safety of healthcare workers including the biological and chemical hazards they are exposed to.

National Guideline on Health Care Waste Management (2012): This guideline established standards, procedures, and responsibilities for the safe and efficient handling of health care waste nationwide.

2.1.11. AGRICULTURE SECTOR

Cambodia's regulatory structure for agriculture support is shaped by both national legislation and international commitments. ***The core legal documents governing the agriculture sector include***:

- Law on Agriculture, Fisheries, and Forestry (2000): This foundational law outlines the sustainable management of agricultural, fisheries, and forestry resources and designates the Ministry of Agriculture, Forestry and Fisheries (MAFF) as the central regulatory body.
- Sub-Decrees and Prakas: The Royal Government of Cambodia issues these to clarify and expand upon the law, providing specific regulations for seeds, fertilizers, agrochemicals, livestock, and fisheries.
- National Strategic Development Plan (NSDP) 2019–2023: The NSDP prioritizes agriculture, aiming for modernization, enhanced productivity, and improved rural livelihoods.
- Rectangular Strategy Phase IV (2018–2023): Agriculture is recognized as a key driver of growth in this strategy, which stresses boosting productivity, diversifying crops, and adding value within the sector.

Cambodia has put in place both ***regulatory frameworks related to seeds***, including:

- Seed Law (2012): The Law on Seed Management and Plant Breeder's Rights provides the legal basis for seed development, registration, production, certification, and trade. It enforces quality standards, safeguards breeders' rights, and encourages the adoption of certified seeds.
- Seed Certification: The Department of Agricultural Legislation (DAL), operating within MAFF, oversees the certification process. This involves field inspections, sampling, laboratory analysis, and the granting of certificates to guarantee seeds meet national standards before reaching farmers.

- Support Initiatives: Smallholder farmers, particularly those affected by natural disasters or residing in targeted support zones, can benefit from improved seed varieties that are distributed at reduced cost or free of charge through MAFF and collaborating NGOs.

The national regulatory system related to ***agriculture tools and machineries*** cover several aspects:

- Import Guidelines: All agricultural equipment brought into the country must adhere to national safety and technical standards. The General Department of Agriculture (GDA) provides detailed specifications and streamlines the process for importing machinery.
- Financial Support and Subsidies: The government, in partnership with microfinance institutions and development agencies, offers loans and subsidies to help farmers purchase new equipment. Special programs also target cooperatives and farmer groups to accelerate mechanization.
- Training and Support Services: Extension teams from MAFF deliver hands-on training in using, maintaining, and repairing agricultural tools, ensuring farmers can effectively operate their equipment and remain self-reliant.

Fertilizer use in Cambodia is carefully regulated to ensure safety, protect the environment, and enhance crop yields:

- Law on Fertilizers and Agricultural Chemicals (2012): This legislation oversees the registration, importation, packaging, distribution, and application of fertilizers and agricultural chemicals, aiming to prevent counterfeit products and safeguard both farmers and consumers.
- Registration and Quality Assurance: Every fertilizer and chemical product must be registered with the Ministry of Agriculture, Forestry and Fisheries (MAFF). The Department of Agricultural Legislation performs laboratory testing and provides quality certifications, while routine market inspections help identify and remove illegal or substandard products.
- Support Initiatives: During emergencies such as droughts or floods, government agencies and development partners supply subsidized fertilizers. Extension officers also provide training on efficient fertilizer application and promote the use of organic options.

The following outlines the main regulations and support mechanisms for livestock:

- Animal Health and Production Law (2016): This legislation covers animal health, breeding, and safety of livestock products. It requires disease prevention measures, vaccination programs, and permits for animal movement to control outbreaks.
- Breeding and Genetic Enhancement: The Department of Animal Health and Production (DAHP) leads national breeding initiatives, distributes improved livestock breeds, and offers artificial insemination services to enhance productivity.
- Veterinary Services: Certified veterinarians and para-veterinary staff are responsible for disease monitoring, diagnosis, and treatment. The government also organizes mass vaccination drives.
- Livestock Insurance and Emergency Aid: Occasional pilot insurance programs and distributions of emergency livestock feed are provided to assist farmers in recovering from disease outbreaks and natural disasters.

Fisheries play a crucial role in Cambodia's food security, livelihoods, and export sector. The country's regulatory and support systems for fisheries include:

- ❖ Fisheries Law (2006): This legislation oversees the sustainable management and conservation of fishery resources, covering both commercial and small-scale fishing. It also establishes community fisheries (CFi) management structures that empower local groups.
- ❖ Support Programs: A variety of government and donor-funded initiatives supply vulnerable fishing communities with boats, nets, equipment, and technical training. Additionally, there are ongoing efforts to restore fish habitats and introduce aquaculture as an alternative livelihood.
- ❖ Disaster Assistance/Relief: In times of flood or drought, affected fishers receive government emergency aid, which may include food supplies, fishing gear, and financial support.

2.1.12. SOCIAL PROTECTION SYSTEM (SPS)

Cambodia's regulatory framework for cash transfers via electronic payments within the Social Protection System (SPS) is robust and evolving. It balances efficiency, transparency, and inclusion while seeking to protect beneficiaries and adapt to rapid technological change. The Royal Government of Cambodia initiated the National Social Protection Policy Framework (NSPPF) 2016–2025 as the cornerstone for developing the SPS. Its objectives include reducing poverty, enhancing human capital, and providing timely assistance to those facing shocks such as natural disasters. The regulatory framework for electronic payments in Cambodia is shaped by a complex interplay between social protection policies and financial sector regulations:

- ❖ National Social Protection Policy Framework (NSPPF) 2016–2025: Provides the strategic direction for cash-based interventions and prioritizes digital advances to improve delivery efficiency and transparency.
- ❖ Law on Electronic Transactions (2004): Establishes the legal foundation for electronic transactions, including digital signatures, e-documents, and electronic payment systems.
- ❖ Prakas and Guidelines from the National Bank of Cambodia (NBC): The NBC issues regulatory guidelines for payment service providers (PSPs), electronic money institutions, and commercial banks, ensuring the security and reliability of e-payment systems.
- ❖ Sub-Decrees and Ministerial Regulations: These detail implementation specifics, such as eligibility determination, data sharing, and grievance redress for SPS beneficiaries.

Data Protection and Privacy: Beneficiary data is protected under Cambodia's data protection regulations and sectoral guidelines. Implementers must ensure confidentiality, secure storage, and restricted access in all digital processes, with explicit beneficiary consent required for data sharing, consistent with international best practices.

Consumer Protection and Grievance Redress: The regulatory framework mandates transparent communication with beneficiaries, clear fee structures, and accessible mechanisms for lodging complaints or resolving transaction errors. Both Ministry of Social Affairs, Veterans and Youth Rehabilitation (MoSVY) and local authorities are accountable for responding to grievances related to cash transfer delivery.

Inclusion: The government actively supports technological innovation in payment systems, including mobile wallets, QR codes, and agent networks. Special provisions exist to ensure rural and marginalized populations have physical and technological access to digital payments.

2.2. WORLD BANK REQUIREMENTS

2.2.1. WORLD BANK ENVIRONMENTAL AND SOCIAL STANDARDS

The Project's overall Environmental and Social (E&S) risk classification is ***Moderate*** due to limited physical footprint**.** The E&S impacts are expected to be localized, temporary, predictable, and readily managed. No construction and civil works are expected to be funded under the project. Six of the ten Environmental and Social Standards (ESSs) of the WB's Environmental and Social Framework (ESF) have been screened as relevant.

Table 2. Relevant E&S Standards

ES Standards	Objectives	Relevance to the Project
ESS1: Assessment and Management of Environmental and Social Risks and Impacts	Sets out the Borrower's responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing, in order to achieve environmental and social outcomes consistent with the ESS's.	ESS1 is relevant to the CERP. Although the project will not finance activities with significant risk such as civil works or land acquisition—both of which are excluded in the CERP Manual—it will support eligible emergency response activities in the positive list in the CERP manual (provision of food, water, cash transfers, agricultural inputs, medical supplies and operational support) with low to moderate environmental and social risks. The principal environmental and social risks and impacts associated with project activities include: • Waste Management: The generation, handling, and disposal of waste resulting from the distribution of supplies or the cleanup of debris. • Occupational Health and Safety (OHS): Risks to personnel engaged in emergency response operations, including debris removal and supply distribution. • Community Health and Safety: Risks related to traffic safety, exposure to nuisance conditions such as dust or noise, spread of zoonotic disease from poor handling of diseased animals, and potential risks of Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) during relief efforts. • Food and Water Safety: Potential risks of contamination associated with the distribution of supplies, necessitating compliance with Cambodia Law on Food Safety and World Health Organization (WHO) standards for water quality. These risks are expected to be site-specific, temporary, and manageable through the mitigation measures detailed in the ESMP, ESCP, and SEP. The ESMP outlines screening procedures, mitigation strategies, and activity-specific plans to guide the implementation of project activities in accordance with the Cambodia E&S regulatory requirements and the World Bank ESF. Implementation will leverage the E&S arrangements and guidelines already established at the PIU implementing the Cambodia Southeast Asia Disaster Risk Management Project 2 (P177185) in MRD and other implementing agencies, as well as those set forth in the ESMP, ESCP, and CERP manual, to ensure effective risk management. As project activities are defined during implementation and in response to specific disasters or climate-related shocks, additional risks will be identified and addressed accordingly.

ES Standards	Objectives	Relevance to the Project
		As part of CERP readiness and before activation, MEF, NCDM, and the CERP-PIU will ensure distribution-channel technical staff are trained on CERP Manual requirements, including E&S Standards in the ESCP.
ESS2: Labor and Working Conditions	- Promote safety and health at work - Promote the fair treatment, non-discrimination and equal opportunity of project workers - Protect project workers, including vulnerable workers such as women, persons with disabilities, children (of working age, in accordance with this ESS) and migrant workers, contracted workers, community workers and primary supply workers, as appropriate - Prevent the use of all forms of forced labor and child labor - Support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law - Provide project workers with accessible means to raise workplace concerns.	Labor Management Procedures (LMP) for the Project have been included in the ESMP. Labor practices in Cambodia are governed by the Labor Law (1997), which includes provisions on health and safety in the workplace and non-discrimination in employment. Three types of workers are anticipated under the project: (i) direct workers, (ii) contractor workers, and (iii) primary supply workers as needed. Project workers will include (i) government consultants who will work directly on the project in the respective agencies, including individuals or institutions delivering cash transfers and emergency food deliveries and workers hired directly by the project to support implementation; (ii) contractor workers (e.g. frontline partners for rapid response, risk control); and (iii) primary supply workers (e.g., suppliers of goods and services). There will also be civil servants implementing aspect of the projects. All Government civil servants from national to local level will remain subject to the terms and conditions of their existing contracts. The LMP includes contractors and primary supplier workers to ensure safety whiles providing emergency response. Given that civil works is excluded in the project, no labor influx is expected. The LMP provides measures to improve OHS in the work environment. Other measures include applying the minimum hiring age of 18 years for employment, signing of code of conduct by all project workers and measures to prevent and manage incidents of SEA/SH.
ESS3: Resource Efficiency and Pollution Prevention and Management	- - Promote the sustainable use of resources, including energy, water and raw materials - - Avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities - - Avoid or minimize project-related emissions of short and long-lived climate pollutants - - Avoid or minimize generation of hazardous and non-hazardous waste - - Minimize and manage the risks and impacts associated with pesticide use.	The CERP activities are expected to generate hazardous and nonhazardous waste from expired or waste generated from the use of non-perishable food sources, medical (used PPE, expired medicines, medical waste), agricultural supplies and emergency water and sanitation supplies. Handling and disposal of medical supplies, especially PPE and expired medicines, need stringent protocols to prevent environmental contamination and disease spread through the use of an Infection Control and Waste Management Plan (ICWMP) and Waste Management Plan (WMP) as part of the ESMP. Waste generation should be minimized where required through the use of effective planning and distribution. Emergency agricultural inputs could deplete local natural resources if not managed sustainably, given Cambodia's climate vulnerability and resource scarcity, particularly water. Efficient and Targeted Distribution involves using prioritizing assistance to crops, livestock, and farmers in need. Sustainable Agricultural Practices focus on water conservation, drought-resistant crops, soil health improvement, and diversification to enhance resilience. Agricultural inputs such as seeds are required to be securely stored in existing facilities and protected to prevent contamination from rodents, the weather and theft. The project will distribute bottled or packed water and supply chemical toilets or construct emergency pit latrines. Sanitation risks may arise where there are poorly sited pit latrines next to existing boreholes or natural water sources causing cross contamination or inappropriate disposal of toilet chemicals. The ESMP includes proportionate waste management plans, resource management strategies,

ES Standards	Objectives	Relevance to the Project
		pollution control protocols, chemical storage and use, sanitation protocols and an ICWMP etc.
ESS4: Community Health and Safety	- - Anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and non-routine circumstances - - Promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure, including dams - - Avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials - - Have in place effective measures to address emergency events - - Ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.	ESS 4 risks to the local communities could stem from inadequate hazardous (including healthcare waste) and non hazardous waste management, mismanaged agricultural inputs, and spoiled food packs and poor management of diseased animals. This could lead to community exposure to water-borne, water based, water-related, and vector-borne or zoonotic diseases, and communicable and noncommunicable diseases. In addition, increased traffic distributing aid in rural areas will increase the likelihood of vehicle impacts with the local community members. The Environmental and Social Management Plan (ESMP) includes proportionate waste management plans, resource management strategies, traffic management plan, water and sanitation protocols, security and vector control and OHS protocols to protect workers and communities. The prepared ESMP addresses potential risks and impacts, ensuring activities align with ESSs and Environmental Safety Health Guidelines.
ESS 5: Land Acquisition, Restrictions on Land use and Involuntary Resettlement.	- - Avoidance and Minimization of Displacement - - The first and foremost principle of ESS5 is to avoid involuntary resettlement wherever feasible. This means that the design of projects should prioritize alternatives that do not require land acquisition or minimize the scale and scope of displacement. - - Only when avoidance is not possible should minimization strategies be implemented, ensuring that impacts on people, livelihoods, and assets are as limited as possible. - - The chosen project alternative should reflect a careful assessment of possible options to reduce the number of people affected and the scale of impacts.	This standard is not relevant. Activities involving land acquisition, restrictions on land use and involuntary resettlement are excluded from the Project.

ES Standards	Objectives	Relevance to the Project
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Applicable to projects that potentially affect biodiversity or habitats, either positively or negatively, directly or indirectly, or that depend upon biodiversity of their success. ESS 6 recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development.	Although the project's emergency activities have a limited physical footprint, distribution of agricultural inputs and livestock support could indirectly affect biodiversity if not well managed—through soil degradation, ecosystem contamination, or introduction of invasive species—especially near protected areas or critical habitats. The ESMP addresses these risks by: screening and monitoring to avoid sensitive areas; clear guidelines for sustainable input use and restrictions on harmful products; and awareness and training for beneficiaries on sustainable livestock and land management.
ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Applies to communities or groups of Indigenous Peoples who, during the lifetime of members of the community or group, have lost collective attachment to distinct habitats or ancestral territories in the project area, because of forced severance, conflict, government resettlement programs, dispossession of their land, natural disasters, or incorporation of such territories into an urban area.	Indigenous peoples (IPs) communities are found in the Northeastern provinces and parts of the Northern Plains and Tonle Sap periphery. The CERP will intervene in IP communities in time of emergencies affecting IP areas. The ESMP includes Indigenous Peoples Planning Framework (IPPF) to guide preparation and implementation of Indiginous People Plan (IPP) once Indigenous Peoples have been identified as beneficiaries of the CERP to guide the CERP implmenetation in IP Communities during emergencies
ESS 8: Cultural Heritage	Recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. People identify with cultural heritage as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. Cultural heritage, in its many manifestations, is important as a source of valuable scientific and historical information, as an economic and social asset for development, and as an integral part of people's cultural identity and practice. ESS 8 sets out measures designed to protect cultural heritage throughout the project life cycle. This ESS sets out general provisions on risks and impacts to cultural heritage from project activities.	This standard is not relevant. Activities will not impact on tangible or non tangible cultural heritage.
ESS 9: Financial Intermediaries	This ESS applies to Financial Intermediaries (FIs) that receive financial support from the Bank. FIs include public and private financial services providers, including national and regional development banks, which channel financial resources to a range of economic activities across industry sectors.	Not relevant to the Project

ES Standards	Objectives	Relevance to the Project
ESS10: Stakeholder Engagement and Information Disclosure	Recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. ESS 10 applies to all projects supported by the Bank through Investment Project Financing. The Borrower will engage with stakeholders as an integral part of the project's environmental and social assessment and project design and implementation	Stakeholders identified for the project are MEF and relevant supporting ministries, provincial authorities and officers, commune leaders and project beneficiaries. Due to the emergency nature of project implementation, opportunities for comprehensive stakeholder engagement prior to the commencement of proposed activities will necessarily be restricted. A Stakeholder Engagement Plan (SEP) implementation will draw upon the SEPs developed for other national initiatives, including World Bank-funded in relevant sectors such as the Ministry of Agriculture, Forestry and Fisheries (MAFF), and the Ministry of Health (MOH), among others. Stakeholder engagement will place particular emphasis on the perspectives of women and GBV/SEA/SH prevention and response. The implementing agency shall utilize their existing Project Grievance Mechanisms (GRM) established and adapt as required to address project related complaints in line with the ESS10 requirements. The GRM will incorporate culturally sensitive and confidential procedures to receive complaints pertaining to SEA, SH, and other forms of GBV, and has protocols to ensure survivor-centered responses. The GRM will also address grievances and suggestions submitted by stakeholders. The SEP has been prepared and disclosed prior to project appraisal, highlighting stakeholder engagement activities undertaken to date. During implementation, consultation will be ongoing, and this will primarily focus on project beneficiaries and other institutional stakeholders at local level.

2.2.2. WBG EHS GUIDELINES AND GIIP

All activities financed through the Project are subject to the World Bank Group Environmental, Health and Safety (EHS) Guidelines including:

(1) Environmental,
(2) Occupational Health and Safety, and
(3) Community Health and Safety

These guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). Another GIIP that is relevant to the Project is: Water quality standards. World Health Organization (WHO - 2011 edition) and the Australian Drinking Water Guidelines (2011 edition) will be adopted; depending on parameter concerned, whichever guideline is stricter, shall be used.

2.3. REGIONAL AND INTERNATIONAL CONVENTIONS

Cambodia is a party to the following regional and international agreements:

Table 3. International and Regional Conventions

Conventions	Date	Agreements
Basel Convention	2001	The Basel Convention is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs).
International Labor Organization (ILO)		❖ Freedom of Association and Protection of the Right to Organize Convention, 1948 (No. 87): Ratified in 1999, this convention guarantees the right of workers and employers to form and join organizations of their own choosing without prior authorization. ❖ Right to Organize and Collective Bargaining Convention, 1949 (No. 98): Also ratified in 1999, it protects workers against anti-union discrimination and promotes voluntary collective bargaining. ❖ Forced Labor Convention, 1930 (No. 29): Ratified in 1969, this convention prohibits all forms of forced or compulsory labor. ❖ Abolition of Forced Labor Convention, 1957 (No. 105): Ratified in 1999, it calls for the suppression of all forms of forced or compulsory labor. ❖ Minimum Age Convention, 1973 (No. 138): Ratified in 1999, it sets the minimum age for entry into employment. ❖ Worst Forms of Child Labor Convention, 1999 (No. 182): Ratified in 2006, this convention targets the elimination of the worst forms of child labor, including slavery, trafficking, and hazardous work. ❖ Equal Remuneration Convention, 1951 (No. 100): Ratified in 1999, it supports the principle of equal pay for work of equal value. ❖ Discrimination (Employment and Occupation) Convention, 1958 (No. 111): Also ratified in 1999, this convention seeks to eliminate discrimination in employment and occupation based on race, color, sex, religion, political opinion, national extraction, or social origin
Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)	1992	A commitment to ensure that the principles of equality are adhered to and that discriminatory practices including SEA and SH are abolished. By ratifying CEDAW, Cambodia committed itself to the legal responsibility of adjusting its national laws, policies, and practices to comply with the Convention's terms and to eradicate all forms of discrimination against women.
Cartagena Protocol on Biosafety	2003	Cambodia is strengthening its legal and institutional frameworks to manage biosafety and the handling of living modified organisms, ensuring alignment with international standards while promoting transparency and public involvement.

3. BASELINE ENVIRONMENTAL AND SOCIAL CONDITIONS IN CAMBODIA

3.1. LOCATION AND GEOGRAPHY

Cambodia, situated in Southeast Asia on the Indochinese Peninsula, borders Thailand to the northwest and west, Laos to the northeast, and Vietnam to the east and southeast. Additionally, it has a coastline along the Gulf of Thailand to the southwest. The capital city, Phnom Penh, is strategically located at the junction of the Mekong and Tonle Sap Rivers, highlighting the importance of these waterways throughout history and in modern times.

Cambodia's geography can be divided into four main regions, each characterized by unique physical traits and economic roles:

- Central Plains: Covering about 75% of the country, the Central Plains are mainly flat and fertile, with elevations rarely surpassing 100 meters. This area is Cambodia's key agricultural zone, supporting large population centers and extensive rice farming.
- Tonle Sap Lake and Basin: As Southeast Asia's largest freshwater lake, Tonle Sap has a distinctive hydrological pattern. During the rainy season, the Tonle Sap River reverses its flow, causing the lake's area to increase from around 2,500 square kilometers to over 16,000 square kilometers. This expansion creates rich floodplains crucial for fisheries and agriculture, significantly contributing to food security for many residents.
- Mekong River and Delta: The Mekong River flows through Cambodia from north to south, spanning about 500 kilometers within the country. It is vital for transportation, irrigation, and providing livelihoods for millions of Cambodians. The river's surrounding plains support agriculture and floating communities.
- Highlands and Mountain Ranges: The fringes of Cambodia are home to several upland areas:
  - Cardamom Mountains: Situated in the southwest, this range includes Phnom Aural, the highest point in Cambodia at over 1,800 meters, and is known for its dense forests.
  - Dâmrei (Elephant) Mountains: Located parallel to the Cardamoms, these mountains feature rainforest ecosystems and considerable biodiversity.
  - Eastern Highlands: Spanning the provinces of Ratanakiri and Mondulkiri along the borders with Vietnam and Laos, this region is recognized for its red soils, rubber plantations, and indigenous populations.
  - Dangrek Mountains: These limestone mountains, which lie along the northern border with Thailand, are notable for historical sites like the Preah Vihear Temple.

Source: United Nations Geospatial, 2004 – access https://www.un.org/geospatial/content/cambodia

Cambodia's climatic profile, influenced by seasonal monsoons, climate change, and local environmental dynamics, leads to recurrent emergencies, notably floods, droughts, and heatwaves. These incidents have significant humanitarian and economic impacts, particularly affecting the nation's most vulnerable groups.

Cambodia has a tropical monsoon climate, characterized by two main seasons: The wet (rainy) season and the dry season. The southwest monsoon influences the weather from May to October, while the northeast monsoon affects it from November to April, both significantly impacting the country's rainfall and temperature patterns:

- ❖ Wet Season (May–October): About 75% of Cambodia's yearly rainfall takes place during this time, typically with frequent heavy rains and thunderstorms.
- ❖ Dry Season (November–April): This season sees lower humidity and little precipitation, particularly noticeable from January to March.

Cambodia's climate creates various hazards that can escalate into national emergencies. The key hazards include:

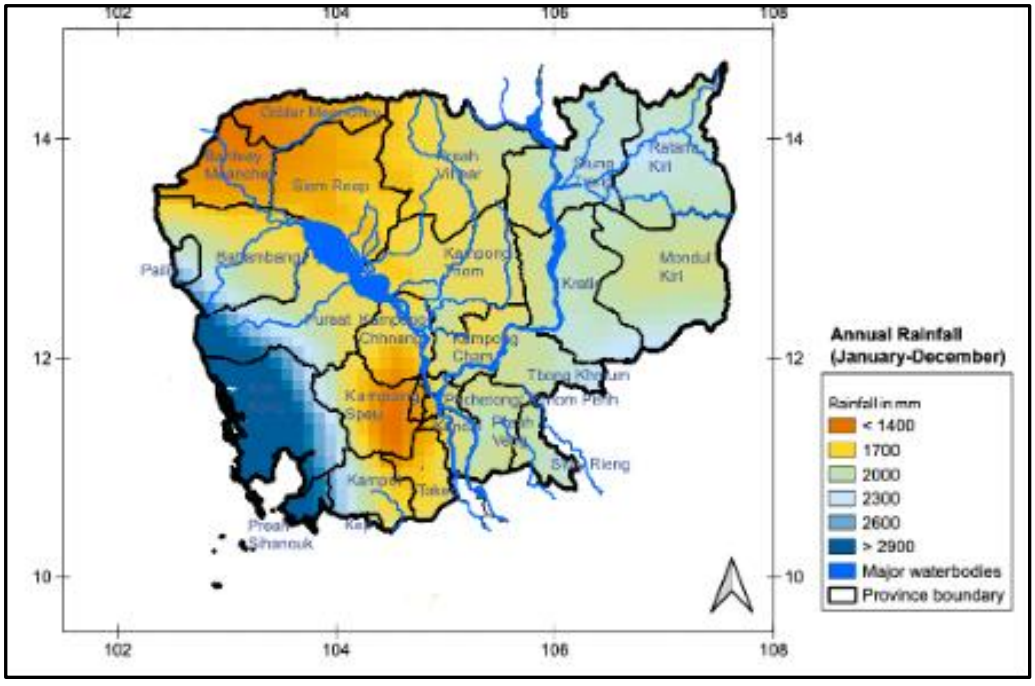
1) Flooding: Flooding is the most common and devastating climate crisis in Cambodia. Annual flood events lead to fatalities, community displacements, crop destruction (especially rice), and

significant infrastructure damage. Flooding also raises the risk of waterborne diseases, strains emergency response services, and threatens economic stability.

- River Floods: The Mekong River and its tributaries typically overflow during the rainy season, resulting in extensive flooding. In October 2022, Cambodia experienced major river floods due to heavy monsoon rains and upstream water releases, impacting key rivers like the Mekong and Tonle Sap. Several provinces were affected, with residents displaced and significant damage to homes and agriculture. Authorities responded with evacuations and emergency assistance.
- Flash Floods: Sudden, heavy rainfall, especially in urban and mountainous areas, can cause rapid floods.
- Urban Flooding: In September 2023, Cambodia experienced major urban flooding, particularly in Phnom Penh, due to heavy monsoon rains. The flooding disrupted transport, damaged property, and temporarily displaced residents, highlighting persistent issues with urban drainage and infrastructure.

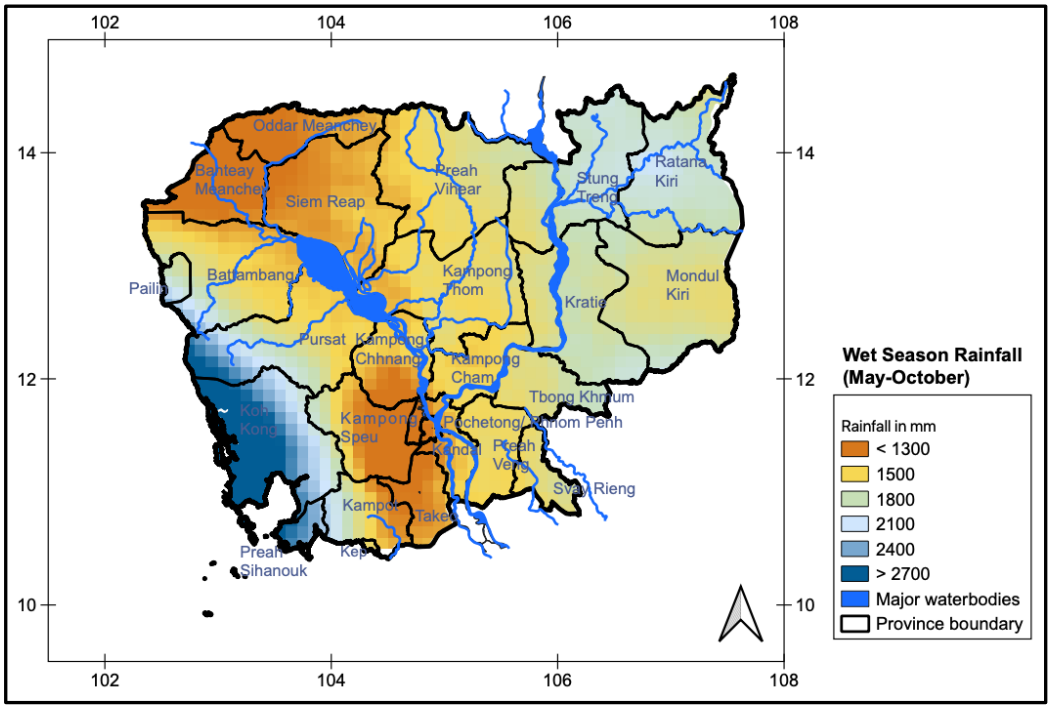
2) Drought: Given that agriculture is central to Cambodia's economy and food security, droughts can result in widespread crop failures, water shortages, and rising food prices, damaging rural livelihoods. Severe droughts may also cause livestock losses and force people to migrate from affected areas. While less dramatic, droughts pose a continual threat:
   - Rainfall Variability: The late start or early end of monsoon rains often leaves extensive regions with insufficient water for farming. In Cambodia, rainfall varies considerably, featuring a wet season from May to October with heavy monsoon rains, and a dry season that lasts from November to April.
   - Extended Dry Spells: Long periods of low rainfall, particularly during El Niño years, lead to acute water shortages.

