



ADAPTATION FUND

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Adaptation Fund Board
Project and Programme Review Committee
Thirty-eighth Meeting
Bonn, Germany, 19-23 October 2026

PROPOSAL FOR PHILIPPINES



ADAPTATION FUND

**ADAPTATION FUND BOARD SECRETARIAT
TECHNICAL REVIEW OF PROJECT PROPOSAL FOR
"STRENGTHENING CLIMATE-RESILIENT HEALTH SYSTEMS IN THE PHILIPPINES THROUGH
CIRCULAR ECONOMY-BASED ADAPTATION APPROACHES"**

Project Title	Strengthening climate-resilient health systems in the Philippines through circular economy-based adaptation approaches
Project ID	AF00000555
Category	Regular size project (over \$1 million)
Type	Single country project
Stage	Concept
Country	Philippines
Implementing Entity	UNIDO
Financing Requested	USD 11,872,863.00
Reviewer	Lystra Fletcher-Paul Fletcher-Paul
Co-reviewer(s)	Estefania Jimenez Rodriguez
IE Contact Person	Fatou Haidara,Ganna Onysko,Maren Mellendorf,Mark Grigoryan,Natale Guarnaccia,Olga Gordiievskia

Secretariat's Overall Comment

The project “Strengthening climate-resilient health systems in the Philippines through circular economy-based adaptation approaches” aims to strengthen the resilience of health facilities and associated environmental health systems in Camarines Sur, La Union and Metro Manila, applying circular economy approaches as practical adaptation measures.

The initial technical review raises several issues, such as the Theory of Change, Economic benefits, National Strategies, Technical Standards, Sustainability, Environmental and Social Risks and Impacts, Consultative process, Full cost of adaptation, Alignment with the Results Framework and Execution Entity costs among others, as is discussed in the number of Clarification Requests (CRs) and Corrective Action Request (CAR) raised in the review.

Country Eligibility

Is the country party to the Kyoto Protocol, or the Paris Agreement?

Response: Yes

Secretariat: Yes. The Philippines is a party to the Kyoto Protocol and also a party to the Paris Agreement

Is the country a developing country particularly vulnerable to the adverse effects of climate change?

Response: Yes

Secretariat: Yes, the Philippines is a developing country which is vulnerable to the adverse effects of climate change, particularly floods, extreme rainfall, tropical cyclones, sea-level rise, heat stress, and climate-sensitive disease outbreaks. These hazards affect not only health facilities but also essential environmental health systems, including healthcare waste management, water supply, sanitation, wastewater management, and disease surveillance.

Project Eligibility

Has the designated government authority for the Adaptation Fund endorsed the project/programme?

Response: Yes

Secretariat: As per letter of Endorsement dated 25 June 2026. However, the signatory to the letter, Atty Juan Miguel Cuna is not listed as the Designated Authority of the country. In another letter to the AF dated June 25, 2025, Mr Cuna informed the AF that there has been a change in the leadership at the Department of Environment and Natural Resources (DENR) and that the process of his (Mr. Cuna's) nomination and confirmation as the primary contact point of the AF is on-going.

Response: No

Secretariat: CAR1: In the re-submission please ensure that that updated LOE is presented to facilitate processing of the proposal package.

Response: No

IE: CAR1: Letter is available and provided in the Annex. As of August 2026, Mr. Cuna is listed as the Designated Authority of the country.

Does the length of the proposal amount to no more than Fifty pages for the project/programme concept, including its annexes?

Response: Cleared

Secretariat: Yes, the Concept Note is 49 pages long including Annexes

Does the project / programme support concrete adaptation actions to assist the country in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience?

Response: Not Cleared

Secretariat: Yes, however additional information is required.

Part II A (pages 20 - 25) describes the project components. For each component, the section describes in detail the activities which will be implemented to address the climate change impacts identified, showing how they lead to substantial tangible outcomes. The alignment of the project objectives with the AF Strategic Framework is also demonstrated.

However, some impacts such as sea-level rise-driven displacement, mental health stress, and broader community-level livelihood impacts, though mentioned in the problem analysis, are not major targets of the activities. The project also seems to rely heavily on facility-level upgrades, so its effectiveness will depend on maintenance capacity, local government ownership, and continuous financing for operations after installation.

CAR2: Please include outputs and activities which address all the climate impacts identified and include activities which also depend less on continuous financing for sustainability.

Some of the outputs are written in the form of activities (e.g. Outputs 4.1.1 and 4.1.2) and some of the activities could be grouped under one outcome instead of having just one activity per outcome.

CAR2: Please review the outcomes and outputs and revise accordingly

The Project intervention diagram (Figure 6) shows the relationship between the drivers, weaknesses, Impacts, core problem, solutions and co-Benefits. However, it does not adequately demonstrate the logic of the suitability of the activities in responding to the threats posed by the likely climate scenarios and how they align with the overall goal and objectives of the project.

CAR3: Please revise the Figure into a Theory of Change diagram which more appropriately shows the logic of the project interventions. Be sure to include the risks and assumptions in the ToC diagram.

Response: Not Cleared

Secretariat: CAR4:

1. Please strengthen the climate change adaptation rational of the components , outputs and activities presented in the proposal linking the climate drivers to the interventions proposed. The current presentation presents more as a development case and less like a climate change adaptation case.

2. 4.1 the concrete output should focus on what the experts are intended to achieve what will be the tangible results of their work. Please rework.

Response: Not Cleared

IE: The project design has been revised to strengthen the climate adaptation logic, improve the results hierarchy, and better demonstrate the causal pathway from climate drivers to adaptation outcomes.

For CAR2: Part II.A components, outcomes and outputs have been revised to ensure that the identified climate risks are consistently linked to the proposed interventions. The results framework has been restructured so that outcomes describe the institutional and resilience changes expected, while outputs are presented as tangible deliverables rather than activities.

In detail the following has been revised:

- Outputs previously written as activities have been reformulated into concrete deliverables (e.g., operational monitoring systems, technical guidelines, institutional protocols, and capacity development programs).
- Activities have been consolidated under their respective outputs to improve the logical hierarchy and remove the one-activity-per-outcome structure.
- Additional activities have been incorporated to strengthen local government ownership, operation and maintenance planning, institutional capacity, and knowledge transfer, thereby improving sustainability beyond the project financing period and reducing dependence on continuous external financing.

For CAR3: The Theory of Change/Figure 6 has been replaced with a revised diagram. The new ToC aims to demonstrate the logical relationship between:

- climate drivers and projected climate scenarios;
- underlying vulnerabilities and barriers;
- project interventions under each component;
- tangible outputs and adaptation outcomes;
- the overall project objective; and
- the key assumptions and risks that influence successful implementation.

For CAR4 the climate adaptation rationale and Output 4.1 has been revised strengthen throughout the project narrative by explicitly linking each component, output and activity to the climate hazards identified in the assessment of vulnerability, including flooding, extreme rainfall, heat stress, sea-level rise and climate-related livelihood vulnerability. This aims to emphasizes the reduction of climate vulnerability and the strengthening of adaptive capacity as the primary justification for the interventions.

Also, Output 4.1 has been revised to focus on the tangible institutional results to be achieved rather than the deployment of experts.

Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?

Response: Not Cleared

Secretariat: Yes, however some addition information is required.

Part II B (pages 25 - 26) provide a description of the economic, social and environmental benefits. However, it does not quantify the estimates, nor does it provide any information on the expected beneficiaries with particular reference to equitable distribution of benefits to vulnerable communities, households or individuals. The section also does not provide information on the target areas where the vulnerable groups have been

identified, not the particular benefits which will be provided to them by the project.

An initial gender analysis is presented in Annex C which provides some estimates of direct and indirect beneficiaries of the project and provides information on the demographic and social context, the gender specific vulnerabilities, gender considerations of each component, the policy environment and recommendations for future analysis.

CAR5: Please quantify the estimates of the economic benefits (e.g. reduced repair, energy, water, and disposal costs or reduced economic losses as a result of improved health services during disasters).

CAR6: Please provide estimates of the direct and indirect beneficiaries and include a description of the benefits which the project will provide to each group.

CR1: Please indicate whether there are any concerns of negative development as a result of the project. Also indicate whether the project will increase the vulnerability of beneficiaries or non beneficiaries or reduce their capacity to adapt to climate change.

CR2: The fact that target areas are not identified suggest that the project as USPs. If this is the case, please provide a explanation of how these will be addressed.

Response: Not Cleared

IE: For CAR5: Part II B: Quantified estimates of the expected economic benefits arising from the project, including reductions in infrastructure repair and maintenance costs, energy and water savings, avoided waste disposal costs, and avoided economic losses associated with improved continuity of essential services during climate-related disasters. Related assumptions and methodology used for these estimates are described in the revised project narrative.

For: CAR6: Estimates of both direct and indirect beneficiaries, disaggregated by women, men and vulnerable groups where applicable, were included. A description of the benefits to the groups (including vulnerable households, local communities, local government units, health facilities and community service providers) were added to describe the specific adaptation benefits such as improved access to climate-resilient services, reduced disaster risk, enhanced adaptive capacity and strengthened livelihoods.

For CR1: A new subsection confirms that there are no negative developments due to the project. The project is designed to reduce (not increase), climate vulnerability for both beneficiaries and surrounding communities.

For CR2: The proposal now includes the approach for target areas and selection criteria have been included to ensure that interventions prioritize climate-vulnerable communities based on exposure to climate hazards, socio-economic vulnerability, service gaps and local government readiness.

Is the project / programme cost effective?

Response: Cleared

Secretariat: Yes,

Part II B (pages 26 - 29) provides a description of the cost analysis of the project. A logical rationale is given for the cost effectiveness of the project (resource-efficient technologies, retrofit over new-build, avoided losses, scalability) with aggregate PHP figures (e.g., PHP 12.4–15.6 billion avoided costs; renewable payback 3–9 years).

A full Cost benefit analysis is deferred to the Fully Developed Project.

The cost effectiveness is shown from a sustainability point of view in that the interventions are chosen to be durable, decentralized, resource-efficient, and cheaper to operate over time than the flood-prone, centralized alternatives they replace. Moreover, the circular procurement, decentralized treatment, and resource-efficiency measures reduce operational costs, environmental contamination, and dependence on costly external systems.

Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments?

Response: Not Cleared

Secretariat: Yes,

However, additional information is required.

Part II C (pages 30 - 31) lists the National Development plans and the sub-national instruments and local planning evidence relevant to target areas of the project. These include the Philippine National Adaptation Plan, the Philippine Development Plan and the National Determined Contribution as well as the Naga City LDRRM Plan 2023–2028, La Union e-LCCAP 2023–2032 and PDRRM Plan, Metro Manila climate/DRRM strategies. However, other sub-sectoral plans such as health, water and sanitation and agriculture which are of relevance to the project have not been mentioned.

CAR7: Please include the dates of all the plans mentioned in the section.

CAR 8: Please include the sub sectoral plans (e.g. water, health, agriculture) showing their relevance to the project.

Response: Not Cleared

IE: For CAR7: The revised document now includes the dates of the key national and local policy instruments, including the Philippine National Adaptation Plan (2023–2050), Philippine Development Plan (2023–2028), the updated Nationally Determined Contribution, Naga City LDRRM Plan (2023–2028), La Union Enhanced Local Climate Change Action Plan (2023–2032), and the corresponding Provincial Disaster Risk Reduction and Management Plans.

For CAR8: Reference to sub sectoral plans is included as relevance through Components 2–4, which focus on climate-resilient healthcare waste systems, WASH and minor wastewater infrastructure, water security, environmental health monitoring, and climate-responsive health service continuity.

Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?

Response: Not Cleared

Secretariat: Yes

However additional information is required.

Part II E (page 31) lists the relevant national technical standard of relevance to the project. These include the: National Building Code (P.D. 1096), Philippine National Standards for Drinking Water and Sanitation, DOH Health Care Waste Management Manual, National health and climate policies and the AF Environmental and Social Policy. For each of the standards, a short description is provided. However, the section does not include information on the institutions which are responsible for compliance nor the does it show how those standards

are aligned with the project. Moreover, it does not state how compliance will be achieved (i.e. the steps to be taken to comply and the authorization/clearance to be granted as required by national legislation) if needed.

CAR9: Please provide additional information for each standard on the responsible institution, the alignment with the project and the steps needed for compliance.

CAR10: Please ensure that the list is comprehensive

Response: Not Cleared

IE: CAR9 and CAR10: A comprehensive list and its relevance to the project has been included.

Is there duplication of project / programme with other funding sources?

Response: Not Cleared

Secretariat: Yes,

However, additional information is required

Part II F and Table 6 (page 32) list a number of existing or planned initiatives, provide a brief description of the projects and show how they differ from the proposed project. However, they do not provide information on lessons learned or areas of complementarity.

CAR11: Please revise Table 6 as follows:

1. In column 1, provide the name, the budget and dates of each on-going or planned project as well as any recent past related national and regional projects.
2. In column 2, Please state their respective objectives and focus,
3. In column 3, please state the areas of synergy, complementarity and no duplication with the current proposal,
- 4, Insert a new column and in that column state the lessons learned and considerations for design

Response: Not Cleared

IE: CAR 11: Table 6 has been revised to address comments 1-4, as kindly suggested

Does the project / programme have a learning and knowledge management component to capture and feedback lessons?

Response: Cleared

Secretariat: Yes,

Part II G (page 33) describes the learning and knowledge management aspects of the project. Activities related to knowledge management form part of Component 4 which sets out knowledge-sharing networks such as cross-learning forums, training programmes, policy dialogues, national and regional knowledge platforms and case studies, among the main learning and knowledge management strategies to be used by the project.

The project also plans to use performance monitoring, and learning reviews, highlighting the effectiveness of the various technologies, to keep track of experiences gained and analyze them periodically to enrich knowledge on climate change adaptation and accelerate understanding what kinds of interventions work. This will support replication and scaling up,

Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?

Response: Not Cleared

Secretariat: Yes,

However additional information is required.

Part II H and Table 7 and Annex VI describe the initial consultation process and document online meetings and field visits with government, EMB, DENR, LGUs, PENRO, hospitals, ADRA and MSF. However, these meetings are largely institutional. There is no information on the gender of the participants, the vulnerable groups which attended, the topics discussed, the main findings of the meeting or how the information was used to inform the design of the project. It was further stated that community/vulnerable-group consultation is deferred to the PFG/Fully Developed Project.

CAR12: Please provide the following information in the Initial Consultation report: the list of attendees (gender disaggregated, Consultation Outcomes / Key Findings and Considerations Integrated into Project Design.

CAR13: The marginal areas where marginalized and vulnerable groups have not been identified, This suggests that the project contains USPs. Kindly describe how the consultation process included USPs and what definitions were agreed upon.

CR3: Please indicate how the concerns and interests of these marginalized and vulnerable groups will be taken into consideration in designing the proposal.

Response: Not Cleared

IE: CAR12: List of attendees/key findings and considerations integrated into project design has been included.

CAR13: Additional information has been included and consultation process/data inclusion has been agreed to be provided through the focal points in the project regions.

CR3: An additional paragraph has been added above the table to outline the intended consultation process.

Is the requested financing justified on the basis of full cost of adaptation reasoning?

Response: Not Cleared

Secretariat: Yes, however additional information is required

Part II I and Table 8 (pages 37 - 38) set out baseline versus AF scenario for each component and explain that the grant covers incremental adaptation costs beyond routine facility budgets.

CR4: Please indicate whether the project has co-financing and whether the AF is able to deliver its outcomes and outputs regardless of the success of the other projects.

Response: Not Cleared

Secretariat: CAR14: Please remove "incremental" when referencing the AF grant as the AF funds the full cost of adaptation of the Adaptation proposal presented to it.

Response: Not Cleared

IE: CR4: Through engagement with facilities, government and stakeholders the project provides baseline co-financing/in-kind. The project can deliver its outcomes and outputs regardless of the success of other projects because it is not dependent rather complementary to other projects activities.

CAR14: Done.

Is the project / program aligned with AF's results framework?

Response: Not Cleared

Secretariat: Yes, however some revisions are required

The Table in Part III A (pages 43 - 45) demonstrates how the project/programme aligns with the Results Framework of the Adaptation Fund. However, the table needs to be adjusted.

CAR15: Please include the totals of the Project Objectives in the upper part of the table and the Totals of the Project Outcomes in the lower part of the table

CAR16:

1.The AF Outcomes for Objectives 1 and 4 in the AF Alignment Table are not consistent with the Outcomes stated in the Project/Programme Objectives (page 16). Similarly, the AF Outcome for Objective 4 in the upper part of the table (AF Outcome 1) is not consistent with the AF Output in the lower part of the table for Project Output 4 (AF Output 8). Please ensure that there is consistency of the AF Outcomes and Outputs in the alignment table as well as the table on Page 16.

Response: Not Cleared

Secretariat: CAR16:

2. Please note that the AF SRF 2026 has been published all new proposals should now adhere to the new SRF. Please amend the results framework alignment table utilizing the same which is available at <https://www.adaptation-fund.org/document/strategic-results-framework-guidance-2026/>

Response: Not Cleared

IE: For CAR15-CAR16: Revised as suggest and many thanks for sharing AF SRF 2026.

Has the sustainability of the project/programme outcomes been taken into account when designing the project?

Response: Not Cleared

Secretariat: Yes, however additional information is required

Part II I, (page 39) addresses institutional, policy, economic/social, environmental and knowledge-management sustainability. It states that sustainability will be secured through embedding guidelines and operational protocols into DOH systems, LGU planning, and health-facility practice. It also includes capacity building for facility managers, local governments, and health authorities, which helps ensure that staff can operate and maintain the systems after project completion. However, some aspects of financial sustainability such as post-project financing, replacement costs, and long-term O&M funding arrangements, are not adequately discussed. It also does not fully spell out contingency measures if LGU or facility budgets become constrained in the future.

CAR17: Please include the sustainability measures which will be put in place to address long term Operation and Maintenance as well as the contingency measures to be put in place if there is a shortfall of the LGU or facility budgets in the future

Response: Not Cleared

IE: For CAR17: Sustainability bulletin for Operation, maintenance and contingency measures included (please see last bulletin of Part II.

Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?

Response: Not Cleared

Secretariat: Yes.

However, additional information is required.

The table in Part II J (pages 39 - 41) screens the project against the 15 ESP principles and provides an initial gender assessment (Annex C). However, no single overall risk category is stated and the checklist is internally inconsistent.

CAR18: Please state the overall ESP risk category using the AF ESP definitions.

CAR19: Several principles have mismatched entries (e.g., “Conservation of Biological Diversity” marked “no further assessment required” yet risk “LOW”; “Lands and Soil Conservation” marked “further assessment required” yet risk “NONE”). Please correct them

CAR20: For each of the 15 principles please ensure that the screening process considers all potential direct, indirect, transboundary and cumulative impacts that could result from the project and that these are stated in Column 3 of the table.

CR5: Please ensure that the risk has been clearly substantiated,

CR6: Please re-examine the entry of “no further assessment required” calls for Public Health and Physical & Cultural Heritage, given the project’s healthcare-waste, non-burn treatment, wastewater and small civil-works activities.

CAR21: For the gender analysis, please provide more quantitative information if available

Response: Not Cleared

IE: CAR 18: Paragraph about the overall risks, including reference to AF and UNIDO’s E&S has been included.

CAR19: All principles have been re-checked and corrected accordingly.

CAR 20: All principles have been rephrased to consider potential direct, indirect, transboundary and cumulative impacts, which have been stated in column 3.

CR5: In line with the previous comments, potential risks have been more clearly outlined.

CR6: Yes, both entries have been re-examined and corrected.

CAR21: Many thanks for the valuable comment. Quantitative information and in-depth information will be provided during the project design stage considering the consultation process in the communities. Considering that gender is an integral aspect of the projects communities, a participatory approach will be considered.

Resource Availability

Is the requested project / programme funding within the cap of the country?

Response: Cleared

Secretariat: Requested financing is USD 11,872,863, which is within the single-country cap.

Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee?

Response: Cleared

Secretariat: All figures are rounded to whole numbers and the IE fee (USD 930,132) is 8.5% of the USD 10,942,731 total cost before fee; figures reconcile. The PFG IE fee (USD 11,751) is 8.5% of the PFG activity budget (USD 138,249).

Response: Not Cleared

Secretariat: CAR22:

1. In the project components and financing table please ensure that the budget is present per output.
2. please remove all periods and replace with commas for the budget figures in both the components financing table and the results framework alignment table and the PFG request form.
3. In the PFG request form please update the start date of the PFG.
In the PFG request form please clarify if DOH and UNIDO will be executing the PFG, if only UNIDO please amend.
4. On the cover page of the proposal please spell out DENR

Response: Not Cleared

IE: CAR 22:

For 1: Budget is now also presented per output.

For 2: Done.

For 3: Revised.

For 4: Spelt out.

Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)?

Response: Not Cleared

Secretariat: Yes the fees are within the range.

Eligibility of IE

Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?

Response: **Cleared**

Secretariat: UNIDO is an accredited Implementing Entity. Accreditation Expiration Date: 30 October 2027



CONCEPT NOTE PROPOSAL FOR SINGLE COUNTRY

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme: Strengthening climate-resilient health systems in the Philippines through circular economy-based adaptation approaches

Country: Philippines

Thematic Focal Area: Multi Sector

Type of Implementing Entity: Multilateral Implementing Entity

Implementing Entity: UNIDO

Executing Entities: Department of Environment and Natural Resources (DENR)
/UNIDO

Amount of Financing Requested: 11.872.863,00(in U.S Dollars Equivalent)

Project Formulation Grant Request (available to NIEs only): Yes ☒ No ☐

Amount of Requested financing for PFG: 150,000 (in U.S Dollars Equivalent)

Letter of Endorsement (LOE) signed: Yes ☒ No ☐

NOTE: LOEs should be signed by the Designated Authority (DA). The signatory DA must be on file with the Adaptation Fund. To find the DA currently on file check this page: <https://www.adaptation-fund.org/apply-funding/designated-authorities>

Stage of Submission:

- ☐ This concept has been submitted before
- ☒ This is the first submission ever of the concept proposal

In case of a resubmission, please indicate the last submission date: 7/6/2026

Please note that concept note documents should not exceed 50 pages, including annexes.