Figure 1.Satellite based estimates of annual rainfall



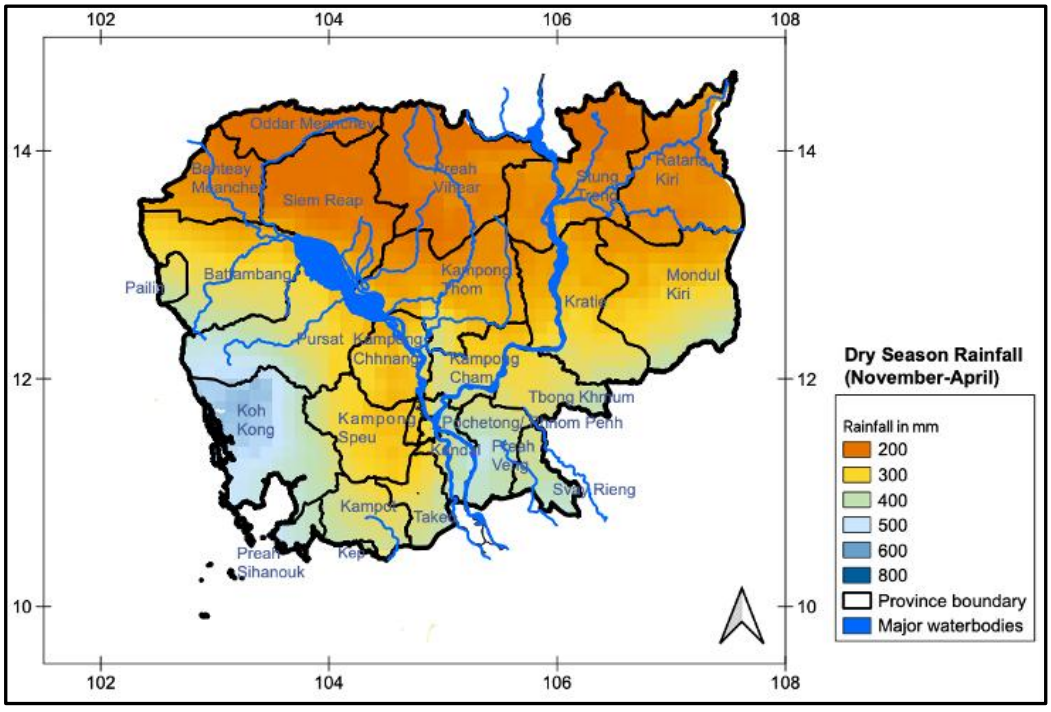
Source: RIMES and UNDP 2020

Figure 2. Satellite based estimates of wet season rainfall



Source: RIMES and UNDP 2020

Figure 3. Satellite based estimates of dry season rainfall



Source: RIMES and UNDP 2020

3) Heatwaves and Extreme Temperatures: Heatwaves exacerbate water shortages, increase the occurrence of heat-related illnesses, and disproportionately affect vulnerable populations like the elderly, children, and outdoor workers. Higher temperatures lower agricultural output and place additional pressure on healthcare systems. Heatwaves have become more frequent and intense in recent years:
   - Temperatures over 38°C are commonly recorded in the months leading up to the monsoon.
   - Urban areas experience intensified heat due to the urban heat island effect.

4) Storms and Typhoons: Although Cambodia is not on the main route for Pacific typhoons, it is sometimes affected by remnants of tropical cyclones. Such storms can lead to landslides in hilly areas, disrupt transportation systems, and complicate flood management efforts:
   - Heavy rain and strong winds from fading storms can cause flash floods and damage to infrastructure.
   - These weather patterns are becoming increasingly unpredictable due to changing climate conditions.

   The most severe typhoon to make landfall in Cambodia within the past 12 months was Typhoon Kajiki. It reached a wind speed of up to 109 mph on August 24, 2025, at 7:00 pm local time near Ban Lung and was 124 miles in diameter at the time. According to the internationally recognized Saffir-Simpson scale, this storm was classified as a Category 2 typhoon[1].

3.2. ENVIRONMENTAL AND SOCIAL PROFILE

Cambodia is a country of stunning landscapes and cultural diversity. The nation is organized into 25 provinces, with Phnom Penh serving as both the capital and a municipality holding provincial status. Each province is distinguished by its own environmental assets and social dynamics, shaped by a unique mix of history, geography, local traditions, and patterns of economic growth. A summary of the environmental and social characteristics for each province is provided in Annex 4.

- ❖ Urban Centers: Phnom Penh, the capital, faces rapid urbanization, pollution, and shrinking green spaces, while Sihanoukville is dealing with coastal environmental degradation amid tourism and foreign investment.
- ❖ Agricultural Regions: Provinces like Kandal, Prey Veng, and Battambang are major rice and crop producers, benefiting from fertile floodplains but facing challenges such as floods, deforestation, and pesticide use.
- ❖ Ecologically Sensitive Areas: Kampong Speu, Koh Kong, and Ratanakiri contain vital forests and wildlife habitats but suffer from deforestation, illegal logging, and land concessions, threatening biodiversity and indigenous livelihoods.
- ❖ Tourist and Heritage Sites: Siem Reap (gateway to Angkor Wat), Kep, and Kampot blend tourism with heritage preservation, but grapple with water shortages, waste management issues, and environmental pressures from development.

1 https://www.worlddata.info/asia/cambodia/typhoons.php

- ❖ Diverse Communities: Many provinces are home to Khmer majorities alongside Vietnamese, Cham, Chinese, and various indigenous groups, each maintaining distinctive traditions and ways of life shaped by their environment.
- ❖ Border and Remote Provinces: Regions like Banteay Meanchey, Oddar Meanchey, and Pailin deal with cross-border trade, migration, land mines, and rehabilitation of both people and land.

3.3. WATER RESOURCES

Located in the center of mainland Southeast Asia, Cambodia is rich in water resources that are essential for the country's socio-economic growth, cultural heritage, and environmental health. Its rivers, lakes, wetlands, and groundwater systems are crucial not only for agriculture but also for providing livelihoods, energy, transportation, and important ecosystem services. Local communities do not generally face an absolute shortage of water but may traditionally rely on rivers and streams for all purposes including drinking: these sources are particularly vulnerable to depletion by over-extraction and to upstream contamination. Groundwater can be accessed using tube wells in most areas and by shallow wells in some areas. Water from deep aquifers may have harmful levels of arsenic, particularly in areas close to the Mekong. Rainwater harvesting is commonly used but needs high capacity and careful management to provide a year-round supply.

- ➢ The Mekong River System: The Mekong River is a vital part of Cambodia's water resources, flowing over 480 kilometers through the country before entering Vietnam's Mekong Delta. Its watershed, which Cambodia shares with six neighboring countries, encompasses roughly 86% of the nation. Annually, the Mekong provides significant amounts of freshwater, sediment, and nutrients that are crucial for agriculture and fishing. The river's seasonal floods, influenced by the Southwest Monsoon from May to October, submerge floodplains, enrich soils, and support rice farming and various aquatic ecosystems.
- ➢ The Tonle Sap Lake and River: Tonle Sap Lake, Southeast Asia's largest freshwater lake, is essential for Cambodia's food and water security. Its unique hydrological feature—where the Tonle Sap River reverses flow during the rainy season—causes the lake to grow five times in size, resulting in one of the world's most productive inland fisheries. This phenomenon benefits about 1.2 million individuals, offering vital protein sources and economic opportunities.
- ➢ The Tonle Sap Lake and River: Tonle Sap Lake, Southeast Asia's largest freshwater lake, is essential for Cambodia's food and water security. Its unique hydrological feature—where the Tonle Sap River reverses flow during the rainy season—causes the lake to grow five times in size, resulting in one of the world's most productive inland fisheries. This phenomenon benefits about 1.2 million individuals, offering vital protein sources and economic opportunities.
- ➢ Groundwater Resources: Groundwater is a significant, though often overlooked, resource, especially for rural areas distant from surface water sources. While Cambodia has generally sufficient groundwater reserves, challenges such as over-extraction, contamination, and salinization are increasingly affecting certain regions, particularly near Phnom Penh and other growing urban areas.

3.4. HEALTHCARE WASTE MANAGEMENT (HCWM)

There is limited information regarding the status, processes, effectiveness, and environmental and social risks associated with healthcare waste incineration in Cambodia. The Ministry of Health (MOH), with support from WHO, has established and approved the Technical Guideline on Healthcare Waste Management along with National Guidelines for Infection Prevention and Control for Healthcare Facilities (MOH, 2011, 2017), which serve as the national standards for Public Healthcare Institutions. According to these guidelines, waste is divided into two primary categories: healthcare waste (HCW) and general waste. Healthcare waste is produced in hospitals, laboratories, and clinics and includes materials that are entirely or partially composed of human or animal tissues, blood or bodily fluids, excretions, pharmaceutical products, swabs, vials, dressings, bandages, and sharps like syringes and needles. This type of waste is deemed hazardous or infectious to anyone who comes into contact with it and requires proper treatment.

General waste is produced in kitchen and living areas of the healthcare facility. This waste consists of food scraps, paper, plastics, textiles, both ferrous and non-ferrous metals, as well as glass and garden waste. Additionally, it encompasses solid and semi-solid materials from black water and grey water in the healthcare setting, which are non-toxic, non-hazardous, and free from contamination by healthcare waste.

Waste Generation. Health care waste (HCW) is produced by various healthcare facilities and sources, including hospitals, clinics, pharmaceutical factories, pharmacies, blood banks, and home health care services. HCW from these facilities can be mainly classified into two groups: general waste and hazardous waste. Hazardous waste is further divided into four categories: infectious waste, hazardous waste, pathological waste, and sharps waste (such as needles). In Phnom Penh, HCW is collected from both private and public hospitals, health centers, and medical labs. The quantity of HCW produced varies based on the hospital's size and the services it provides. According to the Ministry of Health (MOH), about 80% of HCW from healthcare facilities is general waste, while the remaining 20% consists of waste that poses health risks due to harmful microorganisms that can lead to infections and outbreaks, as well as hazardous materials that are toxic to humans and animals and contribute to environmental pollution.

Waste Segregation and Collection. In urban hospitals and health centers in Cambodia, some are utilizing color-coded bins and bags to differentiate hazardous waste from non-hazardous waste, in line with WHO guidelines. However, in smaller or rural facilities, mixed waste disposal remains prevalent due to insufficient resources, lack of awareness, or inadequate supervision. Sharps, such as needles, are usually collected in puncture-resistant containers; however, there have been instances of improper disposal, recycling, or reuse of syringes, which can lead to serious health hazards.

Treatment and Disposal. In Cambodia, the most frequently utilized methods for treating and disposing of healthcare waste are:

- Incineration: This is commonly used for infectious and pathological waste; however, many smaller incinerators fail to achieve the necessary temperatures or proper emission controls, leading to the release of harmful pollutants.
- Open Burning and Dumping: In rural areas, waste is often burned in open pits or dumped in uncontrolled landfills, exposing healthcare workers and nearby communities to dangerous emissions and sharp objects.

- Burial: Some facilities opt to bury waste in designated pits, but these are frequently shallow, unlined, and prone to flooding, which can lead to soil and groundwater contamination.
- Autoclaving and Chemical Disinfection: These methods are limited to a few urban hospitals with better resources. While they are safer options, they require consistent investment and maintenance.

3.5. SOCIO-ECONOMIC CONDITIONS

3.5.1. POPULATION AND DEMOGRAPHICS

Cambodia has a population of about 17 million people, with a median age of around 25 years. A large proportion of the population is under 30; distributed unevenly across its 24 provinces and one autonomous municipality, Phnom Penh. The highest population density is in the Central Plains, especially along the Mekong and Tonle Sap rivers. Phnom Penh, the capital city, is the largest with an estimated population exceeding 2.2 million and serves as the country's economic, administrative, and cultural center. Buddhism is the primary religion, with about 97% of people practicing Theravada Buddhism. The 2025 population density in Cambodia is 101 people per Km^2, calculated on a total land area of 176,520 Km2 (68,155 sq. miles).[2-3]

3.5.2. INDIGENOUS PEOPLE AND CULTURE

Cambodia's population is notably homogenous, with over 90% belonging to the Khmer ethnic majority. The Khmer people's language, customs, and cultural heritage are fundamental to the country's identity. Despite this majority, Cambodia also contains a rich tapestry of minority groups:

- Cham: Descendants of the ancient Champa kingdom, the Cham are a Muslim minority, making up about 2% of the national population.
- Chinese Cambodians: This group, deeply rooted in Cambodia's history and especially active in trade, accounts for around 1% of the population.
- Vietnamese: Facing various social and political challenges, the Vietnamese community represents another 2%.
- Indigenous Hill Tribes ("Khmer Loeu"): Living mainly in highland and remote areas, these groups maintain their own languages and cultural practices

3.6. INFRASTRUCTURE AND PUBLIC SERVICES

3.6.1. SOLID WASTE MANAGEMENT

Collection and Transportation: Solid waste collection in Cambodia primarily falls under the responsibility of municipal governments, which often outsource services to private companies such as CINTRI, GAEA, Leap Lem, and VGREEN. In Phnom Penh, the company CINTRI (Cambodia) Ltd. was long responsible for collection and transport, though recent reforms and new contracts have sought to

[2] Cambodia Population (2024) - Worldometer". *www.worldometers.info.*
[3] "World Economic Outlook Database: October 2024". *IMF*

introduce more service providers and enhance overall efficiency. Coverage for waste collection is fairly comprehensive in central urban districts, but it declines sharply in suburban and rural parts of Cambodia. Individuals working as informal waste collectors are especially important in these areas, as they help recover recyclable materials for resale—an essential service given the limited sorting at the source.[4]

Waste Sorting and Recycling: Waste Sorting and Recycling: Cambodia recycles less than 20% of its waste, with most recycling activities handled informally. Waste pickers play a crucial role in collecting materials like plastics, metals, paper, and glass, which are then sold to middle agents. Formal recycling facilities are scarce, and public understanding of the importance of waste separation remains limited.

Waste Disposal: Most waste in Cambodia is disposed of in open dumpsites or inadequately managed landfills. While major cities have official dumping grounds, these facilities often lack proper lining, systems for treating runoff, or methods for capturing methane, leading to pollution and health hazards. In regions where collection services are insufficient, illegal dumping and open burning of waste are widespread practices.

3.6.2. PUBLIC HEALTH

The Ministry of Health (MOH) plays a central role in health system planning and development in Cambodia, collaborating with development agencies to implement policies. The MOH is solely accountable for organizing and delivering government health services. The Directorate General for Health manages health service provision via 25 MOH Provincial Health Departments (PHDs), which encompass 81 health Operational Districts (ODs) allocated based on population size. Each PHD operates a provincial hospital and oversees the ODs. Each OD serves a population of 100,000–200,000 people and includes a Referral Hospital that provides a Complementary Package of Activities, primarily focused on secondary care, as well as several Health Centers (HCs) that mainly deliver primary healthcare services. HCs cater to 8,000–12,000 individuals and offer a Minimum Package of Activities (MPA), which focuses largely on preventive and basic curative care.

Health Posts are established in remote regions where the distance to the nearest HC exceeds 15 km, often complicated by geographical barriers such as rivers, mountains, or poor roads. This situation commonly affects sparsely populated areas like Mondul Kiri, Ratanak Kiri, Preah Vihear, and Koh Kong. Several factors hinder adequate health service coverage, including cultural and language differences, the scattered and isolated nature of some communes and villages, and difficulties in transportation to district towns and between communes. During the rainy season, some communes may become cut off from districts, leading to challenges in recruiting and retaining skilled staff. Therefore, the creation of Health Posts is crucial for ensuring access to appropriate healthcare in these low-density areas.

4 AusAid (2016) Reforming Solid Waste Management in Phnom Penh; Cambodia Solid Waste and Plastic Management Improvement Project – ESMF 2022

4. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS / RISKS

4.1. FOOD AND WATER PROVISIONS

Natural disasters—whether suddenly or gradually—require immediate and extensive relief efforts to protect lives and support communities in crisis. Providing food and water becomes an urgent priority for disaster response teams, typically delivered through emergency food supplies and non-perishable goods. While these measures are vital for survival, they also introduce a range of environmental and social challenges and risks. The entire process—from the logistics of sourcing and packaging to transporting, distributing, and disposing of supplies—can generate unintended environmental and social consequences.

a). Sourcing and Packaging

- ***Waste generation and pollution***: Most emergency food and water supplies are packaged in single-use plastics—such as bottles, wrappers, and containers. In the aftermath of a disaster, effective waste management often becomes unfeasible. As a result, plastic waste may accumulate unchecked, blocking waterways, endangering wildlife, and adding to the growing issue of microplastics polluting the environment.
- Even packaging labelled as "biodegradable" may not decompose as intended unless given the right conditions, and if mishandled, it can contribute to landfills or environmental pollution just like traditional plastics.
- Canned foods are typically packaged in steel or aluminum, which can remain in the environment for a long time if not recycled and may release metals into soil and water.
- Composite packaging—such as cartons used for beverages—is challenging to separate for recycling, often resulting in their disposal in landfills or as litter.
- ***Community health:*** The increase in packaged food and bottled water contributes to significant waste production, surpassing local abilities to handle trash and recyclables. Improper disposal methods may lead to contaminated water supplies which result in lasting health issues for the affected communities.

b). Transportation

- ***Occupational health and safety***: Transporting food and water to disaster-affected areas presents health and safety risks to workers, particularly during loading/off-loading. Drivers and logistics personnel encounter hazards including traffic collisions, slips, trips, and falls near vehicles, as well as injuries related to loading equipment like forklifts.
- ***Community health and safety***: (i) Traffic accidents and injuries during transportation and delivery of food and water supplies to various distribution centers; (ii) Risk of child exploitation/labor during off-loading of the supplies.
- Transporting food and water to disaster-affected areas presents logistical obstacles. Obstructed roads and interrupted supply chains can slow down or hinder the delivery of assistance. These challenges can heighten community dissatisfaction, result in hoarding or exploitative behavior, and may even encourage criminal acts like theft or misappropriation of aid.

c). Storage and Disposal

- ***Water source contamination risks:*** When emergency food and packaging aren't properly stored or disposed of, they can end up in local water systems, especially during floods. Plastics may clog waterways, culverts, and drains, raise the risk of further flooding while pollute aquatic habitats. Meanwhile, organic waste from spoiled food or discarded Meals Ready to Eat (MREs) packs can deplete oxygen in rivers and lakes through eutrophication, endangering fish and other aquatic life. In addition, water pollution is a major public health concern in Cambodia, where numerous communities depend on untreated water sources for their daily needs. Contaminated water supplies can cause various health issues, which in turn place added pressures on the healthcare system. This increased demand for medical care leads to an increase in healthcare wastes (such as single use medical items, pharmaceutical waste, waste from laboratory diagnostic tests, and personal protective equipment worn by healthcare personnel), exacerbating both environmental and health problems. Improper handling of this medical waste can further pollute the environment, particularly water sources, creating a harmful cycle of exposure and illness.
- ***Food waste and spoilage:*** In the aftermath of disasters, mismatches between supply and demand are common, often causing substantial amounts of food to spoil before it can be used. Even foods designed for long shelf lives can deteriorate quickly if storage conditions are poor—something frequently encountered in the hot, humid, or wet environments typical after events like floods, hurricanes, or typhoons. When spoiled food is not properly disposed of, it can produce unpleasant odors, attract pests such as rodents and flies, and emit methane gas as it breaks down in landfills—a greenhouse gas far more potent than carbon dioxide.
- ***Community health:*** Food aid commodities in store are particularly vulnerable to attack by rodents. Rodents are vectors transmitting diseases to people. Pest control during storage will be needed, however inappropriate use of which would have impacts on human health and quality of the foods which results in health adverse impacts after consumption.

d). Distribution

- ***Community health:*** Inadequately managed distribution of food and water can pose health hazards. For instance, large crowds at distribution sites can spread contagious diseases, particularly in crowded shelters or camps. Untreated water can contain harmful pathogens, increasing the risk of waterborne illness outbreaks.
- ***Increased in water demand***: Rural households in Cambodia typically require between 20 and 30 litres of water per person per day for basic needs, such as drinking, cooking, and personal hygiene.[5] In emergency situations, the minimum quantity of water required per person per day may rise to 40–50 litres to ensure drinking, cooking, and basic hygiene. According to the Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response, while the absolute minimum for survival (drinking and food preparation) is approximately 7.5–15 litres per person per day, the recommended minimum to meet all basic needs—including

5 World Health Organization (WHO). (2011). Guidelines for Drinking-water Quality (4th ed.). Geneva: WHO Press.

drinking, cooking, and personal hygiene—can increase to 40–50 litres per person per day in emergency contexts to maintain health and dignity.[6]

- ***Cumulative impacts on water resources:*** Cambodia, known for its vast river systems and seasonal rainfall, faces significant risks from both flooding and drought. These extreme weather events threaten water resources, especially in areas already vulnerable to flooding or water shortages. During emergencies, the combined effects on water quality and availability can worsen, elevating the risk of waterborne diseases and endangering the health and livelihoods of local communities, particularly in flood-prone and water-scarce regions. The combined effects of these floods on water resources include:
  - Water quality decline: Floodwaters often carry pollutants from farms, urban areas, and sewage systems. Extended flooding raises pollutant levels, resulting in poorer quality of water in rivers, lakes, and aquifers.
  - Infrastructure damage**:** Frequent flooding can harm water supply systems, irrigation, and sanitation infrastructure, hindering access to safe drinking water and increasing the chances of waterborne illnesses.
  - Sediment and erosion: Floods move significant amounts of sediment, which can clog reservoirs, canals, and other water bodies, decrease their capacity and affecting long-term water supply and ecosystem health.
  - Displacement and increased demand: Flood emergencies can force communities to relocate, leading to a surge in demand for drinking water at temporary shelters and putting pressure on local water sources.

  Conversely, Cambodia's northwestern provinces and upland regions frequently face water shortages, particularly during droughts or extended dry periods. Emergencies in these areas lead to several compounded effects:
  - Groundwater depletion: In emergencies, communities often depend heavily on groundwater. Excessive extraction may result in long-term depletion, lower recharge rates, and possible salinization.
  - Diminished surface water availability: Drought reduces river and reservoir flow, affecting agriculture, fisheries, and drinking water supplies.
  - Water quality issues: Scarcity concentrates pollutants in limited water supplies, worsening water quality problems and heightening health risks.
  - Socio-economic strain: The limited availability of water intensifies competition between agricultural, domestic, and industrial users, often leading to conflicts and decreased resilience in times of crisis.
- ***Exclusion and inequality:*** Vulnerable or marginalized populations may unintentionally be left out of assistance distributions because of language obstacles, insufficient documentation, or social stigma. Elite capture and unequal access to support can exacerbate existing social divides and sustain ongoing cycles of disadvantage.
- ***Community cohesion and social tension***: The sudden influx of outside assistance can unsettle established community relationships. Uneven distribution of food and water—whether genuine or simply perceived—may cause frustration and a sense of injustice among residents. This can spark social tensions and competition for resources, and in some cases, even lead to

6 Sphere Association. (2018). The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response. Fourth Edition. Geneva, Switzerland. See Water Supply, Sanitation and Hygiene Promotion (WASH) standards.

conflict, particularly if certain groups are viewed as receiving preferential treatment because of their ethnicity, social standing, or political ties.

- ***Gender and vulnerable groups:*** During disaster situations, the distribution of food and water often highlights—and can worsen—existing vulnerabilities in society. Groups such as women, children, the elderly, people with disabilities, indigenous peoples, and other marginalized populations frequently encounter greater obstacles in accessing relief due to cultural norms, limited mobility, or discrimination.
- ***Cultural appropriateness:*** When food assistance does not align with local eating habits, religious beliefs, or cultural traditions, it can lead to feelings of exclusion or dissatisfaction. People may hesitate to accept or eat unfamiliar food items, sometimes resulting in waste or even undernutrition, despite there being enough supplies available.
- ***SEA/SH:*** (1) Power Imbalances: Emergency food aid distribution usually involves significant power asymmetry between aid providers and recipients. Those controlling access to food rations may exploit their position for sexual favors or other advantages. (2) Vulnerability of Beneficiaries: Affected populations—especially women, children, people with disabilities, and marginalized groups—often have limited resources and options, making them particularly susceptible to exploitation. (3) Breakdown of Social Structures: Crises often disrupt traditional protective mechanisms. Displacement, loss of family members, and community fragmentation remove safeguards, increasing SEA/SH risk. (4) Lack of Oversight and Accountability: Emergency settings may entail rapid deployment, a lack of robust monitoring systems, and insufficient vetting of staff and volunteers, facilitating impunity. (5) Gender and Cultural Norms: In some contexts, prevailing gender dynamics and social norms may perpetuate silence and victim-blaming, inhibiting disclosure and response.

4.2. MEDICINE, MEDICAL SUPPLIES AND PERSONAL PROTECTIVE EQUIPMENT

a). Sourcing and packaging

Packaging waste: A significant amount of medicine and medical supplies is packaged using cardboard, plastics, and metallic foils to ensure sterility and safety. In disaster areas packaging is often thrown away with minimal sorting or recycling, and substantial quantities of non-biodegradable waste quickly build up, burdening local waste management systems. Risks include drainage systems can become blocked which exacerbating flood risks, and long-term landfill burden.

b) Transportation

- ***Hazardous spills and pollution***: Incidents related to medical shipments can lead to the leakage of harmful substances, such as cytotoxic drugs/medicines, biohazardous materials, or diagnostic chemicals. These spills can contaminate soil, groundwater, and surface water, affecting both ecosystems and human communities.
- ***Accidental release of pharmaceutical substances***: If there are leaks or mishandling, active pharmaceutical ingredients (APIs) might seep into the environment, which could affect aquatic organisms and exacerbate antimicrobial resistance.
- ***Resource use and energy consumption***: Ensuring temperature regulation for specific medications necessitates ongoing refrigeration ("cold chain") can lead to high energy usage, particularly when reliant on diesel generators or inefficient systems. The frequent transportation of supplies demands considerable quantities of fuel, water for vehicle

sanitation, and energy for storage. This overall requirement places pressure on natural resources, especially in areas already experiencing shortages.

- ***Occupational health and safety***: (i) Workers involved in loading and unloading shipments are at risk of musculoskeletal injuries from repetitive actions or heavy lifting. These risks increase significantly when managing large quantities during health emergencies or crise; (ii) Certain medical supplies can be dangerous if their containers are damaged or leak. Inhaling, touching them, or accidentally swallowing these substances presents considerable occupational health hazards; (iii) Incorrectly packaged or contaminated medical supplies can put workers at risk of exposure to infectious agents. This concern is particularly significant when handling or used personal protective equipment (PPE) that are classified as infectious waste; (iv) Drivers and logistics personnel encounter hazards including traffic collisions, slips, trips, and falls near vehicles, as well as injuries related to loading equipment like forklifts; and (v) High-value shipments of medications, particularly controlled substances, can be vulnerable to theft, presenting safety risks to drivers and employees.
- ***Traffic and accident risks:*** Increased transport activity, particularly during disaster response efforts, can result in congestion and an elevated likelihood of road accidents within the community.

c). Storage and Disposal

- ***Pharmaceutical and chemical pollution:*** Medications supplied in large quantities, especially in emergency situations, frequently consist of items with short shelf lives or those that might go unused. In these crises, expired, tainted, or surplus drugs may be disposed of incorrectly due to poorly organized waste management systems, damaged infrastructure like broken waste collection or treatment facilities, and insufficient training for responders. Risks include water contamination, as improperly disposed of medications can seep into groundwater or wash into rivers, impacting drinking water sources and aquatic ecosystems.
- ***Accumulation of Medical Waste:*** Natural disasters significantly boost the use of single-use medical supplies and personal protective equipment (PPE), leading to substantial amounts of medical waste. In situations where resources are limited or conditions are chaotic, the separation of infectious and non-infectious waste can often fail. Risks include (a) increase in hazardous waste: Items such as used needles, syringes, contaminated dressings, and PPE tainted with bodily fluids can create infectious and toxic risks for both humans and wildlife; (b) improper disposal methods: The typical practices in disaster areas, like burning or open dumping of medical waste, result in the release of harmful substances, including dioxins, furans, and microplastics; and (c) long-lasting pollutants: Plastics from masks, gowns, and gloves can contaminate soil and water, persisting for many years while breaking down into microplastics.
- ***Microplastics and Persistent Organic Pollutants (POPs):*** Personal protective equipment (PPE) like masks, gloves, shoe covers, and disposable gowns is primarily composed of synthetic polymers, predominantly polypropylene and polyethylene. When these items are improperly discarded, they gradually decompose into microplastics that can (a) enter aquatic food webs, impacting both marine life and humans through bioaccumulation, (b) change soil composition and microbial communities, thereby affecting agriculture and ecosystems; (c) transport harmful toxic chemicals throughout the environment; and (d) open burning or incineration of

PPE, often conducted without proper emissions controls, can produce POPs such as dioxins and furans, which pose significant health and environmental risks.

- ***Unused or expired stockpiles:*** After disasters, excess supplies frequently accumulate. These items can become expired or deteriorate, leading to the need for disposal. In the absence of adequate facilities, such waste might be incinerated, buried, or discarded, thereby continuing many of the previously mentioned hazards.
- ***Increased healthcare waste (HCW) volume***: The volume of HCW dramatically increases during emergencies, such as the COVID-19 pandemic, often by several times the normal rate, due to increased use of disposable personal protective equipment (PPE). The composition of this waste shifts, with higher percentages of plastics and disposables, and greater proportions of infectious and sharp wastes compared to normal waste. For instance, the World Health Organization (WHO) has noted rates as high as 3.4 kg/bed/day in some cases during the pandemic.[7,8]

d). Distribution

- ***Inequitable distribution:*** If resources are not allocated equitably, marginalized groups might be overlooked, which can intensify existing social inequalities. This may lead to increased resentment, weaken trust in authorities, and worsen social divides.
- ***Black market and exploitation:*** The lack of available medicines can lead to the emergence of black markets, where prices are inflated and counterfeit products become widespread. This situation undermines efforts to protect public health and increases the risks faced by those most vulnerable.
- ***Occupational health and safety:*** In high-pressure distribution settings, particularly during emergencies, workers may encounter: (i) Stress and exhaustion due to extended hours, significant demands, and anxiety about potential exposure to infections can result in burnout and mental health challenges; (ii) Violence and harassment in areas experiencing medication shortages, workers might confront theft, aggression, or conflict; (iii) The process of lifting and shifting heavy boxes can lead to musculoskeletal injuries; and (iv) Factors such as cluttered or wet floors, insufficient lighting, and lack of proper signage can heighten the chances of accidents such as slips, trips and falls.

4.3. AGRICULTURE SUPPORTS

Humanitarian aid often includes the quick delivery of seeds, tools, fertilizers, livestock aid, and, when applicable, support for fishermen. Although these measures are crucial for promoting recovery and resilience, they can lead to unintended environmental and social impacts and risks.

Seeds provisions:

- ***Genetic diversity and ecosystem resilience***: The reliance on non-native or hybrid seeds can erode the genetic diversity of local crops. When aid initiatives prioritize commonly available commercial varieties, they might unintentionally supplant traditional strains that have been fine-tuned to local conditions over generations. This decline in diversity can weaken the ecosystem's ability to cope with future environmental challenges. Risks include a decrease in genetic variation that renders

7 WHO (2014) Safe management of wastes from health-care activities, 2nd edn. World Health Organization (WHO), Geneva
8 UNEP (2020) Waste management during the COVID-19 pandemic: from response to recovery

crops more susceptible to pests, diseases, and the effects of climate change, which may heighten the risk of crop failures.

- ***Invasive species and biodiversity loss***: Seeds sourced from outside the region may introduce invasive plant species or pathogens. These can out-compete native flora, disrupt established ecological relationships, and result in biodiversity loss. Risks include Invasive species may alter soil composition, water use patterns, and even the structure of local food webs, leading to long-term ecological instability.
- ***Chemical dependency:*** Certain distributed seeds are designed to work best with chemical fertilizers or pesticides, which can increase dependence on external inputs and heighten environmental stress. Moving towards agriculture reliant on chemicals may lead to soil degradation, water pollution, and harmful consequences for both human and animal health.

Tools provision: The rapid distribution of inexpensive, mass-produced tools often leads to reduced durability and frequent replacement, resulting in ***greater waste and resource depletion***.

Fertilizer support:

- ***Water pollution and eutrophication:*** (i) The excessive or incorrect use of chemical fertilizers frequently results in nutrients washing away into rivers, lakes, and coastal regions. This poses a risk of eutrophication, leading to algal blooms, a reduction of oxygen in water systems, the death of fish and other organisms, and disruptions to entire ecosystems; (ii) Transporting fertilizers presents a major threat to water resources when accidents occur that cause fertilizers to spill onto roads. Such spills can wash into nearby water bodies through runoff, resulting in water quality problems.
- ***Soil degradation:*** The prolonged application of chemical fertilizers can harm soil structure and fertility, leading to a decrease in the land's long-term productivity. This poses risks such as soil compaction, acidification, and salinization, which can impair the soil's capacity to hold water and nutrients.
- ***Community health and safety*** arising from inappropriate use and handling of agricultural chemicals. The inputs which will be procured nationally are expected to be storage in warehouses or temporary holding infrastructures at the regions for onward distribution to the districts for distributions to beneficiaries. Stored under extreme weather condition such as heat, fertilizers could form toxic fumes which are toxic to humans. Fertilizers can also cause expose under hot conditions. Fertilizer dust could cause respiratory tract diseases for persons inhaling them and where individuals have cut and bruises, contact with fertilizers can cause skin irritation. Persons loading and offloading the fertilizers and those working in these warehouses and the distribution centres are therefore at high risk and the likelihood of occurrence is high, hence significance is ranked high.

Livestock support:

- Inefficient storage, rushed procurement processes, and delays in transportation can lead to spoilage, which in turn increases food and feed waste. If this waste is not managed appropriately, it can leach nutrients and harmful substances into soil and water sources.
- Nutrient Imbalances: Emergency feed may lack the proper balance of nutrients for livestock, resulting in poor digestion and higher excretion rates of nitrogen and phosphorus. High concentrations of these nutrients in manure can contribute to eutrophication in waterways and air pollution from ammonia release.

- Contaminant Introduction: The importation of emergency feed can bring in harmful contaminants (such as mycotoxins, pesticides, weed seeds, or pathogens) that pose risks to animal health and, if not addressed, can spread into the wider environment.

4.4. CASH TRANSFERS

- ***Exclusion and inequity:*** A key risk linked to electronic cash transfers is the possible exclusion of at-risk groups. Individuals lacking mobile phones, internet access, valid ID, or proximity to financial services may find it difficult to receive or utilize electronic payments. This issue primarily impacts older adults, individuals with disabilities, women in specific situations, and residents of remote or disadvantaged areas. These challenges have been addressed through the project design as cash payments activated under the CERP will be disbursed using existing Cash Transfer Programs (CTP) managed by the General Secretariat of the National Social Protection Council (GS-NSPC) through the National Social Assistance Fund (NSAF) thereby ensuring the support reach the actual targeted beneficiaries in affected communities.
- ***Data privacy and security concerns:*** In times of crisis, expedited procedures may result in insufficient data protection, putting recipients at risk of identity theft, fraud, or the misuse of their personal details. It is crucial to implement strong data protection measures to safeguard the dignity and safety of those receiving assistance.

5. E&S RISK MANAGEMENT AND MITIGATION MEASURES

The potential environmental and social impacts and risks highlighted in Chapter 4 will be addressed and managed by the relevant sectors, including the National Committee for Disaster Management (NCDM), the Ministry of Health (MOH), the Ministry of Agriculture, Forestry and Fisheries (MAFF), and the National Social Protection Council (NSPC). To facilitate practical implementation, the strategies for E&S impact mitigation and risk management are detailed individually for each agency or ministry:

- NCDM: Emergency supplies include food and drinking water (essential food items and non-perishable goods). **Table 4** outlines the environmental and social risk management and mitigation strategies.
- MOH: Medicines, medical supplies, and personal protective equipment (PPE). The management of environmental and social risks, along with mitigation strategies, can be found in **Table 5** below.
- MAFF: Support for agriculture includes provisions for seeds, tools, fertilizers, livestock, and assistance for fishermen when applicable. **Table 6** presents the strategies for managing and mitigating environmental and social risks.
- NSPC: Cash transfers (electronic payments as outlined in the Social Protection System). **Table 7** details the strategies for managing and mitigating environmental and social risks.

5.1. RISK MANAGEMENT AND MITIGATION MEASURES

Table 4. NCDM: E&S Risk Management and Mitigation Measures

Activities	E&S Impacts and Risks	Mitigation Measures
Sourcing and Packaging	Waste generation and pollution: Improper management of packaging waste from emergency food and water supplies—especially single-use plastics and certain metals—can create environmental issues such as pollution, blocked waterways, and harm to wildlife. Even biodegradable materials may not break down properly if not disposed of correctly. Community health and safety: Improper disposal methods of packaged food and bottled water may lead to contaminated water supplies which result in lasting health issues for the affected communities.	✓ Procure food aid commodities with an aim to minimize packaging; minimize the potential for unmanaged waste; and minimize the type of packaging materials that may have adverse impacts on the environment, and on community health and safety, to the extent technically and financially feasible. ✓ To the extent technically and financially feasible, eliminate single-use plastic packaging from primary packaging for commodities, and replace with more sustainable options such as cloth or non-polymer biodegradable bags, paper bubble wrap, sold board edge protection, etc. In doing this, have clear specifications on sustainable packaging when ordering items to suppliers (e.g., “use 100% recyclable”) ✓ Improved Logistics: Use predictive data and real-time needs assessments to reduce over-supply and prevent spoilage or excess waste. ✓ NCDM and MRD conduct due diligence, quality control and inspections of food parcels, ensuring suppliers follow the requirements as per contract/supply orders.

Activities	E&S Impacts and Risks	Mitigation Measures
		✓ Minimize use of disposable packaging; store packaging waste in covered designated areas and dispose of waste in designated appropriate disposal sites; provide awareness raising for the community on proper disposal
Transportation	❖ Occupational health and safety: (1) Workers transporting food and water to disaster zones face risks such as traffic accidents, slips, trips, falls, and injuries from loading equipment. (2) Potential child labor during off-loading ❖ Community health and safety: Hazards include accidents during delivery.	✓ Traffic and road safety: NCDM and MRD to ensure that (1) proper maintenance of vehicles, and training of drivers and other users; (2) raise awareness and provide training to project workers on traffic and road safety; (3) apply the Safety and Security Protocol outlined in Annex 2; and (4) apply Labor Management Procedures including workers code of conduct outlined in Annex 1 ✓ Apply the Project's Stakeholder Engagement Plan or SEP to ensure inclusive engagement ✓ Measures for food safety should be included in the contracts of transportation services providers and inspected regularly. ✓ When a consignment is on the road, it must be protected against damage, the weather, theft, and other eventualities. Applying basic, standardized security measures such as those listed below can guarantee that the goods will arrive at their destination safely. ✓ Vehicles should never be loaded beyond their payload capacity. Not only that—when the route is full of potholes, tight curves or other dangers, it is better to apply the safe load concept, i.e., less than the maximum load, to make sure the vehicles are more maneuverable in difficult terrain. ✓ In an open vehicle the payload must be covered with plastic or canvas to protect it from dust and rain, and also to keep from view the items that are being transported. The load should be fastened with ropes to prevent its movement, which might damage the packages or bales or destabilize the vehicle
Storage and Disposal	❖ Water source contamination risks: Improper storage and disposal of food aid and packaging can contaminate water systems, pollute habitats, and attract pests. Disasters can also lead to over-supply and spoilage, resulting in environmental and health risks such as methane release and increased pest activity. ❖ Community health: Stored food aid is vulnerable to rodents, which can spread disease. Pest control is essential but must be used appropriately to avoid harming human health and food quality. ❖ Occupational health and safety (OHS) for people work in warehouse or storage	✓ Improved Logistics: Use predictive data and real-time needs assessments to reduce over-supply and prevent spoilage or excess waste ✓ Where feasible, source food and water locally or regionally to support local economies ✓ Conduct due diligence during the procurement process and the vendor selection that the food commodities to be received will be delivered in good condition and quality control is performed during intake. ✓ For storage, select storage facilities and locations based on surveying the relevant characteristics, considering factors such as quality of construction, state of repairs, road access, and sustainability. Regularly inspect these warehouse storage facilities for perimeter fencing, cleanliness, ventilation, lighting and fire prevention. ✓ Assess the effects of moisture, humidity and temperature in food storage warehouses and take appropriate mitigation and management measures to ensure that food quality and

Activities	E&S Impacts and Risks	Mitigation Measures
		safety are not impacted by these factors. Regularly monitor warehouse storage facilities for temperature, moisture and humidity given the particular inventory of food items stored and regularly inspect warehouses for food quality. ✓ Similar minimum measures for food safety should be included in the contracts of warehouse and transportation services providers and inspected regularly. ✓ For pest management, for each warehouse, conduct a site-specific pest (insect and rodent) assessment, prepare a pest control plan, procure and utilize relevant insect and rodent control equipment, as well as procure and apply relevant pest management measures. Regular food storage warehouse inspections should include inspection of the implementation of the pest control regime. ✓ Maintenance: Regular inspections should be carried out to determine the condition of the building, particularly its electrical installations, locks, roof, and structural integrity in general. Any necessary repairs must be carried out as soon as possible to prevent the damage from getting worse. ✓ Hygiene: The warehouse and its environs should remain clean at all times. The uncontrolled accumulation of waste products such as empty cardboard boxes should be discouraged. It is important to get rid of stagnant water, overgrown weeds, or any other feature in the vicinity that may encourage the proliferation of insects and rodents. ✓ A warehouse cleaning plan must be implemented, including both daily and periodic cleaning sessions. An inspection of the state of cleanliness of the stowage racks, corners, and sectors of the building must be carried out regularly. Similarly, a plan must be in place for managing and disposing of solid waste, whether spoiled supplies, packing material, or empty containers. ✓ Collect all solid waste generated, establish a short term covered storage area on site, and store all solid waste, including food packaging, at these storage area sites. Upon completion of distribution in communities and with relevant frequency in storage warehouses, remove waste from the storage area sites and dispose of waste in relevant off-site facilities designated by local township authorities. ✓ Apply General Waste Management Procedure (Annex 5) ✓ Apply the following OHS measures: ▪ There should be no smoking in the warehouse ▪ All the staff must be aware of existing hazards and security measures to prevent accidents

Activities	E&S Impacts and Risks	Mitigation Measures
		▪ Maintenance staff must wear protective devices for their backs and hands handling shipments. Any other protection devices or tools required to carry out their tasks safely must be rigorously employed at all times ▪ Signs and labels alerting workers to any type of danger should be clearly visible ▪ Fire extinguishers and first-aid equipment should be clearly visible, located in an accessible place, and be in good working condition. The people who work in the warehouse should know how to use all such equipment.
Distribution	Community health and safety: Poorly managed food and water distribution can increase health risks by spreading disease, especially in crowded conditions.	✓ Involve local populations in planning for distribution, collection, and clean-up activities to foster ownership and resilience ✓ For possible solid waste generated after distribution (food packaging that will be discarded later), raise community awareness on where and how to dispose of such packaging, to the extent possible in designated covered storage areas in communities.
	SEA/SH Risks: Power imbalances in emergency food aid can result in exploitation, particularly sexual abuse and harassment (SEA/SH), with vulnerable groups at greater risk. Cultural norms may also discourage reporting and hinder effective response.	✓ Apply Codes of Conduct (Annex 1): All project's staff, volunteers, and other project workers (employees or volunteers of partner organizations as well as contractors) must sign and be trained on strict codes prohibiting SEA/SH and outlining penalties for violations. ✓ Raise awareness of the Code of Conduct, SEA/SH risks, and grievance/beneficiary mechanism among beneficiary communities. Ensure that the grievance/beneficiary mechanism has special processes (respecting sensitivity and confidentiality) for intaking, managing and referring SEA/SH grievances. ✓ Safe Site Design: Ensure distribution sites are well-lit, accessible, and have private areas for women, children, and vulnerable individuals. ✓ Gender-Sensitive Staffing: Employ female staff and volunteers, particularly for roles interacting directly with beneficiaries.
	Exclusion of disadvantaged and vulnerable households: ➢ Marginalized groups may miss out on aid due to language barriers, lack of documentation, or stigma, worsening social divisions. ➢ Distribution often exposes or deepens existing vulnerabilities, making it harder for women, children, elderly, disabled, ethnic minorities, indigenous peoples, and other marginalized groups to access support. ➢ Outside aid can disrupt local relationships, and any perceived or real inequality in distribution may fuel frustration and conflict among residents.	✓ Conduct inclusive and accessible consultations with community members, community leaders (including those from ethnic minorities and indigenous peoples) and representatives, and local authorities. ✓ Provide transparent information of project activities, benefits, eligibility criteria to communities, through accessible channels, trusted intermediaries, in relevant ethnic languages. ✓ Proactively identify, consult with and reach out to disadvantaged and vulnerable groups and households (through surveys, consultations or other means as appropriate).

Activities	E&S Impacts and Risks	Mitigation Measures
	➢ Aid that doesn't respect local and/or indigenous people's diets or traditions can lead to exclusion, dissatisfaction, and possible waste, even when enough resources are available.	✓ Ensure that the grievance/beneficiary feedback mechanism is active and accessible by disadvantaged and vulnerable groups through raising awareness among these groups and in relevant ethnic languages, providing different intake channels etc. ✓ In identifying subproject activities and beneficiaries, NCDM (supported by MRD) conducts inclusive, accessible, culturally appropriate and gender-sensitive free, meaningful consultation with ethnic/IP communities, as well as with NGOs, religious and community leaders, and community-based organizations representing ethnic minorities and/or IP communities. These consultations take into the specific obstacles that may be faced by ethnic minorities such as, access challenges, language barriers, discrimination, intimidation, and travel restrictions. ✓ NCDM (supported by MRD) proactively identifies, consults with and reaches out to ethnic minority groups (through surveys, consultations or other means as appropriate), and includes specific culturally appropriate measures to address the potential obstacles to access for them in delivery of food and cash assistance. ✓ Apply IPPF (Annex 8) ✓ NCDM and MRD employ staff and volunteers from among the ethnic groups and who speak relevant ethnic languages, as needed and feasible. For staff and volunteers who are from outside the ethnic communities, provide awareness raising on culturally appropriate behavior, issues related to ethnicity, religion and marginalization.

Table 5. MOH: E&S Risk Management and Mitigation Measures

Activities	E&S Impacts and Risks	Mitigation Measures
Sourcing and Packaging	Improper disposal of packaging from medical supplies creates non-biodegradable waste, overwhelming local systems and increasing risks like blocked drainage and greater landfill use.	✓ Environmental Waste Management: Promoting recycling and responsible disposal of packaging and expired products reduces environmental pollution. ✓ Encouraging local production and stockpiling of essential medicines where feasible ✓ Robust supply chain management: Match supply volumes to likely demand to minimize surplus and expiry. ✓ Ensure that all medicine to be procured complies with relevant technical specifications, including manufacturers requirements, relevant WHO guidelines and GIIP
Transportation	Hazardous spills, accidental release of pharmaceutical substances, and pollution: Hazardous spills from medical shipments can contaminate the environment and pose risks to people and ecosystems. Leakage or improper handling of pharmaceuticals during transport can harm the environment	✓ Robust Packaging and Spill Response Procedures: Use of high-quality, tested packaging materials can prevent leaks and contamination. Emergency plans and spill kits should be readily available for hazardous goods. ✓ Training and Personal Protective Equipment for Workers: Comprehensive training on handling, spill response, use of PPE, and ergonomics reduces occupational risks. Regular drills ensure preparedness for emergencies. ✓ Monitoring and Documentation Systems: Electronic tracking of shipments, temperature loggers, and anti-tampering seals help maintain product integrity and trace any incidents during transport. ✓ Community Engagement and Transparent Communication: Keeping local communities informed about safety protocols and routes helps build trust and ensures rapid response in case of incidents.
	Traffic and Accident Risks: Increased transport activity, particularly during disaster response efforts, can result in congestion and an elevated likelihood of road accidents within the community	MOH and MRD to ensure that (1) proper maintenance of vehicles, and training of drivers and other users; (2) raise awareness and provide training to project workers on traffic and road safety; (3) apply the Safety and Security Protocol outlined in Annex 2; and (4) apply Labor Management Procedures including workers code of conduct outlined in Annex 1.
	Resource use and energy consumption: High energy use for cold storage and frequent transport of medical supplies strains local resources, particularly fuel, water, and electricity—placing additional pressure on areas already facing shortages.	✓ Improved Supply Chain Management: Streamlining logistics to decrease delivery frequency—either by expanding storage capacity or refining inventory management—can result in reduced fuel and energy consumption. ✓ Community Engagement and Capacity Building: Training local technicians to service and fix cold storage equipment allows for quick responses to failures and reduces downtime. Collaborating with local organizations can aid in discovering suitable solutions for the context and promote a sense of ownership over new infrastructure.

Activities	E&S Impacts and Risks	Mitigation Measures
		✓ Energy-Efficient Technologies: Creating and implementing advanced energy-efficient refrigeration systems—like passive cooling mechanisms or phase-change materials—can sustain safe temperatures for extended durations without the need for constant power. Intelligent monitoring systems aid in maximizing energy efficiency and minimizing waste.
	Key occupational health and safety risks associated with medical supply logistics include injuries from heavy lifting, exposure to hazardous or infectious materials due to damaged containers or improper packaging, and threats to staff safety from traffic accidents and potential theft of valuable shipments.	✓ Secure Supply Chains: Implementing security protocols and tracking for high-value medicines reduces risks of theft, diversion, and violence against workers. ✓ Occupational Health and Safety Regulations: Standards protect transport and logistics workers from occupational hazards.
Storage and Disposal	❖ Improper disposal of unused pharmaceuticals and increased medical waste during emergencies can contaminate water and harm ecosystems. Poor management and separation practices heighten risks to people, wildlife, and the environment ❖ Microplastics and Persistent Organic Pollutants (POPs): Microplastics from discarded PPE, made mostly of synthetic polymers, can contaminate water, soil, and food chains, while improper burning of these materials may release toxic persistent organic pollutants (POPs), posing risks to human health and the environment. ❖ Excess medical supplies often accumulate after disasters and may expire or degrade, requiring disposal. Without proper facilities, this waste is often handled unsafely, leading to environmental and health risks.	✓ Ensure medicine is stored in accordance with the manufacturer's specifications, including temperature controls, humidity controls, security measures, proper shelving and labeling ✓ Discarding or destroying expired or ineffective drugs and other medical supplies, as well as those that have been damaged in transport, handling, or through deficient storage: Apply the WHO's Guidelines for Safe Disposal of Unwanted Pharmaceuticals In and After Emergencies (https://iris.who.int/bitstream/handle/10665/42238/WHO_EDM_PAR_99.2.pdf) ✓ Community engagement: Involve local populations in waste reduction and safe disposal efforts. ✓ Apply MOH's Technical Guideline on Healthcare Waste Management ✓ Apply MOH's National Guidelines for Infection Prevention and Control for Healthcare Facilities ✓ Storage system: ▪ The purpose of storage is to ensure that health supplies retain their quality and effectiveness by creating the necessary physical, hygienic and infrastructural conditions. ▪ The warehouse or other storage site must be well-ventilated and easily accessible and receive regular cleaning and maintenance. ▪ The place where supplies are stored should make it possible to separate drugs from other health supplies. The drug storage area must be divided into several zones: A zone dedicated to storing drugs for immediate distribution, preferably on shelves and located close to the exit; A zone to locate full boxes of supplies; Another zone to store drugs that do not require priority distribution. In each zone, the drugs should be organized by expiry date, placing the ones that will expire soonest nearer the front

Activities	E&S Impacts and Risks	Mitigation Measures
		of the pile. Boxes should be placed on platforms or pallets and not directly on the floor.
Distribution	Inequitable resource distribution can leave marginalized groups underserved and increasing social inequality	✓ Establishing clear guidelines for equitable distribution, with special attention to vulnerable groups ✓ On-site waste segregation and treatment: Establish temporary but effective systems for collecting, segregating, and treating infectious and plastic waste. ✓ Apply IPPF (Annex 8)
	Key occupational health and safety issues in medical supply distribution include mental stress, risk of injury from heavy lifting, risks from improper handling chemical substances, increased likelihood of accidents due to poor facility conditions.	✓ Training on safe lifting techniques and ergonomic best practices ✓ Training in handling hazardous materials ✓ Personal protective equipment (PPE) should be made available, and its proper use is enforced ✓ Implement reasonable workloads, ensuring adequate staffing, and adequate regular rest periods is mandated. Training in stress management and resilience ✓ Routine inspections and maintenance to ensure facility safety. Promptly address hazards such as leaks, broken equipment, and cluttered walkways. Provide adequate lighting, climate control systems. ✓ Ensure that the grievance/beneficiary feedback mechanism is active and accessible by disadvantaged and vulnerable groups through raising awareness among these groups and in relevant ethnic languages, providing different intake channels etc.

Table 6. MAFF: E&S Risk Management and Mitigation Measures

Activities	E&S Impacts and Risks	Mitigation Measures
Seeds provisions	Genetic diversity and ecosystem resilience: The use of non-native or hybrid seeds in aid can reduce local crop diversity, making ecosystems less resilient and crops more vulnerable to pests, diseases, and climate change. Invasive species and biodiversity loss: Introducing non-local seeds can bring invasive species or diseases, disrupt local ecosystems and causing biodiversity loss	✓ Implement Cambodia Good Agricultural Practices (CamGAP) along with additional strategies to address potential impacts and risks associated with invasive species and biodiversity loss: ▪ Integrated Pest Management (IPM): Use a mix of biological, mechanical, and chemical methods to control invasive species in an ecologically responsible manner. ▪ Traceability: Keep detailed records of seed origins, batch numbers, and distribution locations to enable quick action during any issues or outbreaks linked to specific seed batches. ▪ Certified Seed Sources: Source seeds from trusted, certified suppliers who comply with national and international phytosanitary standards. This reduces the likelihood of unintentionally introducing invasive species, contaminated materials, or seed-borne diseases ▪ Inclusion of Local Varieties: Whenever feasible, choose and distribute local or regionally suited seed varieties to enhance local agrobiodiversity and improve environmental adaptability. ▪ Phytosanitary Certification: Require official certification confirming the absence of particular pests, diseases, and invasive species of concern ✓ If an invasive species or significant pest is identified, swift response measures should be implemented, including: ▪ Prompt isolation of the impacted fields or seed lots ▪ Elimination or secure disposal of contaminated seed materials ▪ Mobilization of specialist teams to evaluate and manage the outbreak ▪ Coordination with national plant protection agencies to ensure a unified response. ✓ When biodiversity is lost or ecosystems are disrupted, restoration efforts become crucial. These efforts include: ▪ The reestablishment of native or traditional species via community nurseries or seed banks. ▪ The rehabilitation of soil and the replanting of damaged areas. ▪ Providing ongoing training and resources to support livelihoods and ecosystem services. ✓ Delivery trucks should be equipped with secure covers for transporting materials

Activities	E&S Impacts and Risks	Mitigation Measures
		✓ All warehouses, storage facilities, and distribution centers must have waste bins to gather all generated waste. This waste should be disposed of at designated dumping sites within the districts. If third-party companies are hired to manage the waste collection, they must keep records of their operations and comply with local waste management regulations. Seed spill clean-up kits will be available at the warehouses and temporary holding centers to manage and correctly dispose of any waste produced. Additionally, waste bins should be supplied to collect domestic waste generated by beneficiaries while they wait for their inputs, which must be disposed of at the end of each day. ✓ Implement LMP (Annex 1) for workers involved in the provision of seeds, encompassing transport, storage, and distribution. ✓ Ensure that the grievance feedback mechanism is active and accessible by disadvantaged and vulnerable groups through raising awareness among these groups and in relevant ethnic languages, providing different intake channels etc.
Tools provision	The rapid distribution of inexpensive, mass-produced tools often leads to reduced durability and frequent replacement, resulting in greater waste and resource depletion.	✓ Pre-distribution Quality Assessment: ▪ Supplier Certification: Collaborate exclusively with manufacturers that comply with established international safety and quality standards. ▪ Randomized Batch Testing: Conduct random sampling of tool batches prior to distribution to assess their durability, safety, and functionality. ▪ Specification Alignment: Verify that tools conform to local specifications regarding size, weight, and ergonomics to minimize injury risk and enhance user acceptance. ✓ Sustainable sourcing: Assess the possible pollution, waste, and emissions linked to the production and disposal of the tools. ✓ Ensure that the grievance/beneficiary feedback mechanism is active and accessible by disadvantaged and vulnerable groups through raising awareness among these groups and in relevant ethnic languages, providing different intake channels etc. ✓ Waste management strategies: ▪ Collection of Defective Tools: Establish collection centers for damaged or used tools by collaborating with recyclers or promoting local repair programs. ▪ Training on Maintenance: Provide essential advice to recipients on how to care for and responsibly dispose of tools, thereby minimizing environmental impact. ✓ Social and Security Measures:

Activities	E&S Impacts and Risks	Mitigation Measures
		▪ Safe Storage and Transport: Implement tamper-proof seals and keep detailed chain-of-custody records from the manufacturer to the distribution location. ▪ Recipient Verification: Use trustworthy identification processes to confirm recipients and avoid any instances of "double-dipping." ▪ Post-Distribution Audits: Carry out random checks and home visits to ensure that tools are delivered to the correct recipients.
Fertilizer support	Water pollution: Excessive or improper use of fertilizers can lead to nutrient runoff, polluting waterways, causing algal blooms, and disrupting ecosystems. Spills during transport can also contaminate water bodies and degrade water quality Soil degradation: Prolonged use of chemical fertilizers can damage soil health, reducing its fertility and ability to retain water and nutrients over time.	✓ Implement Cambodia Good Agricultural Practices (CamGAP) along with additional strategies to address potential impacts and risks associated with water pollution and soil degradation: ▪ Encouraging the use of organic and environmentally friendly fertilizers ▪ Ensure that all agricultural materials and compounds are positioned away from natural drainage lines. ▪ No refueling of agricultural machinery to be undertaken near waterways. ▪ No storage of chemicals, hazardous materials, agrochemicals and fuels in proximity to any waterway or drainage line (at least 50 meters from drainage structures and 100 meters from important water bodies). ▪ Sustainable fertilizer practices to be implemented to ensure the long-term health of both water and soil quality.
	Community health and safety*:* Exposure to improperly stored agricultural chemicals, such as fertilizers, can pose serious health risks to workers, including respiratory illness and skin irritation. High temperatures and poor storage conditions may worsen these dangers, making safety precautions essential for those handling and distributing these inputs.	✓ Proper labelling, transport, storage, handling and disposal procedures for fertilizers must be followed ✓ Ensure correct handling, use of personal protective equipment (PPE), labelling, application and disposal of agrochemicals. ✓ The inputs procured will be immediately distributed to reduce the hold-on time at the regional and district warehouses and holdings centers. ✓ Ensure that the grievance feedback mechanism is active and accessible by disadvantaged and vulnerable groups through raising awareness among these groups and in relevant ethnic languages, providing different intake channels etc. ✓ The following activities will be implemented to reduce the health and safety risk associated with input distribution: ▪ Provision and use of high visible clothing during the loading and offloading fertilizers into distribution trucks ▪ Provide PPEs such as nose mask, gloves and overall clothes for works to reduce direct exposure to fertilizer dust

Activities	E&S Impacts and Risks	Mitigation Measures
		▪ Provision of first aid kits at holding centers and warehouses to provide the first aid in the event of an accidents ▪ Encourage farmers to return empty bags to an approved recycling site in the districts where these sites exist
Livestock Supports	Poor storage and transport can lead to food and feed spoilage, increasing waste and environmental harm.	✓ Composting Spoiled Feed: Setting up composting processes for spoiled or surplus feed transforms waste into useful fertilizer rather than allowing it to contribute to landfill waste. ✓ Manure Management: Enhancing manure storage, recycling nutrients, and optimizing application timing can help reduce the environmental effects of heightened nutrient loads during emergencies. ✓ Packaging Recycling: Establishing collection and recycling initiatives for packaging materials helps decrease landfill waste and environmental pollution.
	Emergency feed often lacks balanced nutrients, causing livestock to excrete excess nitrogen and phosphorus, which can pollute water and air.	✓ Feeds that are nutritionally balanced not only promote animal wellbeing but also help decrease pollution. This can be achieved through: ▪ Adjusting Formulations: Quickly modifying feed mixtures to align with the ingredients on hand ensures that animals remain productive while limiting the excretion of surplus nutrients. ▪ Incorporating Feed Additives: Utilizing additives like enzymes or probiotics can enhance nutrient absorption and lessen waste when the quality of emergency feeds is subpar. ✓ Ensure that the grievance/beneficiary feedback mechanism is active and accessible by disadvantaged and vulnerable groups through raising awareness among these groups and in relevant ethnic languages, providing different intake channels etc.
	Importing emergency feed may introduce contaminants like mycotoxins, pesticides, weed seeds, or pathogens, risking animal and environmental health.	✓ Evaluation and Certification of Sources ▪ Supplier Audit: Collaborate with credible suppliers who follow rigorous agricultural and biosecurity protocols. ▪ Country of Origin Assessment: Assess the pest, disease, and weed status of the source country. ▪ Certification Requirements: Mandate the provision of phytosanitary certificates and records of pesticide applications. ✓ Inspection and Testing ▪ Laboratory Testing: Analyze representative samples of imported feed for mycotoxins, pesticide residues, and pathogens both before shipment and upon arrival.