Project/Programme Background and Context:

Short summary of the Project

Climate change is increasingly disrupting health services in the Philippines through floods, extreme rainfall, tropical cyclones, sea-level rise, heat stress, and climate-sensitive disease outbreaks. These hazards affect not only health facilities but also essential environmental health systems, including healthcare waste management, water supply, sanitation, wastewater management, and disease surveillance. The project aims to strengthen the resilience of health facilities and associated environmental health systems by enhancing their capacity to anticipate, withstand, and recover from climate-related shocks. Circular economy approaches will be applied as practical adaptation measures that improve resource efficiency, reduce vulnerabilities, and support service continuity.

A key focus of the project is strengthening institutional and policy capacity for climate-resilient health systems. By integrating circular economy principles into health sector planning, the project will support the development of policies, technical standards, planning tools, and operational guidance that enable health authorities and local governments to embed resilience and resource efficiency into routine decision-making.

The project will also improve the resilience of healthcare waste management systems, which are often disrupted during floods, storms, and extreme heat. Investments in resilient infrastructure, improved waste segregation and minimization, non-burn treatment technologies, and stronger tracking systems will help ensure safer and more environmentally sound waste management under climate stress while promoting circular economy practices.

To strengthen water security and sanitation, the project will promote rainwater harvesting, greywater reuse, modular treatment systems, and improved drainage and backflow protection. These measures will reduce pressure on freshwater resources and help maintain safe Water, Sanitation and Hygiene (WASH) services during floods, droughts, and other climate-related disruptions.

Finally, the project will enhance monitoring and early warning systems for climate-sensitive diseases and environmental health risks. Improved surveillance, combined with resource-efficient and passive cooling measures, will support earlier risk detection, reduce operational stress, and improve facility performance during extreme weather events. Together, these interventions will create safer, more efficient, and more climate-resilient health facilities.

Project Area

The Philippines is an archipelago composed of 7,641 islands within three (3) major island groups: Luzon, Visayas, and Mindanao. It has a total land area of 298,170 km² and a coastline of 36,289 km. Surrounded by bodies of water, the Philippines is bordered by the Pacific Ocean on the east, the West Philippine Sea on the west, Basha Channel on the north and the Sulu and Celebes Seas on the south. In terms of topography, the islands of Luzon and Mindanao are characterized by alluvial plains, narrow valleys, rolling hills, and high mountains. Most of the smaller islands, such as those in the Visayas, have a mountainous interior surrounded by narrow strips of discontinuous flat lowlands on the coastal rims. The shorelines of both large and small islands are irregular.¹

¹ <https://unfccc.int/documents/638996>



The Philippines is one of the world's most climate-vulnerable countries, facing a confluence of escalating hazard trends. The archipelago experiences increasingly extreme precipitation events and pluvial flooding, as well as some of the most frequent and intense typhoons on the planet². Sea-level rise is an acute concern for this island nation, with projections indicating that nearly one-third of coastal local government units could be submerged by 2050 even under a 1.5 C global warming scenario³. These climate hazards, heavy rains, flooding, storm surges, rising seas, and extreme heat, pose grave threats to communities and infrastructure, underscoring the urgency of adaptation efforts in all sectors.

Projected Climate Impacts in The Philippines by 2030⁴



The Philippines' health system is highly vulnerable to climate impacts, due in part to the exposure of many health facilities to floods, storms, and sea-level rise. A significant number of hospitals and rural health units are located in low-lying or coastal areas (around 60% of local government units are coastal⁵), making them susceptible to inundation, structural damage, and isolation during extreme weather events. Indeed, disasters **regularly damage health infrastructure and disrupt the delivery of health services** in the country⁶. As climate hazards intensify, these risks will increase: The **National Adaptation Plan (NAP) 2023-2050**⁷ projects a growing number of health facilities will be exposed to flooding by mid-century, with correspondingly higher damage and economic losses.

From 2000 to 2023, the Philippines incurred PhP 911 billion in economic losses due to extreme weather events and other natural disasters.⁸ These losses were concentrated in key sectors, with 59% impacting agriculture, 32% affecting infrastructure, and 8% borne by the private sector. (Figure 3. A considerable share of these losses would involve health facilities from physical damage to buildings and equipment, to the costly disruptions of health services that occur when clinics and hospitals are forced offline. This climate vulnerability of health infrastructure highlights the pressing need to climate-proof health facilities as a core adaptation priority.

² World Bank Delivers Financial Boost to Philippines to Strengthen Climate Preparedness at Schools, Health Facilities, Communities

³ <https://www.gmanetwork.com/news/scitech/science/960140/30pct-ph-coastal-areas-may-be-underwater-by-2050-climate-change-commission/story/>

⁴ Philippine National Adaptation Plan, CCC & DENR (2023)

⁵ <https://www.gmanetwork.com/news/scitech/science/960140/30pct-ph-coastal-areas-may-be-underwater-by-2050-climate-change-commission/story/>

⁶ <https://www.worldbank.org/en/news/press-release/2023/11/17/wb-delivers-financial-boost-to-ph-to-strengthen-climate-preparedness-at-schools-health-facilities-commu>

⁷ <https://unfccc.int/documents/638996>

⁸ addressing loss and damage At A Glance - SENATE ECONOMIC PLANNING OFFICE

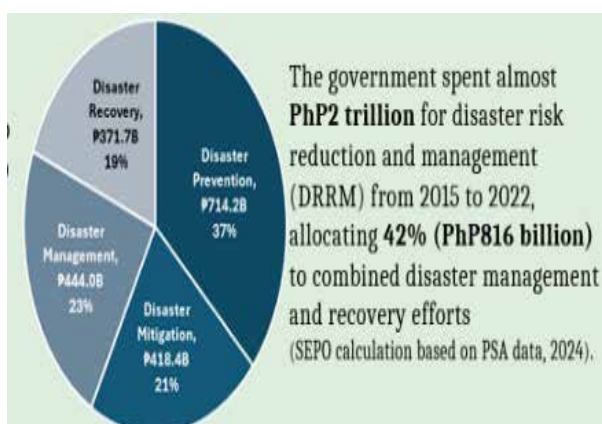
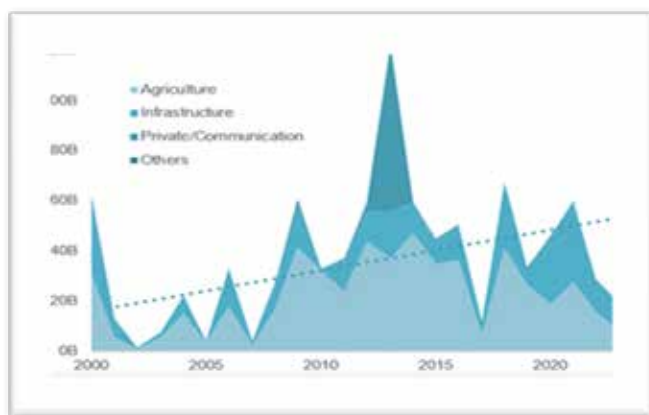


Figure 1. Historical Economic L&D from Disasters in The Philippines (2000-2023)

Figure 2. Projected GDP losses due to climate change

Figure 3. DRRM Expenditures (2015-2022)

In this photo provided by the Malacanang Presidential Communications Office, damaged homes are shown beside Mananga Bridge in Talisay, Cebu Province, central Philippines on Friday Nov. 7, 2025.



Climate hazards create cascading public health risks beyond direct physical damage. Floods and typhoons generate large amounts of debris, medical and hazardous waste that can contaminate water sources and the environment if poorly managed. Flooding also overwhelms sanitation systems, increasing the risk of water-borne diseases and disrupting access to safe water. Health services are further affected when facilities lose power, water supply, or road access during emergencies.

Post-flood disease outbreaks, including dengue, leptospirosis, and gastrointestinal illnesses, demonstrate the wider health impacts of climate events and place additional pressure on an already strained health system. These impacts show that climate change is not only an environmental challenge but an escalating public health risk in the Philippines.

Baseline Scenario and Adaptation Additionality

Existing government programs support healthcare service delivery, healthcare waste management, environmental protection, and disaster preparedness; however, they do not yet fully address growing climate risks to healthcare waste systems, WASH infrastructure, wastewater management, and environmental health monitoring. Without Adaptation Fund support, health facilities will remain vulnerable to climate-related service disruptions, environmental contamination, and public health risks. The project will complement national efforts by addressing these gaps in three target areas: Camarines Sur (Bicol Region), La Union, and Metro Manila (National Capital Region). These sites were selected to represent diverse climatic conditions, population needs, and rural–urban contexts, covering approximately 16 million

people exposed to a range of climate hazards and offering strong potential for scalable adaptation impact (Table 1)

Table 1: key characteristics of the sites

Characteristic	Camarines Sur	La Union	Metro Manila (NCR)
Population (2024)	2,063,314 ⁹ (largest province in Bicol)	825,072 ¹⁰	Aprx. 13.5 million (2020 Census)
Land area	5,497 km2 ¹¹ (mostly plain & mountainous)	Aprx.1,454 km2 ¹² (hilly, coast)	aprx.619 km2 (urbanized)
Primary hazards	Typhoons, floods, landslides ¹³ (Very High cyclone hazard)	Typhoons, coastal storm surge, landslides ¹⁴ (High cyclone hazard)	Extreme rainfall and floods, sea-level rise, heat waves
Economy & infrastructure	Mix of agriculture (rice, coconuts, fishery) and growing urban areas; rural health network	Agriculture & fisheries; medium development	Highly urbanized; economy: services, industry; many hospitals and dense population
Health system & WASH	Many rural health units (RHUs) and barangay clinics; sanitation varies; some flood-vulnerable facilities	Several RHUs; mixed sanitation; coastal communities with limited sanitation	Concentrated hospitals/clinics; informal settlements with poor drainage; chronic flood in low-lying areas
Vulnerable groups	Coastal fisherfolk, upland farmers, informal settlers in floodplains, indigenous communities	Coastal communities (fishing, sea surge risk), upland farmers; poverty incidence aprx.16% (2020 census)	Low-income urban poor in hazard-prone areas, elderly, women-headed households

Camarines Sur



Map: Camarines Sur province (red) in the Philippines



Map: Districts of Camarines Sur

Camarines Sur is located in the central part of the Bicol Peninsula, the southeastern part of Luzon Island. It is located between 140 10' and 130 15' North Latitude and between 1240 10' and 1220 40' East

⁹ <https://www.camarinessur.gov.ph/about/quick-facts>

¹⁰ <https://launion.gov.ph/wp-content/uploads/2025/11/2024-La-Union-Quick-Facts-Final.pdf>

¹¹ <https://www.camarinessur.gov.ph/about/quick-facts>

¹² <https://launion.gov.ph/wp-content/uploads/2025/11/2024-La-Union-Quick-Facts-Final.pdf>

¹³ <https://thinkhazard.org/en/report/24242-philippines-region-v-bicol-region-camarines-sur/CY>

¹⁴ <https://www.thinkhazard.org/en/report/24213-philippines-region-i-ilocos-region-la-unio/CY>

Longitude. It is bounded on the north by the province of Quezon and Camarines Norte, San Miguel Bay, and the Pacific Ocean. On its south is the province of Albay, its east the Lagonoy Gulf, and its west the Ragay Gulf.¹⁵

Camarines Sur faces very high climate risk. It is large (5,497 km²) and ranked 16th-highest in multi-hazard risk among Philippine provinces¹⁶. Almost its entire population (aprx.2.06 million¹⁷) is in rural towns and two cities (Naga, Iriga). Intense typhoons regularly strike this Bicol province, causing floods that damage



roads, schools, and health centers. For example, health facilities in Camarines Sur have suffered roof damage and flooded laboratories during storms, disrupting patient care. The provincial government has begun promoting adaptation: its new climate-adaptive municipal hall in Pasacao uses natural ventilation and rainwater collection to reduce energy use¹⁸. However, much of the health system remains vulnerable. Baseline needs include robust flood-proof infrastructure (e.g. elevating generators, installing backflow preventers), emergency water and sanitation supplies, and waste-management upgrades to prevent contamination during extreme events.

Tropical Storm Trami in Naga, Camarines Sur, on Oct. 25, 2024. Source: <https://www.voanews.com/>

The total hazardous healthcare waste generated in Camarines Sur is estimated at approximately 11,000-11,200 metric tons, with the vast majority consisting of M501 infectious and pathological waste, while M503 pharmaceutical waste represents only a minor fraction.¹⁹ The widespread reliance on off-site transport and treatment systems highlights the need to enhance regional treatment capacity, ensure environmentally sound management practices, and reduce risks of environmental contamination and public health exposure. Strategic investments focusing on both major generators and system-wide capacity improvements are therefore expected to deliver measurable reductions in hazardous emissions, improved environmental quality, and strengthened institutional performance in healthcare waste management.

La Union

Map in the Philippines



Map: Districts of La Union



Photo Credit: <https://www.pna.gov.ph/articles/1156399>

La Union is located in the southwestern part of the Ilocos Region bounded on the north and northeast by Ilocos Sur; on the south by Pangasinan; on the east by Benguet; and the west by the Lingayen Gulf and South China Sea.

¹⁵ <https://www.camarinessur.gov.ph/about/profile>

¹⁶ <https://dev.pdc.org/wp-content/uploads/Camarines-Sur.pdf>

¹⁷ <https://www.camarinessur.gov.ph/about/quick-facts>

¹⁸ <https://pia.gov.ph/news/luzon/camsur-town-showcases-climate-change-adaptive-architecture-project/>

¹⁹ Health Care Waste Facility Report (Province of Camarines Sur)

Among the Ilocos provinces, La Union is the smallest in terms of land area with 149,309 hectares or equivalent to 11.60 percent of the region's 1,284,019 hectares (about 0.5 percent of the total land area of the country)²⁰ and ranked relatively low in risk (72/84 provinces²¹) due to higher coping capacity (e.g. better early warning systems). Nevertheless, it faces coastal hazards and flooding. The steep terrain along its east end triggers landslides in heavy rain, and its long Pacific coastline experiences storm surges. A provincial review notes that "La Union is considered prone to hydro-meteorological hazards, including storm surges, rain-induced landslides and flooding"²². The provincial government actively promotes environmental management and climate awareness. There is a total of 6 government hospitals and 17 private hospitals in the province. The Maternal Mortality Ratio is 59.03/100,000 population while the Infant Mortality Rate is 6.81% per live birth²³. The province has a record of 12.73% crude birth rate and 4.49% crude death rate. For instance, an annual competition ("Gawad Kalikasan") awards local Government Units (LGUs) and communities for initiatives in sanitation, clean energy, and disaster resilience²⁴. Local health centers, however, often have aging facilities and intermittent water supply, which are at risk from flooding. Early assessments show needs for storm-resistant clinic buildings, backup water and power, and improved drainage around health centers. There is also scoped to implement circular economy solutions (e.g. converting plastic waste to fuel or furniture, as the province encourages local crafts²⁵). **Based on the Approved Development of Provincial Special Waste Management System for Local Government Unit and local Government Unit-Owned Healthcare Facilities-Generated HCW (Infectious) amounts to around 3482.73 kg/month HCW (2021 Data). 2025 HCW Monitoring of the 5 District Hospitals and LUMC 4500 kg/month of infectious wastes (2025 Data). Average HCW Generation: 205 kg/day. The total hazardous waste generated by healthcare facilities in La Union is estimated at approximately 721.54 metric tons per year, with the overwhelming majority (aprx. 718.07 MT/year) consists of pathological and infectious waste (M501), while pharmaceutical waste (M503) accounts for a relatively minor share (aprx. 3.47 MT/year).**²⁶

Metro Manila (NCR)

Map Metro Manila province (red) in the Philippines

Map: Districts of Metro Manila



Source: REUTERS- July 25, 2024 | Reuters

Metro Manila, home to over 13 million people (2020 census), is the economic and political center. It is highly built-up and population-dense, but also extremely vulnerable: severe typhoons regularly bring record rains and floods here. The Climate Change Commission notes that Metro Manila's exposure to "extreme rainfall, flooding, sea level rise and urban heat" requires a climate risk-informed approach to planning²⁷. Aging drainage and waste systems cannot cope with heavier downpours, and many low-income settlements lack adequate sanitation (raising disease risk during floods). Informal communities in Manila have reported increases in dengue and leptospirosis following recent typhoons, illustrating the health impacts of climate hazards (consistent with national patterns of climate-sensitive disease)²⁸. The city government is now collaborating with national agencies to integrate climate adaptation into drainage,

20 La Union Enhanced Local Climate Change Action Plan

21 <https://dev.pdc.org/wp-content/uploads/La-Union.pdf>

22 <https://launion.gov.ph/wp-content/uploads/2022/09/Approved%20PDRRM%20Plan%202017-2022.pdf>

23 La Union Enhanced Local Climate Change Action Plan

24 <https://pia.gov.ph/news/la-union-sustains-drive-for-cleaner-safer-greener-communities/>

25 <https://pia.gov.ph/news/luzon/camsur-town-showcases-climate-change-adaptive-architecture-project/>

26 Haz Waste Generation of HCFs and TSDFs in La Union

27 <https://www.pna.gov.ph/articles/1269603>

28 <https://niccdies.climate.gov.ph/adaptation/health>

housing and health infrastructure projects. However, coordination with local health units is still nascent. Our preliminary site survey (attached) shows, for example, that several barangay health stations need improved water storage and waste disposal systems to remain operational during blackouts or floods.

The total hazardous waste generated in the Metro Manila from 2023 to 2025 is estimated at approximately 1,182.15 metric tons, based on compiled data from healthcare facilities and laboratories. The vast majority of this waste consists of M501 pathological and infectious waste, reflecting the dominance of hospitals, diagnostic centers, and clinical services in the dataset, while a smaller portion includes M503 pharmaceutical waste.²⁹ This highlights the critical need for strengthened healthcare waste management systems, targeted interventions for high-volume generators, and improved treatment, storage, and disposal capacity to ensure environmental and public health protection.

Across Camarines Sur, La Union, and Metro Manila, hazardous healthcare waste is overwhelmingly dominated by M501 infectious and pathological waste (97-99.5%), while M503 pharmaceutical waste constitutes only a minimal share (below 3%) of total waste generation (Table 2 and Figure 1)

Table 2. Hazardous Healthcare Waste Composition by Waste Category in Selected Provinces/Area

Province	M501 (MT)	M503 (MT)	M501 (%)	M503 (%)
Camarines Sur	11100	100	99,11%	0,89%
La Union	718,07	3,47	99,52%	0,48%
Metro Manila	1150	32,15	97,28%	2,72%

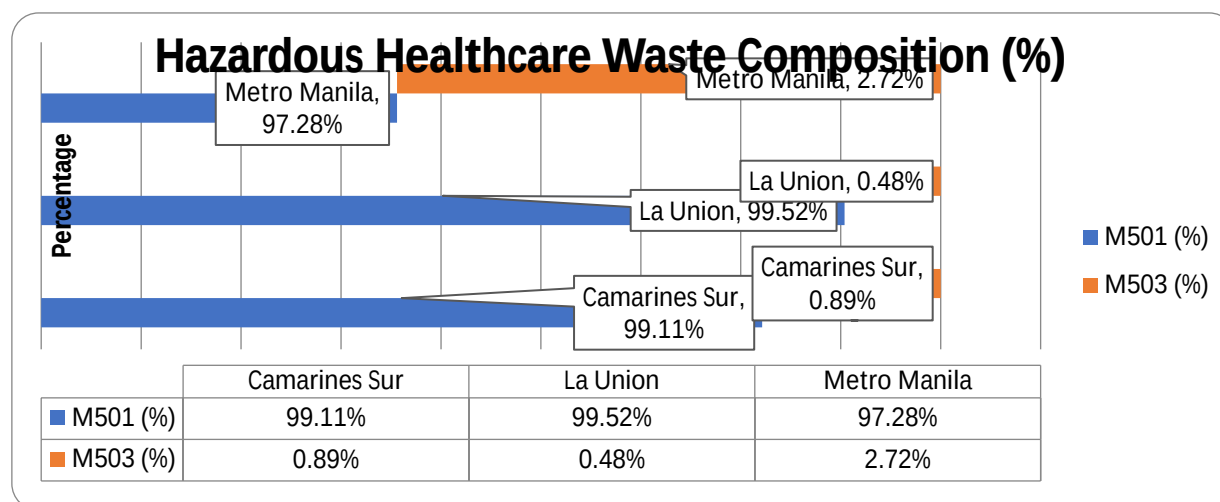


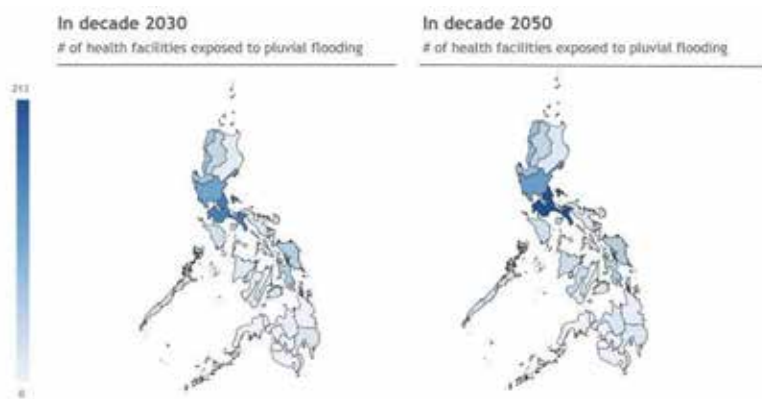
Figure 1: Evidence Base and Climate-Adaptation Logic for Circular Economy in Health

This project applies to the risk framework used in the Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC AR6 risk framework), which defines climate risk as the interaction of hazards, exposure, and vulnerability that change over time and across locations. In the Philippine health sector, climate risk is driven not only by hazards such as typhoons, extreme rainfall, and coastal impacts, but also by the exposure of health facilities and service networks, and vulnerabilities in WASH, wastewater, healthcare waste management, and service continuity systems.

Figure 4. Number of health facilities exposed to pluvial floods in decade 2030 and decade 2050³⁰

²⁹ EMB NCR Memo

³⁰ PH NAP 2023-2050- "In decade 2030" refers to 1 in 10 yr return period events in 2030-2040 and "In decade 2050" refers to 1 in 10 year return periods events in 2040-2060



Pluvial flooding poses a significant threat to healthcare access and infrastructure by damaging transport links, disrupting the movement of patients, health workers, and medical supplies, and delaying essential services during emergencies. By 2030, approximately 8% of critical healthcare infrastructure nationwide is projected to be exposed to pluvial flooding, with exposure reaching 24% in the Cordillera Administrative Region (CAR). Annual losses from pluvial floods could reach PHP 610 million, with

additional climate-related hazards contributing further costs. By 2050, exposure is expected to increase to 10% nationally, with more than 20% of facilities in CAR, Region IV-B, and Region IV-A at risk.

Typhoon- and flood-related disruptions are already recurrent in the Philippines. Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) reports that around 20 tropical cyclones enter the Philippine Area of Responsibility each year, with 8-9 crossing the country, particularly during July to October. Consistent with IPCC AR6 findings that heavy rainfall events are increasing in frequency and intensity; these trends indicate that climate-related disruptions to health services will likely worsen without investments in climate-resilient infrastructure and systems.



Figure 5. Circular economy principle and adaptation benefit

The Philippines' National Adaptation Plan (NAP) provides a strong quantified basis for this adaptation rationale. According to the Philippines Country Climate and Development Report, by 2030, climate change is projected to impact 7.6% of the country's total GDP, amounting to PHP1.4 trillion, and rising to 13.6% by 2040. Climate analytics suggest that the cost of inaction will stem primarily from infrastructure damage due to climate-induced disasters (up to PHP365 billion), productivity losses from extreme heat (up to PHP466 billion), business interruptions (up to PHP 527 billion), and relocation-related costs (up to PHP8.9 billion) for communities displaced by climate events. These adverse effects are expected to intensify by 2050, potentially reaching 18% to 25% of GDP.³¹

Climate Vulnerability of Healthcare Waste Systems (Table 3)

Healthcare waste management systems are increasingly vulnerable to climate-related hazards. Flooding, storm surges, extreme rainfall, and heat can disrupt waste collection, storage, transport, and treatment, increasing risks to public health and the environment. Climate-related disasters can also generate sudden surges in healthcare and hazardous waste, overwhelming existing systems and compromising the continuity of healthcare services. Strengthening waste management resilience through secure storage, effective segregation, reliable treatment, and emergency waste-surge planning is therefore a critical climate adaptation priority.

31 <https://unfccc.int/documents/638996>

In this context, circular economy approaches should be viewed as practical adaptation measures rather than simply waste-management improvements. By reducing waste generation, improving resource efficiency, and strengthening system reliability, these measures help health facilities maintain safe operations during climate-related disruptions. This is consistent with World Health Organization (WHO) guidance, which identifies healthcare waste management, together with water, sanitation, and hygiene services, as a core requirement for climate-resilient healthcare facilities.

The adaptation benefits are direct and operational. Investments in resilient segregation systems, elevated and protected waste storage, decentralized non-burn treatment technologies, flood-resilient sanitation and wastewater management, water efficiency and reuse, and emergency response protocols address key vulnerabilities through which floods, typhoons, and contaminated water disrupt health services. These measures strengthen service continuity, reduce pollution and environmental contamination, and improve the resilience of healthcare systems under a changing climate.

Problem Statement

The project addresses a priority climate adaptation need identified in the Philippines National Adaptation Plan (NAP) 2023-2050, which recognizes health as a key sector under “Climate-Adaptive Healthcare for All.” The NAP highlights that climate change is already affecting health systems through damage to infrastructure, disrupted access to services, and increased exposure to climate-sensitive diseases. Flooding is identified as a major threat, affecting transport access, supply chains, and facility operations. By the 2030s, the NAP projects that 8% of critical healthcare infrastructure will be exposed to pluvial flooding, increasing to 10% by 2050. These risks are already evident in the project target areas, where flooding, power and water interruptions, unsafe waste storage, and reduced service continuity occur during typhoons and heavy rainfall.³²

Climate risks extend beyond health facilities to essential environmental health systems, including water supply, sanitation, wastewater, and healthcare waste management. The NAP identifies flooding and extreme rainfall as major causes of water contamination, infrastructure damage, and service disruptions, with nearly 10% of water infrastructure projected to be exposed to floods and cyclones in the 2030-2040 period. These conditions also increase risks of climate-sensitive diseases, including leptospirosis. In target facilities, limited protection of waste and wastewater systems and weak preparedness for climate-related surges further increase risks of contamination and service interruption.

The project responds to these adaptation gaps by strengthening the resilience of health facilities and environmental health systems through climate-resilient waste management, improved WASH and wastewater systems, monitoring, and circular economy approaches. These measures will reduce climate-related disruptions, protect public health, and support the NAP priorities on resilient infrastructure, climate-responsive services, and integrated adaptation planning.

Table 3. Impacts of climatic impact-drivers on Health and SCRH relevance

Climate hazard	Exposure and vulnerability pathway	Relevant SCRH intervention package	Expected adaptation result	Mitigation and circularity co-benefits
Extreme rainfall, river and pluvial flooding	Flooding damages WASH, drainage, minor wastewater and healthcare-waste systems; causes backflow, waste dispersal and contamination; and interrupts essential health	Facility and catchment climate-risk assessments; flood-resilient healthcare-waste storage and non-burn treatment; modular minor wastewater systems; drainage and backflow prevention; emergency waste-	Target facilities maintain safe WASH, wastewater and healthcare-waste functions during floods, recover interrupted	Reduced waste leakage and material losses; increased recovery of safe non-hazardous materials; reduced water losses and avoidable treatment-related emissions.

32 <https://unfccc.int/documents/638996>

		services, particularly in low-lying facilities and poor surrounding communities.	surge and service-continuity protocols.	services more rapidly and experience fewer climate-related contamination incidents.	
Typhoons, high winds and storm surge		High winds, storm surge and power interruption damage waste storage, treatment equipment, pharmaceutical storage and cold-chain systems; disrupt supply and waste transport; and reduce the operational capacity of health facilities.	Storm-resilient waste storage; climate-resilient pharmaceutical and vaccine storage; renewable and backup power; facility continuity plans; emergency logistics and waste-surge protocols; climate-resilient technical specifications and asset-management arrangements.	Essential health, cold-chain, environmental-health and waste-management services remain functional during hazard events or are restored within the approved recovery standard.	Reduced diesel consumption and associated GHG emissions through renewable power; reduced pharmaceutical losses; lower material replacement and lifecycle costs.
Heatwaves and increasing temperatures	Excessive indoor temperatures affect patients and health workers, increase cooling demand, compromise pharmaceutical storage and heighten occupational and community health risks.	Passive cooling and energy-efficient retrofits; shaded and naturally ventilated spaces; climate-resilient pharmaceutical storage; heat-health advisories; occupational heat protocols and facility continuity arrangements.	Facilities maintain safe indoor and storage conditions during extreme heat, protect heat-sensitive users and reduce heat-related interruption of essential services.		Lower electricity consumption and avoidable GHG emissions; reduced refrigerant and pharmaceutical losses; lower operating costs through passive design.
Drought and climate-related water scarcity		Reduced or unreliable water supply constrains hand hygiene, sanitation, cleaning, laboratory functions and infection prevention, disproportionately affecting resource-constrained facilities and vulnerable users.	Rainwater harvesting and greywater reuse; water-efficient fixtures and leak detection; water-quality and consumption monitoring; safe sludge management; facility water-safety and continuity plans.	Target facilities maintain the minimum safe WASH service level during water shortages and reduce dependence on vulnerable freshwater supplies.	Reduced freshwater abstraction and water consumption; increased safe water reuse; reduced pumping and treatment energy; lower water-service costs.
Sea-level rise, coastal flooding and saline intrusion	Salinity and coastal flooding affect water sources, corrode equipment, damage drainage and wastewater systems, contaminate surrounding	Coastal and salinity risk screening; alternative and rainwater supplies; salinity and water-quality monitoring;	Coastal facilities maintain access to safe water and essential health services during salinity or coastal-flood events, while exposed communities receive timely information and referral support.		Reduced pressure on freshwater sources; increased rainwater use; longer asset life; reduced material replacement and associated lifecycle

	environments and increase displacement and service-access risks in coastal communities.	corrosion-resistant specifications; drainage and backflow measures; inclusive continuity, outreach and referral arrangements.			emissions.
Climate-sensitive water-, waste- and vector-borne disease outbreaks		Flooding, heat and changing rainfall patterns increase dengue, leptospirosis, diarrhoeal disease and other outbreak risks. Fragmented surveillance and delayed warnings increase exposure in health-facility catchments.	Wastewater-based disease surveillance; sentinel monitoring and data integration; province-wide early-warning platforms; eco-friendly vector control; community advisories and health-facility preparedness measures.	Climate-sensitive disease signals are detected earlier, warnings trigger timely facility and community action and contamination- and vector-related public-health risks are reduced.	Reduced reliance on hazardous vector-control chemicals; lower environmental contamination; avoided open burning and unnecessary material use. Any GHG benefit is reported only as a secondary co-benefit.
Compound events, displacement, mental-health stress and livelihood disruption	Repeated floods, typhoons and heat events displace households, disrupt income and transport, increase psychosocial stress and reduce access to essential health services. Women, low-income households, older persons, Indigenous Peoples and persons with disabilities may face disproportionate impacts.	Inclusive facility and community continuity plans; last-mile warnings; mental-health and psychosocial first-line support and referral pathways; outreach and referral arrangements for displaced populations; coordination with Local Government Units and existing social-protection and livelihood programmes.	Displaced and vulnerable populations retain equitable access to essential health and environmental-health services and are connected to appropriate mental-health, social-protection and livelihood-support systems during climate shocks.		No direct mitigation result is claimed. Reduced emergency material waste and avoidable household and facility expenditure may be reported as secondary resource-efficiency and socioeconomic co-benefits.

The Theory of Change (Figure 6) addresses increasing exposure to floods, typhoons, storm surges, sea-level rise, salinity intrusion, drought, extreme heat and climate-sensitive diseases interacts with institutional, technical, financial and social barriers, reducing the capacity of health facilities and environmental-health systems to maintain safe and inclusive services during climate shocks.

The four components address these barriers through mutually reinforcing pathways: climate-informed policies, planning and financing; climate-resilient healthcare-waste systems; resilient and circular WASH and minor wastewater systems; and climate-health surveillance, community preparedness, resilient facility operations and knowledge management. The concrete outputs strengthen the corresponding institutional, technical and community capacities, leading to the expected outcomes and, collectively, to more climate-resilient health facilities and environmental-health systems. Direct benefits include safer and more continuous access to essential health services and reduced contamination, infection and exposure risks, while co-benefits include improved equity, lower lifecycle costs, reduced resource consumption and pollution, and avoided emissions.

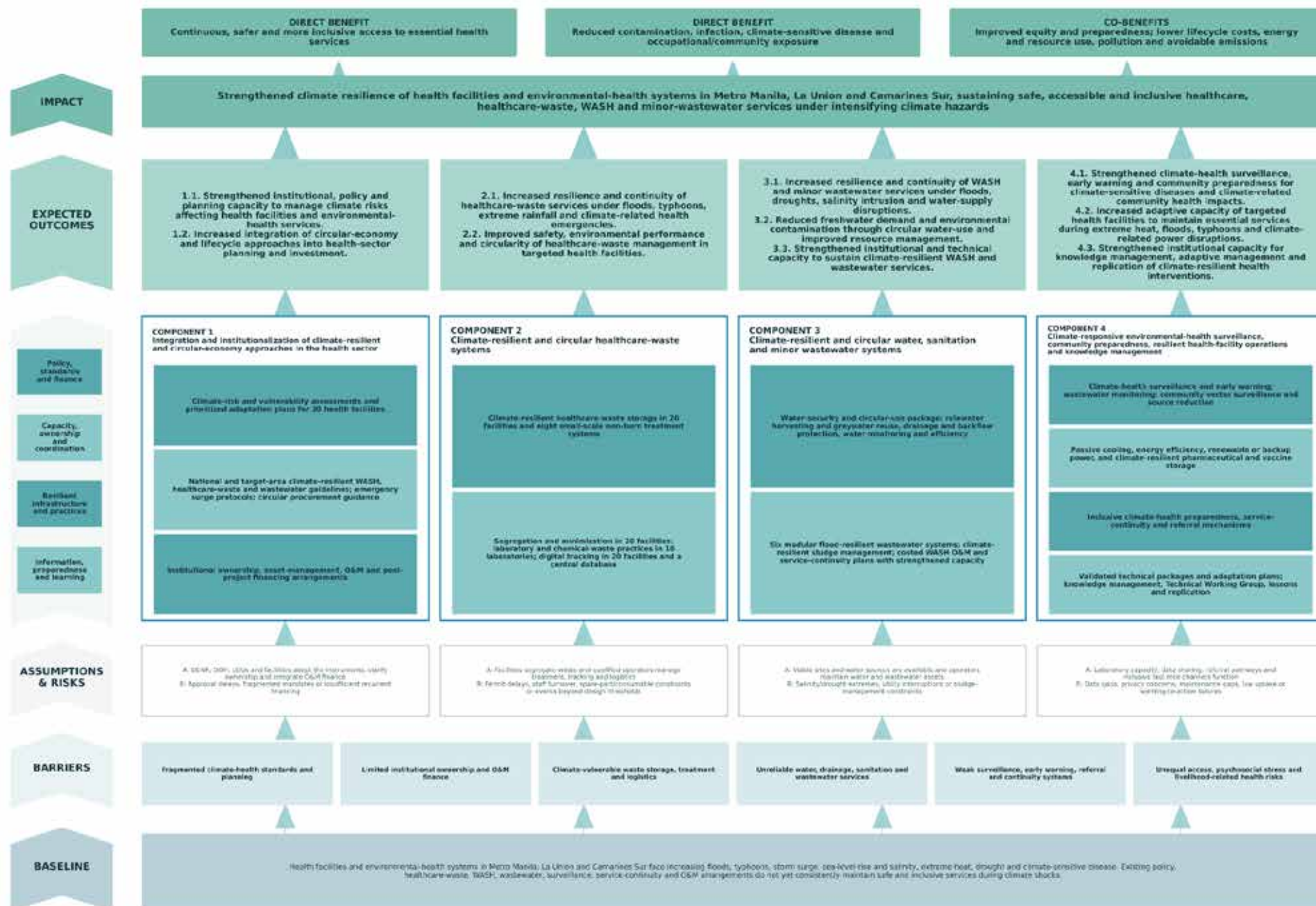


Figure 6: The Theory of Change

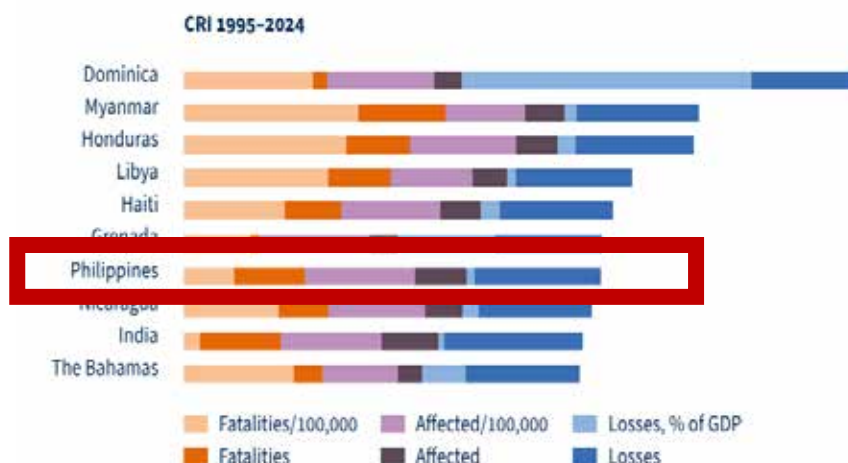


Figure 7: Climate Risk Index

33

Table 4 below presents a preliminary comparison of candidate sites based on climate risk and policy relevance. The screening aligns with the Philippines NAP (2023–2050), which prioritizes climate-resilient health services, protection of health facilities from flooding and other hazards, improved climate-health data use, and stronger local health governance.

Site selection considers flood exposure, health-system vulnerability, existing adaptation efforts, and potential for replication. Candidate locations were assessed based on (i) climate hazard exposure, (ii) vulnerability of health and environmental systems, (iii) population and health infrastructure concentration, (iv) healthcare waste generation, (v) existing adaptation initiatives, and (vi) scalability potential.

Table 4: Comparative Overview of Climate Risk Exposure, Flooding Impacts, Existing Programmes, and Healthcare Waste Management Conditions in Selected Project Sites

	Camarines Sur – Bicol Region – (South of Manila, Region V)	La Union – North of Manila, Region 3	Metro Manila
Exposure Score to Climate Risk	Camarines Sur (Bicol Region) High Exposure Capital city: Naga	La Union (medium high exposure) Capital city: San Fernando	MetroManila (medium low exposure) Or Pateros
Documents available	Resilience roadmap	provincial Strategy Roadmap which includes the modernization of health and social service system	Resilience Roadmap
Contact persons	City Disaster Risk Reduction and Management Office (CDRRMO)/ Naga City	La Union LGU	Environment Management Bureau (EMB) Metro Manila
Incidences of Flooding	Tropical Storm Kristine 2024 With record rainfall, widespread displacement and prolonged inundation	July 2024- Typhoon Karina 58 families and 142 individuals were evacuated from the	Manila Incidence of increase in leptospirosis was reported, and it was attributed to flood waters brought about by

³³ Climate Risk Index 2026

Annex 5 to OPG Amended in October 2017

	of low-lying area. Municipalities affected are Naga, Milaor, Nabua, Pili, Baao, Gaiinza and Camaligan. 235 barangays, 52,021 individuals affected. 100,000 residents were evacuated and public markets and roads were submerged for several days. November 2025- Typhoon Uwan	municipalities of Caba, Agoo, Naguilian and Bauang, Bangar and San Fernando October 2024 storm Kristine caused the evacuation of 227 families, 617 individuals from Bangar, La Union. As of July 23, 2025-Typhoon Crising a total of 5,455 families or 18,708 individuals across 105 barangays in Bacnotan, Balaoan, Bangar, Luna, San Gabriel, San Juan, Agoo, Aringay, Bauang, Burgos, Caba, Naguilian, Santo Tomas, and San Fernando City have been affected by flooding and landslides Initial damage reports indicate that the storm-enhanced southwest monsoon caused ₱11.1 million in losses to agriculture and ₱325,650 in livestock and poultry, with 11 houses damaged 10 partially and one totally in Bacnotan, Bangar, Balaoan, Aringay, Bauang, San Juan, and San Fernando City. November 2025, super typhoon Uwan caused heavy damage to San Fernando, La Union ³⁴	Crising, Dante and Emong data was provided by government hospitals August 2025 DOH has recorded 2,396 leptospirosis cases between June 8th and August 7th, with Metro Manila bearing the brunt of the outbreak. Hospitals like Amang Rodriguez Memorial Medical Center (ARMMC) activated their emergency command system, while Rizal Memorial Medical Center is repurposing hallways to accommodate the influx of patients. San Lazaro Hospital has admitted 124 severe cases, tragically with 14 fatalities. The proactive measures like doxycycline prophylaxis are crucial, but they're a reactive response to a growing threat.³⁵
Existing Programs by the Local Government Unit	“aksyon kontra baha” – action against flood was rolled out on March 6, with the aim of introducing clean up drives and tree planting activities. Vegetation barriers to be built (Philippine Daily Inquirer) Relocation of communities in no buildzones “Oplan Kontra Baha” spearheaded by the DHSUD DOH is developing a project for the GCF which includes Camarines Sur as the project site, but the proposal does not include WASH	Not part of the GEPP EU project	Ongoing: UNIDO/GEF/EMB project “Health Care and Hg project”, will provide BAT/BEP to selected hospitals in Metro Manila, one of which is the Quirino Medial Memorial Center- DOH administered hospital For approval: UNIDO/EMB/GEF funded project on “Chemicals and Waste Financing Partnership Facility proposal included support to at least 2 hospitals in Metro Manila (UST hospital and Philippine General Hospital), both hospitals are located in flood prone areas.

³⁴³⁴ <https://www.thinkhazard.org/en/report/24213-philippines-region-i-ilocos-region-la-union/UF>

³⁵ <https://www.archyde.com/leptospirosis-surge-metro-manila-hospitals-on-alert/>

	system.		
Losses	Camarines Sur: Tropical Storm Kristine displaced thousands. Senate inquiries into ₱61.42 billion budget accountability highlight governance gaps.		2- 3 PHP Billion health related cost PHP 41 - PHP 55 Billion total cost of flooding ³⁶
Treatment, Storage, and Disposal (TSD) facilities	No commercial TSD facility in Region 5 (information from EMB)	1 commercial TSD facility for infectious waste and pharmaceutical waste in Region 1 (information from EMB)	Incidences of flooding in several private and government hospitals in Manila

Project/Programme Objectives:**PROJECT OVERALL OBJECTIVE**

To strengthen the climate resilience of health facilities and associated environmental health systems in selected areas of the Philippines through circular economy-based adaptation measures that reduce climate-related disruption of essential health services.