Activities	E&S Impacts and Risks	Mitigation Measures
		▪ Visual Inspection: Examine bales and bags for indications of mold, insect infestations, or questionable plant materials. ▪ Seed Screening: Check for weed seeds, particularly those from designated noxious or invasive species. ✓ Quarantine and Treatment ▪ Controlled Storage: Keep imported feed in designated facilities until testing and inspection confirm it is safe. ▪ Heat Treatment or Fumigation: If necessary, treat feed to eliminate or minimize weed seeds and pathogens. ▪ Disposal of Contaminated Feed: Ensure that any contaminated or non-compliant feed is disposed of in accordance with environmental regulations.

Table 7. NSPC: E&S Risk Management and Mitigation Measures

Activities	E&S Impacts and Risks	Mitigation Measures
Cash Transfers	Exclusion and inequity: Certain groups may be excluded from electronic cash transfers if they lack access to technology or financial services, increasing the risk of inequity during emergencies.	✓ Conduct inclusive and accessible consultations with community members, community leaders and representatives, and local authorities. ✓ Provide transparent information of project activities, benefits, eligibility criteria to communities, through accessible channels, trusted intermediaries, in relevant ethnic languages. ✓ Proactively identify, consult with and reach out to disadvantaged and vulnerable groups and households (through surveys, consultations or other means as appropriate). ✓ Ensure that the grievance/beneficiary feedback mechanism is active and accessible by disadvantaged and vulnerable groups through raising awareness among these groups and in relevant ethnic languages, providing different intake channels etc. ✓ Accessibility and Language: Ensure platforms are accessible to people with disabilities and are available in multiple languages. ✓ Monitoring and Evaluation: Implement mechanisms to continuously assess who is being left out and adjust programs accordingly. ✓ Strengthening Partnerships: Work with local organizations, telecom providers, and financial institutions to amplify outreach and support networks.

		✓ Inclusive Program Design: Ensure that targeting and registration processes are accessible to all, including those without standard identification or technology access. Consider alternatives such as manual payments or community-based targeting where necessary. ✓ Gender-Sensitive Approaches: Assess potential impacts on gender dynamics, consult with women and marginalized groups, and put safeguards in place to prevent and respond to gender-based violence or backlash. ✓ User Education: Provide training for beneficiaries on digital literacy, safeguarding their credentials, and recognizing common fraud schemes. ✓ Implement GRM (Chapter 7) ✓ Apply IPPF (Annex 8)
	Data privacy and security concerns: Protecting the personal data collected for electronic cash transfers is essential, as weak safeguards may expose recipients to identity theft or fraud, especially during emergencies.	✓ Data Minimization: Collect only the data essential for the operation of programs, steering clear of unnecessary or invasive information that poses risks without clear advantages. ✓ Clear and Transparent Consent: Clearly inform recipients about the data being collected, its intended use, and who will have access. Whenever possible, obtain explicit informed consent and provide easy avenues for individuals to inquire or express concerns. ✓ Access Controls and Staff Training: Enforce strict access controls to ensure that only authorized personnel can access sensitive data. Educate all staff and partners on data privacy standards and the ethical management of personal information. ✓ Data Retention and Deletion Policies: Create clear guidelines on how long data should be kept and ensure secure deletion when it is no longer needed, thereby minimizing risk in the event of a breach. ✓ Vendor and Third-Party Oversight: Thoroughly evaluate third-party vendors that handle or store data to ensure they adhere to comparable privacy and security standards. Contracts should clearly define obligations and responsibilities.

5.2. PROCEDURES TO ADDRESS E&S RISK ISSUES

This ESMP defines the risk management and mitigation measures that will be implemented for the activities. Once the CERP is activated, MRD will review the activity to confirm that key E&S risks and impacts will be mitigated in accordance with the risk management framework included in this ESMP. Figure 1 and Figure 2 below describe the process:

Figure 4. E&S Risk management Process

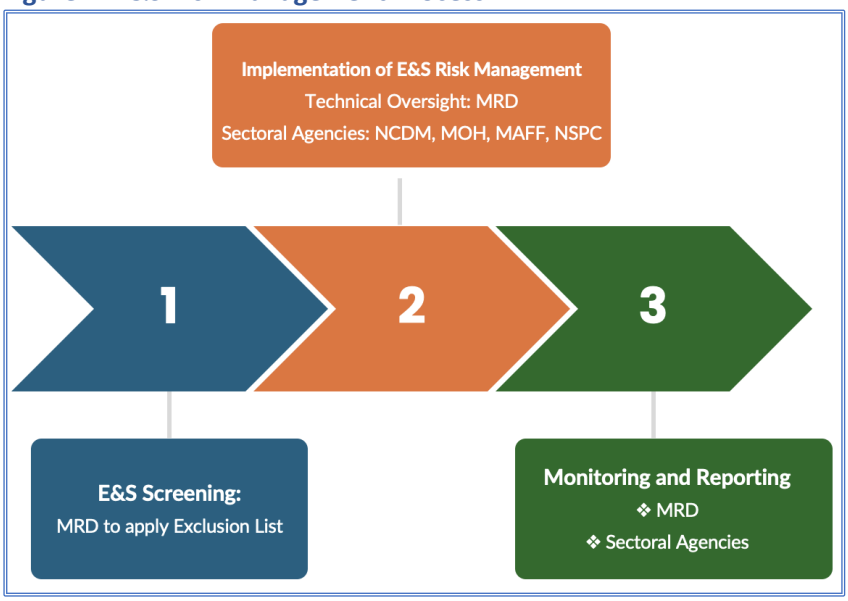
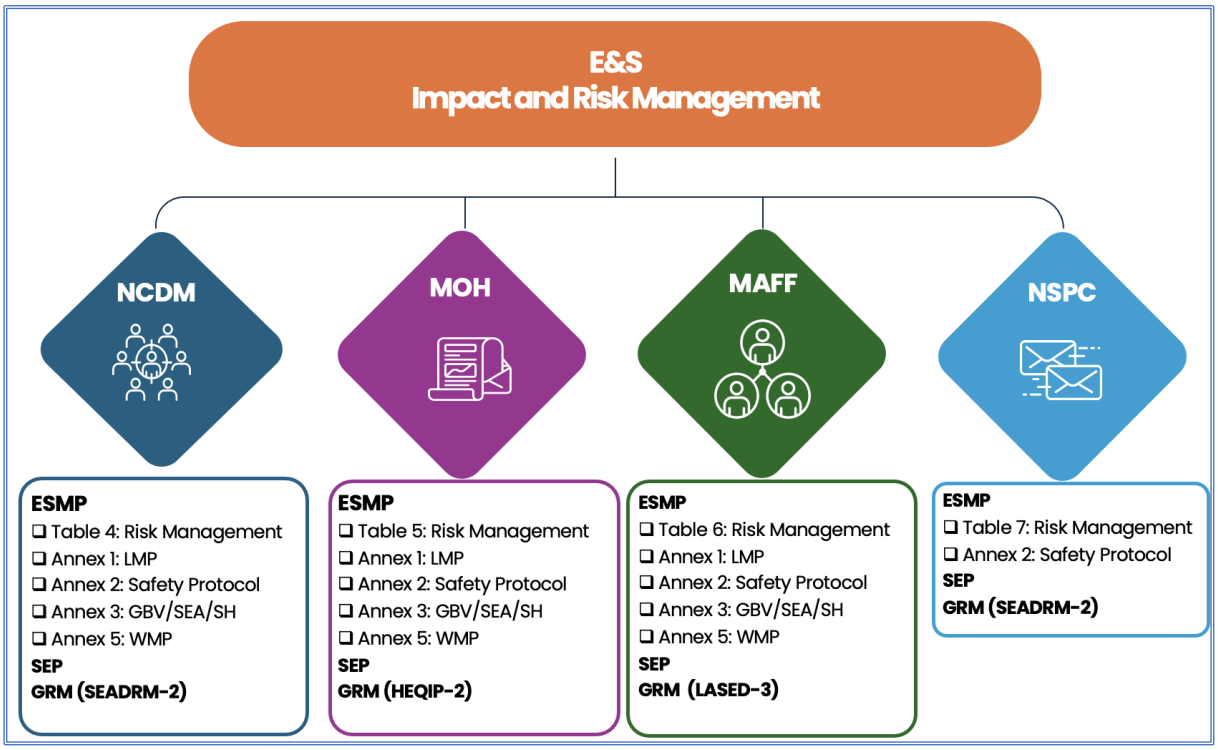


Figure 5. E&S Impact and Risk Management Process



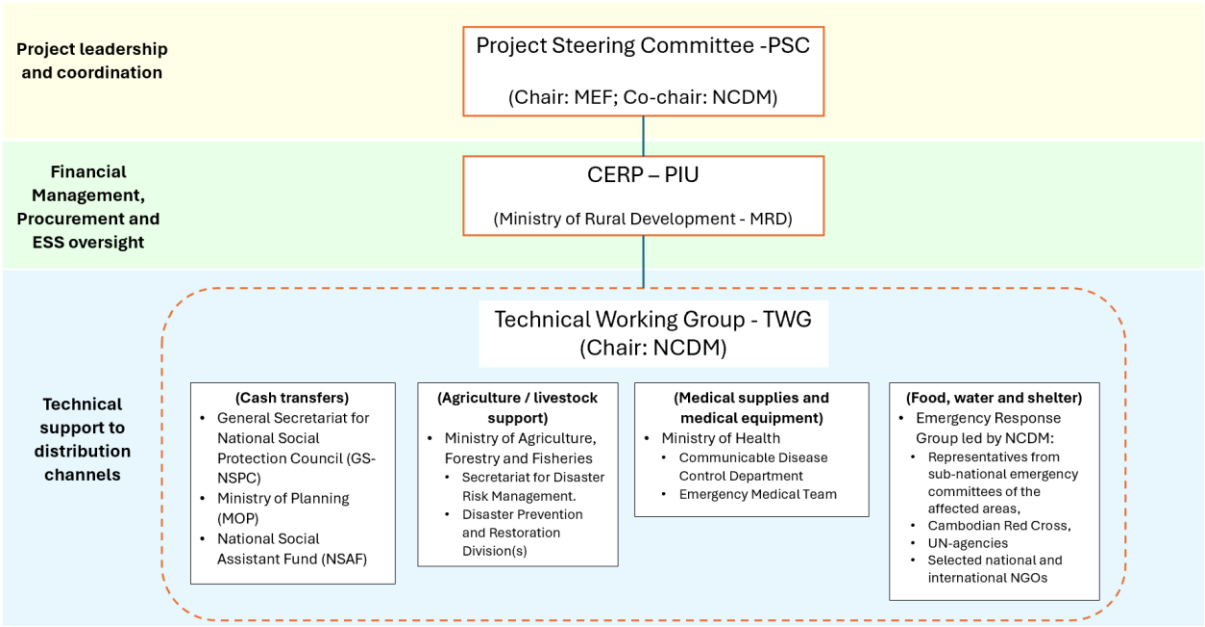
6. INSTITUTIONAL ARRANGEMENTS AND RESOURCES

6.1. INSTITUTIONAL AND IMPLEMENTATION ARRANGEMENT

The MEF is responsible for CERP activation and overall project oversight with the support of the NCDM, which will coordinate with provincial and local authorities in the affected areas, and relevant ministries / technical agencies before, during and after the emergency. In addition, the Ministry of Rural Development (MRD) has been designated as the CERP Project Implementation Unit (CERP-PIU); its experience and performance with World Bank financing are well recognized. It will, through the implementation capacity established under the existing Cambodia Southeast Asia Disaster Risk Management Project 2 (P177185), be responsible for fiduciary management, monitoring, reporting, and environmental and social compliance, while relevant government departments, including the National Social Protection Council (NSPC), the Ministry of Agriculture, Forestry and Fisheries (MAFF), the Ministry of Health (MOH), among others, will be responsible for implementation of CERP activities in their respective sectors. All World Bank funded PIUs working in such sectors will provide technical support to the CERP-PIU when needed.

A Project Steering Committee (PSC), chaired by the MEF and co-chaired by NCDM, will be established to provide strategic oversight and to enhance coordination among all relevant ministries and key stakeholders involved in CERP implementation. MRD, as the CERP-PIU, will be supported by the Technical Working Group (TWG), chaired by NCDM and composed of technical staff from the different ministries and agencies responsible for the distribution of CERP goods and services as per the positive list

Figure 6. CERP Institutional Arrangement



The PSC will include high-level representatives of key stakeholders and will meet bi-annually, or more often as required, upon the CERP invitation as described in this Manual. The PSC ensures coordination among the various Ministries, Departments and Agencies (MDA), involved in the emergency response,

facilitating seamless implementation, and addressing any inter-ministerial issues that may arise during the project execution. The PSC will also provide a platform for addressing stakeholders' concerns and ensuring that the project aligns with national priorities and policies on disaster management and climate resilience.

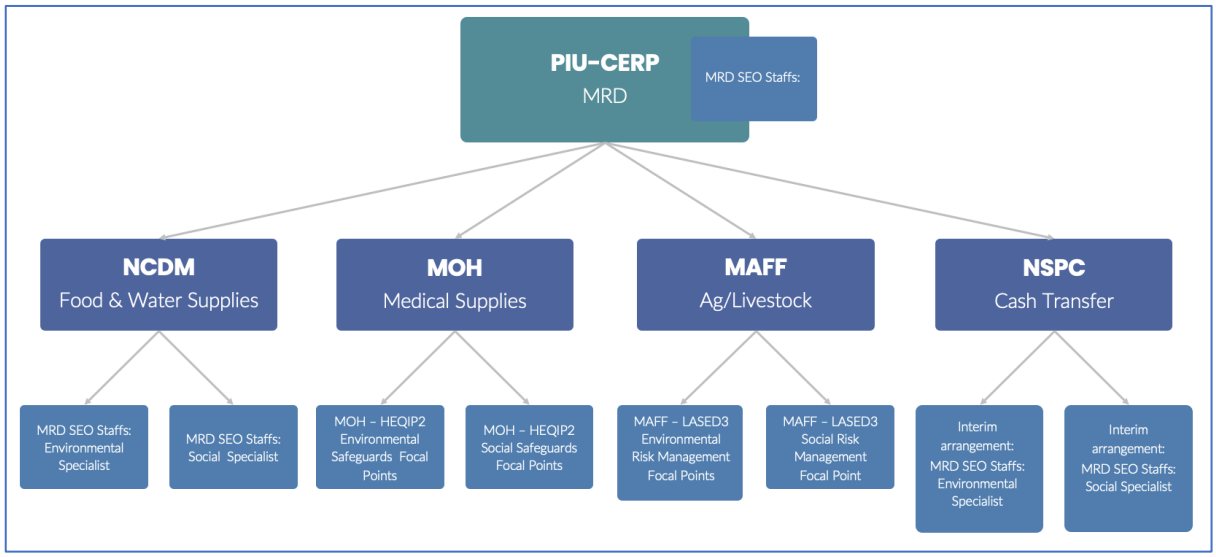
The TWG will include national directors and senior technical officers, procurement experts, environmental and social specialists from various sectoral agencies and PIUs. Working closely with the MRD the TWG will provide hands-on, practical support, ensuring that all technical, FM, procurement, and operational processes, including E&S risk management, are in place for CERP implementation. TWG will bring together relevant technical and procurement expertise to support the CERP-PIU in conducting the activities needed for each emergency or crisis response for which the CERP is activated. MRD will serve as the secretariat for both the PSC and the TWG, facilitating coordination and communication between relevant stakeholders. Both committees should be in place before CERP activation.

6.2. INSTITUTIONAL CAPACITY

CERP-PIU (MRD): MRD has significant experience in application of the World Bank's and Asian Development Bank's safeguards policies through a number of similar road rehabilitation projects over the past several years. Currently, MRD is implementing the World Bank financed South East Asia Disaster Risk Management Project (SEA-DRM) and Road Connectivity Improvement Project (RCIP), Cambodia Sustainable Landscape and Ecotourism Project (CSLEP), as well as the third ADB financed Road Rehabilitation Improvement Project (RRIP III). Through these projects, MRD has maintained a proven track record for safeguards compliance. MRD keeps improving their capacities – through continued capacity development of staff of the Social and Environment Office (SEO). Some of the staff within the SEO have solid working experience in engineering, indigenous people, community development, environment, social and public administration, and most have been trained by the World Bank on various topics related to environment and social management in rural development projects. The SEO with MRD has a total 7 staff (4 are female) who are assigned to different projects. The SEO will need additional technical support during the CERP project implementation from E&S specialized staffs. MRD will engage additional national consultants to work alongside staff of SEO to support PMU of MRD in day-to-day E&S implementation and management.

Sectoral PIUs (MOH and MAFF): MOH's and MAFF's capacities in environmental and social safeguards and ESF are shaped by its organisational structure, technical expertise, and experience with donor-funded projects. Over recent years, both ministries have made efforts to strengthen their safeguards systems, including the establishment of dedicated units and the recruitment of specialised staff. MOH and MAFF have set up environmental and social safeguard focal points within project implementation unit (PIU) and project management units (PMU) respectively. These focal points are responsible for coordinating safeguard activities, liaising with World Bank (and other donor agencies) representatives, and ensuring compliance with safeguard / ESF policies. Both ministries have gained practical experience through the implementation of previous World Bank and other donor-funded projects, which has contributed to a growing understanding of safeguard and ESF requirements. The ministries have developed mechanisms for stakeholder consultation, including public meetings and feedback channels, which are critical components of the World Bank ESF.

Figure 7. E&S Organogram



6.3. E&S RESOURCES STRATEGIES

It is expected that when CERP is activated, certain existing environmental and social resources from other Project Implementation Units (PIUs) or Bank-funded initiatives will be needed to carry out the relevant sections of the CERP Environmental and Social Management Plan (CERP-ESMP). Due to CERP's mandate to release funds within 72 hours after activation, MRD-SEO will adopt the following strategies:

- Establish a formal arrangement with E&S staff and resources from PIUs of other Bank-funded projects. This approach ensures that CERP can access experienced personnel familiar with Bank requirements and local contexts.
- Pre-identification of E&S staff: Maintain a roster of E&S professionals from ongoing projects who can be support the implementation of CERP ESMP.
- Cross-training: Provide regular training to E&S staff across projects on CERP-specific procedures and emergency response protocols.
- Activation protocol: Develop a clear protocol for rapid mobilisation and reassignment of E&S staff upon CERP activation, including notification, deployment, and handover procedures.
- Resource sharing agreement: Formalise inter-PIU agreements to ensure smooth resources sharing without disrupting ongoing project operations.
- Monitoring and support: Establish mechanisms for ongoing support and supervision of PIUs staffs to maintain performance and compliance standards.

6.4. MONITORING AND REPORTING

The CERP-PIU will oversee the monitoring and reporting of results with assistance from relevant stakeholders. The results framework will direct progress monitoring, and the Project Implementation Unit will regularly refresh indicator values using stakeholder feedback and submit reports to the World Bank. To accurately depict the Project's progress, the PIU will gather and analyze data from stakeholders and periodically adjust the results framework to align with real-world conditions. If the CERP is activated, additional indicators specific to the response will be added.

The CERP-PIU will produce quarterly reports to evaluate progress, including findings from monitoring and evaluation, and propose any necessary adjustments for effective implementation. Report on the implementation of E&S risks mitigation will be included in the report. In non-crisis situations, these reports will be issued annually, while during an active crisis, they will be provided at least twice a year. Six months following the conclusion of a CERP activation, a completion report will be generated to evaluate the performance of all involved parties and outline strategies to sustain the CERP's successes.

The E&S specialists within the CERP PMU will track the execution of E&S obligations in related activities and compile quarterly reports on the Project's environmental, social, health, and safety (E&S) performance. These reports will cover the following:

- The status of implementing the E&S documents required by the environmental and social commitment plan (ESCP)
- A summary of stakeholder engagement activities carried out
- Complaints lodged through grievance mechanisms, along with a registry and progress in resolving them
- Project E&S performance
- Details on reported incidents and accidents, including resolution status
- Any other information requested by the Bank.

All World Bank funded PIUs working in related sectors will report to the E&S specialists within the CERP-PIU regarding their obligations related to their activities. The information from these Sectoral PIUs reports will be included in the overall quarterly E&S report submitted to the World Bank.

6.5. CAPACITY BUILDING

The successful execution of the Project will largely rely on the effective application of the environmental and social risk management measures detailed in the Environmental and Social Management Plan (ESMP). Typically, the training necessary for enhancing capacity to manage E&S risks for CERP will involve recurring sessions, whether as refresher courses or for new groups of trainees. The implementation of E&S risk management within CERP will primarily involve four ministries/agencies: MRD, MOH, MAFF, and NSPC. Aside from NSPC, the other implementing agencies have established E&S resources allocated for projects funded by the World Bank. Each project has its own ongoing training and capacity-building strategies that CERP will leverage.

Table 8. Capacity Building Strategy

Distribution Channels	E&S Arrangements	Capacity Building Strategy
NCDM: Emergency Supplies (Food and Water)	CERP-PIU (MRD) – SEADRM2: ❖ Social and Environment Office (SEO) has a total of 7 staffs ❖ Additional National Consultants work alongside staffs of SEO to provide more technical supports	➢ SEO staffs have been trained by the WB on various topics related to ESF ➢ Maintained the current capacity-building strategies and methods utilized in SEADRM2.
MOH: Medical Supplies	Sectoral PIU at MOH through HEQIP2 PIU: ❖ National E&S safeguards focal points ❖ Provincial E&S safeguards focal points ❖ National E&S Consultants	➢ ESS Focal Points have been trained by the WB on various topics related to ESF ➢ Maintained the current capacity-building strategies and methods utilized in HEQIP2
MAFF: Support for Agriculture	Sectoral PIU at MAFF through LASED3 PMU: ❖ National E&S Risk Management Focal Points ❖ Provincial E&S Risk Management Focal Points ❖ National Environmental Consultant ❖ National Social Consultant	➢ E&S Focal Points have been trained by the WB on various topics related to ESF ➢ Maintained the current capacity-building strategies and methods utilized in LASED3
NSPC: Cash Transfer	Currently NSPC has no dedicated E&S resources. CERP-PIU (MRD) will provide supports to NSPC.	SEO staffs (of MRD) to extend training and capacity building activities to NSPC staffs, specifically on the following issues: ➢ GRM ➢ IPPF – especially on the topic Consultation and Participation

7. CONSULTATION, DISCLOSURE & GRIEVANCE REDRESS MECHANISM

At project preparation, discussions were held with various government ministries, departments and agencies to finalize the project design, agree on positive and exclusion list of activities as well as environmental and social management aspects of the project. Officials engaged were from the Ministry of Economy and Finance (MEF); the National Committee for Disaster Management (NCDM); the General Secretariat of National Social Protection Council (GS-NSPC), the National Social Assistance Fund (NSAF), and the ministries participating in the consultation process: Ministry of Education, Youth and Sport (MoEYS), Ministry of Rural Development (MRD), Ministry of Health (MoH), and Ministry of Agriculture, Forestry and Fisheries (MAFF). A Stakeholder Engagement Plan (SEP) has been prepared to facilitate engagement. It is recognized that during emergencies, engaging stakeholders on specific activities may not be feasible as the focus shifts to swift response efforts. The Implementing Agencies will inform relevant government agencies, affected individuals, and key stakeholders about the CERP activation and supported activities, to gain their support for implementation.

Additionally, the Implementing Agency will ensure that affected individuals and stakeholders are informed about the grievance mechanism and its functioning. For activities tied to ongoing World Bank-funded projects, current Project's grievance redress mechanisms (GRMs) will be used:

Table 9. Applicable Grievance Redress Mechanism

Positive List of Activities	Distribution Channels	WB-funded projects – GRM
Food and water (emergency food, basic support, non-perishable)	NCDM	SEADRM2: Cambodia Southeast Asia Disaster Risk Management Project II
Medicines, medical supplies and Personal protective equipment (PPE)	MOH	HEQIP-2: Cambodia Health Equity and Quality Improvement Project – Phase 2
Agriculture support (seeds, tools, fertilizers, livestock support and support to fishermen when relevant)	MAFF	LASED3: Cambodia Land Allocation for Social and Economic Development – Phase 3 CILVCOHP (Cambodia Inclusive Livestock Value Chains and One Health Project)
Cash transfers (electronic payments as defined in the Social Protection System)	NSPC	SEADRM2: Cambodia Southeast Asia Disaster Risk Management Project II

The Government has prepared a stand-alone Stakeholder Engagement Plan (SEP). The overall objective of this SEP is to define a program for stakeholder engagement, including the dissemination of public information and inclusive consultation throughout the entire project cycle leveraging existing statekholder engagement protocols and Grievance Mechanisms (GM) of implementing agencies. The SEP describes the ways in which institutions will communicate with stakeholders and includes a mechanism through which people can raise concerns, give feedback or make complaints about the

project and any project-related activities. The SEP specifically emphasizes methods for engaging groups considered most vulnerable and at risk of being left out of project benefits as well as procedures to receive and provide confidential support to complaints pertaining to SEA/SH, and other forms of GBV in line with the ESS10 requirements. The SEP was disclosed prior to project appraisal. During implementation, consultation will be ongoing, and this will primarily focus on project beneficiaries, commune and other relevant institutional stakeholders at the local level.

Annex 1. Labor Management Procedure (LMP)

The purpose of the LMP is to set out the ways in which the CERP-PIU and all other implementing agencies will manage all project workers in relation to the associated risks and impacts for the Project activities. The objectives of the LMP are to: (1) Identify the different types of project workers that are likely to be involved in the project; (2) Identify, analyze and evaluate the labor related risks and impacts for project activities; and (3) Set out procedures to meet the requirements of ESS2 and applicable national legislation.

The LMP will be administered to different types of project workers including fulltime, part-time, temporary and seasonal as follows:

(a) **Direct Workers.** People employed directly by the CERP-PIU and sectoral PIUs (e.g., MOH, MAFF, etc.) to work specifically in relation to the Project activities.
(b) **Contracted Workers.** People engaged through third parties to perform work related to core functions of the project, regardless of location. Under this category are included employees of contractors or third-party providers contracted to implement project activities. This can include UN personnel, NGOs and others.
(c) **Primary Supply Workers**. People engaged as primary suppliers. These include, for example, suppliers of goods to be procured under the project.

This LMP will be updated as needed to include any community labor requirements associated with cash for works.

The following types of labor requirements are expected per type of activity. Numbers of workers cannot be estimated at this point, as activities and their scope are not known. Direct workers may come from different Ministries, as activities may require the involvement of different Ministries.