**PROJECT IMPACT**

Increased climate resilience of health facilities, environmental health systems and communities in selected areas of the Philippines through circular economy-based adaptation measures

**MAIN OBJECTIVES OF THE PROJECT**

Strengthen policy, institutional, and planning capacity
 Reduce climate-related disruption and contamination risks from healthcare waste systems
 Improve water security, sanitation resilience, and continuity of WASH services
 Enhance climate-responsive environmental health monitoring and resource efficiency

Alignment of Objectives with AF Strategic results Framework

Project objective	Expected project outcomes	AF Strategic Results Framework 2026 alignment
1. Strengthen policy, institutional and planning capacity	Outcome 1.1: Strengthened institutional, policy and planning capacity to manage climate risks affecting health facilities and environmental-health services. Outcome 1.2: Increased integration of circular-economy and lifecycle approaches into health-sector planning and investment.	AF Outcomes 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses AF Outcome 7: Improved policies and regulations that promote and enforce resilience measures
2. Reduce climate-related disruption and contamination from healthcare waste	Outcome 2.1: Increased resilience and continuity of healthcare-waste services under floods, typhoons, extreme rainfall and climate-related health emergencies. Outcome 2.2:	AF Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets

³⁶ <https://irdf.org.ph/wp-content/uploads/2025/09/TCM5-Excessive-flooding-MMLa--Philippines-and-what-can-be-done.pdf>

Project objective	Expected project outcomes	AF Strategic Results Framework 2026 alignment
	Improved safety, environmental performance and circularity of healthcare-waste management in targeted health facilities.	
3. Improve water security, sanitation resilience and WASH/minor-wastewater continuity	Outcome 3.1: Increased resilience and continuity of WASH and minor wastewater services under floods, droughts, salinity intrusion and water-supply disruptions. Outcome 3.2: Reduced freshwater demand and environmental contamination through circular water-use and improved resource management. Outcome 3.3: Strengthened institutional and technical capacity to sustain climate-resilient WASH and wastewater services.	AF Outcomes 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses AF Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets
4. Enhance climate-health surveillance, community preparedness, resilient facility operations and adaptive learning	Outcome 4.1: Strengthened climate-health surveillance, early warning and community preparedness for climate-sensitive diseases and climate-related community health impacts. Outcome 4.2: Increased adaptive capacity of targeted health facilities to maintain essential services during extreme heat, floods, typhoons and climate-related power disruptions. Outcome 4.3: Strengthened institutional capacity for knowledge management, adaptive management and replication of climate-resilient health interventions.	AF Outcome 1: Reduced exposure to climate-related hazards and threats AF Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses, AF Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes AF Outcome 4: reduced exposure; strengthened institutions; awareness/ownership; and resilient services/assets.

Project/Programme Components and Financing:

Project component	Expected concrete outputs and indicative output budgets (USD)	Expected outcomes	Amount (USD)
Component 1: Integration and institutionalization of climate-resilient and circular-economy approaches in the health sector	Output 1.1.1: Facility- and catchment-level climate-risk, vulnerability and essential service continuity assessments and prioritized adaptation plans completed for 30 health facilities (12 in Camarines Sur, 10 in La Union and 8 in Metro Manila), with sex and vulnerability disaggregated analysis. - 350,000 Output 1.1.2: National and target-area technical guidelines for climate-resilient WASH, minor wastewater and healthcare-waste systems, together with climate emergency waste surge and environmental health continuity protocols, developed, validated and adopted (one national guideline, three target area guidelines, three provincial protocols and 30 facility plans). - 425,000 Output 1.2.1: Circular and climate-resilient procurement, asset management, O&M and post-project financing guidance integrated into Department of Health and Local Government Unit planning and investment processes (one	Outcome 1.1: Strengthened institutional, policy and planning capacity to manage climate risks affecting health facilities and environmental-health services. Outcome 1.2: Increased integration of circular-economy and lifecycle approaches into health-sector planning and investment.	1,025,000

Project component	Expected concrete outputs and indicative output budgets (USD)	Expected outcomes	Amount (USD)
	DOH guidance instrument and adoption by 20 LGUs). - 250,000		
Component 2: Climate-resilient and circular healthcare-waste systems	Output 2.1.1: Flood, typhoon and heat-resilient healthcare-waste storage and decentralized non-burn treatment capacity installed, validated and operational with emergency logistics redundancy, safe-residue management and trained operators (20 storage upgrades and up to 8 treatment units; final sites after screening). - 2,600,000 Output 2.2.1: Source-segregation, waste-minimization, digital and offline tracking, laboratory and chemical-waste control, safe material-recovery and emergency surge-logistics systems operational in 30 facilities (including 20 facilities connected to the central tracking platform and 10 laboratories with strengthened chemical-waste controls). - 900,000	Outcome 2.1: Increased resilience and continuity of healthcare-waste services under floods, typhoons, extreme rainfall and climate-related health emergencies. Outcome 2.2: Improved safety, environmental performance and circularity of healthcare-waste management in targeted health facilities.	3,500,000
Component 3: Climate-resilient and circular water, sanitation and minor wastewater systems	Output 3.1.1: Climate-resilient water-security and sanitation packages operational in up to 20 facilities, including rainwater harvesting, appropriate greywater reuse, protected storage, water-efficient fixtures, leak detection, drainage and backflow protection (with drainage/backflow works in 15 priority facilities). - 2,100,000 Output 3.2.1: Elevated modular minor-wastewater treatment, safe sludge-management and water/effluent performance-monitoring systems installed, permitted and operational (up to 6 treatment units and safe sludge arrangements at priority facilities selected after screening). - 1,500,000 Output 3.3.1: Institutional, technical and financial arrangements established to sustain climate-resilient WASH and minor wastewater services, including competency-based capacity development for at least 150 LGU and facility personnel and asset-specific O&M and replacement plans. - 400,000	Outcome 3.1: Increased resilience and continuity of WASH and minor wastewater services under floods, droughts, salinity intrusion and water-supply disruptions. Outcome 3.2: Reduced freshwater demand and environmental contamination through circular water-use and improved resource management. Outcome 3.3: Strengthened institutional and technical capacity to sustain climate-resilient WASH and wastewater services.	4,000,000
Component 4: Climate-responsive environmental-health surveillance, community preparedness, resilient health-facility operations and knowledge management	Output 4.1.1: Integrated climate-health surveillance, wastewater-based disease monitoring, early-warning thresholds and accessible advisory services operational in the three target areas (three hospital autosamplers in Metro Manila, six sentinel kits across the three areas and interoperable data and alert protocols). - 450,000 Output 4.1.2: Inclusive facility- and community-level climate-health preparedness and service-continuity mechanisms operational in 30 facility catchments, covering temporary service relocation and referral, mental-health first aid/referral, displacement-related access, eco-friendly integrated vector management and linkage to existing social-protection and livelihood services. - 300,000 Output 4.2.1: Low-O&M passive cooling, energy and resource-efficiency, critical backup power and climate-resilient pharmaceutical and vaccine cold-chain packages	Outcome 4.1: Strengthened climate-health surveillance, early warning and community preparedness for climate-sensitive diseases and climate-related community health impacts. Outcome 4.2: Increased adaptive capacity of targeted health facilities to maintain essential services during extreme heat, floods, typhoons and climate-related power disruptions. Outcome 4.3: Strengthened institutional capacity for knowledge management, adaptive	1,500,000

Project component	Expected concrete outputs and indicative output budgets (USD)	Expected outcomes	Amount (USD)
	installed, tested and operational in selected health facilities (9 facilities for passive/resource-efficiency measures and 10 facilities for pharmaceutical/vaccine storage improvements). - 450,000 Output 4.3.1: Validated climate-resilient technical designs, specifications, SOPs, training packages and replication products produced through specialized technical assistance and applied by national and target-area institutions through an operational knowledge-management system and Technical Working Group (at least five pilot case studies/tools and six TWG meetings). - 300,000	management and replication of climate-resilient health interventions.	
Project/programme execution cost			917,731
Total project/programme cost before IE fee			10,942,731
Implementing Entity management fee			930,132
Amount of financing requested			11,872,863

Risk-based geographic targeting of project components across selected sites

The table below (Table 5) presents a risk-informed and context-specific allocation of project components across the three proposed locations, reflecting differences in climate exposure and priority adaptation needs under the Philippines' NAP. While Component 1 and Component 4 are proposed for all three sites to ensure a common foundation of policy integration, institutional strengthening, environmental health monitoring, and resource efficiency, the infrastructure-focused investments are differentiated according to local risk profiles. Camarines Sur, with high exposure to climate risk, is prioritized for Component 2 on climate-resilient and circular healthcare waste systems, given the urgent need to strengthen waste storage, treatment, segregation, and tracking under conditions of recurrent flooding and extreme weather. La Union and Manila, facing medium-high and medium-low risk respectively, are proposed under Component 3, which emphasizes climate-resilient and circular water and minor wastewater systems, including rainwater harvesting, greywater reuse, drainage improvements, and safe sludge management. This geographic targeting approach ensures that project investments are not uniform, but strategically matched to the specific climate vulnerabilities, service delivery gaps, and resilience priorities of each location.

Table 5: Applicability of Project Components and Expected Outputs Across Selected Project Sites by Climate Risk Exposure Level

Component	Camarines Sur	La Union	Metro Manila	Targeting note
Component 1: Integration and institutionalization of climate-resilient and	Yes	Yes	Yes	Common risk, policy, lifecycle and institutional foundation; facility/catchment packages finalized through USP screening.

Component	Camarines Sur	La Union	Metro Manila	Targeting note
circular-economy approaches in the health sector				
Component 2: Climate-resilient and circular healthcare-waste systems	Priority storage, non-burn treatment and systems	Selected storage/treatment and systems	Selected storage/treatment and systems	Exact facilities and technologies selected after climate, waste-flow, service, O&M, permit and safeguard screening.
Component 3: Climate-resilient and circular water, sanitation and minor wastewater systems	Water-security and selected WASH measures	Priority modular treatment and WASH	Priority modular treatment and WASH	Site packages respond to verified flood, drought, salinity, backflow, contamination and service-continuity gaps.
Component 4: Climate-responsive environmental-health surveillance, community preparedness, resilient health-facility operations and knowledge management	Yes	Yes	Yes	Surveillance, accessible advisories, passive/resilient operations, community continuity and adaptive learning across all target areas.

Projected Calendar:

Indicate the dates of the following milestones for the proposed project/programme

Milestones	Expected Dates
Start of Project/Programme Implementation	April 2028
Mid-term Review (if planned)	May 2031
Project/Programme Closing	March 2034
Terminal Evaluation	June 2034

PART II: PROJECT / PROGRAMME JUSTIFICATION

- A.** Describe the project/programme components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.

The project consists of four interconnected components combining infrastructure investments, policy support, capacity building, and knowledge sharing. The core adaptation component will deploy flood-resilient wastewater treatment, rainwater harvesting and greywater reuse systems, solar-powered waste treatment technologies, and resilient cold-chain solutions in health facilities in Camarines Sur, La Union, and Metro Manila. Supporting components will strengthen climate-resilient WASH and circular procurement policies, improve healthcare waste management,

enhance early warning and resource-efficiency monitoring, and promote knowledge exchange.

Sustainability will be ensured through institutional integration, capacity building, and stakeholder ownership. Project guidelines and operational protocols will be embedded into DOH systems, Local Government Unit planning, and health facility practices to support long-term adoption and scaling.

COMPONENT 1: POLICY INTEGRATION AND INSTITUTIONALIZATION OF CLIMATE RESILIENT CIRCULAR ECONOMY APPROACHES FOR THE HEALTH SECTOR

Component 1 will address institutional, policy and capacity gaps that constrain climate-risk management in health facilities across Camarines Sur, La Union and Metro Manila. It will establish national and locally adapted standards for climate-resilient WASH, flood-resilient sanitation, non-burn healthcare-waste treatment, emergency waste-surge management and resource-efficient operations. Facility-level climate-risk assessments will inform planning and investment, while circular procurement policies will promote durable, reusable and low-emission products to reduce waste, emissions and operating costs. Emergency protocols and targeted training will strengthen the capacity of health authorities, local governments and facility managers to safely manage increased waste volumes during disasters and disease outbreaks. A knowledge-sharing platform will support institutional learning, replication and integration of climate resilience and circular-economy practices into routine health-sector planning.

Project/Programme Components	Expected Outcomes	Expected Concrete Outputs	Key Activities
Component 1: Policy integration and institutionalization of climate resilient circular economy approaches for the health sector	Outcome 1.1. Strengthened institutional, policy and planning capacity to manage climate risks affecting health facilities and environmental-health services.	1.1.1. Climate-risk and vulnerability assessments and prioritized adaptation plans developed for 30 targeted health facilities: 12 in Camarines Sur, 10 in La Union and 8 in Metro Manila.	1.1.1.1. Assess current and projected climate hazards affecting the targeted areas. 1.1.1.2. Assess the exposure, sensitivity and adaptive capacity of facilities, essential services and vulnerable population groups. 1.1.1.3. Develop, prioritize and validate structural and non-structural adaptation measures for each facility.
		1.1.2. One national guideline and three target-area guidelines for climate-resilient WASH, healthcare-waste and minor wastewater systems developed and adopted.	1.1.2.1. Review relevant legislation, standards, institutional procedures and climate-resilience requirements. 1.1.2.2. Develop guidelines incorporating technical, environmental and social safeguards, accessibility, O&M and financing requirements. 1.1.2.3. Conduct stakeholder validation and support formal adoption and application by DOH, LGUs and health facilities.
		1.1.3. Climate-emergency environmental-health and healthcare-waste-surge protocols developed and institutionalized in the three target areas, with corresponding plans adopted by 30 health facilities.	1.1.3.1. Assess healthcare-waste surges and environmental-health service disruptions under identified climate-emergency scenarios. 1.1.3.2. Develop protocols for emergency waste handling, WASH continuity, worker protection and support to displaced and vulnerable populations. 1.1.3.3. Integrate and test the protocols through existing health-emergency and disaster-risk-management systems.
	1.2. Increased integration of circular-economy and lifecycle approaches into health-sector planning and investment.	1.2.1. Circular and climate-resilient procurement guidance developed and integrated into DOH procedures and the	1.2.1.1. Assess existing procurement practices and priority health-sector material flows. 1.2.1.2. Develop procurement criteria covering lifecycle cost, climate

Annex 5 to OPG Amended in October 2017

		operational procedures of at least 20 LGUs.	resilience, durability, repairability, resource efficiency and end-of-life management. 1.2.1.3. Pilot and integrate the guidance into selected DOH, LGU and facility procurement processes.
		1.2.2. Institutional ownership, asset-management, O&M and post-project financing arrangements established for all project-supported systems.	1.2.2.1. Develop asset registers, preventive-maintenance schedules, replacement plans and spare-parts requirements. 1.2.2.2. Define institutional responsibilities and prepare costed O&M and post-project financing plans. 1.2.2.3. Integrate recurrent costs, performance monitoring and post-project responsibilities into facility and LGU plans and budgets.

COMPONENT 2: CLIMATE-RESILIENT AND CIRCULAR HEALTHCARE WASTE SYSTEMS

Component 2 will strengthen healthcare-waste management across 30 facilities in Camarines Sur, La Union and Metro Manila by reducing vulnerability to flooding, extreme rainfall and tropical cyclones. Investments will include elevated and sealed waste-storage systems, improved segregation and handling, decentralized non-burn treatment technologies including autoclaves and microwave systems and barcode-based digital tracking. These measures will enable safe on-site treatment when transport routes are disrupted, improve regulatory compliance and reduce reliance on centralized incineration. Chemical and laboratory waste-management systems will also be strengthened to minimize hazardous exposure and contamination risks. Partnerships with recyclers, manufacturers and composting operators will support the recovery of plastics, metals, packaging and organic materials, reducing waste volumes and greenhouse-gas emissions. Facility environmental committees and local WASH and waste-management units will oversee operations, infrastructure maintenance and compliance, supporting institutional ownership and long-term sustainability.

Project/Programme Components	Expected Outcomes	Expected Concrete Outputs	Key Activities
Component 2: Climate-resilient and circular healthcare-waste systems	Outcome 2.1. Increased resilience and continuity of healthcare-waste services under floods, typhoons, extreme rainfall and climate-related health emergencies.	2.1.1. Climate-resilient healthcare-waste storage systems established and operational in 20 targeted facilities: 10 in Camarines Sur, 6 in La Union and 4 in Metro Manila.	2.1.1.1. Assess site-specific flood, storm, drainage, accessibility and emergency waste-storage risks. 2.1.1.2. Develop climate-resilient storage designs incorporating elevation, containment, drainage, ventilation and structural protection. 2.1.1.3. Construct or retrofit the storage systems and establish O&M and emergency-overflow procedures.
		2.1.2. Eight small-scale non-burn healthcare-waste-treatment systems installed and operational: 4 in Camarines Sur, 2 in La Union and 2 in Metro Manila.	2.1.2.1. Assess waste quantities, treatment requirements, climate exposure, utility needs and local operating capacity. 2.1.2.2. Select and install technologies based on technical performance, safeguards, climate resilience and lifecycle costs. 2.1.2.3. Develop operational, occupational-safety, treatment-validation and residue-management procedures. 2.1.2.4. Strengthen operator capacity and establish preventive maintenance, spare-parts and contingency arrangements.
	Outcome 2.2. Improved safety,	2.2.1. Standardized healthcare-waste segregation and minimization	2.2.1.1. Conduct waste audits and establish waste-generation and composition baselines.

	environmental performance and circularity of healthcare-waste management in targeted health facilities.	systems established and applied in 30 health facilities.	2.2.1.2. Introduce standardized segregation, collection, storage, waste-prevention, safe-reuse and recycling measures. 2.2.1.3. Strengthen staff capacity and periodically assess performance and implement corrective measures.
		2.2.2. Environmentally sound laboratory and chemical-waste-management practices established and applied in 10 laboratories.	2.2.2.1. Develop chemical inventories and laboratory and chemical-waste risk profiles. 2.2.2.2. Establish compatible segregation, climate-protected storage, secondary containment and waste-minimization measures. 2.2.2.3. Develop occupational-safety, emergency-response, treatment and final-management procedures and strengthen personnel capacity.
		2.2.3. A digital healthcare-waste tracking and reporting system established and operational in 20 facilities and linked to a central database.	2.2.3.1. Develop and deploy a system covering waste generation, collection, storage, treatment, transport and final management. 2.2.3.2. Integrate tracking data into compliance monitoring, waste minimization and emergency waste-management planning.

COMPONENT 3: CLIMATE-RESILIENT AND CIRCULAR WATER AND MINOR WASTEWATER SYSTEMS

Component 3 will strengthen the resilience of health-facility water, sanitation and hygiene systems to flooding, drought, saline intrusion and extreme weather. Selected facilities will receive modular, flood-resilient wastewater-treatment units capable of operating during municipal service disruptions, with opportunities for resource recovery. Rainwater harvesting and greywater reuse will diversify water sources, while efficient fixtures, leak-detection systems, drainage upgrades and backflow-prevention measures will reduce consumption and contamination risks. Safe sludge-management procedures, water-quality monitoring and staff training will support regulatory compliance and reliable operation. Decentralized and scalable solutions will be prioritized, particularly for remote and climate-vulnerable facilities where centralized infrastructure is impractical or costly. Infrastructure will remain publicly owned, with facility committees and local WASH units responsible for operation, maintenance and oversight, supported through targeted capacity building for local authorities, engineers and facility managers.

Project/Programme Components	Expected Outcomes	Expected Concrete Outputs	Key Activities
Component 3: Climate-resilient and circular water, sanitation and minor wastewater systems	Outcome 3.1. Increased resilience and continuity of WASH and minor wastewater services under floods, droughts, salinity intrusion and water-supply disruptions.	3.1.1. Six modular and flood-resilient minor wastewater-treatment systems installed and operational: 3 in La Union and 3 in Metro Manila.	3.1.1.1. Assess wastewater characteristics, flood levels, salinity, groundwater conditions, power availability and operating capacity. 3.1.1.2. Select and install modular treatment systems appropriate to site-specific climate and operating conditions. 3.1.1.3. Establish effluent monitoring, O&M, spare-parts and emergency-operating arrangements.
		3.1.2. Rainwater-harvesting and safe greywater-reuse systems installed and operational in 20 health facilities.	3.1.2.1. Conduct water-balance assessments and identify climate-related water-supply gaps and appropriate non-potable uses. 3.1.2.2. Design and install systems incorporating protected storage, first-flush controls, filtration and separate distribution arrangements. 3.1.2.3. Establish water-quality, safe-use, monitoring and maintenance procedures.
		3.1.3. Drainage and backflow-protection measures implemented and	3.1.3.1. Identify floodwater-entry pathways, drainage bottlenecks and sewer-backflow risks. 3.1.3.2. Improve drainage and install backflow-prevention and localized flood-protection measures.

		functioning in 15 health facilities: 7 in La Union and 8 in Metro Manila.	3.1.3.3. Establish routine inspection, maintenance and post-event performance-assessment procedures.
	Outcome 3.2. Reduced freshwater demand and environmental contamination through circular water-use and improved resource management.	3.2.1. Water-quality, consumption-monitoring, leak-detection and water-efficiency systems established and operational in 20 health facilities.	3.2.1.1. Establish water-consumption, water-quality and service-continuity baselines. 3.2.1.2. Install water meters, leak-detection systems and water-efficient fixtures. 3.2.1.3. Apply monitoring data and behaviour-change measures to reduce consumption and address leakage and contamination.
		3.2.2. Climate-resilient and environmentally sound sludge-management arrangements established and applied in three health facilities.	3.2.2.1. Characterize sludge quantities, composition and climate-related management risks. 3.2.2.2. Establish protected sludge collection, dewatering and temporary-storage arrangements. 3.2.2.3. Establish safe handling, transport, treatment, final management and emergency-response procedures.
	3.3. Strengthened institutional and technical capacity to sustain climate-resilient WASH and wastewater services.	3.3.1. WASH O&M and service-continuity plans developed and applied with at least 150 LGU and health-facility personnel demonstrating strengthened operational capacity.	3.3.1.1. Develop facility-specific WASH O&M, emergency-response and service-continuity plans. 3.3.1.2. Deliver competency-based technical training and practical exercises for at least 150 LGU and facility personnel. 3.3.1.3. Integrate O&M responsibilities and recurrent costs into facility and LGU plans and budgets.

COMPONENT 4: CLIMATE-RESPONSIVE ENVIRONMENTAL-HEALTH SURVEILLANCE, COMMUNITY PREPAREDNESS, RESILIENT HEALTH-FACILITY OPERATIONS AND KNOWLEDGE MANAGEMENT

Component 4 will strengthen health-system preparedness for climate-sensitive diseases and operational disruptions through integrated surveillance, early-warning and resource-efficiency measures. Wastewater-based surveillance will be introduced in selected facilities to detect priority pathogens and antimicrobial-resistance indicators. Wastewater, climate and public-health data will be integrated into digital dashboards to support timely risk analysis, outbreak response and coordination among health, environment and disaster-management authorities. Facility resilience will be enhanced through passive cooling, energy-efficient technologies and renewable-energy systems, including solar power for critical services and vaccine cold chains. Integrated vector-management measures will address changing climate-sensitive disease risks, while resource-efficiency audits will identify opportunities to reduce energy, water and material consumption. Knowledge-sharing mechanisms will document results, disseminate good practices and support the replication and scaling of effective climate-resilient healthcare solutions.