Table 10. Labor Forecast

Project Activities	Types of workers
Emergency supplies includuing food and water	Direct workers (NCDM, MRD), Contracted workers, and Primary Supply Workers
Medicine	Direct workers (MOH, MRD), Contracted workers, and Primary Supply Workers
Agriculture	Direct workers (MAFF, MRD), and contracted workers, and Primary Supply Workers
Cash transfer	Direct workers (NSPC and MRD)

1. Labor Risk Assessment.

As part of the labor risks and impacts identification, the following activities will assist in understanding the exposure pathways. However, it has to be pointed out that presented here are only key risks related to workers of predictable activities:

(a) The main types of activities for direct workers will be activities in the coordination of the project activities.
(b) The main types of activities for contracted workers will be activities related to the coordination and implementation of procurement activities
(c) The main types of activities for supply workers will be related to the production and transporting of goods.

The table below highlights and analyses the potential labor risks and impacts in view of the anticipated labor utilization and general baseline settings of the project area.

Table 11.Labor Risk Identification and Mitigation Measures

Risk/Impact	Risk Mitigation Measures
Labor practices are not in accordance with national laws and international standards	Through the implementation of this LMP these gaps are addressed.
Underpayment of contracted workers or supply workers	The project will enforce the minimum wage and implement it throughout the project / cascade it down to suppliers. A workers' grievance mechanism will be adopted and implemented.
Labor disputes over contracts	The project will provide workers' GRM with an appeals mechanism outside of the direct employer.
Discrimination against women in employment	Contractors and suppliers are compelled to safeguard the interests of women, including gender parity at the workspace, appropriate sanitation facilities at workplace, and appropriate PPE for women. The Project will monitor these measures during field visits where possible and will require every contracted worker to sign a CoC, as well as adopt and implement workers' GRM.
SEA/SH risks among workers	The Project takes a zero tolerance stand vis-à-vis SEA/SH toward all workers by other project workers. It will require the signing of CoCs by every direct worker.
Use of child labor	The minimum age of 18 will be enforced in recruitment for direct and contracted workers on the Project. Suppliers will be contractually bound to comply with child labor prohibitions. During the procurement process, potential suppliers will be assessed for past abuses.
Forced Labor	Suppliers will be contractually bound to comply with forced labor prohibitions. During the procurement process, potential suppliers will be assessed for past abuses.
Traffic accidents	Implement the Safety and Security Protocol designed for the Project (Annex 2 of ESMP)

2. Institutional Arrangements for Implementation of LMP

- The Direct Workers: The requirements of the LMP as applicable to the direct workers will be the responsibilities of CERP-PIU and the respective PIUs (MOH, MAFF, and MRD). The PIUs will however, have an oversight role vis-à-vis other contractors or third-party providers through direct reporting arrangement on the requirements of the LMP in particular and other ESMP requirements in general.
- The Contracted Workers are those who will be employed by contractors or third-party providers to execute the project activities. Where the LMP refers to contractor responsibilities, it also refers to any other third-party provider. The contractor has the responsibility to ensure LMP implementation at the interface with its respective sub-contractors, while the CERP-PIU oversees the LMP implementation at all levels.
- The Primary Suppliers are identified by the PIU or by an implementing partner. Upon the selection of the supplier, the LMP will be affirmed. Implementing partners have the obligation to ensure that all the procedures for primary supply workers are observed, though the CERP-PIU will have the overall responsibility. ESS2 applies a proportionality approach to oversight responsibility towards suppliers.

3. Terms and Conditions

Government civil servants, who may provide support to the Project, will remain subject to the terms and conditions of their existing public sector employment agreement. The following terms and conditions will guide management of workers engaged by the implementing partners under the project:

- Workers to be involved should be at least 18 years of age
- Workers will have an opportunity to negotiate their wages equal or above the government set minimum wage rate
- Difference in wages will not be influenced by race, color, sex, language, religion, political or other opinion, nationality, ethnic or social origin, disability, property, birth, marital or other status or family responsibilities or other matters arising out of the employment relationship
- Payment of wages will be done at most on monthly basis on the last day of each month.

During recruitment of workers the CERP-PIU will explain the terms and conditions prior to commencement of work. The labor law makes it mandatory for employers to give employees a copy of the written particulars of employment, signed by both parties within one month of employment. Violation of the workers' Code of Conduct will constitute misconduct. In ensuring full compliance with the law in this regard, contractors will be required to furnish CERP-PIU with copies of the Written Particulars of Employment or copies of contract of all its workforce.

4. Key Procedures

The Project will promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions. The CERP-PIU and implementing agencies and all project workers will follow up in ensuring the full accomplishment of the objectives of ESS2 in specific.

4.1. Recruitment and Replacement Procedure

a. If relevant, contractors submit a recruitment plan to the CERP-PIU for review and approval. The following details will be shown: (i) Number of staff required, (ii) Intended working condition, (iii) Intended locations of staff, and (iv) Job specifications in terms of qualification and experience.

b. Contractor publishes the job invitation in the appropriate media (local press or direct invitation for contracted worker) to ensure all potential candidates have access to the information, including women and persons with disabilities, actively addressing risks of nepotism, or other forms of recruitment or employment discrimination.

c. Shortlist and recruit candidates ensuring the following: (i) As far as possible, 50% shortlisted candidates are women, (ii) As far as possible, 50% engaged employees are women, and (iii) Screen out candidates under the age of eighteen years.

d. Before commencement of work, the contractor will ensure the employee has a contract with code of conduct signed as part of the contract and is inducted on the essential work-related issues, which include the following: (i) Key Job Specifications, (ii) Terms and Conditions of Employment, (iii) Special Codes of Conduct, (iv) Disciplinary Procedures, (v) Workers' Grievance Redress Mechanism, (vi) Freedom to join and participate fully in Workers Association activities, Employment Council or Trade Union, (vii) Key E&S aspects of the Project and its ESMP and other E&S instruments, and (viii) Emergency Preparedness.

e. Maintain all such employment records available for review by the respective PIU, the World Bank, or Regulatory Authority.

4.2. Workers' Grievance Redress Procedure

Procedure for Direct and Contracted Workers:

- The CERP-PIU will only engage contractors with registered CoC or who sign an undertaking to comply with the relevant provisions for contracted workers rkers.
- Implementing partners induct the employees on the applicable workers' GRM to be aware of their rights. All records of induction shall be kept and made available to the CERP-PIU.
- In case of violation, the aggrieved employee must capture and present the details of the grievance to the person they report to or the supervisor's superior in case of conflict of interest.
- The supervisor will verify the details and seek to address the matter within the shortest time (up to 48 hours).
- The supervisor will escalate the matter if not resolved within 48 hours if a resolution is not found.
- Where no resolution is found, the employee can escalate the matter to the sector specific institutions or courts who will resolve the matter between employer and employee. The Supreme Court's decision is final, where it has exercised lawful jurisdiction.
- Where the formal courts are not accessible, do not exist in an area, or cannot render a judgment, the matter shall be reported to and handled under the CERP-PIU. The CERP-PIU, in this case, will accommodate a fair agreement between the worker and the implementing partner.
- The implementing agencies shall keep records of all proceedings of grievance redress that are within their jurisdiction and furnish the CERP-PIU as part of the periodic progress reporting to the CERP-PIU.
- In case of risk of retaliation, the employee may immediately escalate to the court system. If confidentiality is requested, the CERP-PIU will ensure it to avoid any risk of retaliation, including in its follow-up actions.

Procedure for Primary Suppliers:

CERP-PIU will undertake the following measures:

a. Procure supplies from legally constituted suppliers. The legal registration ensures that the company is legally obliged to comply with all applicable labor laws and other laws in Cambodia This will include evidence of: Certificate of incorporation, Tax Clearance, Value Added Tax certificate, Registration of supplier with regulatory body for the goods or services where required.

b. Make a physical check on the supplier's labor management system, including employee contracts, OHS, any past work-related environmental or occupational incidents, workers committee in place

c. Check products quality certification and environmental rating where required

d. Undertaking to take back waste for reuse, for example containers and packaging where applicable

i. Possibility of training in safe use of product by community users where applicable
ii. Where potential child labor or forced labor or serious safety risks are identified in a specific sector or industry, in connection with the supply of goods, a mapping exercise should be conducted to identify suppliers relying on such goods.
iii. Where it is not possible to identify specific primary suppliers, the mapping should identify general industry labor issues relating to the supply of the respective goods.

5. Monitoring and Supervision

The performance monitoring of this LMP will follow the same institutional arrangement as the monitoring and supervision of the ESMP. In general, the respective PIUs will be responsible for the monitoring of the implementation of the LMP. In particular, the Social Specialist in the PIU will work directly to ensure that the LMP is fully implemented.

The Social Specialist will undertake supervision missions and spot checks as per a schedule to be developed once sites have been selected. Through the initial activity- or site-specific screening process, the Social Specialist will be aware of potential labor-related risks and impacts of activities and will develop a monitoring schedule around these. Non-compliance of the LMP will be reported to the PIU Project Manager or Coordinator and will be taken up in the regular E&S reporting.

6. Example Code of Conduct for All Workers

I, [*name of worker*], acknowledge that preventing gender-based violence (GBV) including Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) is important. The company considers that partake in GBV activities-be it on the work site, the work site surroundings, or the surrounding communities-constitute acts of gross misconduct and are therefore grounds for sanctions, penalties or potential termination of employment. Prosecution by the Police of those who commit GBV/SEA/SH may be pursued if appropriate.

I agree that while working on the Project I will:

1. Attend and actively partake in training courses related to GBV/SEA/SH as requested by my employer.
2. Consent to Police background check.
3. Treat women, children (persons under the age of 18), and men with respect regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
4. Not use language or behavior towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
5. Not engage in sexual harassment-for instance, making unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct, of a sexual nature, including subtle acts of such behavior (e.g. looking somebody up and down; kissing, howling or smacking sounds; hanging around somebody; whistling and catcalls; giving personal gifts; making comments about somebody's sex life; etc.).
6. Not engage in sexual favors-for instance, making promises or favorable treatment dependent on sexual acts-or other forms of humiliating, degrading or exploitative behavior.
7. Not participate in sexual contact or activity with children below 15years-including grooming, or contact through digital media. Mistaken belief regarding the age of a child is not a defense. Consent from the child is also not a defense or excuse.
8. Unless there is the full consent' by all parties involved, I will not have sexual interactions with members of the surrounding communities. This includes relationships involving the withholding or promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex-such sexual activity is considered "non-consensual" within the scope of this Code.
9. Consider reporting through the GRM or to my manager any suspected or actual GBV by a fellow worker, whether employed by my company or not, or any breaches of this Code of Conduct.

With regard to children under the age of 18:

10. Wherever possible, ensure that another adult is present when working in the proximity of children.
11. Not invite unaccompanied children unrelated to my family into my home, unless they are at immediate risk of injury or in physical danger.
12. Not use any computers, mobile phones, video and digital cameras or any other medium to exploit or harass children or to access child pornography (see also "Use of children's images for work related purposes" below).
13. Refrain from physical punishment or discipline of children.
14. Comply with all relevant local legislation, including labor laws in relation to child labor and World Bank's ESF policy on child labor and minimum age.
15. Take appropriate caution when photographing or filming children

Use of children's images for work related purposes. When photographing or filming a child for work related purposes, I must:

16. Before photographing or filming a child, assess and endeavor to comply with local traditions or restrictions for reproducing personal images.
17. Before photographing or filming a child, obtain informed consent from the child and a parent or guardian of the child. As part of this I must explain how the photograph or film will be used.
18. Ensure photographs, films, videos and DVDs present children in a dignified and respectful manner and not in a vulnerable or submissive manner. Children should be adequately clothed and not in poses that could be seen as sexually suggestive.
19. Ensure images are honest representations of the context and the facts.
20. Ensure file labels do not reveal identifying information about a child when sending images electronically.

Sanctions

I understand that if I breach this Individual Code of Conduct, my employer will take disciplinary action which could include:

a. Informal warning
b. Formal warning
c. Additional warning
d. Loss of up to one week's salary
e. Suspension of employment (without payment of salary for a minimum period of 1 month up to a maximum of 6 months)
f. Termination of employment
g. Report to the Policy if warranted

I understand that it is my responsibility to ensure that I will avoid actions or behaviors that could be construed as GBV/SEA/SH. Any such actions will be a breach this Individual Code of Conduct. I do hereby acknowledge that I have read the foregoing Individual Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV/SEA/SH issues. I understand that any action inconsistent with this Individual Code of Conduct or failure to act mandated by this Individual Code of Conduct may result in disciplinary acti and may affect my ongoing employment.

Signature:

Printed Name:

Title:

Date:

Annex 2. Safety and Security Protocol

Introduction: The movement and delivery of emergency assistance are vital actions that preserve lives and maintain human dignity in times of crisis. In situations such as natural disasters, pandemics, or other emergencies, these operations frequently occur in unstable and unpredictable settings. It is crucial to implement safety and security measures to protect aid workers, recipients, and resources. This Protocol provides guidelines and recommendations to guarantee the safe and efficient distribution of emergency aid.

1. Risk Assessment and Planning. Before engaging in any transportation or distribution activities, it is essential to carry out a comprehensive risk assessment. This process helps to identify possible threats, vulnerabilities, and dangers within the supply chain.

- Hazard Identification: Assess the risks associated with natural disasters, criminal activities, political unrest, and health risks in the operational area.
- Route Planning: Develop both primary and alternative routes, taking into account checkpoints, road conditions, bridges, traffic bottlenecks, and regions with security concerns.
- Resource Allocation: Assess the necessary numbers and arrangements of personnel, vehicles, and equipment to ensure operations are both efficient and secure.

2. Personnel Training and Preparedness. Well-trained individuals are essential for the success and safety of emergency aid efforts.

- Security Awareness: It is crucial for all employees and volunteers to be informed about the existing security situation, cultural considerations, and expected behaviors.
- First Aid and Health: A significant number of team members should be trained in first aid, and medical supplies must be present in all vehicles and at distribution locations.
- Communication Protocols: Teams should be educated on how to use radios, satellite phones, and established check-in/check-out methods to ensure consistent communication.

3. Secure Transportation of Emergency Aid. The secure transportation of aid from storage facilities to distribution locations necessitates strong security protocols.

- Convoy Operations: Utilize convoys for transporting goods in high-risk situations. Assign vehicles at the front and back to seasoned personnel and keep the convoy size to a reasonable number.
- Vehicle Checks: Check all vehicles prior to departure for mechanical reliability, fuel levels, and security measures like locks and alarm systems.
- Tracking and Monitoring: Equip vehicles with GPS tracking and maintain real-time monitoring at headquarters or coordination centers.
- Unmarked Vehicles: When discretion is necessary, employ unmarked vehicles to minimize the chance of being targeted.
- Load Security: Allocate the weight carefully and utilize tamper-evident seals to safeguard against theft or contamination of materials.

4. Site Security at Distribution Points. Distribution sites can turn into hotspots for violence, theft, or accidents, especially when resources are limited and demands are high.

- Site Selection: Choose locations that are accessible, open, and defendable, with clear entry and exit points.
- Crowd Management: Utilize barriers, markings, and signs to structure lines and manage the movement of individuals.
- Access Control: Limit access to distribution zones to only authorized staff and registered beneficiaries by utilizing identification cards, wristbands, or digital registration methods.
- Safe Zones: Designate areas for vulnerable groups such as children, the elderly, and people with disabilities.
- Medical Support: Have first aid stations and rapid response teams on site.

5. Communication and Coordination. Effective communication, both within the organization and with external parties, is crucial for maintaining operational security and enhancing the effectiveness of aid efforts.

- Internal Communication: Utilize safe and dependable communication methods for team coordination, such as daily meetings to exchange updates and insights.
- Public Information: Share clear and prompt information with beneficiaries regarding the distribution process, eligibility requirements, and what they can anticipate, as this helps to minimize rumors and prevent unrest.
- Emergency Alerts: Establish systems for promptly communicating alerts concerning new threats, disruptions, or evacuations.

6. Mitigating Security Threats. Even with precautions in place, security threats can still occur. A swift and effective response is crucial.

- Evacuation Procedures: Map out evacuation paths and secure locations. Consistently update staff on appropriate actions to take during different emergency situations.
- Personal Security: Urge employees to stay alert, travel in pairs or groups, and refrain from engaging in risky activities or unnecessary movements.
- Physical Security Measures: Implement barriers, fencing, lighting, and surveillance systems as needed to improve the security of the site and assets.
- Insurance: Secure appropriate insurance coverage for vehicles, cargo, and personnel.

7. Protection of Aid Workers and Beneficiaries. Humanitarian principles and the duty of care dictate that the safety of both aid workers and beneficiaries is paramount.

- Code of Conduct: Ensure that all employees comprehend and follow a humanitarian code of conduct that forbids exploitation, discrimination, or abuse.
- Gender and Diversity Considerations: Develop protocols that address the safety requirements of all genders and groups, guaranteeing equal access and safeguarding for everyone.

Annex 3. GBV/SEA/SH Action Plan

1. Objective:

This Annex aims to establish principles and procedures to assess and establish mitigation measures for the risks that may arise from the implementation of the project related to sexual exploitation and abuse and sexual harassment (SEA/SH), and other forms of Gender-Based Violence (GBV) under CERP. It provides an assessment of potential risks and propose measures to avoid/reduce their impact on the project and the communities. It is worth noting main mitigation measures are those under the PIU and implementing agencies which already have systems and procedures in place under World Bank-Funded Projects. This GBV/SEA/SH Risk Assessment and Action Plan is meant to provide indicative interventions which shall be achieved through the following:

- Identify pre-existing GBV risks and those that may be exacerbated or arise with project activities
- Map GBV service providers in the surrounding project areas that can be used by beneficiaries
- Identify other measures the project should undertake to reduce the risk of GBV
- Develop an Action Plan to mitigate the identified risks
- Disseminate the process for submitting and managing complaints related to GBV/SEA/SH to stakeholders and affected parties
- Implement the action plan.

2. Context of GBV/SEA/SH in Cambodia

At national levels, according to the 2015 National Survey on Women's Health and Life Experiences in Cambodia (n= 3,574) conducted by the National Institute of Statistics of the Ministry of Planning and Ministry of Women's Affairs), 20% of Cambodian women reported experiencing physical or sexual violence from an intimate partner. The report showed that of 53% of women who assessed their health condition following the incidence, 90% of them reported injuries that required healthcare. According to a study report conducted by UNICEF in 2017, over 20% of children aged 0 to 4 years in Cambodia live with a mother who experienced physical, sexual or emotional violence committed by a husband or partner. Transgender women are particularly vulnerable to gender-based violence. A report published by the Cambodia Center for Human Rights in 2016 revealed alarming rates of abuse perpetrated against transgender women in public space, with 43% of respondents reporting experiences of physical violence, 31% reporting experiences of sexual assault, and 25% reporting having been raped.

3. Agencies in charge of GBV/SEA/SH

National Level:

- ***The Ministry of Women's Affairs (MoWA)*** is the government agency responsible for women's issues. Under the MoWA, there is a sub-working group on GBV under the Technical Working Group on Gender (TWG-G), which was established in order to work in partnerships with other government ministries, development partners and non-governmental organization. The Ministry of Interior (MOI) has the authority on the GBV mechanism via the Cambodian National Police, and the provincial, district and commune councils/governors, namely the provincial and district Women and Children's Consultative Committee and the Commune Committee for Women and Children.
- ***Cambodian National Council for Women (CNCW)*** is a national mechanism which was established in 2001, aimed at coordinating and providing advice to the RGC on matters related to the promotion of Cambodian women's status, roles and welfare of women to reduce and eliminate of all forms of discrimination Against women. The MoWA and GMAG are accountable to this mechanism with regard to mainstreaming gender and the elimination of GBV.

- ***Gender Mainstreaming Action Groups (GMAG)*** have been formed in all ministries since 2005 including MRD. This mechanism is led by a Secretary of State or Under Secretary of State level, Director General or Deputy Director General level, and includes members from all line departments.
- ***Technical Working Group on Gender (TWG-G)*** TWG-G was established in 2004 and it is chaired by the MoWA, and UNDP and JICA as co-facilitators. Members of the TWG-G are representatives from government agencies, 14 development partners and 15 civil society organizations.
- ***Sub-Group on GBV Response*** was initiated in 2012 by the Ministry of Women's Affairs in order to explore support and coordination in gender mainstreaming for the reduction of violence Against women. This mechanism is led by the representative of MoWA and other relevant ministries, including the MOI, MOH, MoSVY and others. Members of these working group are Development Partners and Non-Governmental Organizations, which are leading and active on GBV work, such as UNWOMEN, UNDP, UNFPA, UNICEF, DFAT (Australia), GIZ, AECID, PYD, CARE, GADC, ADHOC, and HI.

Provincial/ District Levels:

- ***Provincial and District Women and Children's Consultative Committees (WCCCs).*** In 2009, the Provincial/Capital and Municipal/Khan/District WCCCs were established by the MOI's Prakas in order to provide advice and recommendations to the councils, boards of governors, governors, and other committees of the councils on issues related to gender equality, women, youth and children within the authority, functions and duties of the councils. These mechanisms are advisory bodies which are chaired by women councillors at the provincial and district councils. Of the duties outlined, WCCCs can make suggestions and recommendations to the councils or boards of governors, which are executive bodies, to take measure to prevent harm to women, youth, and children. Members of WCCCs also include those representatives of the boards of governors, police, provincial departments of women's affairs (PDoWA), health, and social affairs. GBV sub-group is a multi-stakeholder GBV working group which was established in seven provinces and eight districts 21. These working groups are chaired by the Head of PWCCC, the Deputy Provincial Governor, and permanently vice-chaired by the Directors of PDoWA. There are three main roles of these working groups. First, they strengthen sub sector services in responding to GBV effectively and on timely manner. Next, they support institutions to share and report on GBV issues. Finally, they monitor, manage GBV data and follow up progress on GBV issues.
- ***Commune/Sangkat Committee for Women and Children (CCWC)*** is the lowest level and closest mechanism for GBV response which stays close to the communities. The CCWCs are advice-giving committees for a range of women's and children's issues, such as maternal and child health, community pre-school, hygiene and sanitation, gender equality and child protection. This mechanism comprises of the Commune/Sangkat Chiefs (chairs), the Second Vice Chief (Vice chairs) and the Commune Women and Children Focal Point (permanent members); the focal points are under the structure of the Municipal/Khan/District Office of Women's Affairs. Member of the CCWCs include Secretaries of the Commune/Sangkat, and representative of police post, schools, health centers/posts, and Village Chiefs. It is interesting to note that the CCWC structure is in line with the Village Commune Safety Policy. This policy provides that one of the five criteria of the safety commune/sangkat is "no women and children are trafficked or suffer from domestic violence." Therefore, the role of CCWCs are of great significant as they are working closely with citizens in terms of providing services and implementing the Village Commune Safety Policy so that they can respond to any GBV issues appropriately.
- ***NGOs working on GBV*** include three national networks on gender, namely the Cambodian NGO Committee on CEDAW (NGO-CEDAW), Gender and Development Network (GADNet), and the Committee to Promote Women in Politics (CPWP). Other active organizations include GIZ, UNWOMEN, UNFPA, ACCESS, The Asia Foundation, CARE, Hagar, LAC, TPO, and ACTED. These NGOs are active at national level but only some are currently operational in the project provinces.

4. Risk Analysis and Mitigation Measures in the Project Context

The project involves activities that represent GBV/SEA/SH risks, particularly in activities related to selection and hiring processes, and work with public institutions and communities, aid distribution, among others. However, if appropriate measures and mechanisms are applied to address these risks, they can be minimized. Table below presents the GBV/SEA/SH risks and mitigation measures.

The Project's Stakeholder Engagement Plan (SEP) describes the project's Grievance Redress Mechanisms, as well as the specific procedures to be carried in the case of SEA/SH complaints.

4.1. Understanding the Risks:

- ✓ Gender-Based Violence (GBV): Refers to harmful acts directed at an individual based on their gender. This includes physical, sexual, emotional, and economic abuse. During emergencies, GBV risks are often exacerbated by displacement, lack of security, and loss of community support systems.
- ✓ Sexual Exploitation and Abuse (SEA): Occurs when humanitarian workers or those in positions of power use aid distribution as leverage to demand sexual favours or exploit beneficiaries. SEA is a grave violation of human rights and humanitarian principles.
- ✓ Sexual Harassment (SH): Involves unwelcome sexual advances, requests for sexual favours, or other verbal or physical conduct of a sexual nature, which can occur between aid workers and beneficiaries, or among aid workers themselves.

4.2. Factors increasing GBV/SEA/SH risks:

1. Power Dynamics: Aid workers and volunteers often hold substantial influence over those receiving assistance, particularly in contexts where resources are limited or access is restricted.
2. Insufficient Oversight: A lack of effective monitoring at distribution sites can lead to potential abuse or exploitation.
3. Poorly Designed Distribution Sites: Overcrowded or poorly lit environments, no distinct lines for men and women, and a lack of privacy can heighten risks for beneficiaries.
4. Inadequate Community Engagement: Not engaging with the affected communities regarding their needs and preferences may lead to aid distribution methods that unintentionally heighten vulnerability.
5. Limited Access to Reporting Mechanisms: Beneficiaries might be unaware of how to safely report incidents or could be afraid of potential backlash or social stigma.
6. Discriminatory Practices: Certain groups, such as unmarried women, individuals with disabilities, and minorities, may be excluded from aid programs, forcing them into compromising situations to obtain necessary resources.

4.3. Population most at risks:

While anyone can experience GBV, SEA, or SH, certain groups face heightened risks during emergencies:

- ✓ Women and girls, especially adolescent girls
- ✓ Unaccompanied or separated children
- ✓ People with disabilities
- ✓ LGBTIQ+ individuals
- ✓ Older persons
- ✓ Minority and marginalised groups

4.4. Examples of GBV/SEA/SH risks during emergency aid distribution:

- ✓ Women and girls being harassed or assaulted while waiting in long queues for aid.
- ✓ Aid workers demanding sexual favours in exchange for relief items.
- ✓ Children being left unsupervised at distribution sites, increasing their risk of exploitation.
- ✓ Exclusion of vulnerable groups from distribution lists, forcing them to seek aid through informal or unsafe channels.
- ✓ Rumours and stigma targeting survivors who report incidents, leading to further isolation.

4.5. Mitigation Strategies:

1. Community Engagement: Involve affected communities, particularly women and at-risk populations, in the planning and structuring of distribution methods.
2. Safe Site Design: Design distribution locations to be accessible, well-lit, and to have designated queues for women, men, and vulnerable individuals, while ensuring privacy and security. Additionally, make sure that there are allocated restrooms for both women and men in distribution center.
3. Staff Training: Provide training for all aid personnel and volunteers on preventing GBV/SEA/SH, as well as on codes of conduct and safe, confidential response to disclosures as part of the CERP readiness and before activation.
4. Clear Reporting Mechanisms: Develop confidential and easily accessible means for beneficiaries to report incidents, ensuring survivors are protected from retaliation and discrimination.
5. Regular Monitoring: Implement regular monitoring of the aid distribution process through spot checks and community feedback.
6. Zero Tolerance Policies: Enforce zero tolerance measures against GBV/SEA/SH, accompanied by appropriate penalties for any breaches.
7. Coordination with Protection Actors: Work alongside local protection groups and authorities to assist survivors and enhance accountability.

Annex 4. Environmental and Social Profiles in Each Provinces

Phnom Penh: The vibrant capital at the meeting point of the Mekong, Bassac, and Tonle Sap rivers, has experienced swift urban growth that has replaced its wetlands and floodplains with dense cityscapes. The city now grapples with challenges such as air and water pollution, waste disposal, and diminishing green spaces. Home to more than two million people from a variety of backgrounds, Phnom Penh serves as Cambodia's center for education, commerce, and governance. Despite its dynamism, issues like urban poverty and informal settlements continue to affect many residents.

Kandal: is renowned for its lush farmland enriched by the Mekong and Bassac rivers. As a leading producer of rice, fruits, and vegetables, it benefits greatly from the seasonal floods that replenish the soil, though these floods can also pose hazards to local residents. The population is mainly composed of Khmer farmers, with some Cham Muslim communities. Daily life centers around pagodas, bustling markets, and lively community festivals.

Prey Veng: Situated east of the Mekong River, Prey Veng ranks among Cambodia's most populous provinces. Renowned for its expansive rice fields and wetland areas, the region faces environmental challenges from deforestation and excessive water use. The population is predominantly Khmer, with a strong focus on rice cultivation and a close-knit village community.

Takeo: Located in the south, is recognized for its historic temples and expansive water reservoirs (barays) that originated during the Funan and Chenla eras. Agricultural growth has led to significant habitat reduction in the region. Often referred to as "the birthplace of Khmer civilization," Takeo remains predominantly rural, with communities deeply rooted in Theravada Buddhist practices and rich local customs.

Kampong Cham: Stretching along the banks of the Mekong, is well known for its rubber plantations, lush fruit orchards, and tobacco farms. The province faces environmental issues such as soil erosion, pesticide runoff, and the collapse of riverbanks. Its communities are lively and diverse, comprising Khmer, Cham, and Vietnamese groups. Life throughout the region is deeply connected to the Mekong, which shapes both culture and daily livelihoods.

Kampong Speu: Predominantly rural, Kampong Speu is marked by the presence of the Phnom Aural Wildlife Sanctuary and the western Cardamom Mountains. The region faces significant threats to its biodiversity from deforestation, illegal logging, and expanding agricultural land. Indigenous Kui communities reside here, maintaining traditional land stewardship practices. Most locals rely on rice cultivation and small-scale industries for their livelihoods.

Kampot: Is distinguished by its coastal landscapes, expansive salt fields, famed pepper farms, thriving mangrove forests, and the scenic Bokor National Park. The area faces environmental pressures from coastal erosion, mangrove depletion, and unchecked tourism. Kampot town itself retains charming French colonial buildings, while the province's culture reflects a blend of Khmer, Chinese, and Vietnamese heritage.