Project/Programme Components	Expected Outcomes	Expected Concrete Outputs	Key Activities
Component 4: Climate-responsive environmental-health surveillance, community preparedness, resilient health-facility operations and knowledge management	Outcome 4.1. Strengthened climate-health surveillance, early warning and community preparedness for climate-sensitive diseases and climate-related community	4.1.1. A wastewater-based disease-surveillance and climate-health early-warning system established and operational through three hospital autosamplers in Metro Manila, six sentinel kits across the three target areas and integrated warning-to-action protocols.	4.1.1.1. Establish surveillance baselines and install three hospital autosamplers and six sentinel sampling kits. 4.1.1.2. Develop sampling, laboratory-analysis, biosafety, quality-assurance and data-management protocols. 4.1.1.3. Integrate wastewater, epidemiological, meteorological and environmental-health data into relevant monitoring platforms. 4.1.1.4. Establish and test alert thresholds, institutional responsibilities and predefined response actions.

	health impacts.		
		4.1.2. Inclusive climate-health preparedness, service-continuity and referral mechanisms developed, tested and institutionalized in the three target areas and participating facility catchments.	4.1.2.1. Map populations exposed to floods, sea-level rise, displacement, extreme heat and interrupted health-service access. 4.1.2.2. Integrate continuity of care, temporary service delivery and vulnerable-group protection into local contingency plans. 4.1.2.3. Establish mental-health, psychosocial-support, risk-communication and emergency-referral mechanisms. 4.1.2.4. Test the arrangements through community exercises and establish linkages with social-protection and livelihood-recovery programmes.
		4.1.3. Community-based and environmentally sound vector surveillance and source-reduction measures implemented and maintained in 30 communities or health-facility catchments.	4.1.3.1. Map climate-sensitive vector-breeding risks in the targeted communities and facility catchments. 4.1.3.2. Implement environmental management, drainage, safe water-storage and source-reduction measures. 4.1.3.3. Strengthen community capacity and establish local monitoring and maintenance responsibilities.
	Outcome 4.2. Increased adaptive capacity of targeted health facilities to maintain essential services during extreme heat, floods, typhoons and climate-related power disruptions.	4.2.1. Climate-responsive technical designs, specifications, SOPs, O&M packages, training materials and quality-assurance tools developed, validated and applied.	4.2.1.1. Deploy at least 10 international specialists against clearly defined technical deliverables. 4.2.1.2. Develop and validate technical designs, specifications, SOPs, O&M packages and performance-verification tools. 4.2.1.3. Deliver six technical training and field-coaching programmes and transfer technical tools to responsible institutions.
		4.2.2. Integrated climate-vulnerability, energy and resource-efficiency assessments and prioritized adaptation plans completed and applied in nine health facilities.	4.2.2.1. Assess facility exposure to extreme heat, floods, storm damage, utility interruption and resource constraints. 4.2.2.2. Identify critical service loads and priority operational vulnerabilities. 4.2.2.3. Develop costed facility adaptation plans prioritizing passive, no-cost and low-cost measures.
		4.2.3. Passive-cooling, energy-efficiency and renewable or backup-power measures installed and operational in nine health facilities.	4.2.3.1. Develop site-specific designs based on heat exposure and essential-service continuity requirements. 4.2.3.2. Install passive-cooling, energy-efficiency and appropriately sized renewable or backup-power measures. 4.2.3.3. Establish O&M responsibilities and monitor thermal performance, energy use and continuity of essential services.
		4.2.4. Climate-resilient pharmaceutical and vaccine-storage systems upgraded and operational in 10 health facilities.	4.2.4.1. Assess pharmaceutical and vaccine-storage exposure to floods, heat, humidity and power disruption. 4.2.4.2. Implement flood protection, temperature-control, monitoring and backup-power measures. 4.2.4.3. Establish stock-management, emergency

			relocation, temperature-excursion and service-continuity procedures.
	4.3. Strengthened institutional capacity for knowledge management, adaptive management and replication of climate-resilient health interventions.	4.3.1. A knowledge-management and institutional exchange mechanism established and operational, comprising a Technical Working Group, at least five pilot lessons-learned products, six TWG meetings and a stakeholder knowledge platform.	4.3.1.1. Establish the Technical Working Group and project knowledge-management and peer-learning platform. 4.3.1.2. Conduct at least six TWG meetings to review implementation evidence, challenges and replication opportunities. 4.3.1.3. Develop and disseminate at least five pilot lessons-learned products and integrate relevant findings into institutional planning and budgeting.

- B.** Describe how the project/programme provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project/programme will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

The project will generate economic, social and environmental benefits in Metro Manila, La Union and Camarines Sur by strengthening the climate resilience and circularity of healthcare waste, water, wastewater and related health-service systems. It will address climate-related service disruptions, unsafe waste storage and treatment, water shortages, flooding, contamination and rising operating costs. Approximately 3.8 million people over 10 years are expected to benefit directly or indirectly from safer and more reliable health services. This is the overall project-level estimate and should not be added to the overlapping facility-use and census figures presented below.

Target LGU	Number of Population (as of 2024 Census)	Number of HH	Number of under 14 years old
Pili, Camarines Sur	101,668.00	21,266.00	36,661
Pateros, Metro Manila	67,319.00	15,838.00	17,887
San Fernando, La Union	124,809.00	35,350.00	32,076
Naga City	209,170.00	45,984.00	63,901
Total	502,966	—	150,525

Economic benefits

The project will reduce healthcare waste transportation and disposal costs, procurement expenditure, water consumption, medical treatment costs associated with exposure to contaminated water and waste, and losses resulting from interrupted health services and flood-damaged equipment and supplies. It will also protect the economic and environmental value of the Bicol River waterfront and support local circular-economy activities such as recycling, composting and organic farming.

The preliminary economic benefit estimates are summarized below. The estimates represent different and sometimes overlapping benefit streams and beneficiary groups and therefore should not be added together. Where the benefits document provides an additional or alternative reference figure, both figures are retained.

Project intervention and coverage	Economic and service benefits	Estimated benefit and underlying data
Emergency waste-surge management: 3 provincial protocols and facility-level plans for 30 facilities	Maintains safe waste management and healthcare operations during emergencies.	Supports facilities serving 4000-6000 outpatient per day .
Circular procurement: 1 Department of Health guidance and guidance adopted by 20 Local Government Units	Generates savings for hospitals and LGUs and supports implementation of the National Green Procurement Act and the circular economy.	PHP 4,000,000 annually , covering hospital clients and LGU personnel. The estimate assumes PHP 10,000 savings in procurement costs for supplies, including computers and office supplies, for 400 in-patient .

Flood- and storm-resilient healthcare waste storage: 20 facilities-10 in Camarines Sur, 6 in La Union and 4 in Metro Manila	Prevents the dispersal of healthcare waste during floods and reduces medical treatment costs for hospital workers, patients and surrounding communities. It supports proper storage at facilities in Bacnotan City, Naga City and Camarines Sur Sanitarium.	PHP 60,000,000 annually. The calculation recorded is 6000 × 10 days at PHP 1000 per day = PHP 60,000,000 , based on avoided treatment costs during the rainy season and 6000-8000 clients . The source also records PHP 123,000,000 and the calculation 2050 × 1000 × 10 days as reference figures.
Small-scale non-burn treatment: 8 units-4 in Camarines Sur, 2 in La Union and 2 in Metro Manila	Reduces waste transportation and fuel costs, enables continuous treatment during flooding and minimizes or eliminates exposure to uncollected healthcare waste.	PHP 2,500,000.00 annually (PHP 2.5 M). Supporting data include 40 tons per annum of healthcare waste in Naga City at PHP 30/kg of disposal and 100,000 kg of HCW per annum - BRGHGMC .
Waste segregation and minimization: 30 facilities	Reduces residual-waste disposal costs and plastic waste, enables compost production, supports organic farming and establishes partnerships between hospitals and LGUs for residual-waste management.	PHP 4,000,000.00 annually (PHP 4 M). The Camarines Sur estimate uses 267,000 kg generated per annum , a disposal cost of PHP 15/kg , and a reduction to 50% . The source also records PHP 2 M (250 tons) and refers to page 10 of the Sanitarium report.
Laboratory and chemical-waste management: 10 laboratories	Enables more immediate analysis of fecal coliform and reduces illness caused by exposure to water contaminated with E. coli or fecal coliform.	PHP 150,525,000.00 annually , linked to 150,525 children under 14 years old and avoided illness and treatment costs. The supporting case for Barangay Penafrancia and San Francisco covers 500-600 households, 5 person per family, or 3000 people , with a treatment cost of PHP 1,000 per person .
Rainwater harvesting and greywater reuse: 20 facilities	Provides an additional source of water, reduces water consumption and supports continued services during typhoons.	PHP 4,200,000 annually. The intervention supports continued services for 18,913 clients during the typhoon season. The avoided medical treatment assumption is PHP 1000 per person for 10 typhoons at least, including 420 patients per day at 1000 per day in 10 days .
Backflow prevention and drainage improvements: 15 facilities-7 in La Union and 8 in Metro Manila	Reduces contamination and water losses through water-quality and consumption monitoring, water-efficient fixtures, leak-detection systems and improved maintenance.	No separate PHP estimate was provided. Water savings and avoided disruption costs will be monitored during implementation.
Safe sludge management: 3 facilities	Demonstrates decentralized sludge management, reduces or eliminates river pollution, protects the Bicol River tourism brand and supports property values along the Naga City waterfront.	PHP 50,000,000 annually , corresponding to the recorded PHP 50 M cost of “Bicol tourism brand per annum.”
Capacity building on circular water and wastewater management: 150 participants	Helps LGUs and facility managers prevent equipment and supplies from being exposed to floods and maintain operations through backup power and water supplies.	For Naga City, the source records PHP 4 M per typhoon at 10 typhoons per year .

Social benefits and equitable distribution

Direct beneficiaries will include patients, outpatients, health workers, laboratory personnel, cleaners, waste handlers, facility managers and personnel of participating LGUs. Relevant service-use estimates include 4000–6000 outpatient per day, 400 in-patients, 6000-8000 clients considered in the avoided-treatment estimate and 18,913 clients receiving continued services during the typhoon season. The project will also train 150 participants from LGUs and health facilities.

The decentralized wastewater treatment case for Barangay Penafrancia and San Francisco will benefit 500-600 households, equivalent to 3000 people based on 5 person per family. Indirect beneficiaries include surrounding households and communities that will experience reduced exposure to healthcare waste, polluted floodwater, untreated wastewater and contaminated rivers.

Particular attention will be given to the 150,525 children under 14 years old in the four reference LGUs, as children

are especially vulnerable to diarrhea and diseases associated with E. coli, fecal coliform and contaminated floodwater. Other priority groups will include women and girls, pregnant and lactating women, older persons, persons with disabilities, low-income households, waste workers and people living in flood-prone or underserved communities. Women will benefit from safer and more reliable healthcare, reduced exposure to contaminated water and waste and a lower unpaid care burden when climate-related illnesses and service disruptions are prevented. Women health workers, cleaners, laboratory personnel and waste handlers will receive equitable access to occupational health and safety measures, training and appropriate personal protective equipment. Women's organizations and vulnerable groups will participate in facility selection, design, implementation and monitoring. Beneficiary information will be disaggregated by sex, age, disability and other relevant vulnerability characteristics.

Environmental benefits

Flood and storm-resilient waste storage will prevent hazardous healthcare waste from being dispersed into communities, drainage systems, rivers and coastal environments during extreme weather. The 8 non-burn treatment units will enable treatment closer to the point of generation, reduce transport requirements and avoid combustion-related pollution. Waste segregation and minimization across 30 facilities will reduce residual and plastic waste, increase recycling and resource recovery and enable compost production and organic farming.

Rainwater harvesting and greywater reuse in 20 facilities will reduce pressure on freshwater resources and provide additional water during typhoons and supply disruptions. Water-quality monitoring, water-efficient fixtures, leak detection, drainage improvements and backflow prevention in 15 facilities will reduce water losses and contamination risks. Safe sludge-management systems in 3 facilities and strengthened laboratory capacity will reduce fecal contamination and protect the Bicol River and other receiving environments.

Avoidance and mitigation of negative impacts

No significant negative development outcome or maladaptation is expected. The project is designed to reduce rather than transfer climate risks and will not increase the vulnerability of beneficiaries or non-beneficiaries or reduce their capacity to adapt to climate change. Nevertheless, potential risks include temporary construction-related dust, noise, traffic and waste; occupational and community exposure to infectious or chemical waste; unsafe handling of treatment residues and sludge; accidental releases; temporary disruption of facility services; unequal access to benefits; labour and occupational health and safety risks; and sexual exploitation, abuse and harassment.

These risks will be addressed in accordance with the Adaptation Fund Environmental and Social Policy and Gender Policy through:

- Environmental and social screening and risk categorization of every facility and activity
- Site-specific environmental and social management measures, including infection-control, waste-handling, pollution-prevention, emergency-response and occupational health and safety procedures
- Safe segregation, labelling, containment, storage, transport, treatment and final disposal of healthcare, laboratory, chemical and treatment residues
- Worker training, appropriate personal protective equipment and contractor codes of conduct
- Meaningful and gender-responsive stakeholder consultation, accessible disclosure and a project grievance mechanism
- Measures to prevent sexual exploitation, abuse and harassment and to ensure safe participation by women and vulnerable groups
- Gender-responsive indicators and sex, age and disability disaggregated monitoring
- Monitoring of water quality, waste flows, treatment performance and unintended environmental or social impacts.

C. Describe or provide an analysis of the cost-effectiveness of the proposed project/programme.

The project is designed to maximize adaptation benefits while minimizing costs through circular economy approaches, resource efficiency, and the upgrading of existing systems. Cost-effectiveness is achieved through four main strategies:

- ü Resource-efficient technologies: Rainwater harvesting, greywater reuse, passive cooling, renewable energy, and efficient waste treatment provide lower-cost alternatives to energy- and resource-intensive solutions while reducing long-term operating expenses.
- ü Optimization of existing infrastructure: The project focuses on retrofitting and improving existing WASH, wastewater,

and healthcare waste systems rather than constructing new facilities, reducing capital requirements.

- ü **Health and economic savings:** Improved water, sanitation, waste management, and disease surveillance reduce infection risks, healthcare costs, productivity losses, and service disruptions during climate-related events.
- ü **Scalability and replication:** Modular technologies, technical guidelines, and knowledge-sharing mechanisms enable replication across other health facilities and Local Government Units, increasing the value and reach of the investment.

Project-specific impact analysis

Over a 10-year period³⁷, the project will compare a business-as-usual scenario (without adaptation measures) with a project implementation scenario to assess economic, social, and environmental benefits. The interventions are expected to directly benefit approximately 200,000 people, including patients, healthcare workers, waste handlers, and communities surrounding targeted facilities. Based on the national population sex ratio, direct beneficiaries are estimated at approximately 104,000 women and girls and 96,000 men and boys. This includes vulnerable groups such as pregnant women, older persons, and persons with disabilities; for example, La Union alone has approximately 26,880 persons with disabilities who rely on public health services.

The project will also generate wider benefits for approximately 3.8 million indirect beneficiaries across Metro Manila, La Union, and Camarines Sur. These benefits include reduced exposure to infectious waste, improved water quality, fewer climate-sensitive disease outbreaks, and more reliable healthcare services during extreme events. Improved environmental conditions will also benefit surrounding households, schools, businesses, and downstream communities by reducing contamination risks.

Overall, the 10-year analysis will demonstrate how circular economy-based adaptation reduces future costs, strengthens health system resilience, and delivers long-term economic, social, and environmental benefits compared with maintaining current practices.

Scenario 1 - Business as Usual (without project)

Key vulnerabilities & baseline conditions	Likely outcomes without project	
- Supply chains for medicines, hygiene kits and water are pre-positioned but may not reach communities when roads and bridges are impassable; replacement-part inventories for generators and vehicles are not documented, and stockpiles are stored in facilities vulnerable to flooding. - WASH items and vaccines are distributed but manpower constraints and limited storage hamper timely delivery. - After Typhoon Kristine, 47 health facilities (including rural health units and barangay health stations) were damaged. - Waste workers face exposure to pathogens, sharps, chemicals and heat stress, and barangays generated only small amounts of segregated waste (e.g., 6.5 kg vials, 7.7 kg sharps and 1.6 kg expired PPE as of Feb 2026).³⁸ - Persons with disability count: 26 880 (12.637 female, 14.243 male) in the province (from PWD data).	- Recurrent typhoons and floods will continue damaging health facilities and disrupting supplies; medicine and WASH stock depletion will occur because replacement parts and logistics remain unplanned. - Vulnerable will experience service interruptions and increased morbidity due to limited post-disaster care; out-of-pocket expenses will rise. - Poor segregation and reliance on off-site disposal will leave infectious waste unmanaged, exposing waste workers to health risks and allowing plastics to clog waterways.	 
Healthcare waste management is limited: 12 of 20 local government units (local Government Units) use septic vaults as storage, six use drums and only two have dedicated storage facilities; only three local Government	Without new infrastructure, hazardous-waste stockpiles will grow, with septic vaults and drums leaking into soil and waterways; the lack of a functioning TSD facility will	

³⁷ The project modelling methodology explained in Annex I

³⁸ Baseline Information, Naga City, Camarines Sur

Units have agreements with a treatment, storage and disposal (TSD) facility while 17 stops at storage. • No provincial TSD facility exists • Infectious-waste generation is high: monitoring of five district hospitals and the provincial hospital shows 4500 kg per month of infectious waste (aprx. 205 kg/day). • After typhoons Uwan and Emong, about 6 tons of disaster waste were disposed at the San Fernando sanitary landfill, the decentralized wastewater treatment system at Bacnotan District Hospital overflowed during heavy rainfall and the sewage-treatment plant of La Union Medical Center was damaged by lightning.	force hospitals to store waste indefinitely. • Disaster-generated waste surges (e.g., the 6-ton load after recent typhoons) will strain landfills, increasing environmental and public-health risks. • Water-treatment facilities and septic systems will continue to overflow during heavy rain, exposing communities to pathogens.	 
• Health facilities generate enormous volumes of pathological/infectious waste • Many smaller clinics also produce notable amounts of M501 waste • These facilities depend on external haulers and incinerators; collection and treatment infrastructure is stretched.	• Without intervention, hazardous-waste volumes will keep climbing, overburdening existing TSD capacity and increasing greenhouse-gas emissions. • Floods and typhoons will disrupt collection and treatment, causing waste accumulations and contamination of waterways. • Health-facility damage due to disasters will require expensive repairs, while service interruptions jeopardize care for millions of residents.	

Scenario 2 - With Project Implementation (climate-resilient, circular and sustainable health systems)

Planned interventions and expected changes	Projected outcomes with project
• Improve the status of health facilities to climate impacts and warehouses with elevated, flood-resistant storage; equip facilities with renewable-energy systems whose pay-back periods are 3-9³⁹ years. • Strengthen supply chains: develop logistics plans for pre-positioning consumables, equipment and spare parts; improve transport routes; and create contingency plans for stockpiles. • Scale up WASH interventions: ensure regular microbiological water testing; provide segregated, labelled bins and large water-tank capacity in evacuation centers; enforce septic-tank use and hygiene education. • Establish integrated healthcare-waste management. • Empower community through gender-responsive planning and targeted outreach.	• Reduced disaster damage to health facilities and stockpiles, leading to PHP 12.4-15.6 billion in avoided repair and downtime costs across selected areas over ten years (project modelling). • Continuous service delivery during and after typhoons; timely distribution of medicines and hygiene kits; lower out-of-pocket costs for patients. • Significant reductions in infectious-waste leakage and exposure; safer working conditions for waste handlers. • Improved water quality and sanitation in health facilities and evacuation centers. • Empowered communities and greater inclusion of women and PWDs in planning and response.
• Construct or rehabilitate a provincial hazardous-waste	• Hazardous-waste backlog addressed; infectious

³⁹ Philippines_LCSHCF_Roadmap_2020-2040

treatment facility and upgrade storage at district hospitals; ensure all local Government Units move beyond storage to treatment. - Strengthen disaster-waste management: develop surge protocols, pre-position waste-removal equipment and establish partnerships with engineered landfills. - Upgrade water-supply systems and wastewater treatment. - Implement circular-economy approaches such as recycling of packaging and procurement of reusable supplies. - Provide gender-and-disability-sensitive WASH facilities and outreach, filling data gaps on vulnerable groups.	waste treated promptly rather than stored in septic pits. - Disaster waste surges managed efficiently, preventing landfill overflows and secondary contamination. - Resilient water and wastewater systems reduce disease outbreaks and maintain service continuity. - Economic savings from avoided environmental penalties and reduced waste-hauling costs.
- Introduce on-site waste-treatment technologies at high-volume hospitals to reduce off-site hauling; promote waste segregation and recycling. - Retrofit hospitals and clinics with renewable energy and energy-efficient systems, reducing reliance on fossil fuels and lowering operating costs. - Develop a metropolitan healthcare-waste management plan that accounts for extreme weather disruptions and includes alternative treatment facilities. - Engage informal waste workers and communities in circular-economy programs and provide occupational health protection.	- Reduction of infectious waste from PGH and similar institutions could be treated on-site, dramatically reducing transport emissions and treatment costs.⁴⁰ - Reduced incidence of waste-related flooding and contamination; improved health outcomes for communities. - Lower greenhouse-gas emissions and energy costs due to renewable-energy adoption. - Stronger collaboration among hospitals, government and waste-sector actors, leading to a resilient and sustainable healthcare system.

- D.** Describe how the project/programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national adaptation plan (NAP), national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.

The project is fully aligned with national and sub-national sustainable development and climate adaptation strategies of the Philippines. It directly supports the country's policy framework on climate resilience, sustainable development, and health system strengthening, as articulated in key national plans and strategies.

Philippines National Adaptation Plan (NAP)

At the national level, the project is strongly consistent with the Philippines National Adaptation Plan (NAP) 2023-2050, submitted on 30 May 2024 to the UNFCCC which identifies the health sector as highly vulnerable to climate change and prioritizes strengthening climate-resilient health systems, including infrastructure, water, sanitation and hygiene (WASH), and waste management systems. The NAP emphasizes the need to climate-proof essential services, improve adaptive capacity, and reduce climate-induced disruptions in public service delivery. The proposed project directly contributes to these priorities by enhancing resilience of healthcare waste management systems, WASH infrastructure, and environmental health monitoring under increasing climate stress.