Kep: The smallest province in Cambodia, is well known for its marine conservation zones and national park. Efforts in the area focus on eco-friendly tourism and restoring coastal habitats. With a modest and diverse population, Kep enjoys a reputation for fresh seafood and a relaxed pace of life.

Sihanoukville (Preah Sihanouk): A major port and tourist destination, has experienced swift growth in recent years. The province struggles with serious issues such as deforestation, pollution from waste, and damage to its coastline. Socially, the area is undergoing transformation due to rising foreign investment—particularly from China—and the arrival of new workers. These factors have contributed to changes in community life, including displacement of locals and shifts in traditional livelihoods.

Koh Kong: Is characterized by its vast Cardamom Mountains and thick rainforests, making it a haven for biodiversity and endangered wildlife. However, threats like illegal logging, land concessions, and poaching have put pressure on the area's unique environment. Among its population are minorities such as the Pear and Chong peoples, whose customs add to the province's cultural richness. Most residents earn a living through fishing, eco-tourism, or small-scale agriculture.

Pursat: Spans both fertile lowlands and the wooded foothills of the Cardamom Mountains, with timber and agricultural expansion contributing to ongoing deforestation. The province is renowned for its marble production, lively traditional boat races, and unique floating villages on the Tonle Sap. Its population is predominantly Khmer, alongside smaller Lao and Vietnamese communities.

Battambang: Renowned as Cambodia's "rice bowl" due to its abundant farmland, is also celebrated for its art deco buildings. The province faces challenges such as deforestation, pesticide use, and issues with water management. It stands out as a cultural hub, known for its vibrant circus scene, rich literary tradition, and local folklore. Battambang's residents include Khmer, as well as Thai, Lao, and Chinese communities.

Banteay Meanchey: Located along the Thai border, Banteay Meanchey serves as a vital trade gateway. The province contends with challenges such as deforestation and lingering land mines from past conflicts, which threaten both the environment and public safety. Its population is varied, with many residents migrating for employment opportunities. For numerous families, remittances sent from abroad are an important source of income.

Siem Reap: Best known as the gateway to Angkor Wat, relies heavily on tourism for its economic growth. The province faces environmental challenges like limited water supply, pressure on infrastructure, and increasing waste. Rich in culture, Siem Reap features ancient temples, floating villages, and a blend of both local and global influences. The majority of residents are Khmer, joined by Cham and Vietnamese minority communities.

Oddar Meanchey: This province in the north is lightly populated, its landscape dominated by mountains and forests. Environmental concerns include illegal logging, shifting cultivation, and conflicts over land. Oddar Meanchey has become a resettlement area for returnees and former soldiers, resulting in a population with varied backgrounds and ongoing challenges in accessing public services.

Preah Vihear: Is distinguished by its secluded forests, the Dangrek mountain range, and the ancient Preah Vihear temple. The area contends with issues such as illegal logging and land encroachment. Indigenous groups like the Kuy rely on the region's natural resources. With ongoing border disputes and a sparse population, Preah Vihear's social fabric reflects both resilience and complexity.

Stung Treng: Lies at the crossroads of the Mekong and Sekong rivers, boasting expansive wetlands and seasonally flooded forests. However, the construction of hydropower dams threatens both local

fish stocks and the delicate river ecosystem. The province is culturally diverse, with Lao, Khmer, and Indigenous communities whose lives revolve around fishing and river commerce.

Kratie: Is renowned for its rare Irrawaddy dolphins, but its Mekong River habitats are under threat from fishing, sand extraction, and dam construction. This largely rural province is home to a rich tapestry of ethnic groups, with local life and festivities deeply connected to the river.

Ratanakiri: Is distinguished by its rolling hills and dense forests, and is celebrated for its rich ethnic mosaic, including the Jarai, Tampuan, Kreung, and other groups. The region's environment faces threats from land concessions, illegal logging, and mining. Traditions such as animist spirituality, communal land ownership, and rotational farming are central to local life, though the province is experiencing growing influences of modernization.

Mondulkiri: Features sweeping hills, cascading waterfalls, and lush elephant habitats. The region grapples with threats like deforestation, land disputes, and expanding agro-industrial projects. The Bunong, the largest Indigenous group here, maintain a culture deeply connected to the forests, elephants, and spiritual traditions.

Kampong Thom: Is characterised by its Tonle Sap floodplains and stretches of upland forest. The province faces challenges such as overfishing, deforestation, and the draining of wetlands. Local communities engage in rice cultivation, fishing, and traditional crafts. Its population includes Khmer, Cham, and several small hill tribe groups.

Kampong Chhnang: Situated on the shores of Tonle Sap Lake, Kampong Chhnang is famous for its pottery, floating communities, and the seasonal rise and fall of its waters. The province faces environmental issues such as water contamination and overfishing. Culturally, it is home to a blend of Khmer, Vietnamese, and Indigenous peoples who share life along the lake.

Kampong Som (Sihanoukville): This seaside province features a landscape of islands, mangrove forests, and vibrant coral reefs. Major environmental challenges include overfishing, coral bleaching, and improper waste management. Its population is fluid, shaped by the influx of tourists and investors, and is home to Khmer, Chinese, and various other communities.

Svay Rieng: Lying along the border with Vietnam, Svay Rieng is characterised by its expansive, cultivated plains, where rice, cassava, and rubber are grown. Environmental issues include soil depletion and the use of pesticides. The province thrives on cross-border commerce, is home to both Khmer and Vietnamese communities, and is known for its lively festivals and musical traditions.

Tboung Khmum: Once part of Kampong Cham, Tboung Khmum is now noted for its pepper and rubber plantations. The province faces issues such as deforestation and soil degradation. Predominantly rural, Tboung Khmum is home to both Khmer and Cham populations.

Pailin: Nestled against the Thai border, Pailin is a compact province known for its mountainous terrain and rich forests, once renowned for gemstone mining. Today, environmental challenges such as deforestation and the lasting effects of mining are concerns. The province's residents are a blend of Khmer, Shan, and Thai descendants, many of whom share backgrounds as refugees or seasonal workers.

Annex 5. Waste Management Procedure

Introduction. Emergency situations frequently require swift delivery and distribution of assistance to those in need. The logistics of providing emergency relief can result in large amounts of waste. Effectively managing this waste is essential to reduce environmental harm and safeguard the health and safety of both aid recipients and responders.

Types of Wastes Generated. In emergency situations, waste can be classified into various types, especially regarding the packaging, storage, and distribution of aid.

Packaging Waste:

- Cardboard Boxes: Utilized for the transportation of food, medical supplies, and other vital items, these can rapidly gather at distribution sites.
- Plastic Wraps and Bags: Often utilized for waterproofing and bundling products, it can also contribute significantly to non-biodegradable waste.
- Polystyrene and Foam: Employed as protective wrapping for delicate items like electronics or medical equipment.
- Metal Cans and Containers: Often used for food and water storage.

Storage-Related Waste:

- Pallets (Wooden or Plastic): Utilized for piling and transporting bulk items, they are occasionally damaged and then thrown away after use.
- Damaged or Expired Goods: Food or medical supplies that have spoiled or are past their use-by date may be disposed of during storage operations.
- Old Tarpaulins, Bags, and Sacks: Used for temporary storage or covering supplies, these can become torn or contaminated.

Distribution-Related Waste:

- Single-Use Items: Products like single-use utensils, plates, cups, masks, and gloves are typically provided for sanitary reasons or convenience but are often thrown away shortly after use.
- Leftover Aid Materials: Surplus or unused relief items that are not suitable for redistribution may be discarded.
- Information Materials: Leaflets, instruction sheets, and packaging inserts that come with aid supplies can build up as paper waste.

Waste Management Protocol

1. General Principles

- Give precedence to the safety and hygiene of all staff and impacted communities.
- Reduce environmental effects by following proper waste separation and disposal procedures.
- Adhere to applicable international standards and national laws related to hazardous and non-hazardous waste management.
- Facilitate open communication and collaboration among all pertinent agencies and stakeholders.

2. Waste Segregation and Classification. During emergencies, waste must be classified and segregated at the point of generation. Key categories include:

- General Waste: Non-hazardous materials such as packaging, food scraps, and non-infectious materials.
- Medical/Biological Waste: Used personal protective equipment (PPE), contaminated materials, sharps, and pharmaceuticals.
- Chemical Waste: Cleaning agents, disinfectants, and other hazardous substances.
- Recyclable Waste: Paper, cardboard, plastics, glass, and metals that can be safely recycled.

3. Packaging of Waste and Emergency Aids. Proper packaging is essential for the safe handling and transportation of materials. The following guidelines should be followed:

- Use strong, clearly labeled containers or bags for various waste types (e.g., color-coded bags for medical, general, and recyclable waste).
- Ensure all waste bags are securely sealed to avoid leaks, spills, or contamination.
- For hazardous waste (medical or chemical), use leak-proof and puncture-resistant containers with appropriate biohazard or hazard symbols, adhering to MOH Guidelines.
- Emergency aid items (such as food, water, and medical supplies) should be packaged in tamper-evident, waterproof, and durable materials to endure handling and adverse conditions.
- All aid packages must include clear labels detailing contents, expiration dates, and handling instructions.

4. Storage of Waste and Emergency Aids. Secure and orderly storage reduces health hazards and promotes effective distribution:

- Assign distinct, secure storage locations for waste and emergency supplies that are out of public reach and away from water sources.
- Store medical and hazardous waste in locked, well-ventilated facilities with restricted access.
- Store emergency aid supplies in a clean, dry environment that is free from pests, ideally on pallets or shelves elevated from the ground.
- Establish inventory management systems to monitor stock quantities, expiration dates, and the flow of supplies.
- Ensure regular inspection and maintenance of storage areas to prevent contamination or spoilage.

5. Distribution Procedures. Efficient and hygienic distribution of emergency aids is essential:

- Develop distribution routes and schedules to reduce delays and congestion at distribution locations.
- Train staff and volunteers in safe handling, personal hygiene, and the use of PPE.
- Provide handwashing or sanitizing stations at all distribution points.
- Promptly dispose of packaging waste from distributed aids in the appropriate bins or collection locations.

6. Waste Collection and Disposal. Timely and appropriate disposal of waste is necessary to prevent secondary risks:

- Arrange for regular collection of waste by authorized waste management services.
- Transport hazardous waste in accordance with national regulations.
- Dispose of waste at licensed facilities, ensuring hazardous materials are treated as required.

- Record all waste transfers, especially hazardous or medical waste, to ensure compliance and traceability.

7. Health and Safety Measures

- Provide all personnel with suitable PPE, including gloves, masks, and protective clothing.
- Offer regular training on infection prevention, waste handling, and emergency procedures, as per MOH Guidelines
- Monitor for signs of illness or exposure among staff and provide access to medical care as needed.

8. Communication and Coordination

- Ensure that there is clear communication among emergency management agencies, waste contractors, and the community.
- Promote feedback and the reporting of problems to consistently enhance the protocol.

9. Unexpected Waste Increases During Emergencies

- Immediate Assessment & Coordination: Promptly assemble an emergency waste management team to evaluate waste types and associated risks, prioritize actions, and collaborate with national and international partners.
- Temporary Waste Collection & Storage: Set up designated collection points, promote waste segregation at the source, supply clearly labeled containers, and ensure that workers are equipped with personal protective equipment (PPE).
- Transportation & Disposal: Utilize suitable vehicles for waste transportation, prioritize the disposal of hazardous materials, and maintain comprehensive records.
- Community Engagement: Keep the public informed through local communication channels, establish feedback systems, and enlist volunteers for clean-up and awareness initiatives.
- Health & Environmental Safeguards: Enforce rigorous protocols for handling medical waste, manage pests and odors, and safeguard water and soil from potential contamination.

10. Hazardous Incidents or Spills

- Preparedness and Prevention: Conduct regular risk assessments, provide staff training and drills, maintain emergency equipment, and establish clear communication protocols.
- Immediate Response: Alert and evacuate personnel, assess incidents, contain hazards, communicate with authorities, and provide medical assistance.
- Investigation and Reporting: Document incidents, analyze root causes, and report to relevant authorities.
- Recovery and Remediation: Clean up the site, support affected individuals, and review and update response procedures.
- Continuous Improvement: Integrate lessons learned, engage stakeholders, and regularly audit processes to ensure ongoing safety and compliance.

Annex 6. Infection Control and Waste Management Plan (ICWMP)

1. Introduction

Cambodia, like many countries in Southeast Asia, faces various emergency events ranging from disease outbreaks to natural disasters. Effective infection control and waste management are critical components of the national response to limit disease transmission, safeguard public health, and protect the environment. This plan provides a comprehensive framework for managing infection risks and healthcare waste during emergency situations, tailored to the Cambodian context.

2. Objectives

- Reduce the risk of infection transmission among healthcare workers, patients, and the general community during emergencies.
- Ensure safe and environmentally sound management of healthcare and related waste.
- Establish clear roles, responsibilities, and procedures for infection control and waste management during emergencies.
- Build capacity and resilience in the health system for sustained infection prevention and waste management practices.

3. Scope

This plan applies to all healthcare facilities (public and private), emergency response teams, temporary treatment centres, and related services in Cambodia during emergency events such as infectious disease outbreaks, floods, and other disasters.

4. Regulatory Framework

International Standards:

- World Health Organization (WHO) Guidelines on Infection Prevention and Control: These guidelines provide comprehensive, evidence-based recommendations for reducing infection risks in healthcare and project settings. They cover core principles such as hand hygiene, use of personal protective equipment (PPE), environmental cleaning, waste segregation, and protocols for managing infectious outbreaks. Adhering to WHO guidelines ensures alignment with globally recognised best practices and enhances the safety of all personnel and the surrounding community.
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes: The Basel Convention establishes a legal framework for the safe handling, transport, and disposal of hazardous and infectious waste across international borders. It aims to minimise the generation

of hazardous waste and ensure that any transboundary movement of such waste is conducted in an environmentally sound manner, with prior informed consent of receiving countries. Compliance with the Basel Convention prevents illegal dumping and environmental contamination.

- International Labour Organization (ILO) Occupational Safety and Health Standards: The ILO sets out global standards to safeguard the health and safety of workers, including those involved in waste management and infection control. These standards mandate risk assessments, provision of adequate training, use of appropriate PPE, and implementation of safe work procedures to prevent workplace injuries, illnesses, and exposure to hazardous substances.

Local Standards in the Cambodian Context:

- All operations must comply with the regulations and guidelines set forth by the Royal Government of Cambodia regarding infection control and waste management. This includes adherence to the Ministry of Health's standards for infection prevention in healthcare and community settings, as well as compliance with the Ministry of Environment's regulations on the classification, segregation, and disposal of hazardous and infectious waste.
- In Cambodia, infection control measures are guided by the National Infection Prevention and Control Guidelines, which outline requirements for hand hygiene, use of personal protective equipment (PPE), safe injection practices, and environmental cleaning. Waste management practices are regulated under the Sub-Decree on Solid Waste Management (No. 36 ANRK.BK, 1999) and related ministerial guidelines, which mandate the safe collection, transportation, treatment, and disposal of medical and hazardous waste to protect public health and the environment.
- Where Cambodian regulations are less stringent than international benchmarks—such as those set by the World Health Organization (WHO), Basel Convention, International Labour Organization (ILO), or ISO 14001—the higher, more protective standard must be applied. This approach ensures that the project not only complies with local laws but also meets globally recognised best practices, thereby safeguarding the wellbeing of workers, patients, and the surrounding community.

5. Infection Control Measures

5.1 Standard Precautions

- Hand Hygiene: Guarantee the consistent availability of clean, running water, liquid soap, and alcohol-based hand rubs at all points of care within healthcare facilities. All staff, patients, and visitors should be encouraged and reminded to perform hand hygiene regularly, particularly before and after contact with patients, following the removal of gloves or other PPE, and after touching potentially contaminated surfaces. Hand hygiene stations should be strategically placed at facility entrances, outside patient rooms, and in treatment areas to maximise accessibility and compliance.

- Personal Protective Equipment (PPE): Supply healthcare workers and visitors with appropriate PPE, including masks, gloves, gowns, and eye protection such as goggles or face shields.

Facilities must ensure adequate stockpiles and easy access to PPE, especially during emergencies. Training should be provided on the correct donning, use, and removal of PPE to prevent self-contamination. PPE usage should be strictly monitored, and compliance reinforced through supervision and regular audits. Waste bins for the safe disposal of used PPE must be clearly marked and located in convenient areas.

- Respiratory Hygiene: Actively promote respiratory etiquette by displaying clear signage and instructions throughout healthcare facilities. Provide masks and tissues to individuals exhibiting symptoms of respiratory infection, and encourage their immediate use. Cough etiquette should be reinforced by instructing people to cover their mouth and nose with a tissue or their elbow when coughing or sneezing, followed by proper hand hygiene. Designated disposal bins for used tissues and masks should be readily available and emptied frequently.

- Environmental Cleaning: Establish and maintain rigorous cleaning and disinfection protocols for all high-touch surfaces, medical equipment, and patient care areas. High-risk zones such as waiting rooms, treatment areas, and frequently touched objects (e.g., door handles, bed rails, light switches) should be cleaned multiple times daily using approved disinfectants effective against the pathogens of concern. Cleaning staff must be adequately trained on safe cleaning procedures, chemical handling, and the proper use of PPE. Documentation of cleaning schedules and quality checks should be maintained to ensure compliance and continuous improvement.

These standard precautions form the backbone of effective infection control, helping to prevent the spread of infectious diseases within healthcare settings and the broader community, especially during emergency events.

5.2 Transmission-Based Precautions

In addition to standard precautions, transmission-based precautions are essential for preventing the spread of specific infectious agents, particularly during outbreaks or when managing highly transmissible diseases. These measures are applied according to the mode of transmission—airborne, droplet, or contact—and are implemented in conjunction with standard infection control practices.

- Patient Isolation: Patients suspected or confirmed to have infectious diseases should be promptly placed in designated isolation areas or wards, away from other patients and high-traffic areas. This minimises the risk of disease transmission to other patients, staff, and visitors. When possible, use single rooms with dedicated bathroom facilities. For diseases requiring cohorting, group patients with the same infection together, ensuring adequate spacing between beds.

- Minimising Patient Movement: Restrict the movement of infectious patients within the facility to what is strictly necessary for diagnosis or treatment. If movement is unavoidable, ensure patients wear appropriate PPE (such as masks) and are accompanied by staff trained in infection prevention. Use designated routes and minimise exposure to other patients and staff wherever feasible.

- ❖ Dedicated Equipment: Assign dedicated medical equipment (e.g., stethoscopes, thermometers, blood pressure cuffs) to patients under transmission-based precautions. If sharing equipment is unavoidable, thoroughly clean and disinfect it before use on another patient to prevent cross-contamination.

- ❖ Specific Precaution Types:

    - Airborne Precautions: For diseases that spread via airborne particles (e.g., tuberculosis, measles, varicella), place patients in rooms with negative air pressure (if available), and ensure staff wear fit-tested N95 or P2 respirators. Keep doors closed and limit the number of people entering the room.

    - Droplet Precautions: For diseases transmitted by respiratory droplets (e.g., influenza, pertussis), use surgical masks for staff and visitors within one metre of the patient. Patients should wear masks during transport, and staff should practise hand hygiene after contact.

    - Contact Precautions: For infections spread by direct or indirect contact (e.g., norovirus, MRSA), use gloves and gowns for all interactions that may involve contact with the patient or their environment. Ensure strict environmental cleaning and disinfect frequently touched surfaces in patient rooms.

- ❖ Signage and Communication: Clearly display signage at the entrance of isolation rooms or wards indicating the type of precautions required. Inform all staff, patients, and visitors of the necessary infection control measures and provide guidance on appropriate PPE and hand hygiene.

5.3 Training and Communication

- ❖ Conduct regular training sessions for healthcare workers on infection prevention and control (IPC) best practices. Effective training and clear communication are fundamental pillars of infection prevention and control (IPC) in healthcare settings. Regular, comprehensive training sessions should be organised for all healthcare workers, covering the latest IPC protocols, transmission-based precautions, and updates on emerging infectious diseases. Training should include practical demonstrations on the correct use of personal protective equipment (PPE), hand hygiene techniques, environmental cleaning, and procedures for managing patient isolation and movement. Additionally, staff should be educated on the rationale behind each precaution type—airborne, droplet, and contact—to ensure compliance and understanding.

- ❖ Provide clear signage and information for patients and visitors regarding infection control measures. Clear signage must be displayed throughout the facility, particularly at the entrances of isolation rooms and wards, indicating the required precautions and PPE for each area. Information leaflets and posters should be made available for patients and visitors, outlining key infection control measures such as hand hygiene, mask use, and restricted

movement within the facility. Staff should be trained to communicate these requirements effectively and answer any questions from patients or visitors regarding IPC measures.

- Promote community awareness about infection prevention, especially during outbreaks. Promoting awareness within the broader community is vital, especially during outbreaks or times of heightened risk. Outreach efforts might include educational campaigns via local media, social media platforms, and community events to inform the public about infection prevention strategies, the importance of vaccination, and when to seek medical advice. Collaboration with community leaders and organisations can further enhance the reach and effectiveness of these campaigns, fostering a culture of shared responsibility in safeguarding public health.

6. Waste Management Procedures

6.1 Classification and Segregation

- Proper classification and segregation of waste at the point of generation is a fundamental step in ensuring safe and effective waste management within healthcare facilities. This process helps to minimise the risk of cross-contamination, protect staff and patients, and facilitate appropriate treatment and disposal of different waste types. Healthcare waste should be separated according to the following colour-coded system:
  - Yellow bins: Used for infectious waste, which includes any materials that may be contaminated with blood, body fluids, or other potentially infectious substances. Examples include used personal protective equipment (PPE) such as gloves and masks, wound dressings, swabs, and items contaminated during patient care or laboratory procedures.
  - Red bins: Designated for sharps, which are items capable of puncturing or cutting, such as needles, syringes, scalpels, and broken glass. Sharps must be disposed of in puncture-resistant, leak-proof containers to prevent injury and potential transmission of infections.
  - Black bins: Reserved for general waste that does not pose an infection risk. This includes non-infectious materials such as packaging, paper, food scraps, and other waste generated during routine facility operations.
- All waste bins should be clearly labelled with both colour and text to ensure easy identification by staff, patients, and visitors. Bins must be placed at or near the point of waste generation—such as treatment rooms, patient bedsides, and laboratories—to encourage immediate and correct segregation. Regular monitoring and inspection of waste bins is essential to prevent the mixing of waste streams, which can compromise safety and increase disposal costs. Staff should check bins frequently, replace liners as needed, and immediately address any instances of incorrect disposal.
- Ongoing staff training and clear communication are critical to maintaining compliance with waste segregation protocols. Facilities should display signage and provide regular reminders to reinforce correct procedures, as well as promptly address any questions or issues that arise regarding waste management practices.

6.2 Collection, Transport, and Storage

The safe and efficient collection, transport, and storage of healthcare waste are critical components of an effective waste management program. These measures help protect staff, patients, and the wider community from potential exposure to hazardous materials, and support compliance with regulatory requirements.

- Assignment of Trained Personnel: Only staff who have received appropriate training in infection control and waste handling protocols should be responsible for collecting and transporting waste within the facility. Training should cover the identification of different waste types, safe handling techniques, use of personal protective equipment (PPE), and emergency procedures in the event of spills or exposure.

- Use of Appropriate Containers: All infectious waste and sharps must be placed in containers that are leak-proof and puncture-resistant to prevent accidental leakage, injury, or contamination. Containers should be clearly labelled with colour codes and text, in accordance with the facility's waste segregation system (e.g., yellow for infectious waste, red for sharps), and positioned at or near points of waste generation for ease of access.

- Safe Collection Practices: Waste should be collected regularly to prevent accumulation and reduce the risk of cross-contamination. Staff must check bins for correct segregation before collection, replace liners as needed, and immediately rectify any instances of incorrect disposal. Waste bags and containers should never be overfilled; containers must be sealed securely before transport.

- Secure Transport: During transport within the facility, waste containers should be handled with care to avoid spills or damage. Use dedicated trolleys or carts that are easy to clean and disinfect, and follow designated routes that minimise contact with patients, visitors, and clean areas. Staff should wear appropriate PPE during all stages of waste handling.

- Storage Protocols: Waste must be stored in a secure, designated area that is clearly marked and restricted from public access. Storage areas should be well-ventilated, protected from weather, and equipped with surfaces that are easy to clean and disinfect. Storage time should be strictly limited—infectious waste should not be kept on site for extended periods, as prolonged storage increases the risk of odour, pest infestation, and environmental contamination.

- Monitoring and Documentation: Facilities should maintain accurate records of waste collection, transport, and storage activities, including dates, quantities, and any incidents or corrective actions taken. Regular inspections of storage areas and transport equipment are essential to ensure ongoing compliance and identify areas for improvement.

6.3 Treatment and Disposal

- Prioritise on-site treatment options such as autoclaving or incineration for infectious waste, ensuring compliance with environmental standards. Effective treatment and disposal of healthcare waste is essential to minimise risks to human health and the environment. Facilities should prioritise on-site treatment methods wherever feasible, such as autoclaving, which uses steam under pressure to sterilise infectious waste, or incineration, which destroys pathogens and reduces waste volume. Both methods must comply with strict environmental standards, including controls on emissions and regular maintenance of equipment, to ensure they do not contribute to air pollution or other hazards.

- For facilities without on-site treatment, arrange timely transport to authorised off-site treatment centres. Where on-site treatment is not possible due to resource constraints or facility limitations, it is crucial to arrange for the prompt and secure transport of waste to authorised off-site treatment centres. These centres should be licensed and equipped to handle healthcare waste safely, following protocols for traceability, containment, and infection control during transit. Transport vehicles must be dedicated for waste and regularly cleaned, with all containers properly sealed and labelled to prevent leaks or accidental exposure.

- Dispose of treated waste in designated landfill sites, following national guidelines. After treatment, the residual waste—now rendered safe—must be disposed of in designated landfill sites that comply with national guidelines. These landfills should be engineered to prevent leachate, control odours, and restrict access to pests and unauthorised persons. Facilities must maintain documentation of disposal activities, including dates, quantities, and landfill locations, to support regulatory compliance and environmental monitoring.

- Never burn waste in open pits or dispose of it in water bodies, to prevent environmental contamination. Under no circumstances should healthcare waste be burned in open pits or dumped in water bodies, as these practices pose serious risks of environmental contamination, spread of disease, and harm to local communities. Open burning releases toxic pollutants, while disposal in water sources can contaminate drinking supplies and disrupt ecosystems. Adherence to safe, regulated disposal methods is non-negotiable for protecting public health and the environment.

6.4 Management of Special Waste

- Handle chemical and pharmaceutical waste separately, following specific protocols for storage, transport, and disposal. Chemical and pharmaceutical waste must be managed separately from other types of healthcare waste due to their unique risks and regulatory requirements. Facilities should implement specific protocols for the identification, segregation, and labelling of these wastes at the point of generation. Chemicals—including expired reagents, solvents, and disinfectants—should be stored in robust, leak-proof containers that are clearly marked with hazard symbols and stored in secure, well-ventilated areas away from incompatible substances. Pharmaceuticals, such as expired or unused medications, should be collected in tamper-proof containers and kept in locked storage until disposal. Staff responsible for handling these materials must receive targeted training on safe

handling, spill response, and emergency procedures. During transport, chemical and pharmaceutical waste must be moved using dedicated routes and vehicles, minimising exposure risks and ensuring containers remain sealed and upright. Disposal should follow national guidelines, which may require incineration at high temperatures or specialised chemical treatment to neutralise hazardous components. Documentation of all storage, transport, and disposal activities is essential for regulatory compliance and environmental protection.

- COVID-19 and Outbreak-Related Waste: Ensure safe management of COVID-19 or other outbreak-related waste, given its high infectivity and volume during emergencies. Waste generated during outbreaks, such as COVID-19, presents heightened risks due to its potential infectivity and the large volumes produced during emergency situations. All such waste—including used PPE, swabs, disposable medical equipment, and contaminated materials—should be treated as infectious and managed according to strict infection control protocols. Collection should occur frequently to prevent accumulation, with waste placed directly into designated, leak-proof bags or containers that are clearly labelled for outbreak-related waste. Staff must wear comprehensive PPE during handling and ensure that bins are not overfilled. Transport within the facility should avoid high-traffic areas, and containers must remain sealed at all times. Storage areas for outbreak-related waste should be isolated, secure, and clearly marked with warning signage to prevent unauthorised access. Where possible, on-site treatment such as autoclaving should be prioritised; otherwise, rapid transport to authorised off-site treatment centres must be arranged, following traceability and containment procedures. Disposal must comply with national and local guidelines, and open burning or dumping in water sources is strictly prohibited. Continuous staff education, real-time monitoring, and prompt corrective actions are critical to mitigate risks and maintain public health during outbreaks.

7. Roles and Responsibilities

Stakeholder	Responsibilities
Ministry of Health	Policy oversight, resource allocation, coordination with international partners, monitoring and evaluation.
Provincial Health Departments	Implementation of IPC and waste management protocols, local training, and supervision.
Healthcare Facility Managers	Facility-level planning, resource management, staff training, and daily supervision.
Waste Management Staff	Safe handling, transport, treatment, and disposal of healthcare waste.
All Healthcare Workers	Adherence to IPC measures, use of PPE, proper waste segregation, and reporting of incidents.

8. Monitoring and Evaluation

- Establish routine audits of infection control and waste management practices at all healthcare facilities: Regular and systematic audits should be conducted across all healthcare facilities to assess compliance with infection prevention and control (IPC) and healthcare waste management protocols. These audits must cover areas such as the correct use of personal protective equipment (PPE), waste segregation at the source, proper storage and transportation of waste, and adherence to cleaning and disinfection procedures. Audit teams should include trained personnel who can provide objective assessments and constructive feedback. The findings from these audits should be documented, shared with facility management, and used to identify areas requiring corrective action or further training.
- Maintain records of training, incidents, and waste volumes for accountability and continuous improvement: Comprehensive record-keeping is essential to track the effectiveness of IPC and waste management programmes. Facilities should document all staff training sessions, including dates, topics covered, and participants. Incident logs must capture details of any breaches in infection control, accidental exposures, or improper waste handling, along with actions taken to address them. Additionally, accurate data on waste volumes generated, treated, and disposed of should be maintained. These records support accountability, enable trend analysis, and inform decision-making for resource allocation and policy updates.

- ❖ Adapt and update the ICWMP based on lessons learned from emergency responses: The Infection Control and Waste Management Plan (ICWMP) should be treated as a living document. After emergency responses—such as outbreaks, natural disasters, or other health crises—conduct debriefs and collect feedback from all levels of staff involved. Identify what worked well, challenges encountered, and areas for improvement. Use these insights to revise protocols, training materials, and resource allocation strategies within the ICWMP. Ongoing adaptation ensures the plan remains relevant, effective, and responsive to emerging risks and operational realities.

9. Emergency Preparedness and Capacity Building

- ❖ Stockpiling Essential IPC Supplies: Ensure that key infection prevention and control (IPC) materials—such as personal protective equipment (PPE), disinfectants, waste bags, and other critical items—are readily available at both national and provincial storage sites. Regularly review stock levels and expiry dates, and establish efficient distribution systems to guarantee swift supply during outbreaks or health emergencies.

- ❖ Development of Rapid Response Teams: Form specialised teams capable of quick mobilisation to affected areas. These teams should receive comprehensive training in infection control protocols and healthcare waste management procedures. Their responsibilities include immediate assessment of on-ground needs, implementation of IPC measures, and coordination with local facility staff to contain and manage infectious risks efficiently.

- ❖ Community Engagement and Support: Collaborate with community leaders, local organisations, and residents to raise awareness about infection prevention strategies and the importance of proper healthcare waste disposal, especially during emergencies. Conduct outreach activities, educational sessions, and provide resources to empower communities to take proactive steps in reducing transmission risks and ensuring safe waste handling practices.

Annex 7. OHS Management Framework

1. **Purpose**

The purpose of this OHSM Framework is to provide guidance for the systematic identification, evaluation, prevention and control of general workplace hazards, specific job hazards, potential hazards and environmental impacts that may arise from foreseeable conditions during the implementation of the CERP. This document shall be followed by all implementers and suppliers. In case World Bank specific documents are to be implemented, this document will be followed in conjunction with World Bank's specific documents and WB Environment Social and Health Guidelines. Although every effort has been made to make the procedures and guidelines in line with statutory requirements, in case of any discrepancy, relevant statutory guidelines must be followed. In case World Bank, the financier, has any specific requirement, the same is to be fulfilled.

2. Scope.

The document is applicable for CERP implementers at all project sites during the implementation of the activities as per the relevant contractual obligations.

3. Objectives and Targets

- The OHSM Framework reflects that the implementer places high priority upon the Occupational Health and Safety at workplaces.
- Ensure that the Health and Safety of all persons at work site is not adversely affected by the work.
- Ensure protection of environment of the work site and adjacent community.
- Comply at all times with the relevant statutory and contractual OHSE requirements and Good International industry Practice and WB ESHGs.
- Provide trained, experienced and competent personnel. Ensure medically fit personnel only are engaged at work.
- Conduct a suitable and sufficient OHS risks assessment for the planned activities and ensure risk controls follow the OHS mitigation hierarchy.
- Provide and maintain plant, places and systems of work that are safe and without risk to health and the environment.
- Provide all personnel with adequate information, instruction, training and supervision on the safety aspect of their work
- Effectively control, co-ordinate and monitor the activities of all personnel on the Project sites including suppliers and contractors in respect of OHSE
- Establish effective communication on OHSE matters with all relevant parties involved in the Project works
- Ensure that all work planning takes into account all persons that may be affected by the work
- Ensure fitness testing of all equipment are certified by competent persons
- Ensure timely provision of resources to facilitate effective implementation of OHS requirements
- Ensure continual improvements in OHS performance
    - Ensure conservation of resources and reduction of wastes
    - Capture the data of all incidents including near misses, process deviation etc. Investigate and analyze the same to find out the root cause;
    - Ensure timely implementation of correction, corrective action and preventive action.

OHS Targets:

- Fatality: Zero
- Lost time injury: Zero
- Fire incidents: Zero
- Vehicle incidents: Zero

4. Terms and Definitions

Incident: Work- related or natural event(s) in which an injury, or ill health (regardless of severity), damage to property or fatality occurred, or could have occurred.

Near Miss: An incident where no ill health, injury, damage or other loss occurs, but it had a potential to cause, is referred to as "Near-Miss".

Man-Hours Worked: The total number of man hours worked by all employees including Contractors working in the premises. It includes managerial, supervisory, professional, technical, clerical and other workers including contract laborers. Man-hours worked shall be calculated from the payroll or time clock recorded including overtime. When this is not feasible, the same shall be estimated by multiplying the total man-days worked for the period covered by the number of hours worked per day. The total number of workdays for a period is the sum of the number of men at work on each day of period. If the daily hours vary from department-to-department separate estimate shall be made for each department and the result added together.

First-Aid Cases: First aids are not essentially all reportable cases, where the injured person is given medical treatment and discharged immediately for reporting on duty, without counting any lost time.

Lost-Time Injury: Any work injury which renders the injured person unable to perform his regular job or an alternative restricted work assignment on the next scheduled workday after the day on which the injury occurred.

Medical Cases: Medical cases come under non-reportable cases, where owing to illness or other reason the employee was absent from work and seeks medical treatment.

5. OHS Organization, Roles and Responsibilities

Number of Safety Officers: The implementer must deploy one safety officer for every 500 workers or part thereof in each package. In addition, there must be one safety-steward/safety-supervisor for every 100 workers.

Deployment: The Contractor should deploy sufficient safety officers and safety-steward/Safety-supervisor, as per requirement given above, since initial stage and add more in proportion to the added strength in work force. Any delay in deployment will prompt the CERP to order temporary suspension of works until the issue is resolved.

Site In -Charge of Contractor:

- Shall engage qualified safety officer(s) and steward (s)
- Shall adhere to the rules and regulations mentioned in this code, practice very strictly in his area of work in consultation with his concerned engineer and the safety coordinator
- Shall screen all workmen for health and competence requirement before engaging for the job and periodically thereafter as required
- Shall not engage any employee below 18 years of age
- Shall arrange for all necessary PPEs like safety helmets, belts, full body harness, shoes, face shield, hand gloves etc. before starting the job
- Shall ensure that no person lifts, carries or move any load which, by reason of its weight, is likely to injure his health or jeopardize his safety
- Shall ensure that provisions for the welfare of the employees such as canteen, rest rooms/washing facilities are provided for at the site
- Shall adhere to the instructions laid down in Operation Control Procedures (OCPs) available with the site management
- Shall ensure that person working above 2.0 meter should use Safety Harness tied to a lifeline/stable structure
- Shall ensure that materials are not thrown from height. Cautions to be exercised to prevent fall of material from height
- Shall report all incidents (Fatal/Major/Minor/Near Miss) to the Site engineer /HSE officer
- Shall ensure that Horseplay is strictly forbidden
- Night work is forbidden
- Shall ensure that all personnel working under Contractor are working safely and do not create any Hazard to self and to others
- Shall ensure display of adequate signage/posters on OHSE
- Shall ensure conductance of OHSE audit, mock drills, medical camps, induction training and training on OHS at site
- Shall ensure full co-operation during OHS audits
- Shall ensure submission of look-ahead plan for procurement of OHS equipment's and PPEs as per work schedule
- Shall ensure good housekeeping
- Shall ensure adequate valid fire extinguishers are provided at the worksite
- Shall ensure availability of sufficient number of toilets /restrooms and adequate drinking water at work site and labor colony
- Shall ensure adequate emergency preparedness
- Shall be member of site OHS committee and attend all meetings of the committee
- Temporary fencing should be done for open edges if Hand – railings and Toe-guards are not available.

Health, Safety and Environment Officer of Contractor

- Carry out safety inspection of Work Area, Work Method, Men, Machine & Material, processes and materials and other tools
- Facilitate inclusion of safety elements into Work Method Statement
- Highlight the requirements of safety through Tool-box talks/ other meetings

- Help concerned heads of sections to prepare Job Specific instructions for critical jobs
- Conduct investigation of all incident/dangerous occurrences & recommend appropriate safety measures
- Advice & co-ordinate for implementation of OHS permit systems
- Convene HSE meeting & minute the proceeding for circulation & follow-up action
- Plan procurement of PPE & Safety devices and inspect their healthiness
- Facilitate administration of First Aid
- Facilitate screening of workmen and safety induction
- Conduct fire Drill and facilitate emergency preparedness
- Design campaigns, competitions & other special emphasis programs to promote safety in the workplace
- Notify site personnel non-conformance to safety norms observed during site visits / site inspections
- Recommend to Site In-Charge, immediate discontinuance of work until rectification of such situations warranting immediate action in view of imminent danger to life or property or environment
- To decline acceptance of such PPE / safety equipment that do not conform to specified requirements
- Encourage raising Near Miss Report on safety along with, improvement initiatives on safety.

6. Planning by Contractors

Monthly planning and review of OHS activities shall be carried out by Contractor jointly with the implementer:

❖ Prior to the commencement of any CERP-activated activities, the Project Implementation Unit (PIU) and all contractors/subcontractors shall conduct a systematic identification of workplace hazards associated with the planned emergency response or operational activities. This process shall be documented using a suitable and sufficient risk assessment methodology, consistent with national regulations and Good International Industry Practice (GIIP). Risk assessment template can be found in Annex 7.1.

The risk assessment shall:

- Identify all foreseeable hazards to workers and others who may be affected by project activities (excluding construction-related hazards).
- Evaluate the likelihood and severity of potential harm arising from each hazard.
- Document the findings and proposed control measures in a risk assessment register or matrix.
- The risk assessment process and results shall be reviewed and updated as work progresses, or when there are significant changes in work activities or conditions.
- Application of the Hierarchy of Controls
- For each identified hazard, the PIU and contractors shall apply the OHS hierarchy of controls to eliminate or minimize risks, in the following order of preference:
    - Elimination – Remove the hazard entirely from the workplace.
    - Substitution – Replace the hazard with a less dangerous alternative.

- Engineering Controls – Isolate people from the hazard through physical means (e.g., barriers, ventilation), where relevant.
- Administrative Controls – Implement safe work procedures, training, and supervision.
- Personal Protective Equipment (PPE) – Provide appropriate PPE as a last line of defense.

-The selected controls and their implementation shall be documented in the OHS Management Plan and communicated to all workers prior to the commencement of work.

-Documentation and Review

-All risk assessments and control measures shall be documented and made available for review by the PIU, World Bank, and relevant authorities. The effectiveness of controls shall be monitored regularly, and risk assessments updated as necessary.

- Mobilization of Machinery/Equipment/Tools by Contractor**:** As a measure to ensure that machinery, equipment and tools being mobilized to supplier or consultant are fit for purpose and are maintained in safe operating condition and complies with legislative and owner requirement, inspection shall be arranged by in-house competent authority for acceptance as applicable.
- Mobilization of Person power by Contractor**:** (a) The Contractor shall arrange induction and regular health check of their employees as per requirement in the Occupational Health and Safety legal provisions; (b) The Contractor shall take special care of the employees affected with occupational diseases. The employees not meeting the fitness requirement should not be engaged for such job.; (c) Ensure that the regulatory requirements of excessive weight limit (to carry/lift/ move weights beyond prescribed limits) for male and female workers are complied with; and (d) Appropriate accommodation to be arranged for all workmen in hygienic condition.

  Provision of PPEs: Personnel Protective Equipment (PPEs), in adequate numbers, will be made available at site & their regular use by all concerned will be ensured: (a) All the PPEs shall be checked for its quality before issue and the same shall be periodically checked. The users shall be advised to check the PPEs themselves for any defect before putting on. The defective ones shall be repaired/ replaced; (b) The issuing agency shall maintain register for issue and receipt of PPEs; and (c) The Helmets shall have logo or name (abbreviation of agency name permitted) affixed or printed on the front.

7. Arrangement of Infrastructure:

- Drinking water: Drinking water shall be provided and maintained at suitable places at different elevations. Container should be labeled as “Drinking Water”
- Washing Facilities: In every workplace, adequate and suitable facilities for washing shall be provided and maintained. Separate and adequate cleaning facilities shall be provided for the use of male and female workers. Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition and dully illuminated for night use.
- Latrines and Urinals: (a) Latrines and urinals shall be provided in every work place; (b) They shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times, by appointing designated person; and (c) Separate facilities shall be provided for the use of male and female worker if any.
- Provision of Shelter During Rest**:** Proper Shed & Shelter shall be provided for rest during break.
- Medical Centre: (a) A medical center shall be ensured/identified at site with basic facilities for handling medical emergencies. The medical center can be jointly developed on proportionate

sharing basis with permission from the implementer; (b) A qualified medical professional shall be deployed at the medical center; (c) The medical center shall be equipped with one ambulance, with trained driver and oxygen cylinder; (d) Medical waste shall be disposed as per prevailing legislation.

- First Aider: (a) Ensure availability of Qualified First-aider throughout the working hours; (b) Every injury shall be treated, recorded and reported; (c) Refresher course on first aid shall be conducted as necessary; and (d) List of Qualified first aiders and their contact numbers should be displayed at conspicuous places
- First Aid Box: (a) The Contractor shall provide necessary first aid facilities at every work place; (b) The first aid box shall be kept by first aider who shall always be readily available during the working hours of the work place. His name and contact number to be displayed on the box; (c) The first aid boxes should be placed at various elevations so as to make them available within the reach and at the quickest possible time; (d) The first aid box shall be distinctly marked with a Green Cross on white background; (e) Monthly inspection of First Aid Box shall be carried out by the owner; (f) The Contractor should conduct periodical first –aid classes to keep his supervisor and Engineers properly trained for attending to any emergency.
- Health Check Up: The persons engaged at the site shall undergo health checkup before induction.
- Provision of Canteen Facility: Canteen facilities shall be provided for the workers of the project inside the project site, proper cleaning and hygienic condition shall be maintained, proper care should be taken to prevent biological contamination, adequate drinking water should be available at the canteen, fire extinguisher shall be provided inside the canteen, regular health check-up and medication to the canteen workers shall be ensured.
- Provision of Emergency Vehicle: Dedicated emergency vehicle shall be made available at workplace by the Contractor to handle any emergency.
- Pest Control: Regular pest control should be carried out at all offices, mainly laboratories, canteen, labor colony and stores.

8. OHS Training & Awareness Raising Program

8.1. Induction Training

All persons entering into project site shall be given HSE induction training by the HSE officer of Contractor before being assigned to work**.** In-house induction training subjects shall include but not limited to:

- Briefing of the Project details.
- Safety objectives and targets.
- Site HSE rules.
- Site HSE hazards and aspects.
- First aid facility.
- Emergency Contact No.
- Incident reporting.
- Fire prevention and emergency response.
- Rules to be followed in the camp
- Proper safety wear & gear must be issued to all the workers being registered for the induction (i.e., Shoes/Helmets/Goggles/Leg guard/Apron etc.)

- They must arrive fully dressed in safety wear & gear to attend the induction.
- Anyone failing to conform to this safety wear & gear requirement shall not qualify to attend.
- On completing attending Contractor's in-house HSE induction, each employee shall sign an induction training form to declare that he/she had understood the content and shall abide to follow and comply with safe work practices. They may only then be qualified to be issued with a personal I.D. card, for access to the work site

8.2. Toolbox Talk

HSE tool Box talk shall be conducted by frontline foreman/supervisor of Contractor to specific work groups prior to the start of work. The agenda shall consist of the followings:

- Details of the job being intended for immediate execution.
- The relevant hazards and risks involved in executing the job and their control and mitigating measures.
- Specific site condition to be considered while executing the job like high temperature, humidity, unfavorable weather etc.
- Recent non-compliances observed.
- Appreciation of good work done by any person.
- Any doubt clearing session at the end.
- Tool box talk to be conducted at least once a week for the specific work.

8.3. OHS Training During Project Execution

- Other HSE training shall be arranged by Contractor as per the need of the project execution and recommendation of HSE committee of site.
- The topics of the HSE training shall be as follows but not limited to:
- Hazards identification and risk analysis (HIRA)
- Work Permit System
- Incident investigation and reporting
- Fire fighting
- First aid
- Fire-warden training
- Storage, preservation & material handling
- A matrix shall be maintained to keep an up-to-date record of attendance of training sessions carried out.

8.4. Display of OHS signage

Appropriate OHS signage shall be displayed at the work area to aware workmen and passersby about the work going on and dos and don'ts to be followed

9. OHS Communication

❖ Incident Reporting: The Contractor shall submit report of all incidents, fires and property damage etc., not later than 24 hours of the occurrence. Such reports shall be furnished in the manner

prescribed by the implementer. In addition, periodic reports on safety shall also be submitted by the Contractor to the implementer from time to time. Compiled monthly reports of all kinds of incidents, fire and property damage to be submitted to the Specialist as per prescribed formats.

- Work Permit System: (a) Permit applicant shall apply for work permit of particular work activity at particular location before starting of the work with Job Hazard Analysis; (b) Permit signatory shall check that all the control measures necessary for the activity are in place and issue the permit to the permit holder; and (c) Permit holder shall implement and maintain all control measures during the period of permit. He will close the permit after completion of the work.

10. Safety During Work Execution: Respective Operation Control Procedures (OCPs) are to be followed and adhered to and the same would be contractually binding.

- Chemical Handling: Displaying safe handling procedures for all chemicals such as lube oil, acid, alkali, sealing compounds etc., at workplace. Where it is necessary to provide and/or store petroleum products or petroleum mixture & explosives, the Contractor shall be responsible for carrying out such provision / storage in accordance with the rules & regulations. All such storage shall have prior approval.
- Electrical Handling
  - Providing adequate number of 24 V sources and ensure that no hand lamps are operating at voltage level above 24 Volts.
  - Fulfilling safety requirements at all power tapping points.
  - High/ Low pressure welders to be identified with separate color clothing. No welders will be deployed without passing appropriate tests and holding valid welding certificates. Approved welding procedure should be displayed at workplace.
  - The Contractor shall not use any hand lamp energized by Electric power with supply voltage of more than 24 volts in confined spaces like inside water boxes, turbine casings, condensers etc.
  - All portable electric tools used by the Contractor shall have safe plugging system to source of power and be appropriately earthed. Only electricians licensed by appropriate statutory authority shall be employed by the Contractor to carry out all types of electrical works. Details of earth resource and their test date to be submitted to OHS specialist.
  - The Contractor shall use only properly insulated and armored cables which conform to the requirement.
  - The implementer reserves the right to replace any unsafe electrical installations, wiring, cabling etc. at the cost of the Contractor.
  - All electrical appliances used in the work shall be in good working condition and shall be properly earthed.
  - No maintenance work shall be carried out on live equipment.
  - The Contractor shall maintain adequate number of qualified electricians to maintain his temporary electrical installations.
  - Area wise Electrical safety inspection is to be carried out on monthly basis as per “Electrical Safety Inspection checklist’ and the report is to be submitted to the implementer’s safety officer

- Adequate precautions shall be taken to prevent danger for electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public
- The Contractor shall carefully follow the safety requirement of the implementer/ the purchaser with the regard to voltages used in critical areas.

❖ Fire Safety:
- Providing appropriate firefighting equipment at designated workplace and nominate a fire officer/warden adequately trained for his job.
- Contractor shall provide enough fire protecting equipment of the types and numbers at his office, stores, temporary structure in labor colony etc. Such fire protection equipment shall be easy and always kept open.
- The fire extinguishers shall be properly refilled and kept ready which should be certified at periodic intervals. The date of changing should be marked on the Cylinders.
- All other fire safety measures as laid down in the emergency preparedness and response plan shall be followed.
- Non-compliance of the above requirement under fire protection shall in no way relieve the Contractor of any of his responsibility and liabilities to fire incident occurring either to his materials or equipment or those of others.
- Emergency contact numbers must be displayed at prominent locations
- Tarpaulin being inflammable should not be used (instead, only non-infusible covering materials shall be used) as protective cover while preheating, welding, stress relieving etc. at site.

❖ Lifting Safety:
- It will be the responsibility of the Contractor to ensure safe lifting of the equipment, taking due precaution to avoid any incident and damage to other equipment and personnel.
- All requisite tests and inspection of handling equipment, tools & tackle shall be periodically done by the Contractor by engaging only the Competent Persons as per law.
- Defective equipment or uncertified shall be removed from service.
- Any equipment shall not be loaded more than its recommended safe working load.

❖ Housekeeping: Keeping the work area clean/ free from debris, removed scaffoldings, scraps, insulation/sheeting wastage /cut pieces, temporary structures, packing woods etc. will be in the scope of the Contractor. Such cleanings must be done by Contractor on daily basis by an identified group. If such activity is not carried out by Contractor is not satisfied, then the implementer may get it done by other agency and actual cost along with overheads will be deducted from contractor's bill. Such decisions shall be binding on the Contractor.
- Proper housekeeping to be maintained at workplace and the following are to be taken care of on daily basis.
- All surplus earth and debris are removed/disposed of from the working areas to identified locations.
- Unused/Surplus cables, steel items and steel scrap lying scattered at different places/elevation within the working areas are removed to identified locations.
- All wooden scrap, empty wooden cable drums and other combustible packing materials, shall be removed from workplace to identified locations. Sufficient waste bins shall be provided at

- Different workplaces for easy collection of scrap/waste. Scrap chute shall be installed to remove scrap from high location.
- Access and egress (staircase, gangways, ladders etc.) path should be free from all scrap and other hindrances.
- Workmen shall be educated through toolbox talk about the importance of housekeeping and encourage not to litter.
- Labor camp area shall be kept clear and materials like pipes, steel, sand, concrete, chips and bricks, etc. shall not be allowed in the camp to obstruct free movement of men and machineries.
- Fabricated steel structures, pipes & piping materials shall be stacked properly.
- No parking of trucks/trolleys, cranes and trailers etc. shall be allowed in the camp, which may obstruct the traffic movement as well as below LT/HT power line.
- Utmost care shall be taken to ensure overall cleanliness and proper upkeep of the working areas

11. Emergency Preparedness and Response

- Emergency preparedness and response capability of site shall be developed and implemented accordingly.
- Availability of adequate number of first aiders and fire warden shall be ensured with the implementer and its Contractors
- All the Contractor's supervisory personnel and enough workers shall be trained for fire protection systems. Enough number of such trained personnel must be available during the tenure of contract. Contractor should nominate his supervisor to coordinate and implement the safety measures.
- Assembly point shall be earmarked and access to the same from different location shall be shown
- Fire exit shall be identified, and pathway shall be clear for emergency escape.
- Appropriate type and number of fire extinguisher shall be deployed as per Fire extinguisher deployment plan and validity shall be ensured periodically through inspection
- Adequate number of first aid boxes shall be strategically placed at different workplaces to cater emergency need. Holder of the first aid box shall be identified on the box itself who will have the responsibility to maintain the same.
- First aid center shall be developed at site with trained medical personnel and ambulance
- Emergency contact numbers (format given in EPRP) of the site shall be displayed at prominent locations.
- Tie up with fire brigade shall be done in case Contractor is not having a fire station.
- Tie up with hospital shall be done in case Contractor is not having a hospital.
- Disaster Management group shall be formed at site
- Mock drill shall be arranged at regular intervals. Monthly report of the above to be given to the OHS Specialist
- Mock drill shall be conducted on different emergencies periodically to find out gaps in emergency preparedness and taking necessary corrective action

Annex 7.1. OHS Risk Assessment Template (CERP Activities)

COMPANY NAME: **ASSESSMENT CARRIED OUT BY:**

DATE OF NEXT REVIEW: **DATE ASSESSMENT WAS CARRIED OUT:**

WHAT ARE THE HAZARDS?	WHO MIGHT BE HARMED AND HOW?	WHAT ARE YOU ALREADY DOING TO CONTROL THE RISKS?	WHAT FURTHER ACTION DO YOU NEED TO TAKE TO CONTROL THE RISKS?	WHO NEEDS TO CARRY OUT THE ACTION?	WHEN IS THE ACTION NEEDED BY?	DONE
Example - Struck by a vehicle on site	Workers and local community members on and around the site stepping into the path of an oncoming vehicle	- Traffic Management Plan - Flaggers - Cones and poles - Speed signs -	-Install physical barriers between worksite and road -install a pedestrian pathway around the site -additional flaggers and guides -Install warning lights etc	Site manager	08 March 2025	

Annex 8. Indigenous Peoples Planning Framework (IPPF)

1. Objectives

The purpose of this Indigenous Peoples Planning Framework (IPPF) is to set out the requirements of World Bank's Environmental and Social Standard 7 (ESS7) on Indigenous Peoples, and the RGC's policy on development of Indigenous Peoples. The objectives of this IPPF are:

- Ensure the project planning and implementation process under the CERP fosters full respect for the human rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods of IP communities.
- Avoid adverse impacts of the project on IP communities. When avoidance is not possible, minimize, mitigate and/or compensate for such impacts.
- Promote sustainable development benefits and opportunities for IP communities in a manner that is accessible, culturally appropriate and inclusive.
- Improve project design and promote local support by establishing and maintaining an ongoing relationship based on meaningful consultation with the IP communities affected by CERP throughout project cycle.
- Recognize, respect and preserve the culture, knowledge, and practices of IP communities, and provide IPs with an opportunity to adapt to changing conditions in a manner and in a timeframe acceptable to them.

2. General Information about Indigenous Peoples in Cambodia

"Indigenous Peoples" are referred to as "indigenous minority peoples" in Cambodia. This term is officially used by the Royal Government of Cambodia in various laws and policies. There are several ethnic groups living in Cambodia but only those who are distinct from others and have languages, culture, traditions, and customs that are different from the mainstream population (the Khmer) are considered "Indigenous Peoples", according to the National Policy for the Development of Indigenous Peoples (2009). In Cambodia, there are also other small ethnic groups such as the ethnic Lao living in northeastern Cambodia, the Chams and Vietnamese. These small ethnic groups are not considered "indigenous".

Ethnic minorities in Cambodia have typically developed highly specialized livelihood strategies and occupations which include hunting, fishing, trapping, shifting cultivation or gathering food and forest products, handicrafts such as weaving, basketry, woodcarving among others, and rural and community based industries. However, due to recent development process, some have become agricultural workers, or involved in other works that are no longer part of traditional means of livelihoods activities. Indigenous Peoples generally lead a simple life – compared to that of the majority Khmer. They speak their own languages, or dialects, and practice different religious beliefs. These groups can be found also in more remote areas. The total population of Cambodia is 15.9 million (National Institute of Statistics 2020). The Khmer makes up 95.4% of the population, followed by Cham (2.4%, 376,560 people), Chinese (1.5%, 242,938 people), Thai (0.5%, 73,736 people), Vietnamese (0.2%, 27,449 people), Lao (0.0001%, 1,696 people), others (0.1%, 7,828 people), and group who do not state their ethnicity (4,991people).

In Cambodia, Indigenous Peoples are also known as “Khmer Loeu”, or hill tribes. The Khmer Loeu has the distinctive cultures, customs and habits. Their way of living is significantly different from that of the “Khmer Kroam” who live in small groups that are scattered across 15 provinces in northeastern part of the country such as Ratanakkiri, Mondulkiri, Kratie, Stung Treng, Preah Vihear, Oddar Meanchey, Banteay Meanchey, Pursat, Battambang, Siem Reap, Kampong Thom, Kampong Cham, Kampong Spue, Koh Kong, and Preah Sihanouk. Of all IP groups living in Cambodia, twenty two ethnic groups are characterized with distinct languages, cultures, customsand habits. These groups are small in population, ranging from under 100 to 19,000 individuals, including Bunong (Pnong), Kouy, Stieng, Mel, Kroal, Thmorn, Khaonh, Tompuonn, Charay, Kroeung, Kravet, Saouch, Lun, Kachak, Proav, Chorng, Pear (Poar), Souy (Sa’ong), Rhadaer, Roong, Khae, Spong, La-Eun, Somray and so forth. According to National Census (2020), Khmer language is spoken by 95.8% of the population, Chinese (0.6 percent), Vietnamese (0.5%), and other indigenous minority languages (2.9%).

3. Identification of Indigenous Peoples

Cambodia is a multicultural society with a majority of ethnic Khmers. These include the Vietnamese, Cham, Chinese, and indigenous peoples. Among the various ethnic groups, the native populations, as the word implies, count for the ancient inhabitants of the country. This generic and vague term is used to designate a mosaic of groups that are both heterogeneous— given some aspects of their material and social life—and alike, in the sense that most of them belong to the same cultural substratum, which is usually called Proto Indo-Chinese civilization. Their religion and all their way of life for centuries were based on their relationship to this religious environment. They are engaged in a form of religion based on a spiritual cult.

Certain groups have a common origin and have become separated over time, some people for whom geographic and linguistic stocks are clearly distinct, like the Jarai (Malayo-Polynesian) and the Tumpuon (Môn-khmer) of Ratanakiri, tend to draw near each other and intermarry to such an extent, especially in Andong Meas district, that focusing on their differences becomes superfluous and arbitrary. Indeed, all through their history, the highlanders have maintained close relationships with one another as well as with the Khmer and other peoples in the plains.