Philippine Development Plan (PDP)

The project is also aligned with the Philippine Development Plan (PDP) 2023-2028 approved on December 16, 2022, and national climate policies, which highlight the importance of integrating climate change adaptation into sectoral planning, particularly in health, infrastructure, and local governance. By embedding circular economy principles into health sector operations, the project supports sustainable resource management, reduced environmental pollution, and improved service efficiency, all of which are core objectives of national sustainable development strategies.

Nationally Determined Contribution (NDC)

The project contributes to the implementation of the Philippines' commitments under the United Nations Framework

⁴⁰ EMB NCR Memo

Convention on Climate Change (UNFCCC), including its Nationally Determined Contribution (NDC), 2020-2030 submitted on April 15, 2021 and National Communications, which recognize the need for adaptation actions to reduce vulnerability of critical infrastructure and public services to climate risks. The focus on climate-resilient health facilities, improved water security, and safe waste management directly addresses identified adaptation priorities.

Sub-national instruments and local planning evidence relevant to target areas

For Camarines-Sur's local planning document is the **Naga City LDRRM Plan 2023-2028**, adopted on December 15, 2023, which describes a high concentration of people and economic activity in flood-prone areas and provides climate scenario statements (temperature increases, rainfall shifts, increased flooding days)⁴¹. This provides a defensible local risk context for climate-resilient WASH, wastewater controls, and health-service continuity measures.

La Union Enhanced **Local Climate Change Action Plan (e-LCCAP) 2023-2032**, submitted on Feb 27, 2024, which provides the province's official roadmap for climate adaptation and sustainable development. The e-LCCAP identifies key climate risks particularly typhoons, flooding, and landslides and prioritizes sectoral actions to strengthen resilience of infrastructure, water systems, environmental management, and public services. It is explicitly aligned with national frameworks such as the Climate Change Act (RA 9729), the National Climate Change Action Plan (NCCAP), and disaster risk reduction strategies, ensuring vertical policy coherence. The plan further emphasizes priority areas directly relevant to the project, including water sufficiency, human security, environmental stability, and climate-resilient service delivery. By supporting improvements in WASH, waste management, and environmental health systems, the project operationalizes these local adaptation priorities and contributes to the province's strategy of translating climate risks into concrete, sector-based interventions, thereby ensuring strong local ownership and sustainability.

La Union's Provincial DRRM Plan (2017-2022), Updated on (2026-2028) was passed on Feb 10, 2026 explicitly frames the PDRRMP⁴² as a five-year roadmap pursuing Sendai-aligned goals, using a multi-hazard approach that explicitly includes climate change threats, and stating that DRR is directly linked to poverty alleviation and sustainable development. PDRRM-Health (2026-2028) was also adopted in 2026. The plan is aligned with several SD Goals namely: SDG 3- Good Health and Wellbeing SDG 11- Sustainable Cities and Communities. SDG 13- Climate Action and SDG 17 – Partnerships for the Goals, SDG 5- Gender Equality, SDG – Clean Water and Sanitation, SDG 9 – Industry, Innovation and Infrastructure, SDG 10 Reduced Inequalities.

Metro Manila local climate strategies and DRRM commits to climate resilience and includes mitigation strategies that explicitly include “Striving Towards a Circular Economy” It also lists adaptation strategies that include improving “water security” through demand-side management and “rainwater harvesting,” and emphasizes flood mitigation and heat/drought risk reduction. The 10-year Solid Waste Management Plan of the Province of La Union (2024-2033) was approved in June 2025. Prior to this, in February 2023, the provincial council approved “Provincial Ordinance enacting the single use plastics (SUPs) and other reusable and disposable materials” that aims to minimize solid waste generation and implement minimization strategy. The policy aims to support the implementation of the RA 9003 Ecological Solid Waste Management Act of 2000.

Naga City DRRM Plan 2023-2028, adopted in December 2023 has specific plans on a. Health b. Housing and community Development, and DRRM on Health. **Naga City Disaster Risk Reduction and Management Office Contingency Plan (2023-2028)** comprise of action plans and coordination efforts among institutions in the city to address health, protection and humanitarian assistance. **Resilience Roadmap and Investment Portfolio for Risk Resilience (IPRR)** for Metro Manila adopted in March 2023 include discussions on existing programs and gaps to address a. Water scarcity and sanitation and b. Housing and Human Settlements. **Philippine RoadMap on Health and Climate Change 2025- 2050 (launched in 2026)** includes the PH-SINAG model designed to support the delivery of the roadmap by providing a robust evidence base to support quantifiable actions on healthcare emissions. Proposed outcomes of the project are aligned to strategic outcome 4 and 5 of the Roadmap.

- E. Describe how the project/programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.

The project will meet or exceed all applicable national technical standards and the Adaptation Fund's ESP. Key standards include:

Law/Decree/Regulation	Relevance to the project
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⁴¹ <https://www2.naga.gov.ph/wp-content/uploads/2025/04/LDRRM-PLAN-2023-2028.pdf>

⁴² <https://launion.gov.ph/wp-content/uploads/2022/09/Approved%20PDRRM%20Plan%202017-2022.pdf>

Annex 5 to OPG Amended in October 2017

DPWH Department Order No. 30, Series of 2019 – Sustainable Infrastructure Guidelines	Promotes green materials, resource-efficient construction methods, climate resilience and strategies to reduce lifecycle greenhouse gas emissions.
Philippine Green Building Code (2015, implemented in 2016) – Referral Code of the National Building Code (P.D. 1096)	Requires energy- and resource-efficient building design, sustainable construction materials and measures to reduce emissions from building operations.
DPWH Department Order No. 39, Series of 2016 – Philippine Green Building Code	Provides for implementation of the Green Building Code, supporting efficient building design and sustainable use of cement and other construction materials.
Department Order No. 64, Series of 2012 – Energy Efficiency in Government Buildings	Promotes energy conservation, lower operational emissions and integration of energy-efficient systems in government buildings and public infrastructure.
Department Order No. 37, Series of 2010 – Climate Change Adaptation and Mitigation in Infrastructure Projects	Requires climate risks to be considered in infrastructure planning and promotes resilient design, low-carbon construction and sustainable material use.
National Building Code of the Philippines (P.D. 1096, 1977; Revised IRR 2004)	Establishes mandatory siting, design, structural, fire-safety, construction and occupancy requirements for new or rehabilitated project facilities. Designs will account for flood, typhoon, seismic and zoning risks.
RA 9003 - Ecological Solid Waste Management Act, with DAO 2001-34 (DAO 01-34), its IRR	Governs segregation, collection, recovery, recycling, treatment and disposal of non-hazardous solid waste, including construction and cement waste. It supports waste minimization and circular-economy practices across project activities.
RA 7160 -Local Government Code of the Philippines	Assigns local government units responsibilities for sanitation, solid-waste services, local environmental planning and enforcement of relevant waste-management requirements.
RA 6969 - Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990, with DAO 2013-22, the revised procedures for implementing Title III	Regulates generators, transporters, treatment facilities and disposal facilities handling hazardous healthcare, chemical and pharmaceutical wastes, including used and expired medicines.
Philippine National Standards for Drinking Water 2017	Establish physical, chemical and microbiological water-quality limits. Project water-supply systems will meet these standards and undergo regular compliance testing.
Revised Sanitation Code and WASH in Health Care Facilities Improvement Tool (WASH-FIT) benchmarks	Guide the design and operation of drainage, sanitation, hygiene and water services to ensure safe, accessible and climate-resilient healthcare facilities.
DOH Health Care Waste Management Manual, Fourth Edition (2020)	Requires a three-bin system for non-hazardous, infectious and sharps waste; poorly segregated waste must be handled as infectious. It also prescribes puncture-proof sharps containers and specific storage, refrigeration, treatment and disposal procedures for pharmaceutical, chemical, pathological and radioactive wastes. Relevant workers will receive training on these requirements.
Philippine Health and Climate Change Roadmap 2025-2050	Promotes resilient, equitable and gender-responsive health systems through the SMARTER framework: strong workforce capacity, multilevel data integration, accessible financing, resilient service delivery, transformative infrastructure, engaged communities and responsive leadership.
National Adaptation Plan 2023–2050	Supports climate-resilient health infrastructure, risk-informed planning and adaptation measures addressing hazards such as flooding, typhoons, extreme heat and water insecurity.
Adaptation Fund Environmental and Social Policy	Requires an Environmental and Social Impact Assessment and an Environmental and Social Management Plan. Safeguards covering access and equity, gender equality, Indigenous Peoples, biodiversity, climate change, pollution prevention, public health, labor rights and cultural heritage will be incorporated into project design, implementation and contractual agreements.

F. Describe if there is duplication of project/programme with other funding sources, if any.

As seen in Table 6, the proposed project does not duplicate existing initiatives but addresses a specific adaptation gap at the intersection of climate resilience, health facilities, circular economy, healthcare waste management, WASH, wastewater systems, and environmental health monitoring in the Philippines. While related programmes exist in the climate, health, and environment sectors, they generally focus on different geographic areas or narrower objectives and do not provide an integrated package of climate-resilient health facility interventions.

The project is therefore complementary, building on existing national and local programmes while adding targeted investments in areas that remain underfunded, including flood- and storm-resilient healthcare waste systems, circular

water and wastewater solutions, emergency waste preparedness, and climate-responsive monitoring. By combining policy support with facility-level investments, the project provides a distinct adaptation approach that strengthens health system resilience and supports long-term climate action.

Table 6: Complementarity and differentiation of the project from existing and planned initiatives in the Philippines

Existing or planned initiative, budget and implementation period	Objectives and focus	Synergy, complementarity and no duplication with SCRH	Lessons learned and considerations for SCRH design
DOH climate-resilient health proposal covering Camarines Sur- planned GCF proposal. Budget: To be confirmed. Period: Under preparation; implementation dates to be confirmed.	Strengthen the climate resilience of health services and facilities in Camarines Sur. Based on available preparation information, climate-resilient WASH, minor wastewater systems, healthcare-waste systems and circular-economy measures are not currently included.	Synergy: Use a common climate-risk baseline, coordinate facility selection and sequence investments through DOH and relevant Local Government Units. Complementarity: SCRH addresses identified WASH, wastewater, healthcare-waste and circular-economy adaptation gaps. No duplication: A facility-, output- and cost-level cross-check will be completed before the full proposal and updated before procurement. No expenditure will be financed by both projects.	Early coordination between climate-finance pipelines is necessary to avoid fragmented investments. The final SCRH design should document the GCF project title, budget, implementation period, selected facilities and intervention packages; assign ownership and O&M responsibilities; and maintain an overlap and financing register throughout implementation.
<u>Reduction of unintentionally-produced persistent organic pollutants and mercury through an environmentally sound approach to healthcare wastes management in the Philippines</u> , GEF ID 10798 - ongoing. Budget: GEF project grant \$4.880 million; co-financing \$71.843 million. Period: 2022–2027.	Protect human health and the environment by reducing unintentionally produced POPs and mercury releases from healthcare waste through BAT/BEP, waste minimization, non-burn treatment, environmentally sound mercury management and strengthened regulatory and operator capacity.	Synergy: Apply available waste audits, BAT/BEP specifications, healthcare-waste baselines, occupational-safety procedures and training materials. Complementarity: SCRH adds climate-risk-informed storage, surge capacity, treatment continuity, resilient logistics, WASH and minor wastewater interventions. No duplication: A common facility and asset register will identify equipment and technical assistance already financed under GEF ID 10798. SCRH will exclude these investments.	Treatment capacity must be based on verified waste quantities and effective segregation. SCRH should incorporate permitting, operator competency, residual-waste disposal, spare-parts availability, emergency operation, lifecycle costs and recurrent O&M financing into technology selection.
<u>Chemicals and Wastes Financing Partnership Facility</u> , GEF ID 11681 - global programme with potential	Establish a financing and partnership facility that prepares and mobilizes	Synergy: Exchange investment-pipeline information, financing models, market assessments and	Sustainable chemicals and waste systems

Philippine investments. Budget: Global GEF project grant \$29.083 million; co-financing \$314.417 million. The Philippines-specific allocation remains to be confirmed. Period: 2026–2031, based on a 60-month design following approval in June 2026.	investment for chemicals- and waste-management solutions, including pharmaceuticals and other priority value chains, through investment-readiness support, financing instruments and public-private partnerships.	service-provider due diligence. Complementarity: The facility can support investment readiness and longer-term financing, while SCRHR finances clearly defined adaptation outputs in health facilities. No duplication: Separate financing plans, procurement packages, asset registers, results attribution and co-financing confirmations will be maintained.	require lifecycle financing, credible service providers and viable treatment or recovery markets. SCRHR should apply lifecycle costing, financial and technical due diligence, demand analysis and long-term service arrangements while preserving Adaptation Fund additionality and preventing double counting of co-financing.
<u>Greening Transportation Infrastructure Development in the Philippines - GRID-PHI, GEF ID 11471, ongoing.</u> Budget: GEF project grant \$3.532 million; co-financing \$243.286 million. Period: 2025–2029, 48 months. Implemented through ADB and WWF-US with DPWH as the national executing entity.	Integrate biodiversity, climate resilience, nature-based solutions and environmental safeguards into upstream transport planning, project preparation and procurement. It includes national systems work and location-specific application in CARAGA, particularly Agusan del Norte and Butuan.	Synergy: Exchange climate-hazard, drainage, accessibility and nature-based infrastructure planning methods relevant to access and referral routes serving health facilities. Complementarity: SCRHR addresses resilience inside health facilities and their environmental-health catchments. No duplication: SCRHR will not finance roads, railways, transport corridors or transport-sector planning outputs.	Continuity of essential health services depends partly on reliable access, referral and supply routes. SCRHR facility risk assessments should therefore consider access-route disruption and coordinate identified external risks with DPWH and Local Government Units without adding transport infrastructure to the SCRHR budget.
<u>Eighth Operational Phase of the GEF Small Grants Programme, Part 1, GEF ID 11285 - ongoing global programme and Philippines country programme.</u> Budget: Global GEF project grant \$126.187 million; co-financing \$35 million. The Philippines country allocation is not publicly reported. Period in the Philippines: May 2026–October 2028.	Provide grants and technical support to CSOs and community-based organizations for locally led landscape seascape management, biodiversity conservation, resilience, sustainable livelihoods, chemicals and waste management, social inclusion and knowledge exchange. Current Philippine landscapes include Aurora, Quezon, Calamianes, Catanduanes, the Cluster 6 River Basin in Samar, SIPLAS and Surigao del Norte.	Synergy: Apply participatory baseline methods, community governance approaches, vulnerable-group engagement and locally led knowledge systems. Coordinate community interventions where project catchments overlap. Complementarity: SCRHR finances defined health-facility and environmental-health adaptation systems. No duplication: SCRHR will not finance SGP grants, conservation subprojects or activities already supported through SGP8; beneficiaries and expenditures will be recorded separately.	Community ownership and trusted local intermediaries strengthen sustainability and replication. SCRHR should apply gender-responsive and Leave No One Behind principles, include Indigenous Peoples and persons with disabilities where relevant, support

			community monitoring and grievance mechanisms, and avoid transferring essential facility O&M responsibilities to short-term community grants.
<u>Transforming Agricultural Landscapes in Island Ecosystems and Key Biodiversity Areas towards Sustainable Food Systems and Climate Resilient Communities</u> , GEF ID 11237 - ongoing. Budget: GEF project grant \$9.581 million; total GEF resources \$10.661 million; co-financing \$73.373 million. Period: 2025–2031, 72 months.	Transform rice-based food systems in Central Luzon and Western Visayas through improved policy and finance frameworks, sustainable land management, agrobiodiversity, climate-resilient production, inclusive livelihoods and landscape-level knowledge management.	Synergy: Exchange experience on Local Government Unit planning, climate information, watershed management, food- and water-security risks and engagement of women, youth, Indigenous Peoples and climate-vulnerable households. Complementarity: These interventions address agricultural landscapes and livelihoods, while SCRH addresses health facilities and environmental-health systems. No duplication: SCRH will not finance agricultural production, farmer grants or sustainable land-management investments.	Integrated landscape interventions require multi-level coordination, inclusive governance and links to finance and markets. SCRH should reflect upstream water-contamination and climate-sensitive livelihood risks in catchment assessments and establish health and social-protection referrals for affected households rather than duplicating livelihood financing.
<u>Circular Solutions to Plastic Pollution in the Philippines</u> , also referred to as Plastic Reboot , GEF ID 11194 - ongoing. Budget: GEF project grant \$8.363 million; co-financing \$58.538 million; total project cost \$66.901 million. Period: 1 January 2024–31 December 2029.	Develop policies, financing mechanisms and resource-efficient systems for circularity of plastics in the food and beverage sector, including localized EPR, reduction, substitution, reuse, redesign, recovery systems and improved plastics-flow information.	Synergy: Apply relevant EPR approaches, material-flow accounting, circular procurement methods, recovery-market information and off-taker experience to non-hazardous healthcare packaging. Complementarity: SCRH focuses on climate resilience and healthcare-specific waste streams. No duplication: SCRH will not finance food and beverage plastic pilots. Infectious, pathological, pharmaceutical and chemical wastes will not enter plastics-recovery systems.	Prevention, reduction and reuse should be prioritized before recycling. SCRH should require verified off-takers, contamination acceptance criteria, traceability, worker safeguards and evidence of market viability. Circularity indicators should exclude unsafe or unverified recovery claims.
<u>Strengthening the Capacity of</u>	Strengthen institutional	Synergy: Apply data-governance,	Effective

<u>Institutions in the Philippines to Comply with the Transparency Requirements of the Paris Agreement</u>, CBIT Philippines, GEF ID 11950 - ongoing. Budget: GEF project grant \$1.785 million; co-financing \$2.153 million. Period: 2026–2029, based on the three-year implementation roadmap launched in April 2026.	arrangements, technical capacity, data management, GHG measurement, reporting and verification, and knowledge sharing to support the Enhanced Transparency Framework under Article 13 of the Paris Agreement.	interoperability, metadata, quality-assurance and data-sharing approaches to SCRH monitoring, including relevant avoided-emissions estimates. Complementarity: SCRH measures adaptation results, service continuity and environmental-health outcomes. No duplication: SCRH will not finance the national GHG inventory or establish a competing national transparency platform. Joint training will be used where appropriate.	information systems require designated data owners, standardized metadata, quality controls and agreed reporting cycles. SCRH should integrate with existing government systems, establish disaggregated baselines, protect personal and health information and avoid creating an isolated project database.
<u>Philippines Biodiversity Financing Program</u>, GEF ID 11600, GBFF/UNDP/DENR-BMB - ongoing. Budget: GBFF project grant \$3.503 million; total approved GBFF allocation up to \$4 million; co-financing \$31.232 million. Period: Approved in January 2026; six-year implementation, provisionally 2026-2032, with the exact closing date to be confirmed.	Increase and improve public and private biodiversity financing, reduce harmful financial flows, implement priority biodiversity-finance solutions and strengthen biodiversity-finance planning and accountability. Preparation work includes Regions VI, IX, XI and CARAGA.	Synergy: Apply biodiversity safeguards, ecosystem-sensitive siting, watershed and coastal-risk screening, budget-tagging and resource-mobilization experience. Complementarity: SCRH may generate ecosystem and pollution-reduction co-benefits but does not finance protected areas, biodiversity corridors or biodiversity enterprises. No duplication: Separate sites, beneficiaries, assets and expenditure records will be maintained. Biodiversity finance will only be reported as SCRH co-financing when formally confirmed.	Sustainable biodiversity finance requires institutional ownership, budget integration, investable pipelines and equitable local benefits. SCRH should apply the mitigation hierarchy and habitat screening to infrastructure, integrate nature-positive measures where technically justified and avoid unsupported biodiversity-finance or co-benefit claims.

G. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.

To support replication and scaling, the project will establish knowledge-sharing networks to capture and disseminate lessons from pilot interventions in Metro Manila, La Union, and Camarines Sur. Each site will document technical, economic, social, and environmental results through case studies, performance monitoring, and learning reviews, highlighting the effectiveness of circular waste management, renewable energy, and resilient infrastructure under climate conditions.

Lessons will be shared through cross-learning forums, training programmes, policy dialogues, and national and

regional knowledge platforms. Training materials, policy briefs, and replication guidelines will support adoption by other health facilities and Local Government Units. By linking practical experience with policy development, the project will promote continuous improvement and wider uptake of climate-resilient, circular health solutions.

- H.** Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

To support project design and ensure alignment with local priorities, consultations were conducted with key stakeholders from government agencies, health authorities, environmental offices, local government units (LGUs), and development partners in the proposed project sites of Camarines Sur, La Union, and Metro Manila. Discussions focused on climate risks affecting health facilities, healthcare waste management, WASH systems, wastewater management, and potential adaptation interventions (Table 7). Vulnerable groups and facilities will be addressed through inclusive interventions across all four project components, including: (i) climate-risk and vulnerability assessments that incorporate sex-, age-, disability-, and other relevant vulnerability-disaggregated analysis to identify differential risks and barriers; (ii) resilient WASH, wastewater, and healthcare waste systems designed to maintain access to essential services for vulnerable populations during floods, typhoons, droughts, and salinity intrusion; (iii) inclusive facility- and community-level service continuity plans, including outreach, referral, and support mechanisms for displaced and hard-to-reach populations, as well as pathways for mental health and psychosocial support; and (iv) accessible climate-health surveillance, early warning, and community preparedness measures that enable vulnerable groups to receive, understand, and act on climate and health information and to access climate-resilient health services equitably.

Meaningful stakeholder engagement will be an integral part of the full project development. These consultations will use accessible and culturally appropriate approaches to enable effective participation and capture the distinct concerns of groups that may otherwise face barriers to engagement.

The findings from these consultations will be used to inform site selection, facility design, service delivery arrangements, risk mitigation measures, and monitoring indicators. The project will also establish mechanisms for ongoing feedback and grievance redress so that concerns raised by vulnerable groups can be addressed throughout project execution.