Ja’ong (Chong) in Cambodia lives in the area of Thailand-Cambodia border – to the southeast of Chantaburi province, Thailand and west of Pursat province, Cambodia. Ja’ong speaks Lao and also speak Thai. Ja’ong group is also referred to as Chawng, Shong, Xong. They also speak Somray – a dialect in Cambodia. Their livelihood is based on agricultural production. Slash and-burn (swidden) cultivation is popular. Farming activities include wetland rice cultivation, raising chicken and pig, collecting food from forest, hunting, and fishing. Some of Ja’ong are involved in manufacturing, trading of goods and worked as hired labor.

Jarai are a minority group living in northeastern Cambodia, primarily in the districts of Bokeo, Andong Meas, O Yadou of Ratanakiri province which are located along the northeast border of Cambodia and Viet Nam’s Central Highlands. The Jarai has inhabited in these areas for thousands of years. Unlike the other indigenous minorities in Cambodia, the Jarai language is not related to Khmer. Rather, it is distantly related to the languages spoken in the island nations of Malaysia, Indonesia, and the Philippines. Their language is classified as belong to Austronesian, Malayo- Polynesian, Malayic, Achinese-Chamic, Chamic, South, Plateau38. Most Jarai people engage in subsistence agriculture, growing rice and vegetables. Their diet is further supplemented by hunting, fishing, and gathering food

from the forest. The Jarai raise livestock, including oxen, buffalo, pigs and ducks. Jarai's respective religious beliefs, customs, practices and ways of life include animism in the natural world, such as trees, mountains, rivers, etc.

Kravet is a subgroup of the Brao people. Brao refers to several sub-sets of peoples in northeast Cambodia and southern Laos. The Kravet has alternate names such as Kowet, Khvek, Kavet. The Karvet is classified as belong to Austroasiatic, Mon-Khmer, Eastern Mon-Khmer, Bahnaric, West Bahnaric, Brao-Kravet group. The Kravet is known for their intricate handicrafts, chin tattoos, teeth filing and harvest festival. The Kravet practices slash-and-burn agriculture and is known as a semi-nomadic group in mountainous region of Southeast Asia. Their religion involves many taboos, as well as appeasement for good and bad spirits. They are especially concerned about using the spirit world to protect their communities.

Kroeung (Krung) live in Ratanakiri province, and in Northeastern Cambodia and eastern Stung Treng. Alternate names include Krueng. Dialects spoken include Brao. The Kravet and Kroeung in Cambodia are inherently intelligible with each other. In term of ethnicity classification, the Koreung belong to Austro-Asiatic, Mon-Khmer, Eastern Mon-Khmer, Bahnaric, West Bahnaric, Brao-Kravet. They are culturally distant from modern Khmer people. The Kroeung is matrilineal, tracing ancestry through maternal rather than paternal bloodlines. The Kroeung is very poor. They have limited access to schooling, healthcare, and electricity. The Kroeung relies heavily on forest to maintain their means of livelihood. They cultivate upland rice as their main crop and also grow cash crops such as cashew nuts and cassava for additional limited income. The Kroeung are involved in hunting, fishing, and raising animals. Rolling forested hills of red volcanic earth cover much of the Kroeung homeland and several major rivers traverse flat floodplains. The Kroeung practice their own traditional religion.

Kuoy are the original inhabitants of Cambodia and Thailand43. The Kuoy is one of the ethnic minority groups that have longest settled in the country. The Kuoy live in Northeastern Cambodia, mostly in districts of Preah Vihear, eastern Siem Reap, northern Kampong Thom, western Stung Treng, and several areas of Kratie Province. Their language is of the Katvic branch of Mon-Khmer, within the Austro-Asiatic languages. The Kuoy does have written language. Their knowledge and traditions are passed down orally. Their preference for hill rice has also changed to more common paddy rice, however they preserve traditional knowledge of plants and herbs and use these for medicinal and healing purposes. The Kuoy is mostly matrilineal. Mother has more authority than father and the woman in a family is money keeper. The Kuoy is animist and most Kuoy villages do not have a temple.

Pear (Poar) lives in Cardamoms, Koh Kong, Pursat and Southwestern Kompong Thom. The Pear is has ethnicity classification as Austro-Asiatic, Mon-Khmer, Pearic. The Pear's main livelihoods are agricultural production, including slashing, wetland rice cultivation, raising pigs and chickens, gathering non-timber forest products, hunting and fishing.

Phnong (Bunong) is one of the most largest ethnic minority groups in Cambodia. Their language is related to Stieng, part of the Bahnaric branch of the Mon-Khmer, within the Austro-Asiatic languages. They have no written script. Traditionally they grow rice and vegetables, including sugar cane, and keeping animals.

Stieng is patriarchal society and are generally monogamous, living in northeastern Cambodia Eastern, including Kratie province, Snuol district, and southern Mondolkiri. Ethnicity classification of Stieng is

Austro-Asiatic, Mon-Khmer, Eastern Mon-Khmer, Bahnaric, South Bahnaric, Stieng-of Stieng is Austro-Asiatic, Mon-Khmer, Eastern Mon-Khmer, Bahnaric, South Bahnaric, Stieng-Chrau. Today, the Stieng is integrated into local and national administrative system. They generally intermarry with other ethnic groups and Khmer. They are animist and have strong beliefs in spirits and their relations with humans. For instance they may believe that illnesses or natural disasters are caused by spirits as a result of poor human behavior. Livelihoods are based on agricultural production, which includes slashing, growing rice, raising pigs and chickens, gathering food from the forest, hunting and fishing.

Suoy (Sa'ong) lives in central, Northwest of Phnom Penh, primarly in Aoral, Kampong Speu province. The Suoy is classified in terms of ethnicity into Austro-Asiatic, Mon-Khmer, Eastern Mon-Khmer, Pearic, Western, Suoy. Their dialects include Sa'och, Samre and Pearic which are less and less spoken in Cambodia. Only elderlies speak these dialects. Stieng language is spoken in Kampong Speu Province, Pursat Province, in Krang Trachak are7. The Stieng engages insubsistence agriculture, growing rice and vegetables.

4. Legal and Policy Framework

4.1. National Laws and Regulations related to Indigenous Peoples

Constitution (1993) Article 31 stipulates that Khmer citizen shall be equal before the laws and shall enjoy the same rights, freedom and duties, regardless of their race, color, sex, language, beliefs, religions, political tendencies, birth of origin, social status, resources, and any position. Article 44 guarantees all persons, individually or collectively, shall have the right to own property. Only natural persons or legal entities of Khmer nationality shall have the right to own land. Legal private ownership shall be protected by law. Expropriation of ownership from any person shall be exercised only in the public interest as provided for by law and shall require fair and just compensation in advance.

Organic Law (2008) recognizes the vulnerability nature of the indigenous peoples in Cambodia. Councils at provincial and district levels in rural area (capital, municipal and khan levels in urban areas) are requested to formulate development plans that identify development needs of the vulnerable groups, including those from the IP communities.

Protected Area Law (2008) defines the framework of management, conservation and development of protected areas. The law aims to ensure effective management and conservation of biodiversity, and sustainable use of natural resources in protected areas. The law recognizes the right of forest-dependent indigenous peoples to live within the protected areas and to use sustainably the natural resources. Under this law, protected area are divided into four zones, including core zone, conservation zone, sustainable use zone, and community zone. The law has provisions that define how land can be used and managed in each zone.

Law on Education (2007) was enacted by the National Assembly on 19 October 2007. The law aims to promote development of human resources of the nation by providing lifetime education to all people to enable their improvements in terms of knowledge, skills, capacities, dignity, good moral behaviors and characteristics. It also encourages people to learn to better understand, love and protect the national identity, cultures and language.

Land Law (2001) recognizes the right of the indigenous communities in Cambodia to own immovable property - their land - with collective title.

Article 23 of Land Law (2001) defines an indigenous community as a group of people who: Manifest ethnic, social, cultural and economic unity; Practice a traditional lifestyle; and Cultivate the lands in their possession according to customary rules of collective use.

Article 25 defines the lands of indigenous communities as "those lands where the said communities have established their residencies and where they carry out their traditional agriculture", and these lands "include not only lands actually cultivated but also includes reserves necessary for the shifting cultivation which is required by the agricultural methods they currently practice".

Article 26 states that ownership of the immovable properties (mentioned in Article 25) is granted by the State to indigenous communities as collective property. This collective property includes all the rights and protections of ownership as are enjoyed by private owners.

Sub-Decree No. 83 ANK, BK (2009) on Procedures of Registration of Land of Indigenous Communities. The objective of this Sub-Decree is to provide indigenous communities with legal rights to land tenure, ensure land tenure security, and protect collective ownership by preserving the identity, culture, good custom and tradition of each indigenous community.

Policy on Environmental and Social Safeguards for Sub-National Democratic Development (RGC-NCDD, 2019) stated in the strategy No.7 that Indigenous Peoples also are known in Cambodia as 'Khmer Leou' who have their own cultures and customs, and make their own living in a way that is significantly different from those of 'Khmer Kroam' who live in small groups. The "Khmer Leou" is considered vulnerable IP groups and receive special care and attention by the government. It is required that development projects that are implemented at sub-national administration should not cause negative impacts (resettlement and land impacts) to their lives, and traditions and customs of the "Khmer Leou".

National Policy on the Development of Indigenous Peoples (NPDIP). The NPDIP was approved by the Council of Ministers on 24 April 2009. NPDIP is the guiding document that shapes how other government policies related to Indigenous Peoples should be implemented in the fields of culture, education, vocational training, health, environment, land, agriculture, water resources, infrastructure, justice, tourism, industry and mines and energy. The NPDIP recognizes the need for specific policies for Indigenous People communities. It defines principles regarding formal registration of indigenous communities as legal entities with their own bylaws, and supports the indigenous communities in their participation in economic development that affects their lives and cultures. "Indigenous peoples shall be fully entitled to express their comments and opinions and to make any decisions on the development of the economy, society and their cultures towards growth in the society."

The NPDIP promotes use of local languages in multilingual primary education, media, and public consultation. It also lists ten brief sector strategies dedicated to culture, education and vocational training, health, environment, land, agriculture, water resources, infrastructure, justice, industry and mines and energy.

4.2. Relevant International Agreements

Cambodia is a signatory to a number of international instruments that protect the rights of indigenous peoples, as well as the ***Convention on Biological Diversity (1992)*** which recognizes the role of the indigenous peoples in biodiversity protection. In 1992, the Royal Government of Cambodia ratified

the ***International Covenant on Economic, Social and Cultural Rights*** which includes the rights of the indigenous peoples in practicing specific culture and their rights to means of livelihoods.

The UN Declaration on the Rights of Indigenous Peoples (UNDRIP) was adopted by the United Nations General Assembly in September 2007. Cambodia is among many countries that voted in favor of this nonbinding declaration.

The International Convention on the Elimination of all Forms of Racial Discrimination (ICERD). Article 5(e) of the ICERD ensures the enjoyment, on an equal footing and without discrimination, of economic, social and cultural rights, in particular the right to education and training. Article 13 of the ***International Covenant on Economic, Social and Cultural Rights (ICESCR)*** includes provisions on free primary education irrespective of gender, ethnicity or any other consideration.

UN Convention on the Rights of the Child (Article 28 - Right to Education) was ratified by the Royal Government of Cambodia in 1992, thereby every child has the right to education. Primary education must be free. Secondary education must be available to every child. Discipline in areas must respect children's dignity. Richer countries must help poorer countries achieve this.

The UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions (2005) recognizes the rights of Parties to take measures to protect and promote the diversity of cultural expressions with a particular focus on women, minorities and indigenous peoples.

5. Potential Impacts and Mitigation Measures

Emergency response activities can produce a range of positive and negative effects on Indigenous Peoples (IP) communities. On the positive side, such interventions may offer improved access to essential services, support during crises, or resources for rebuilding livelihoods. However, negative impacts may also arise, such as the disruption of traditional livelihoods, interference with cultural or spiritual practices, or restricted access to customary lands and resources. These disruptions can undermine community cohesion and threaten the preservation of unique languages, customs, and knowledge systems.

To address these risks, whenever Indigenous Peoples have been identified as beneficiaries of the CERP, the Indigenous Peoples Planning Framework (IPPF) mandates the preparation of Indigenous Peoples Plan (IPPs) proportionate to the risks through a thorough process for identifying and managing potential risks and impacts. This begins with meaningful consultation, ensuring that IP communities themselves are actively engaged in identifying how emergency response activities might affect their lives, resources, and cultural heritage. Such consultations are conducted using culturally sensitive approaches, including community mapping, focus group discussions, and consultations with elders, women, and youth, all in local languages and accessible formats.

Based on the findings of these consultations, mitigation measures are designed in close consultation with the affected groups. These measures may include providing alternative livelihood support—such as training in new income-generating activities or temporary employment—when traditional means are disrupted. Cultural safeguards might involve protecting sacred sites, supporting the continuation of rituals, or ensuring that emergency operations do not conflict with important community events.

Where necessary, compensation for lost assets or resources is arranged in a manner that is fair, transparent, and culturally appropriate.

Importantly, the IPPF also emphasises the value of promoting opportunities that enhance the resilience of IP communities. This includes recognising and integrating traditional knowledge and coping strategies into emergency preparedness and response planning. By valuing Indigenous expertise in managing local environments and responding to past crises, emergency interventions can become more effective and sustainable, while also strengthening the role and agency of IP communities in shaping their own recovery and future preparedness.

Detailed potential impacts and mitigations measures are presented in Chapter 5 of this ESMP.

6. Consultation and Participation

6.1. Stakeholder Engagement

The WB's ESS7 defines stakeholder engagement is a process of identifying relevant stakeholders, conducting stakeholder analysis, and organizing a series of consultation to meet with project stakeholders for collecting stakeholders' feedback and concerns on project's risks and impacts, as well as stakeholders' development needs in relation to project purpose and activities. This aims to ensure the project's adverse impact on IPs can be avoided, or minimized and mitigated if avoidance is not possible. For this project, it is important that IPs need to be consulted also on their development needs (in relation to project purpose) to ensure they can receive socioeconomic benefits that are appropriate to them culturally.

During project implementation, consultation with IPs will be carried out for subprojects where IP screening confirm IPs, as per WB ESS7, are present in the subproject area. The consultation with identified IPs will be carried out on an iterative basis – throughout project cycle, to facilitate the process of adaptive management of risks and impacts identified for the subproject. To ensure relevant IP stakeholders are engaged in project consultation, MRD will identify IP group(s) present in project area, then conduct consultation with them. Consultation with IPs will be conducted in a manner that is culturally appropriate for each of identified IP group, gender-sensitive and intergenerational. The consultation will seek also feedbacks of IPs on subproject's risks and impacts, suggestions to avoid or mitigate such risks and impacts, and developmental needs of the IP in relation to the project goal and subproject activities.

To promote effective project design and build project support and ownership of local IPs, while reducing risk of potential delays during subproject implementation, MRD will apply the engagement strategy described in the project's Stakeholder Engagement Plan (SEP). The engagement process will include analysis of IPs as project stakeholders, engagement planning, disclosure of information, and conducting meaningful consultation with the affected IP(s). The consultation will be based on the existing customary institutions and decision-making processes of the consulted IPs to promote IP's participation and support for the subprojects. In particular, the consultation to be conducted by MRD will:

a) Involve the participation of IPs' representative bodies and organizations, such as councils of elders or village councils. Where appropriate, consultation shall be carried out with other members of the IP communities.
b) Conduct consultation using local languages and preferred communication channels
c) Allow for IPs to participate effectively in the design of project activities or mitigation measures that could potentially affect them – either positively or negatively
d) Provide IPs sufficient time to make informed decisions.

6.2. Meaningful Consultation

Genuine, inclusive engagement is a cornerstone of the Indigenous Peoples Planning Framework (IPPF), ensuring that the voices, concerns, and aspirations of Indigenous communities are meaningfully integrated throughout all stages of emergency management and project development. To achieve this, the following strategies are employed:

- Early and Ongoing Consultations: Engagement begins at the earliest stages of project planning and continues throughout implementation. Culturally appropriate methods are prioritised, such as yarning circles—informal, conversational gatherings that foster open dialogue; elders' councils, which respect traditional authority and wisdom; and broader community meetings that encourage participation from all demographic groups. These forums facilitate trust-building and ensure that Indigenous perspectives are not only heard but actively shape project outcomes.

- Translation and Interpretation: To promote equitable participation, all communications are translated and interpreted into local languages and dialects. This practice removes language barriers and ensures that information is accessible to everyone, particularly elders and community members for whom English may not be the first language.

- Respect for Traditional Leadership and Decision-Making: Engagement processes are structured to uphold and respect Indigenous leadership systems, including the protocols for decision-making that may vary between communities. This includes acknowledging the authority of elders and community leaders, allowing decisions to be made through consensus and traditional practices rather than imposed external methods.

- Accessible Information Sharing: Information about the project and emergency responses is disseminated through trusted local channels, such as community radio, footpath meetings at local gathering spots, and other community platforms familiar to residents. These methods are chosen for their reach and reliability within Indigenous communities, ensuring timely and transparent communication.

- Documentation and Feedback Integration: All consultation activities are thoroughly documented, and feedback from community members is systematically incorporated into project design and ongoing implementation. This creates a continuous feedback loop, allowing projects to adapt to emerging needs and concerns, and demonstrating a genuine commitment to co-design and shared ownership of outcomes.

By embedding these strategies, the IPPF aims to foster a collaborative environment where Indigenous Peoples are active partners in emergency planning and delivery, ensuring that interventions are not only effective but also respectful and supportive of cultural identity and self-determination.

7. Grievance Redress Mechanism

7.1. Objective of Project's GRM

The objective of the GRM in this IPPF is to provide aggrieved IP with grievance redress procedures that are accessible, easily used, and free of charge to ensure the grievances submitted by the affected IPs are solved timely. The GRM in this IPPF guides how a complaint of affected IP can be lodged, including forms of grievance lodging, channels, and steps that can be taken. The GRM also describes the time-limits, where possible, for each step, such as time-limit for acknowledging receipt of complaint, notification of resolution decision. During the grievance resolution progress, where necessary, dialogues will be hold between the aggrieved IP and project's GRM focal point that are designated for each step. Dialogues with affected IP during complaint resolution process aims to promote mutual understanding and collaboration among concerned parties. The project also has an appeal process which a complainant can resort when they are not satisfied with the complaint resolution results/decision, or their complaints are not resolved within a specified timeframe. During subproject implementation, IPs in the subproject area will be reminded of the availability of this GRM and will be explained during consultation about how this GRM could be used.

7.2. Approach for an Effective GRM

A transparent and accessible grievance redress mechanism (GRM) will be established to provide Indigenous Peoples (IP) community members with a confidential and effective avenue to voice concerns or complaints related to project activities. The GRM is designed to ensure inclusivity, fairness, and responsiveness, and will incorporate the following features:

- Clear Communication in Local Languages: The GRM process and its purpose will be explained to all community members in their preferred local languages. Information sessions, translated materials, and community meetings will be held to ensure that everyone, including those with limited literacy, understands how to use the mechanism.

- Multiple Access Points: To accommodate diverse needs and preferences, the GRM will offer several entry points for submitting grievances. These will include in-person submissions at community centres or project offices, a dedicated phone line, and the option for written submissions through forms, letters, or digital platforms where available. This multi-channel approach ensures that all community members, regardless of age, gender, or access to technology, can participate.

- Prompt, Fair, and Culturally Sensitive Resolution: Upon receipt of a grievance, the GRM will initiate a timely review process, adhering to clear timelines for acknowledgment, investigation, and resolution. The process will uphold principles of fairness and impartiality while respecting cultural norms and practices. Where appropriate, traditional dispute

resolution methods may be incorporated alongside formal procedures, ensuring outcomes are acceptable to all parties involved.

- Confidentiality and Protection: All grievances will be treated with strict confidentiality to protect the privacy and safety of those raising concerns. No individual will face retaliation or discrimination for using the GRM.

- Tracking and Transparent Reporting: Each grievance will be logged and tracked from submission to resolution. Regular summary reports on the number and nature of grievances, as well as how they were addressed, will be shared with project management, affected communities, and relevant stakeholders. This transparency promotes accountability and builds trust between the community and project implementers.

- Feedback and Continuous Improvement: The effectiveness of the GRM will be reviewed periodically in consultation with IP communities. Feedback will be used to refine procedures, ensuring that the mechanism remains responsive and relevant as project activities evolve.

By implementing a robust GRM as outlined above, the project aims to uphold the rights and interests of Indigenous communities, facilitate constructive dialogue, and ensure that concerns are addressed in a manner that supports social cohesion and project success.

7.3. GRM Procedures

In the section below, various complaint handling procedures are designed to assist aggrieved IPs to make complaints that are related to the project. These procedures cover key types of impacts that are identified as potential, as well as risks during project preparation.

- **Complaints related to Labor & Community Safety and Health:** If the IP are involved in the Project as a contracted worker and they wish to submit their complaint related labor and working conditions, they can lodge a grievance using the Redress Procedure for Complaints related to Labor and Working Condition described in the Labor Management Procedures (Annex 1 of ESMP). Similarly, if IP community/members face specific issues related to their community safety and health, particularly in relation to migrant labor force who work in the vicinity of their home/land, etc, they can follow the above complaint handling procedure to enable the project to address timely their concerns.
- **Complaints related to SEA/SH of the project' Stakeholder Engagement Plan:** In case the IP wishes to submit a grievance related to sexual exploitation and abuse, or sexual harassment, or violence against children, they can lodge their grievance using the Redress Procedure for Complaints related to SEA/SH of the project' Stakeholder Engagement Plan (SEP).
- **Complaints related to any other aspects that are not covered in the above GRM:** In case IPs are affected by environmental impacts, such as increased dust level that affect their living or business activities, or increased noise during evening time, or or lack of safety measures that pose risks of accident to road users in generally and to local IP who travelling to bring farmers product to markets, there are various channels will be established for IPs' convenient use. These include PMU GRM focal point's telephone; Local IP leaders; Commune/Sangkat offices.

8. Implementation Arrangements & Capacity Building

The Ministry of Rural Development (MRD) will be responsible for implementing this IPPF, and providing overall guidance and policy advice, internal coordination, discussion and resolution of project matters with counterparts and other government agencies, including public disclosure, consultation, and involvement of civil society if needed. The Project Manager (PM) at MRD will be responsible for ensuring that the IPPF will be followed. Within MRD, the social and environmental office (SEO) will be responsible for carrying out day-to-day activities set forth in this IPPF. The SEO will work closely with relevant stakeholders, such as local authorities, IPs in subproject areas, and IP consultants, etc. to ensure activities carried out related to IP are in full compliance with requirements and guidance described in this IPPF.

Capacity building will be integrated into all stages of project implementation. Strengthening the skills and resources of Indigenous Peoples and project staff is critical for success. To achieve this, a comprehensive and culturally informed capacity building strategy will be employed, ensuring both immediate and long-term benefits for communities and project personnel.

- Training in emergency response tailored to Indigenous contexts: Specialised training programs will be developed in collaboration with Indigenous leaders, elders, and subject matter experts. These sessions will focus on practical skills for disaster preparedness, immediate response, and recovery, ensuring that the content is relevant to local knowledge systems, languages, and traditional practices. Scenarios and exercises will reflect real risks facing communities, such as bushfires, flooding, or health emergencies, and will encourage Indigenous-led solutions.

- Workshops on rights, protocols, and culturally safe practices: Regular workshops will be organised to build awareness among all stakeholders regarding Indigenous rights, protocols for engagement, and the importance of cultural safety. These workshops will address topics like respectful communication, and traditional governance structures. By fostering mutual respect, these sessions will contribute to building trust and stronger partnerships between Indigenous Peoples and project staff.

- Support for Indigenous-led organisations and community groups: Resources—such as funding, materials, and administrative support—will be allocated to strengthen Indigenous-led organisations and grassroots groups. This support will empower them to take a leadership role in project activities, facilitate community mobilisation, and enhance their capacity to advocate for their interests in ongoing project planning and implementation.

- Ongoing mentorship and technical assistance from experts and elders: Continuous mentorship will be provided through partnerships with local elders, Indigenous knowledge holders, and technical experts. This approach will ensure a transfer of knowledge and skills, while fostering intergenerational learning and respect for traditional practices. Technical assistance will also be available to address specific challenges as they arise during the project lifecycle.

- Integration of capacity building across all stages of project implementation: Capacity development will not be a one-off activity but will be woven into every phase of the project—from initial planning and community consultations through to implementation, monitoring, and evaluation. This integrated approach will ensure that skills and resources are continually adapted to evolving needs, supporting long-term sustainability and community resilience.

By embedding these capacity building measures throughout the project, both Indigenous communities and project staff will be better equipped to respond to challenges, uphold cultural values, and achieve shared goals. This approach will also contribute to lasting partnerships, enhanced self-determination, and improved outcomes for all involved.

9. Monitoring and Evaluation

Monitoring and evaluation (M&E) will focus on both process and outcomes, using indicators that reflect IP participation, satisfaction, and well-being. The M&E will be conducted in a participatory manner, ensuring that Indigenous Peoples (IP) communities are actively involved in defining what success looks like and in identifying appropriate indicators. This collaborative approach aims to capture both quantitative and qualitative aspects of project implementation and its effects on IP communities.

- Regular monitoring visits and participatory reviews with IP communities: Project teams will conduct scheduled field visits to IP communities, engaging directly with community members, elders, and leaders to observe project activities, gather feedback, and address any emerging issues. Participatory reviews will be organised, where community members can openly discuss progress, share their perspectives, and contribute to decision-making processes. These visits will be documented and used to inform ongoing project adjustments.

- Disaggregated data collection to assess differential impacts and benefits: Data will be collected and analysed by gender, age, and other relevant social characteristics to ensure that the project's impacts and benefits are equitably distributed. This approach will help identify any unintentional negative consequences or gaps in service delivery, allowing for targeted interventions where needed. Both quantitative surveys and qualitative interviews or focus groups will be employed.

- Adaptive management to respond to feedback and changing circumstances: The M&E system will be flexible, enabling project managers to make timely adjustments based on community feedback, monitoring results, and shifts in local conditions. Lessons learned from monitoring activities will be incorporated into project planning and implementation, ensuring that the project remains responsive and relevant to IP needs and aspirations.

- Transparent reporting to stakeholders, including IP representatives and the World Bank: Regular M&E reports will be prepared and shared with all key stakeholders, including IP community representatives, local authorities, and funding agencies such as the World Bank. Reports will be written in accessible language and, where appropriate, translated into local languages. Public disclosure of findings and progress updates will help build trust, promote accountability, and encourage continued community engagement.

10. Examples of Practical Tools

10.1. Consultation Tools

These sample consultation tools are intended to promote ongoing, respectful, and open communication between project implementers and Indigenous Peoples. Additional tools may be developed or adapted in collaboration with community representatives and Indigenous organisations to meet specific consultation requirements. These tools support the inclusive and participatory engagement of IP communities throughout project cycles, ensuring their perspectives, concerns, and aspirations are properly considered and integrated into project planning and implementation. The sample tools below can be adapted to suit specific local contexts and needs.

- Community Meeting Agenda Templates: Structured outlines to guide the organisation and facilitation of community meetings, ensuring all relevant topics—such as project objectives, potential impacts, mitigation strategies, and benefit-sharing—are addressed. These templates help maintain focus, promote inclusive dialogue, and document feedback effectively.

- Feedback Forms: User-friendly forms for collecting community input, questions, and concerns during or after consultations. The forms are designed to be accessible to all community members, including those with limited literacy, and may be available in local languages or dialects to maximise participation and capture a wide range of perspectives.

- Information Brochures and Visual Aids: Materials that explain project details, processes, and potential impacts in clear, simple language, often supplemented with diagrams or images to enhance understanding. These aids are particularly useful for informing IP communities prior to and during consultations, empowering them to make informed contributions.

- Translation and Interpretation Guidelines: Instructions and checklists to ensure that all consultation activities are linguistically accessible, including guidance on engaging qualified interpreters and translating written materials into Indigenous languages as appropriate.

- Consent and Attendance Registers: Documents for recording participant consent and attendance at consultation events, supporting transparency and ongoing communication with IP stakeholders.

- Participatory Mapping Tools: Resources and templates for facilitating participatory mapping exercises, enabling communities to identify and document areas of cultural, social, or environmental significance relevant to the project.

10.2. Consultation and Participation Checklist

- Identify key Indigenous Peoples (IP) stakeholders, including elders, community leaders, and representative organisations.

- Develop a culturally appropriate consultation plan, considering local customs, languages, and preferred communication methods.

- Provide accessible information about the project, its objectives, potential impacts, and opportunities for involvement, using formats suitable for the community (e.g., meetings, brochures, visual aids).

- ❖ Schedule consultation sessions at times and locations convenient for community members, ensuring inclusivity of different groups (e.g., women, youth, elders).
- ❖ Document concerns, feedback, and suggestions raised during consultations, ensuring transparency and accountability.
- ❖ Facilitate two-way dialogue, allowing ample time for questions, discussion, and clarification of information.
- ❖ Ensure the availability of translation or interpretation services as needed to support effective participation.
- ❖ Seek free, prior, and informed consent (FPIC) for project activities where required, and record the process and outcomes.
- ❖ Establish a grievance redress mechanism to address community concerns promptly and fairly.
- ❖ Follow up on commitments made during consultation, providing regular updates on project progress and addressing outstanding issues.
- ❖ Review and adapt consultation approaches as needed based on community feedback and evolving circumstances.

This checklist can be adapted to the specific context of the project and the communities involved, promoting meaningful engagement and participation throughout the project lifecycle.