Table 7: Stakeholders Consulted During Online Meetings and Field Visits in the Proposed Project Sites

Date / mode / area	Scope and key outcome	Stakeholders consulted	Named participants / representatives	Gender F/M	Vulnerable groups / facilities
16 Jan 2026 Online	Introduced the Environment and Health Nexus project and established initial DENR-DOH-UNIDO coordination.	DENR Climate Change Service; DOH; UNIDO project development team	Elenida Basug; Ronald Law; Beverly Lorraine Ho; Maren Mellendorff; Leah Texon	F4/M1	Not recorded
16 Mar 2026 Online	Coordination and level-setting on project concept development; detailed outcomes were not recorded.	DENR Climate Change Service; DOH Climate Change Office	Names not recorded	NR	Not recorded
24 Mar 2026 Online	Presented the proposed Adaptation Fund project and requested baseline information and stakeholder inputs.	La Union PG-ENRO/CENRO; Manila DEPS; DENR/EMB NCR; DOH; Naga CDRMO; UNIDO	Elfren Gatchalian Jr.; Shereal Catbagan; Rijey Cantanilla; Patricia Marantan; Krisette Teoxon; Annalyn Rosario-Valdez; Clinton Tabile; Raynor Rodriguez; Rhean Gelyn Garcia; Maureen Malazo; Maren Mellendorff; Burak Erten Sahin; Leah Texon	F8/M4	Climate-exposed communities represented by PG-ENRO La Union and Naga CDRMO
30 Mar 2026 Online	Follow-up consultation: agreed field-visit scheduling, requested data submissions and discussed possible	DENR CCS/Region V; DOH HFDB; EMB NCR; EDMERO/PLGU Camarines Sur; ENFiD-	Eunice Joy Tayaban; June Philip Ruiz; Clinton Tabile; Patricia Marantan; Marizel Rojas; Roussel Balaoro; Christienne Lumapag;	F6/M5/	Typhoon- and climate-disaster-affected

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	interventions/pilots.	Austria/CTBTO	Crisostomo Rivero; Rhean Gelyn Garcia; Jerlim Mendones; Raquel Ortega; Luis Cruz		communities served by EDMERO Camarines Sur
31 Mar 2026 Online	Introduced the concept to LGUs and issued a checklist requesting baseline data for project preparation.	DENR; PGENRO La Union; Manila DEPS; EMB NCR; UNIDO	Raquel Ortega; Patricia Marantan; Raquel Orphilla; Bernard Quiros; Candy Miguel; Danae Camat; Glenn Ruiz Rutor; Rhean Gelyn Garcia; Maren Mellendorff; Burak Erten Sahin; Leah Texon	F8/M3/	Not specifically recorded
8 Apr 2026 Online	Explored possible collaboration with Doctors Without Borders (MSF) and its community-facing work in Tondo.	Doctors Without Borders/MSF Tondo; UNIDO	Mukaddas Yakubova; Muhammad Shoaib; Maren Mellendorff; Burak Erten Sahin; Leah Texon	F3/M2/	Vulnerable communities in Tondo/Manila served by MSF
20 Apr 2026 Online	Presented the concept to DOH-administered hospitals and invited interested facilities to coordinate with DENR/UNIDO.	DOH; Bicol Region General Hospital and Geriatric Medical Center; Ilocos Training and Regional Medical Center; Tondo Medical Center; Jose R. Reyes Memorial Medical Center	Leah Texon; June Philip Ruiz; other hospital participants not recorded	F1/M1	Patients of DOH hospitals, including geriatric and referral-facility users
22 Apr 2026 Online	Discussed the Camarines Sur geriatric hospital's concerns and possible project interventions.	DOH-administered geriatric hospital in Camarines Sur; project team	Names not recorded	NR	Older persons and patients served by the geriatric hospital
4 May 2026 Online	Reviewed Naga City's environmental concerns and proposed interventions.	Naga City ENRO/CENRO; UNIDO	Leah Texon; Marvin Sagun	F1/M1	Naga City communities; ENRO personnel serving as community frontliners
12 May 2026 Online	Discussed ADRA's climate-disaster response concerns and possible project interventions.	ADRA; UNIDO	Lovely Joy Alvar; Leah Texon; Burak Erten Sahin	F2/M1/	Communities affected by climate-related disasters and supported by ADRA
22-24 Apr 2026 Field - Camarines Sur/Naga	Conducted a multi-stakeholder consultation, courtesy call and site validation. Presented the project and Risk Resiliency Roadmap; reviewed baseline information, challenges and pilots; validated CHO II in Barangay Santa Cruz.	DENR Central/Region V; EMB V; PENRO; Camarines Sur PLGU/PHO/EDMERO; Naga LGU/CHO/CDRRMO/CENRO; ADRA	Patricia Marantan; Mari Vel Gaerlan; Lorna Jaranilla; Lilian Ornido; Angela Anonuevo; Chris Salcedo; Joahna Vargas; Eunice Joy Tayaban; Emanuel Pindalo; Kriza Mrallo; Gina Residon; Lovely Joy Alvar; Rolando Briones; Realyn Gonzales; Geraldine Cornello; Marvin Sagun; Arvin Cabral; Raynor Rodriguez; Jommer Arindain;	F15/M1 1	Climate- and typhoon-exposed communities; patients of CHO II; DRRM/ENRO frontline personnel

			Clem Evan Balmeda; Thomas A. Moll; Herleo Paverecio; Leah Texon; Luzena Bermeo; Kate Lumapag; Chris Rivera; one unnamed municipal doctor		
30 Apr 2026 Field - La Union/San Fernando	Met provincial and city authorities, health offices and hospitals; reviewed major challenges and proposed interventions/pilots; briefed the Governor and undertook site visits.	Provincial Government/Council; PHO; PG-ENRO; San Fernando CENRO; DENR provincial/regional offices; district hospitals; UNIDO	Harold Sibuma; Hermigildo Veloso; Maren Mellendorff; Leah Texon; Patricia Marantan; Danae Camat; Analyn Rosario-Valdez; Shereal Maala-Catbagan; Lea Ohelen; James Parrocha; Jobert Bizcarra; Jozard Ceralde; Venus Avecilla	F8/M5/	District-hospital patients and climate-exposed La Union communities, including Bacnotan service users

Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

Climate change is already imposing significant economic and social costs on the Philippines. The Climate Change Commission's 2023 Annual Report estimates that climate impacts could reduce GDP by 7.6% (PHP 1.4 trillion) by 2030 and 13.6% by 2040. Major losses are driven by infrastructure damage from climate disasters (up to PHP 365 billion), productivity losses from extreme heat (up to PHP 466 billion), and business disruptions (up to PHP 527 billion). Vulnerable communities bear the greatest impacts through displacement, livelihood losses and increased health risks, highlighting the urgent need for adaptation in critical sectors such as health, WASH and waste management.

Health facilities in flood-prone areas of Camarines Sur, La Union and Manila are already experiencing climate-related disruptions from typhoons, extreme rainfall and saline intrusion. Flooding damages infrastructure and equipment, overwhelms waste and wastewater systems, contaminates surrounding environments and increases risks of vector-borne diseases. Inadequate healthcare waste segregation and treatment further contribute to pollution and health hazards, disproportionately affecting poor patients, women and older persons who rely on public health facilities.

Proposed interventions under Components 2 and 3 including elevated storage, non-burn healthcare waste treatment technologies, modular wastewater treatment units, rainwater harvesting and greywater reuse systems are specifically designed to withstand floods, typhoons and droughts and address climate risks beyond standard infrastructure investments. Component 1 will strengthen climate resilience through risk assessments, guidelines and procurement reforms, reducing reliance on reactive responses and enabling replication across facilities. Component 4 will support monitoring, resource-efficiency measures and early warning approaches to reduce heat- and vector-related health risks that are expected to intensify with climate change.

Without Adaptation Fund support, health facilities would continue relying on vulnerable systems, resulting in escalating costs from climate damage, service disruptions, environmental contamination and health impacts. By financing the full adaptation costs, the project will prevent these losses, strengthen climate-resilient health services, and generate long-term savings through improved resource efficiency and circular economy practices. The investment will also deliver broader benefits, including reduced greenhouse gas emissions, ecosystem protection and improved livelihoods. The requested funding therefore reflects the scale of investment required to achieve durable adaptation outcomes for vulnerable communities and advance the Philippines' National Adaptation Plan and Sustainable Development Goals, as outlined in Table 8.

Table 8: Baseline versus Adaptation Fund Scenario

Component	Baseline vs. Adaptation Fund Scenario
Component 1: Policy integration and institutionalization	<u>Without AF</u>: Health facilities lack climate-risk assessments, resilient WASH and healthcare-waste guidelines, circular procurement practices, and emergency waste protocols. Climate adaptation remains fragmented and is not integrated into health planning. <u>With AF</u>: The project will develop climate-risk assessments, national and provincial technical

	guidelines, circular procurement policies, and emergency waste-surge protocols. Training and institutional support will strengthen climate-resilient planning and implementation.
Component 2: Climate-resilient and circular healthcare-waste systems	<u>Without AF:</u> Facilities rely on external haulers and incineration, lack TSD capacity, and face waste accumulation and overflow during floods and typhoons. Hazardous waste volumes, emissions, and service disruptions continue to increase. <u>With AF:</u> The project will establish flood- and storm-resilient waste storage, non-burn treatment systems, improved segregation, digital tracking, laboratory and chemical waste management, and circular recovery partnerships to reduce emissions and ensure continuity during disasters.
Component 3: Climate-resilient and circular water and wastewater systems	<u>Without AF:</u> Aging water and septic systems are vulnerable to flooding, causing contamination, service interruptions, and increased disease risks. Rainwater harvesting and grey-water reuse systems are absent. <u>With AF:</u> The project will install elevated modular wastewater treatment units, rainwater harvesting and grey-water systems, water-efficient fixtures, drainage upgrades, leak detection, backflow prevention, and sludge management protocols to improve climate-resilient water security.
Component 4: Climate-responsive environmental health monitoring and resource efficiency	<u>Without AF:</u> Facilities lack wastewater-based disease surveillance, early-warning systems, efficient energy systems, renewable backup, adequate cold-chain capacity, and effective climate-related disease monitoring. <u>With AF:</u> The project will establish wastewater surveillance, data integration and early-warning platforms, passive cooling, renewable-energy backup, cold-chain upgrades, eco-friendly vector control, and resource-efficiency measures to strengthen resilience to heatwaves, outages, and disease outbreaks.

- I. Describe how the sustainability of the project/programme outcomes has been taken into account when designing the project/programme.

Institutional sustainability: The project is aligned with national policies and will strengthen existing institutional frameworks for health and WASH service delivery. DENR will responsible for oversight, operations, regulatory compliance, tariff management, and ensuring the long-term functionality of project-supported infrastructure. The project will support the establishment or strengthening of facility-level environmental and social committees and LGU management units to oversee operations, enforce standards, and manage maintenance systems. A water utility/management approach, including equitable tariffs to support operational costs, will be explored where appropriate. Public-private partnerships (PPPs) may also be considered for specific services, such as technology maintenance and recycling, while ensuring continued public ownership and accountability.

All physical assets financed under the project including climate-resilient waste storage facilities, non-burn treatment systems, rainwater harvesting and grey-water infrastructure, and monitoring equipment—will remain under public ownership. Asset-transfer agreements will be established with DENR in coordination with DOH and participating LGUs before project completion to formalize long-term stewardship, including operation, maintenance, and reinvestment of resources to sustain the systems beyond the project period.

Policy and Institutional Sustainability: Component 1 will develop climate-risk assessments, technical guidelines, and circular procurement policies for climate-resilient WASH and healthcare waste systems, and integrate them into DOH and LGU operations. Project outcomes do not depend on new legislation; guidelines can be adopted through administrative issuances, departmental orders, and local ordinances. By aligning with the Philippine National Adaptation Plan and Health and Climate Roadmap, the project will ensure that policies are ready for adoption while strengthening institutional capacity through training and knowledge sharing.

Economic and Social Sustainability: The project will establish sustainable financing mechanisms to support long-term operation and maintenance of WASH and waste systems. By reducing disaster-related damage, service disruptions, energy and water costs, and waste-management expenses, the project will generate significant savings. Economic modelling estimates PHP 9.5-11.7 billion in costs under a business-as-usual scenario compared with PHP 12.4-15.6 billion in savings under the project scenario. Savings will come from resilient infrastructure, renewable energy, resource

efficiency, and circular waste systems. These benefits, combined with material-recovery partnerships, will help cover maintenance costs while improving health outcomes, service continuity, and green employment opportunities.

Environmental Sustainability: The project will reduce environmental impacts through renewable energy, energy-efficient systems, rainwater harvesting, grey-water reuse, and improved healthcare waste management. These measures will lower emissions, conserve water resources, and prevent soil and water contamination. An Environmental and Social Management Plan (ESMP) will be completed during project formulation or inception.

Knowledge Management and Scalability: The project will document lessons learned, develop technical guidance, and share best practices with LGUs and national agencies through workshops, policy briefs, and knowledge platforms. These outputs will support replication and future scaling through additional financing sources, including climate funds and domestic investments.

Operation, maintenance and contingency measures: To support the long-term sustainability of project investments, participating health facilities, LGUs, and DOH offices will incorporate operation and maintenance requirements into their regular planning and budgeting processes. This will include routine maintenance, repair needs, and the gradual replacement of equipment and infrastructure at the end of their service life. Facility staff and local authorities will continue to apply the skills and procedures introduced by the project through established maintenance schedules, asset tracking, and periodic monitoring. In cases where local budgets become constrained, facilities will be supported through existing provincial and national health financing mechanisms, resource-sharing arrangements between facilities, and the prioritization of critical systems to ensure uninterrupted service delivery. These measures will help maintain the functionality of project-supported investments and reduce the risk of service disruptions beyond the project period.

J. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project/programme.

The project will fully comply with the Adaptation Fund's Environmental and Social Policy (ESP), assessed based on the environmental and social safeguards and principles of the AF. In line with UNIDO's Environmental and Social Safeguards Policies and Procedures (ESSPP), the project has been preliminarily screened and classified as a **Category B** project. This classification indicates that potential environmental and social risks are site-specific, limited in scale, and reversible, and can be effectively managed using standard mitigation measures.

To ensure systematic risk management, the project will conduct an Environmental and Social Impact Assessment (ESIA) and develop an Environmental and Social Management Plan (ESMP). The ESMP will address environmental and social risks stemming from project activities, particularly, but not limited to Component 2, 3 and 4, and will include mitigation measures, monitoring procedures, stakeholder engagement, capacity-building measures, and a project-level grievance redress mechanism to ensure compliance with UNIDO ESSPP and will ensure full compliance with the Adaptation Fund requirements.

The project is facilitating the collection of all data pertaining to stakeholder engagements and consultations, including the collection of gender-disaggregated data and analysis through the gender specialist. The process will adhere to the guidelines set forth by the relevant governing laws and regulations of the Philippines, the ESP Principles and Gender Policy of the Adaptation Fund, and the UNIDO ESSPP Operational Safeguards.

In specific terms, the process also adheres to the following specific guidelines of Adaptation Fund such that during the design mission, deliberate efforts will be made to involve national women's organizations and institutions, structures within and outside the government agencies dedicated to women, youth, and gender equality, in addition to the National Designated Authority (NDA). This inclusive approach will encompass women's networks, gender and women's rights organizations, civil society, and academia at both the national and local levels; conduct consultations with male and female beneficiaries/stakeholders separately as well as in mixed groups; conduct consultations with Indigenous Peoples and indigenous cultural communities (IPs/IPCCs) separately as well as in mixed groups; carefully consider the timing and location of consultation meetings to ensure balanced gender representation; utilization of appropriate communication methods (e.g., using the local language or dialect) to effectively engage both women and men; and set

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 targets for gender attendance to ensure meaningful participation.

<i>Table 9. Overview of the preliminary assessment of the environmental and social safeguards and principles (ESSP) Checklist of environmental and social principles</i>	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
<i>Compliance with the Law</i>		Risk- Low The proposed project complies with Philippine laws and regulations, including the National Building Code, sanitation laws and DOH waste regulations. Direct and indirect regulatory impacts are minimal, and no transboundary impacts are anticipated. Cumulative compliance will be maintained across all project sites through coordination with national and local government authorities.
<i>Access and Equity</i>		Risk- Low The project will generate positive direct impacts by improving equitable access to climate-resilient WASH and health services. Indirect risks of exclusion for marginalized groups will be addressed through inclusive participation and grievance mechanisms. The cumulative impact is expected to strengthen social inclusion across beneficiary communities, with no transboundary impacts.
<i>Marginalized and Vulnerable Groups</i>		Risk- Low The project is expected to have positive direct impacts on vulnerable populations through improved access to essential services. Potential indirect risks relate to unequal participation or access to project benefits, while cumulative impacts are expected to improve inclusion and resilience among vulnerable groups. No transboundary impacts are anticipated.
<i>Human Rights</i>		Risk - Low The project will have positive direct impacts by enhancing the right to safe water, sanitation and health. Cumulative impacts are expected to contribute to improved quality of life, with no transboundary effects.
<i>Gender Equality and Women's Empowerment</i>		Risk- Low The project is expected to deliver positive direct impacts through increases participation of women, and youth, supported by a Gender Analysis and Action Plan. Indirect benefits include strengthened leadership and decision-making opportunities, while cumulative impacts will contribute to greater gender equality
<i>Core Labour Rights</i>		Risk - Low The project will comply with national labor laws and adopt standard occupational health and safety procedures. The related compliance assessment will be prepared during full project proposal writing period. No significant cumulative or transboundary impacts are expected.
<i>Indigenous Peoples</i>		Risk - Low The Philippines has communities with traditional resource management practices. Risks of exclusion exist if culturally appropriate engagement is not ensured. The project will apply participatory, culturally sensitive approaches, recognizing traditional knowledge and ensuring all groups benefit equally. Cumulative impacts are expected to strengthen social inclusion, with no transboundary effects.
<i>Involuntary Resettlement</i>	x	No risk The project does not involve land acquisition, physical displacement, or economic resettlement. No direct, indirect, cumulative, or transboundary resettlement impacts are expected.

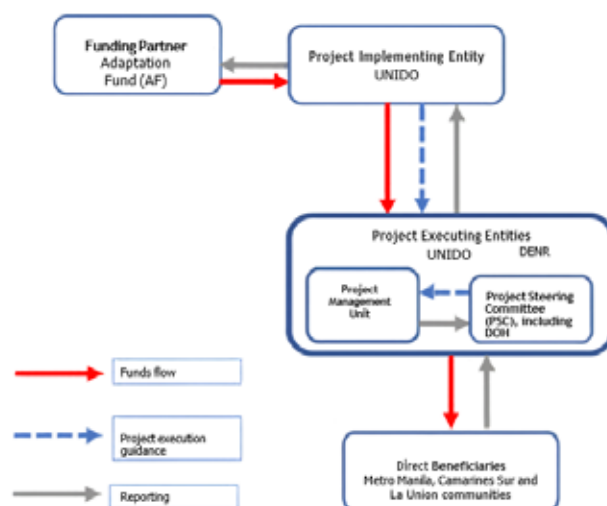
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<i>Protection of Natural Habitats</i>		Risk - Low Direct impacts on natural habitats will be avoided through careful site selection. Minor indirect impacts from construction activities or wastewater discharge may occur but will be mitigated through the ESMP. No transboundary impacts are expected, and cumulative habitat impacts are anticipated to be negligible.
<i>Conservation of Biological Diversity</i>		Risk- Low Direct impacts on biodiversity are expected to be minimal due to avoidance of ecologically sensitive areas. Indirect and cumulative ecological impacts will remain low through environmentally responsible site selection and waste management. No transboundary impacts are anticipated.
<i>Climate Change</i>		LOW The project will have positive direct impacts by increasing climate resilience of WASH and health infrastructure. Indirect benefits include reduced vulnerability of communities to climate-related hazards. Cumulative impacts will contribute to low-carbon and climate-resilient development through the use of BAT/BEP technologies.
<i>Pollution Prevention and Resource Efficiency</i>		Risk – Low Direct impacts include temporary construction-related waste and resource consumption, which will be minimized through BAT/BEP technologies and good environmental practices. Indirect and cumulative impacts on water, energy, and material use are expected to be positive through improved resource efficiency. No transboundary pollution impacts are anticipated.
		Risk- Low The project is expected to generate significant positive direct and cumulative public health benefits by strengthening climate-resilient health systems and improving WASH services. While activities such as healthcare waste management (including non-burn treatment technologies), wastewater management, and small-scale civil works have the potential to result in localized environmental and public health impacts, these are expected to be minor, site-specific, and readily mitigated through the implementation of the project's Environmental and Social Management Framework (ESMF), healthcare waste management procedures, and applicable environmental and occupational health and safety measures. No significant indirect or transboundary public health impacts are anticipated; therefore, the overall public health risk remains
<i>Physical and Cultural Heritage</i>		Risk: Low The project is not expected to adversely affect physical or cultural heritage, as activities will primarily involve rehabilitation and small-scale civil works within existing healthcare and WASH facilities rather than development in or near known heritage sites. Although the likelihood of encountering previously unknown cultural or archaeological resources is low, any localized risks associated with excavation or construction will be managed through the Environmental and Social Management Framework (ESMF), including chance finds procedures and applicable national heritage requirements. No significant indirect, cumulative, or transboundary impacts are anticipated..
<i>Lands and Soil Conservation</i>	x	No risk The project does not involve land conversion or activities likely to cause significant soil degradation. Any minor, temporary construction-related impacts will be managed through the ESMP, and no cumulative or transboundary soil impacts are expected.

PART III: IMPLEMENTATION ARRANGEMENTS

UNIDO will serve as the Multilateral Implementing Entity (MIE) and will be fully accountable to the Adaptation Fund for overall project implementation, fiduciary oversight, quality assurance, environmental and social safeguards, gender mainstreaming, monitoring and reporting. UNIDO will ensure that AF policies, UNIDO rules and procedures, and the approved results framework are applied throughout the project cycle, including work planning, procurement review, risk management, audits and submission of progress reports.

DENR will be the national Execution Entity (EE) lead execution of health-sector activities and coordinate with DOH regional offices, selected health facilities and local governments in Metro Manila, La Union and Camarines Sur. Where UNIDO executes selected activities, these will be limited to specialized technical assistance, international expertise, quality support, knowledge management, selected procurement services, and project management functions that cannot be efficiently executed by national partners. The final execution split and related EE fees will be confirmed at full proposal stage and reflected in the detailed budget.



Stakeholder	Characteristics	Role in project	Relevant Policies Implemented
National Government			
Department of Environment and Natural Resources (DENR) (Climate Change Services, Foreign-Assisted and Special Projects service, Environmental Management Bureau)	The DENR Climate Change Service is responsible for addressing the Department's climate change concerns, including project planning, climate profiling of programs and projects, and monitoring the implementation of DENR climate change initiatives and the Climate Change Cluster roadmaps. The Service also facilitates the collection, consolidation, and dissemination of climate change-related information and supports the DENR its responsibilities toward the implementation of the Philippines' Nationally Determined Contribution (NDC). In addition, the Climate Change Service serves as the focal point for projects funded by the Adaptation Fund in the Philippines, providing coordination and support for the effective implementation of Adaptation Fund-supported initiatives.	Project Owner and it will be overseeing the implementation of the project through its Climate Change Services Unit and its Environmental Management Bureau.	RA 6969: Toxic Substances and Hazardous Waste Management Act RA 9003: Ecological Solid Waste Management Act RA 11898 – Extended Producers Responsibility Act of 2022 RA 9275 – Clean Water Act National Health and Climate Policies
Department of Health (Health and Climate Change Office, Health Facility Development Bureau)	The Department of Health (DOH) is the primary government agency responsible for national health policy, public health services, and medical assistance programs in the Philippines. HCCO coordinates with relevant government agencies and leads initiatives under the Roadmap on Health and Climate Change , including vulnerability assessments, greenhouse gas inventories, and hospital decarbonization efforts, in alignment with the country's National Climate Change Action Plan. HFDB has mandate on DOH administered hospitals.	Co-chair of the PSC	Philippine National Standards for Drinking Water and Sanitation Health Care Waste Management Manual
Climate Change Commission	Climate Change Commission is the lead policy-making body of the government tasked to coordinate, monitor and evaluate government programs and ensure mainstreaming of climate change in national, local,	Interested party, will be a member of the	

Stakeholder	Characteristics	Role in project	Relevant Policies Implemented
	and sectoral development plans towards a climate-resilient and climate-smart Philippines.	PSC	
Local Government			
Local Government Units (Province of La Union, Province of Camarines Sur, Naga City, City of Manila, City of Paternos)	LGU is responsible for managing local affairs and delivering basic public services (Provincial or Municipal government)	project beneficiary	DRRM Plans Resilience Roadmaps Solid Waste Management Plans
LGU health centers (La Union, Camarines Sur and Naga City)	The Provincial Health Office of Camarines Sur leads public health initiatives and healthcare services, while the Environmental Disaster Management and Emergency Response Office oversee disaster preparedness and emergency response, including health-related emergencies. The two offices can work together during public health crises by combining medical expertise and services with emergency coordination, logistics, and community preparedness, enabling a more integrated and effective response. City Health Office of Naga City is mandated to promote, protect, and preserve health and sanitation. It administers local public health programs, delivers primary medical and dental care, and enforces environmental sanitation standards to ensure community wellness across the city's barangays.	Project beneficiary	DRRMP and DRRM Health Plans Resilience Roadmaps
DOH administered			
Hospitals (Bacnotan District Hospital and Bicol Region General Hospital and Geriatric Medical Center)	The Bacnotan District Hospital is a Level 1 government district hospital located in Bacnotan, La Union, Philippines. <i>BRGHGMC is a 200-bed Level 2 hospital located at San Pedro, Cabusao, Camarines Sur.</i> According to Department of Health (DOH) standards in the Philippines, a Level 1 hospital provides basic clinical and emergency services, while a Level 2 hospital is a larger, departmentalized facility equipped with specialized critical care units like an Intensive Care Unit (ICU) and board-certified specialists	Project beneficiary	
People's Organization			
Adventist group (Zarah)	Adventist Development and Relief Agency (ADRA) Philippines is a humanitarian organization focused on supporting vulnerable communities affected by disasters and extreme poverty. As part of the global ADRA network operating in 118 countries, it has 38 years of experience in the Philippines and expertise in emergency management, health, livelihoods, education, and disaster risk reduction . ADRA Philippines works with government and other partners to implement community-based programs and follows the humanitarian principles of humanity, impartiality, independence, and neutrality , providing assistance regardless of ethnicity, political affiliation, or religious association.	Interested Party	

Execution of Components: The proposed execution arrangements are as follows:

Component / function	Proposed execution responsibility
Component 1: Integration and institutionalization of climate-resilient and circular-economy approaches in the health sector	DENR execute specialized circular economy and climate-resilient health systems technical assistance and quality support. DOH leads national and provincial execution of risk assessments, guidelines, circular procurement and emergency waste-surge protocols.

Component 2: Climate-resilient and circular healthcare-waste systems	DENR execute facility-level and local investments with selected health facilities and LGUs. UNIDO provides MIE oversight and may execute selected specialized procurement/technical support where agreed.
Component 3: Climate-resilient and circular water, sanitation and minor wastewater systems	DENR execute WASH, wastewater, drainage, backflow prevention and water-efficiency activities with LGUs, facilities and service providers. UNIDO provides technical oversight and specialized engineering support where required.
Component 4: Climate-responsive environmental-health surveillance, community preparedness, resilient health-facility operations and knowledge management	UNIDO execute knowledge management, M&E, international technical assistance and cross-cutting project coordination support. DOH leads surveillance, resource-efficiency and facility-level preparedness activities.

Project Steering Committee

A Project Steering Committee (PSC) will be established after project approval to provide strategic guidance and oversight. The PSC is expected to meet once a year, or more frequently if needed. Members may include DOH, UNIDO, DENR- Department of Environment and Natural Resources /EMB, relevant regional offices, representatives of Metro Manila, La Union and Camarines Sur, participating Local Government Units, and other key stakeholders.

Main PSC tasks and responsibilities will include:

- Biannual review of project progress
- Strategic guidance to the Executing Entity
- Review and approval of annual workplans and budgets
- Coordination among national, regional and local partners
- Review of key implementation issues, risks and corrective actions
- Support for knowledge sharing and replication of project results.

Each PSC meeting will be concluded with agreed decisions and meeting minutes, which will serve as guidance for project execution and follow-up actions.

A. Demonstrate how the project/programme aligns with the Results Framework of the Adaptation Fund

Project Objective(s) ¹	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
1. Strengthen policy, institutional and planning capacity	Percentage of targeted health facilities with strengthened institutional capacity for climate-resilient governance, planning and sustainable financing of environmental health and healthcare waste management systems.	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses Outcome 7: Improved policies and regulations that promote and enforce resilience measures	Indicator 2: Institutions with strengthened capacity to understand and better address climate risks and resilience Indicator 7: Policies, strategies, and/or plans adopted, implemented, and/or enforced that integrate climate risk and resilience considerations	1,025,000
2. Reduce climate-related disruption and contamination from healthcare waste	Percentage of targeted health facilities with improved access to climate-resilient and environmentally sound healthcare waste management services, including safe segregation, storage, treatment, laboratory and chemical waste management, and digital waste tracking systems.	Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	Indicator 4: Physical assets improved or constructed to withstand climate variability and change	3,500,000

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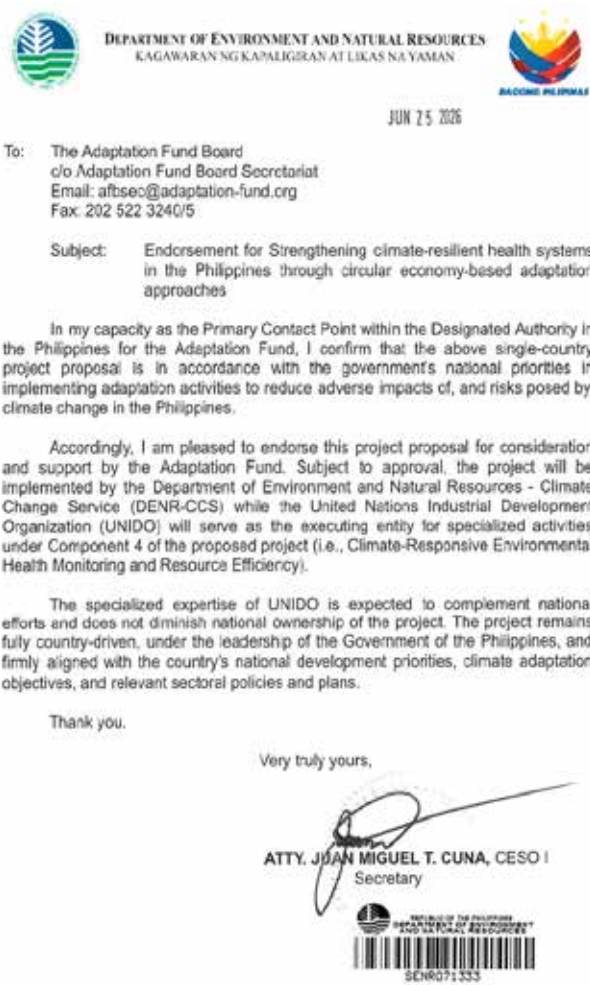
3. Improve water security, sanitation resilience and WASH/minor-wastewater continuity	Percentage of targeted health facilities with improved access to climate-resilient water, wastewater and sanitation services, including resilient wastewater treatment, water reuse, drainage, water-efficiency and sludge management systems.	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	Indicator 2: Institutions with strengthened capacity to understand and better address climate risks and resilience Indicator 4: Physical assets improved or constructed to withstand climate variability and change	4,000,000
4. Enhance climate-health surveillance, community preparedness, resilient facility operations and adaptive learning	Percentage of targeted health facilities and surrounding service catchments with strengthened climate-informed disease surveillance, emergency preparedness and climate-resilient health service continuity systems, including early warning, vector surveillance, resilient cold-chain storage and knowledge-sharing mechanisms.	Outcome 1: Reduced exposure to climate-related hazards and threats Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	Indicator 1: People using climate-related threat and hazard information Indicator 2: Institutions with strengthened capacity to understand and better address climate risks and resilience Indicator 3A: People with strengthened awareness of climate change risks and how to better address them Indicator 4: Physical assets improved or constructed to withstand climate variability and change	1,500,000
Total grant amount				10,025,000
Project Outcome(s) Project Outcome	Project Outcome(s) Indicators	Adaptation Fund Output	Adaptation Fund Output Indicator	Grant Amount (USD)
Outcome 1.1: Strengthened institutional, policy and planning capacity to manage climate risks affecting health facilities and environmental-health services. Outcome 1.2: Increased integration of circular-economy and lifecycle approaches into health-sector planning and investment.	Number of targeted health facilities adopting and implementing climate-resilient governance, planning, procurement, and sustainable financing systems for environmental health, WASH, and healthcare waste management, disaggregated by facility type and target area	Output 2.1: Strengthened capacity of institutions to understand and better address climate risks Output 7.1: Improved integration of climate-resilience strategies into country development plans	Indicator 2.1: Institutions supported to strengthen capacity to understand and address climate risks and resilience Indicator 7.1A: Policies, strategies, and/or plans developed or adjusted to integrate climate risk and resilience considerations Indicator 7.1B: Policies, strategies, and/or plans formulated through the participation of one or more vulnerable groups	1,025,000
Outcome 2.1: Increased resilience and continuity of healthcare-waste services under floods, typhoons, extreme rainfall and climate-related health emergencies.	Number of targeted health facilities adopting climate-resilient and environmentally sound healthcare waste management solutions, including waste segregation, storage, treatment, laboratory and chemical waste	Output 4.1: Vulnerable development sector services and infrastructure assets strengthened in	Indicator 4.1: Development sector services strengthened to respond to climate variability and change	3,500,000

Outcome 2.2: Improved safety, environmental performance and circularity of healthcare-waste management in targeted health facilities.	management, and digital waste tracking systems, disaggregated by facility type and target area	response to climate change impacts, including variability		
Outcome 3.1: Increased resilience and continuity of WASH and minor wastewater services under floods, droughts, salinity intrusion and water-supply disruptions. Outcome 3.2: Reduced freshwater demand and environmental contamination through circular water-use and improved resource management. Outcome 3.3: Strengthened institutional and technical capacity to sustain climate-resilient WASH and wastewater services.	Number of targeted health facilities adopting climate-resilient water, wastewater and sanitation (WASH) solutions, including resilient wastewater treatment, rainwater harvesting, greywater reuse, drainage and backflow protection, water-efficiency and sludge management systems, disaggregated by facility type and target area	Output 2.1: Strengthened capacity of institutions to understand and better address climate risks Output 4.1: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	Indicator 2.1: Institutions supported to strengthen capacity to understand and address climate risks and resilience Indicator 4.1: Development sector services strengthened to respond to climate variability and change	4,000,000
Outcome 4.1: Strengthened climate-health surveillance, early warning and community preparedness for climate-sensitive diseases and climate-related community health impacts. Outcome 4.2: Increased adaptive capacity of targeted health facilities to maintain essential services during extreme heat, floods, typhoons and climate-related power disruptions. Outcome 4.3: Strengthened institutional capacity for knowledge management, adaptive management and replication of climate-resilient health interventions.	Number of targeted health facilities, communities and target areas adopting climate-informed disease surveillance, emergency preparedness and climate-resilient health service continuity solutions, including early warning systems, vector surveillance, resilient energy and cold-chain measures, and institutional knowledge-sharing mechanisms, disaggregated by facility type and target area	Output 1.2: Targeted population groups covered by warning and advisory services for climate-related hazards and threats Output 2.1: Strengthened capacity of institutions to understand and better address climate risks Output 3.1: Targeted population groups participating in adaptation and risk reduction awareness activities Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning Output 3.3: Increased ownership of adaptation and climate risk reduction processes Output 4.1: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	Indicator 1.2A: Early warning systems established or improved Indicator 1.2B: People covered by new or improved early warning systems Indicator 2.1: Institutions supported to strengthen capacity to understand and address climate risks and resilience Indicator 3.1: People participating in activities to improve awareness of climate risks and how to address them Indicator 3.2: Climate resilience knowledge products and/or tools developed and shared with stakeholders Indicator 3.3: Number of local institutions and/or communities responsible for decision-making over how adaptation solutions are defined, prioritized, designed, and/or implemented Indicator 4.1: Development sector services strengthened to respond to climate variability and change	1,500,000

¹ The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall appl

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government² Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:



(Enter Name, Position, Ministry) Atty. Juan Miguel T. Cuna, CESO, Secretary, Department of Environment and Natural Resources	Date: June 15, 2026
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		Tel. and email:
I certify that this proposal has been provided by the Adaptation Fund and Adaptation Plans (.....) to the Adaptation Fund Board, <u>compliance with the Environment</u> <u>the Adaptation Fund</u> and on be fully (legally and financial project/programme.		
Date: (Month, Day, Year)		
Project Contact Person: Maren Mellendorf, Industrial Development Officer, UNIDO		
Tel. And Email: m.mellendorf@unido.org		

B. Implementing Entity certification Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address

⁶ Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.



DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
KAGAWARAN NG KAPALIGIRAN AT LIKAS NA YAMAN



JUN 25 2026

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: afbsec@adaptation-fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Strengthening climate-resilient health systems
in the Philippines through circular economy-based adaptation
approaches

In my capacity as the Primary Contact Point within the Designated Authority in the Philippines for the Adaptation Fund, I confirm that the above single-country project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks posed by, climate change in the Philippines.

Accordingly, I am pleased to endorse this project proposal for consideration and support by the Adaptation Fund. Subject to approval, the project will be implemented by the Department of Environment and Natural Resources - Climate Change Service (DENR-CCS) while the United Nations Industrial Development Organization (UNIDO) will serve as the executing entity for specialized activities under Component 4 of the proposed project (i.e., Climate-Responsive Environmental Health Monitoring and Resource Efficiency).

The specialized expertise of UNIDO is expected to complement national efforts and does not diminish national ownership of the project. The project remains fully country-driven, under the leadership of the Government of the Philippines, and firmly aligned with the country's national development priorities, climate adaptation objectives, and relevant sectoral policies and plans.

Thank you.

Very truly yours,

ATTY. JUAN MIGUEL T. CUNA, CESO I
Secretary





Revised PFG Submission Form¹ (additions in red)

Project Formulation Grant (PFG)

Submission Date: July 2026

Adaptation Fund Project ID: TBD

Country/ies: Philippines

Title of Project/Programme: Strengthening climate-resilient health systems in the Philippines through circular economy-based adaptation approaches

Type of IE (NIE/RIE/MIE): MIE

Implementing Entity: UNIDO

Executing Entity/ies: UNIDO

A. Project Preparation Timeframe

Start date of PFG	June 2027
Completion date of PFG	June 2028

B. Proposed Project Preparation Activities (\$)

List of Proposed Project Preparation Activities	Output of the PFG Activities	US\$ Amount	Budget note²
Assessments	ESMP, Core Labor Rights on Health Sector, Climate risk, technical feasibility, baseline, cost-effectiveness, institutional capacity and site-level preparation assessments completed for selected health facilities and intervention areas.	45.000	Includes short-term national/international technical expertise for climate and disaster risk assessment, WASH/wastewater and healthcare waste baseline assessment, facility-level vulnerability screening, preliminary engineering scoping, costing, capacity assessment of executing partners,

¹ As presented in AFB/PPRC.33/40 Annex 1.

² The proposal should include a detailed budget with budget notes indicating the break-down of costs at the activity level. It should also include a budget on the Implementing Entity management fee use.

			and preparation of inputs for the full proposal and annexes.
Gender Analysis	Gender Action Plan, Indigenous Peoples Plan and gender-responsive stakeholder inputs prepared for the full proposal.	5.000	Includes gender expert fees, review of gender differentiated climate vulnerability in health/WASH/waste systems, consultations with women, vulnerable groups, IP and relevant institutions, and preparation of gender-responsive indicators and actions.
Workshops	National and provincial stakeholder consultations, validation workshops and technical design meetings conducted.	8,249	Covers venue/meeting costs, facilitation, interpretation where needed, workshop materials, local logistics, documentation, and participation support for consultations in Camarines Sur, La Union and Metro Manila.
Travel and Participation	Field missions and participation of technical experts, government counterparts, local stakeholders and facility representatives supported.	20.000	Covers domestic travel, accommodation, local transport and field mission costs for assessments, consultations, site validation and technical design work across target locations.
Design of the full project proposal	Fully developed project document and required technical annexes prepared and quality assured for submission to the Adaptation Fund.	50.000	Includes lead proposal development support, results framework/logframe, theory of change, M&E framework, budget and workplan, sustainability and institutional arrangements, cost-

			effectiveness analysis, implementation arrangements, response matrix, and quality assurance.
Other Costs	Editing, translation, design, data processing, communications and administrative support completed.	10.000	Covers editing and formatting of the full proposal and annexes, translation where required, data visualization/maps, communications materials, and coordination support during the PFG period.
IE	Management	11.751	
Total Project Formulation Grant		150.000	

Please describe below each of the PFG activities and provide justifications for their need and for the amount of funding required:

1. Assessments

The assessment budget will support the technical preparation of the full project proposal. It will cover facility-level climate and disaster risk assessments, technical feasibility assessments for climate-resilient healthcare waste systems, WASH and minor wastewater systems, and environmental health monitoring interventions. It will also include baseline data collection, review of existing healthcare waste and WASH conditions, costing of proposed adaptation options, preliminary engineering and operational scoping, cost-effectiveness inputs, and institutional capacity assessment of executing partners and participating facilities. These assessments are necessary to ensure that proposed investments are evidence-based, technically feasible, climate-responsive and aligned with the needs of the selected provinces and health facilities.

2. Gender Analysis

The gender analysis will identify gender-differentiated vulnerabilities, roles and needs in relation to climate-resilient health services, WASH, healthcare waste management and environmental health systems. It will include targeted consultations with women, vulnerable groups, local stakeholders and relevant institutions. The work will produce an initial gender assessment and a Gender Action Plan, including gender-responsive indicators and measures to ensure equitable participation and benefit-sharing during project implementation.

3. Workshops

Stakeholder consultations and validation workshops are required to ensure that the full proposal reflects national and local priorities, facility-level realities and the needs of vulnerable communities. Workshops will be organized at national and provincial levels, including consultations in Camarines Sur, La Union and Metro Manila. These will support validation of project components, investment priorities, site selection, implementation arrangements, risk mitigation measures, environmental and social safeguards, and monitoring indicators.

4. Travel and Participation

Travel and participation costs will support field missions, site verification, stakeholder consultations and technical design work across the three target areas. The budget will cover travel for technical experts, government counterparts, local stakeholders and facility representatives where required. These missions are necessary to verify site conditions, consult implementing partners and beneficiaries, and ensure that the final proposal is grounded in realistic implementation arrangements.

5. Design of the Full Project Proposal

This activity will finance the preparation of the fully developed Adaptation Fund project document and its required technical annexes. It will include development of the detailed results framework, theory of change, monitoring and evaluation framework, budget and workplan, institutional arrangements, sustainability strategy, cost-effectiveness analysis, environmental and social risk management inputs, gender-responsive design elements and final quality assurance. This work is necessary to translate the concept note into a complete and submission-ready full proposal.

6. Other Costs

Other costs will support document editing, translation where required, data visualization, maps, layout, communications, coordination and administrative support during the eight-month project preparation period. These costs are necessary to ensure that the proposal and annexes are clear, consistent, well-presented and compliant with Adaptation Fund submission requirements.

For LLA Projects only:

If requesting additional funding for LLA projects to enable devolving decision making to the local level, please specify the activities that would directly serve to enable devolving decision making to the lowest appropriate level and enable local actors to make informed decisions on how adaptation actions are defined, prioritized, designed, and implemented:

Please provide justifications for their need and for the amount of additional funding required:

C. Implementing Entity

This request has been prepared in accordance with the Adaptation Fund Board's procedures and meets the Adaptation Fund's criteria for project identification and formulation

Implementing Entity Coordinator / IE Name	Ms. Ganna Onysko Senior GEF, GCF, AF Coordinator Division of Funding Partner Relations Directorate of Global Partnerships and External Relations United Nations Industrial Development Organization- UNIDO Implementing Entity Coordinator
Signature	
Date	20.08.2026

Project Contact Person	Ms. Maren Mellendorf Industrial Development Officer Email: m.mellendorf@unido.org
Telephone	Work Phone: +43 1 26026 5228
Email Address	g.onysko@unido.org CC: gef@unido.org / glo@unido.org / f.haidara@unido.org